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Control of Diarrheal Diseases

AN ANNOTATED BIBLIOGRAPHY OF PRITECH HOLDINGS

NOVEMBER 1988

PRITECH

Technologies for Primary Health Care

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**Control of Diarrheal Diseases: An Annotated
Bibliography of PRITECH Holdings**

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INTRODUCTION

PRITECH, the Technologies for Primary Health Care Project sponsored by the U.S. Agency for International Development, is a consortium of experienced, internationally known organizations led by Management Sciences for Health which assists developing countries in implementing national Oral Rehydration Therapy (ORT) and diarrheal disease control programs.

The PRITECH Information Center has developed a bibliographic data base which covers the topics of diarrheal disease, ORT, immunization, and related Primary Health Care issues. The annotated bibliography which is presented here was drawn from the data base and reflects the Center's current collection of 1700 documents.

The bibliographic listings are organized by general subject category. The citations are arranged alphabetically by author within each category. In cases where no author information is available, the citations are listed alphabetically by title first, followed by the alphabetical author listings.

The PRITECH Information Center will, whenever possible, provide copies of requested materials or refer requests to the document issuing organizations. All of the listings presented in this bibliography are accompanied by an accession number (ACNO), which should be referred to in all requests for documents from the Information Center.

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I. Treatment

- 1434 **MANUAL PARA EL MANEJO DE LA DIARREA.** La Paz, Bolivia, Ministry of Health, May 1984, 7 p.
- This manual is designed for the community to understand what diarrhea is and how to manage children's diarrhea and dehydration with oral rehydration therapy.
- 0989 Barnum, H.N. **BACKGROUND INFORMATION FOR THE FORMULATION OF A POLICY TO COMBAT CHILDHOOD COMMUNICABLE DISEASES IN SUBSAHARAN AFRICA.** Agency for International Development, Africa Bureau, 1980, 72 p.
- This report addresses questions of economics that arise in the formulation of a program to combat communicable childhood diseases in sub-Saharan Africa.
- 1866 Blecker, S. **NUTRITION AND DIARRHOEA.** BWINO Special Position Paper #1, Zambia Ministry of Health, 1983.
- This manual, published by the Zambian Ministry of Health, gives guidance as to proper treatment and prevention of dehydration following diarrhea.
- 0690 Candy, D.C. **DIARRHEA, DEHYDRATION, AND DRUGS.** British Medical Journal, 289, 10 November 1984, 2 p.
- This article discusses the effectiveness of ORT, antidiarrheals, and antibiotics in the treatment of diarrheal diseases.
- 0978 Davidson, M. **INTRODUCTION: DIARRHEAL DISEASES IN INFANTS AND CHILDREN.** Pediatric Annals, vol. 14, no. 1, January 1985, 21.
- The two main causes of infantile diarrhea are viruses and allergic phenomena. The question of when to treat parenterally and when to treat orally is discussed.
- 1635 DiNicola, A.F. **CAMPYLOBACTER JEJUNI DIARRHEA IN A 3-DAY-OLD MALE NEONATE.** Am J. Dis. Child, March 1986, Vol. 140, 191.
- The author describes a 3-day-old, full-term male neonate with stool culture-documented campylobacter jejuni diarrhea and the prescribed treatment.

- 0707 Ebright, J.R.; Moore, E.C.; et al. EPIDEMIC SHIGA BACILLUS DYSENTERY IN CENTRAL AFRICA. *American Journal of Tropical Medicine and Hygiene*, 33, no. 6, 1984, 1192-1197.
- A recent epidemic of shigella dysenteriae in Central Africa is described in this article. The pathogen's antimicrobial sensitivity and plasmid analysis were studied. Antimicrobial resistance was observed. This was the first major epidemic caused by a strain of s. dysenteriae resistant to ampicillin and other antibodies.
- 1436 Edelman, R.J. PREVENTION AND TREATMENT OF INFECTIOUS DIARRHEA, SPECULATIONS ON THE NEXT 10 YEARS. *American J. Medicine*, 28 June 1985, vol. 78, suppl 6b, 99-106.
- This article summarizes many still experimental strategies that, in the author's opinion, will be adapted widely to the prevention and treatment of infectious diarrhea within the next ten years, including bacteriophages, antidiarrheal drugs, super ORS, passive immunity established by immunoglobulins, and vaccines for specific pathogens.
- 1747 Fonataine, O.; Beau, J.P.; Ndiaye, A.M. REHYDRATION PAR VOIE ORALE EL REHABILITATION NUTRITIONELLE CHEX DES ENFANTS SEVEREMENT MALLNUTRIS. *L'Enfant en Milieu Tropical*, 1985, no. 158, 60-67.
- This article describes various aspects of oral rehydration and nutritional rehabilitation in severely malnourished infants. An ORT/nutritional center is described, as are treatment and treatment results.
- 0687 Fontana, M.; Zuin, G.; et al. ACUTE DIARRHOEA THERAPY AND PEM. A STUDY OF 2 HIGH TURNOVER PROTEINS DURING ORT. *Italian Journal of Gastroenterology*, 16, no. 3, September 1984, 272.
- This study aims to discuss whether the usual therapy for acute diarrhea significantly alters protein metabolism.
- 1616 Garcia De Olarte, D.; Trujillo, S.H.; Agudelo, D.N. TREATMENT OF DIARRHEA IN MALNOURISHED INFANTS AND CHILDREN: A DOUBLE-BLIND STUDY COMPARING AMPICILLIN AND PLACEBO. *American J. Diseases in Childhood*, March 1974, Vol. 127, 379-387.
- Rectal swabs and stool specimens for culture were collected from 2,236 infants and children hospitalized for severe diarrhoea in Medellin, Colombia, during a two-year period. Salmonellae were identified in 280, enteropathogenic Escherichia coli in 117, and Shigellae in 61 specimens. One hundred eighty-six patients with enteropathogens and 96 with acute diarrhea of unknown causes, were assigned randomly to ampicillin or placebo for five days. No adverse or beneficial effect of ampicillin was found with enteropathogenic E. coli or with diarrhea of unknown cause. Ampicillin therapy for shigellosis substantially shortened the period of diarrhea, fever and positive stool cultures compared with placebo treatment.

- 0699 Gracey, M.; Phadke, M.; et al. ASPIRIN IN ACUTE GASTROENTERITIS: A CLINICAL AND MICROBIOLOGICAL STUDY. *Journal of Pediatric Gastroenterology and Nutrition*, 3, no. 5, 1984, 692-695.

Aspirin decreased intestinal fluid ions in infants and young children with acute diarrhea caused by salmonella, aeromonas, rotavirus, and heat-labile *E. coli*, but not with diarrhea associated with heat-stable *E. coli* enterotoxins.

- 0753 Greenough, W.B. PRINCIPLES AND PROSPECTS IN THE TREATMENT OF CHOLERA AND RELATED DEHYDRATING DIARRHEA. ICDDR,B, Scientific Report no. 17, February 1987, 18 p.

This is a review of recent progress in the treatment of watery diarrhea and a discussion of future prospects for improvements in therapy.

- 2025 Gutierrez, G.; Del Carmen Martinez, M.; Guiscafre, H.; et al. ENCUESTA SOBRE EL USO DE ANTIMICROBIANOS Y DE HIDRATACION ORAL EN LA DIARREA INFECCIOSA AGUDA EN EL MEDIO RURAL MEXICANO. *Bol. Med. Hosp. Infant Mex.*, vol. 44, no. 10, October 1987, 582-588.

This article discusses the use of antimicrobial drugs and oral rehydration in acute infectious diarrhea in a Mexican rural area. Low lethality is related to the use of oral rehydration, whereas excessive use of antimicrobial drugs leads to a higher incidence of infectious diarrhea.

- 0979 Hamilton, J.R. VIRAL DIARRHEA. *Pediatric Annals*, vol. 14, no. 1, January 1985, 25-28.

Human rotavirus has emerged as the most common cause of acute diarrhea in babies throughout the world. Pathogenesis and treatment for diarrhea are discussed.

- 0571 Kzyko, R. EARLY HOME TREATMENT OF ACUTE DIARRHEAS: A NECESSITY OF A NATIONAL DIARRHEAL DISEASES POLICY. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 39-41.

ORT must be initiated immediately. Timing is crucial to the progress of dehydration. In 82% of all cases (indicated from operational research), the mother/caretaker is the first contact person.

- 1448 Lerman, S.J.; Shepard, D.S.; Cash, R.A. TREATMENT OF DIARRHOEA IN
INDONESIAN CHILDREN: WHAT IT COSTS AND WHO PAYS FOR IT. *The
Lancet*, 21 September 1985, 651-654.
- This is an analysis of health care costs for treating diarrhea in children that are paid by the community related to government expenditures for the same treatment. Results indicate that there is a willingness by the community in many countries to pay for the health care they perceive as a priority. In Indonesia, private spending was 46% of the total expenditure for treatment of diarrhea.
- 0977 Levine, M. INFANTILE DIARRHEA ETIOLOGIES AND NEWER TREATMENT. *Pediatrics Ann.*, vol. 14, no. 1, January 1985, 15-18.
- This article outlines articles in this journal issue which address infantile diarrhea and its treatment. It also comments on recent developments in this area.
- 1435 Levine, M.M. PROSPECTS FOR VACCINES. *World Health*, April 1986, 24-26.
- The agents that cause infant diarrhea have been largely identified, and vaccine candidates against most of the important pathogens are being prepared most of these vaccine candidates are administered orally as the preferred route to stimulate local intestinal immunity.
- 0763 Levine, M.M.; Cisneros, L. TYPHOID FEVER. *Current Therapy*, Conn, H., ed., 1981, 86-88.
- This paper divides management of acute typhoid fever into 1) specific antibiotic therapy, 2) general supportive means, and 3) treatment of complications. Preventive measures are also reviewed.
- 0696 MacMahon, R.A. THE USE OF THE WORLD HEALTH ORGANIZATION'S ORAL REHYDRATION SOLUTION IN PATIENTS ON HOME PARENTERAL NUTRITION. *Journal of Parenteral and Enteral Nutrition*, 8, no. 5, Nov./Dec. 1984, 720-721.
- The WHO ORS formula was used effectively to replace fluid and electrolyte losses in patients on home parenteral nutrition suffering from gut syndromes other than diarrheal disease.
- 1100 Malawi, Ministry of Health. REPORT OF ASSESSMENT OF MALARIA THERAPY EFFICACY FOR THE MALAWI CCCD PROGRAM. Ministry of Health, Malawi, Centers for Disease Control, 1984, 18 p.
- This report evaluates the malaria therapy efficacy for the Malawi program. It recommends that the Malawi CCCD program currently advocate the C25 regimen.

- 1655 McLean, M.; Brennan, R.; Hughes, J. ETIOLOGY OF CHILDHOOD DIARRHEA AND ORAL REHYDRATION THERAPY IN NORTHEASTERN BRAZIL. Bulletin of the Pan American Health Organization, 1981, vol. 15, no. 4, 318-326.

The purposes of this study were to determine the etiology of acute diarrhea cases treated at a rehydration center in NE Brazil and to evaluate the acceptability and efficacy of the ORS recommended by WHO. Patients, consisting of children 3 months or older, either received IV therapy or standard WHO ORS. The study found that admissions to the center peaked in January-March. Enterotoxigenic E. Coli and rotaviruses were found to occur in association with diarrhea during the peak diarrhea season. Finally, the study found highly significant differences in the duration of therapy and total fluid intake required by the two groups. The ORS group required much less fluid (237 ml vs. 545 ml) and took less time to treat than the IV group. There was no significant difference in weight change.

- 1966 Molla, A.M.; Molla, A.; Sarker, S.A. THE MANAGEMENT OF ACUTE INFECTIOUS DIARRHOEA. Bailliere's Clinical Gastroenterology, vol. 1, no. 2, April 1987, 377-395.

This chapter discusses the dangers of acute diarrhea in children of developing countries, and highlights various treatment methods. Emphasis is placed on the success of ORS.

- 1634 Monson, T.P. PEDIATRIC VIRAL GASTROENTERITIS. AFP, July 1986, Volume 34, Number 1, 95-99.

Rotavirus and Norwalk agents cause most viral gastroenteritis in the pediatric population. Infection results in osmotic diarrhea, which can cause dehydration and acidosis. Oral rehydration therapy has been shown worldwide to be a safe and effective means of treating this disease. Formula feeding should be resumed as soon as possible; breastfeeding should be maintained throughout the illness. Admission criteria are based on weight loss, serum sodium level and ability to rehydrate orally on an outpatient basis.

- 0961 Murdoch, D.B. KAOLIN AS TREATMENT FOR DIARRHOEA. Veterinary Record, vol. 116, no. 9, 2 March 1985, 247-248.

This article argues that no scientific basis supports the statement that Kaolin coats the inflamed mucosa and is a powerful absorbent of bacteria, toxins and irritants within the gut lumen. Consequently, the efficacy of Kaolin as an antidiarrheal is seriously doubted.

- 1592 Nalin, D. EFFECT ON CLINICAL OUTCOME OF BREAST FEEDING DURING ACUTE DIARRHOEA. British Medical Journal, 20 April 1985, vol. 290, 1217.

In this brief letter on the effects of breastfeeding on diarrhea the author disputes the idea that breastfeeding exerts a beneficial effect on diarrhea.

- 2023 NIH. TRAVELERS' DIARRHEA. *Journal of the American Medical Association*, May 10, 1985, vol. 253, no. 18, 2700-2704.
- A Consensus Development Conference on Travelers' Diarrhea (TD) took place in 1985, where a group of medical professionals agreed on answers to the following questions: 1) What is the epidemiology of TD and why is it important?; 2) What causes TD?; 3) What prevention measures are effective for TD?; 4) What treatment measures are effective for TD?; and 5) What should be the direction of future research?.
- 1823 O'Connor, R.; Kelly, C. HOSPITAL OUTBREAKS OF CLOSTRIDIUM DIFFICILE. *The Lancet*, September 27, 1986, 751.
- This letter to the editor suggests that unusual virulence in the strain of *c. difficile* is what causes endemic outbreaks of the disease. A response and counter-response letter also appear on the same page.
- 1844 ORANA, Centre d'Information. DOCUMENTS TECHNIQUES SUR DIARRHEE ET NUTRITION. ORANA, Dakar, Senegal, September 1987.
- This is a collection of fifteen documents on treatment and prevention of diarrheal diseases and nutrition in French. Articles by Jon Rohde, Ann Ashworth, Richard Feachem, Norbert Hirschhorn, and others are included.
- 1976 PAHO. MANUAL DE TRATAMIENTO DE LA DIARRREA: SERIE PALTEX PARA EJECUTORES DE PROGRAMAS DE SALUD. Pan American Health Organization, 1987, 177 p.
- This manual on the treatment of diarrhea discusses the physiology of the intestinal absorption of water, electrolytes and macronutrients, the etiology of infectious diarrhea, the pathogenesis of infectious diarrhea, the physiopathology of dehydration caused by diarrhea, diarrhea and nutrition, the basis of ORT, and the management of children with diarrheal disease.
- 1898 Portnoy, B.; DuPont, H.; et al. ANTIDIARRHEAL AGENTS IN THE TREATMENT OF ACUTE DIARRHEA IN CHILDREN. *JAMA*, August 16, 1976, vol. 236, no. 7, 844-846.
- This article discusses the use of antidiarrheal agents used as treatment for diarrhea in 80 patients during a study conducted in Guatemala. The results indicate that kaolin-pectin suspension and diphenoxylate-atropine liquid did not appear to be useful in the relief of acute nonspecific diarrhea in children.

- 0569 Rohde, J. THERAPY BEGINS AT HOME. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 30-35.
- Faced with facts on childhood diarrhea (1,000 million episodes a year, which must be treated aggressively - too much to be handled by the health system), there is only one practical solution: mothers.
- 0935 Smith, N.J. MALARIA - THE KING IS THREATENED. IDRC Reports, vol. 13, no. 4, January 1985, 3 p.
- More progress has been made towards the development of malaria vaccines in the past decade than in the preceding 100 years. Malaria is the single largest cause of disease and death in the world. This article reports on the XI International Congress for Tropical Medicine and Malaria in Calgary, Alberta.
- 0619 Tena, E. COMPLICACIONES DEL USO DE VENOCCLISIS. HIMFG, 4 p.
- This Spanish report describes complications of the use of venoclisis.
- 1792 Thomas, S.; Sainsbury, C.P.Q.; Hughes, J.A. TREATMENT OF HYPERNATRAEMIC DEHYDRATION DUE TO DIARRHOEA. British Journal of Clinical Practice, December 1986, 535-536.
- This article describes a case of hypernatraemic dehydration due to diarrhea. The child was clinically dehydrated upon admission to the hospital despite oral rehydration therapy administered at home. The child made a full recovery after receiving 3600 ml. of oral rehydration fluids and intravenous fluids.
- 0689 Vajro, P.; Dioguardi, G.; et al. H₂ BREATH TEST (H₂BT) IN THE DIAGNOSIS OF LACTOSE MALABSORPTION IN CHILDREN. Italian Journal of Gastroenterology, 16, no. 3, September 1984, 272.
- Breath tests for diagnosing lactose malabsorption are discussed in this article.
- 1656 WHO. DIARRHOEA TRAINING UNIT DIRECTOR'S GUIDE. World Health Organization, 1986, 48 p.
- A diarrhea training unit is a unit in a hospital that treats many cases of acute childhood diarrhea and conducts training in diarrhea treatment. This manual describes the typical diarrhea training unit, lists training objectives, and provides guidelines for conducting the training. The annexes include a list of supplies, a model of a case record form, a prototype agenda for training, and reference materials.

- 0909 WHO. THE TREATMENT AND MANAGEMENT OF SEVERE PROTEIN-ENERGY MALNUTRITION. World Health Organization, 1981, 47 p.
- This manual outlines the principles of treatment of severe Protein-Energy Malnutrition.
- 1675 WHO. TRATAMIENTO Y PREVENCION DE LA DIARREA AGUDA. World Health Organization, 1985, 42 p.
- This report discusses prevention and treatment of acute diarrhea, including dehydration prevention, examining the infant with diarrhea, treatment, and rehydration.
- 1661 WHO. TREATMENT OF DIARRHOEA. World Health Organization, CDD, December 1984, 61 p.
- This manual can be used by community health workers to educate mothers about recognizing diarrhea and dehydration and the proper way to treat it. It contains exercises for discussion with mothers and instructions on teaching mothers to mix ORS at home or make their own.

ORT

- 0378 A POSITIVE EFFECT ON THE NUTRITION OF PHILIPPINE CHILDREN OF AN ORAL GLUCOSE-ELECTROLYTE SOLUTION GIVEN AT HOME FOR THE TREATMENT OF DIARRHEA. Bulletin of the World Health Organization, 1977, vol. 55, 87-94.
- This article describes a double blind study of Philippine children given home-made ORS. Results showed that immediate replacement of lost salt and fluids improved children's appetites following diarrhea attacks.
- 0511 BENEFICIAL EFFECTS OF ORAL ELECTROLYTE-SUGAR SOLUTIONS IN TREATMENT OF CHILDREN'S DIARRHEA. International Study Group, John Snow Public Health Group, 1978, 13 p.
- A study of Filipino children treated for diarrhea in a village setting was undertaken to measure acceptance, understanding, and use on the part of the mothers, of ORT. Results showed a high degree of acceptance, understanding, and proper use; low hospitalization; and an improved perception by mothers that continued feeding during diarrhea was beneficial.
- 0734 ORAL REHYDRATION IN COSTA RICA. Epidemiological Bulletin, PAHO, 3, no. 2, 1982, 10-11.
- Since a trial oral rehydration therapy (ORT) project was begun in Costa Rica at the beginning of 1978, ORT has proved an effective life-saver in both bacterial and rotaviral infant diarrhea, even among neonates. Routine implementation of ORT in the National Children's Hospital has resulted in more than an 80% reduction in mortality.
- 0489 ORAL REHYDRATION: THE TIME HAS COME. The Lancet, 30 July 1983, 259.
- This article discusses the value of ICORT, including the personal exchange of experiences and total consensus about efficacy and need for immediate action. It concludes that the progress of ORT depends on the immediate implementation of ORT education programs.
- 0510 ORAL THERAPY FOR ACUTE DIARRHOEA. The Lancet, 19 September 1981, 615-617.
- The benefits of ORT and the implications for extended education and use are discussed in this article.

- 0372 ORT: THE TURKISH EXPERIENCE. Medico Friend Circle Bulletin of India, November-December 1979.

A field study of ORT health intervention in rural Turkey is described in this article. Auxiliary nurse midwives trained mothers to administer ORT at home. After the study, mothers were asked if they would use ORS, and they unhesitatingly said that they would.

- 0500 SUGAR, SALT AND WATER CAN SAVE A CHILD. World Neighbors In Action, 1980, vol. 13, no. 2E, 6 p.

This issue of World Neighbors in Action is devoted to ORT. ORT, dangers of dehydration, preparation of drink, and measuring methods for home-prepared ORT are all discussed.

- 0322 THE SUGAR AND SALT LIFELINE: ORT FOR DIARRHOEA (A REPORT FOR DOCTORS, HEALTH PLANNERS, COMMUNITY WORKERS AND THE MEDIA). Chauhan, S., ed., International Institute for Environment & Development, February 1984, London, 83 p.

This is a compilation of articles on ORT composition and implementation. Factors such as health education, malnutrition, and vaccinations are detailed as they relate to ORT.

- 0701 Abdalla, S.; Helmy, N.; et al. ORAL REHYDRATION FOR THE LOW-BIRTHWEIGHT BABY WITH DIARRHOEA. Lancet, 6 October 1984, 818-819.

This study suggests that low-birthweight neonates suffering from acute diarrhea may be safely given ORT. Compared with older infants, however, they are more likely to need parenteral fluid and closer attention.

- 1445 Abdalla, S.; Helmy, N.; El-Essaiby, M.; et al. SODIUM BALANCE IN LOW BIRTHWEIGHT BABIES AFTER ORAL REHYDRATION (LETTER). Lancet, 30 March 1985, 757.

This letter refers to previous evidence of few hypernatraemia cases among low birth weight (LBW) neonates with diarrhea being treated with ORT. Explanations for scant cases of hypernatraemia include admittance of LBW patients prior to diarrhea episodes. A lower concentration of sodium with oral rehydrative fluids may produce less imbalance in LBW neonates with serious and prolonged diarrhea.

- 1997 Achucarro de Varda, C.; Aguirre, G.; Alfonso, T.; et al. METODOS DE REHIDRATAACION ESTUDIOS COMPARATIVOS. Pediatría, vol. 12, no. 2, July-December 1984, p. 32-47.

This article evaluates different rehydration methods and demonstrates again the certainty and efficiency of the WHO ORS formula for the treatment of diarrhea and dehydration.

- 0614 AED. ORAL REHYDRATION IN THE VILLAGE: EIGHT MYTHS. Academy for Educational Development, 22 p.
- This booklet refutes eight myths that health workers have about delivering health messages to villagers.
- 1601 AED. SAMPLE EDUCATIONAL MATERIALS PRODUCED AS PART OF THE MASS MEDIA AND HEALTH PRACTICES PROJECT. Academy for Educational Development.
- These materials were produced as part of the Mass Media and Health Practices Project in Honduras and The Gambia. They exemplify the kind of materials that have proven effective when integrated with radio and face-to-face communications.
- 1581 AID. A GLOBAL SOLUTION. AID in cooperation with ICDDR, UNICEF, UNDP, World Bank, and WHO.
- These scripts, prepared to accompany a slide/tape show and videotape on the Second International Conference on ORT, provide an overview of recent developments in ORT, and include the statements made at the conference.
- 1575 AID. CHILD SURVIVAL: A REPORT TO CONGRESS ON THE AID PROGRAM. Agency for International Development (AID), December 1985, 5 p.
- This report, produced for the U.S. Congress, details AID's support of programs in the child survival field, including ORT, immunization, birth spacing and improved nutrition practices. It also covers programs in acute respiratory infections, vector borne diseases, and water sanitation.
- 1386 Anabalon, E. PARTICIPACION DE ENFERMERIA EN ATENCION PRIMARIA Y SECUNDARIA DE SALUD DEL NINO CON SINDROME DIARREICO A NIVELES AMBULATORIO, RURAL, URBANO E INTRAHOSPITALARIO. Enfermeria, January-February-March 1984, Año XVIII, no. 79, 2-9.
- This is a report of the management of diarrheal illnesses at the mobile, rural, urban, and hospital-based levels in order to present the strategies available for treatment.
- 1086 Arce, J.D. PROGRAM FOR ACUTE DIARRHEAL DISEASES IN INFANTS. Peru, Ministry of Health Bulletins, May-July 1982, 32 p.
- This paper details the severity of Peru's infantile diarrheal disease problem and recommends steps for teaching the use of ORT.

- 0743 Aziz, K.; Beckett, J.L. NATIONAL WORKSHOP ON ORAL REHYDRATION. ICDDR,B, Special Publication No. 9, October 1980, 23 p.

These are the proceedings of a national workshop on oral rehydration held in Bangladesh, from 26 to 28 September 1979. The conference was co-sponsored by the ICDDR,B and the National Oral Rehydration Programme.

- 0791 Azurin, J. LOGISTICS AND ORS PRODUCTION ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 154-156.

This paper discusses the Philippine health system. Oresol packets are produced in-country and distributed free at the neighborhood or rural health unit level.

- 1846 Baker, J.; Kramer, L.; Furst, B. ORAL REHYDRATION THERAPY IN AISA: REPORT ON A WORKSHOP, MARCH 17-21, 1985, DHAKA, BANGLADESH. PRITECH, 1985, 54 p.

These are proceedings of a workshop held in Bangladesh on ORT in follow-up to ICORT I. Discussion topics included program implementation issues, how to create consumer demand, resistance of physicians, and monitoring and evaluation.

- 0669 Bangladesh Rural Advancement Committee. NOTES AND COMMENTS FOR THE PREPARATION OF AN ORAL REHYDRATION PROJECT. Bangladesh Rural Advancement Committee, 1978, 17 p.

This report discusses program strategy, implementation, planning, training and materials development, and research in the ORT field.

- 0670 Bangladesh Rural Advancement Committee. REPORT ON ORAL THERAPY EXTENSION PROGRAMME: PHASE II, OCTOBER 1983 - DECEMBER 1984. Bangladesh Rural Advancement Committee, 1983, 25 p.

This is a progress report on BRAC's success in bringing about behavior changes among rural people toward ORT. The concentrated reinforcement program has been found very positive for improving the quality of teaching about sanitation, personal health and hygiene practices.

- 1677 Barua, D. TRIP REPORT: NIGERIA. World Health Organization, WHO/CDD/C6/370/5 NIG, October 1985.

The current strategy for providing ORT is to educate mothers to prepare and administer SSS to children having three or more stools per day at home and to treat all dehydrated cases coming to ORT units with ORS. This strategy has significantly reduced hospitalization and diarrhea case fatality since 1985 at the Massey St Hospital in Lagos State. More input in training, supervision, and supplies will be needed for the children to derive the full benefit of ORT.

- 0990 Bernardino, L. IMPACT OF AN ORAL REHYDRATION PROGRAMME. The Lancet, vol. 1, no. 8387, 21 May 1984, 1191-1192.
- Admissions for diarrhea fell when a diarrheal disease control clinic was opened in Angola. Reduction in mortality followed.
- 1644 Biddulph, J. CLINICAL PRACTICE: ORAL REHYDRATION THERAPY. Papua New Guinea Medical J., 1985. Vol. 28, 303-309.
- In this article, Dr. Biddulph, professor of Child Health at the Faculty of Medicine, University of Papua New Guinea, advocates the use of ORS as a means of combatting diarrhea in Papua New Guinea. The author discusses how an ORS works, how to successfully manage diarrhea with ORT, and the impact of ORT worldwide. Finally, he lists some publications for further information.
- 0564 Black, R. SUPERVISION AND EVALUATION OF ORT PROGRAMS. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 181-186.
- This presentation discusses management of ORT programs, including their supervision and evaluation.
- 1446 Black, R. TRIP REPORT OF A CONSULTATION ON THE MONITORING AND EVALUATION OF THE ORAL REHYDRATION THERAPY COMPONENT OF THE USAID PRIMARY HEALTH CARE FINANCING PROJECT, PHILIPPINES. PRITECH, Washington, D.C., 13-19 June 1985.
- The purpose of this consultancy was to review and comment on the Tier 1 and Tier 2 AID reporting requirements and to evaluate the feasibility of using data from the Philippines for a large-scale Tier 3 analysis.
- 0327 Black, R.; Levine, M.; Clements, M. ORT FOR ACUTE WATERY DIARRHEA IN TREATMENT CENTERS. unpublished, 10 p.
- The clinical aspects of diarrhea and ORT are discussed in this paper, including symptoms and treatment.
- 1602 Booch, E.; Rasmuson, M. LE ROLE DE L'EVALUATION OPERATIONNELLE DANS LE PROJET DES MASS MEDIA ET DES PRATIQUES SANITAIRES. Academy for Educational Development, Notes Resumant Le Travail sur le Travail sur le Terrain, no. 11, 1984.
- The role of formative evaluation in the Mass Media and Health Practices Project is explained in this report.

- 1383 Brown, J. ORAL REHYDRATION THERAPY FOR DIARRHEA. *Military Medicine*, November 1985, vol. 150, 577-581.

This is a concise presentation of diarrhea agents and their transmission, ORT use in the Third World and the U.S., and ORS preparation from different formulas. The author proposes that ORT would be a practical and effective method for the U.S. military to use in the treatment of acute diarrhea in its own soldiers and in surrounding local populations. The author hopes that acceptance of ORT by the U.S. Military would help promote its use among U.S. doctors and health professionals in the developing nations.

- 0263 Carpenter, C. ORAL REHYDRATION. IS IT AS GOOD AS PARENTERAL THERAPY? *New England J. Medicine*, 6 May 1982, 1103-1104.

This article advocates the use of ORT over IV therapy. It concludes that standard WHO ORS can be used in the management of acute diarrheal diseases in all ages.

- 1845 Cash, R.; Furst, B. ORAL REHYDRATION THERAPY IN AFRICA: REPORT OF A WORKSHOP, LILONGWE, MALAWI, MARCH 29-30, 1985. PRITECH, 1985, 97 p.

These are the proceedings of a conference on ORT in Africa attended by 160 people from 30 countries. Discussion topics included alternative approaches in ORT therapy, training and demand creation, management of programs, and monitoring and evaluation.

- 1764 Chowdhury, A. EVALUATING COMMUNITY ORT PROGRAMMES: INDICATORS FOR USE AND SAFETY. *Health Policy and Planning*, vol. 1, no. 3, 1986, 214-221.

This paper discusses the problems surrounding the intermediate process indicators of community-based ORT programs: availability of ingredients, people's perceptions about diarrhea and its treatment, and knowledge, safety, and usage of ORS, with usage discussed in some detail. It is recommended that program evaluations initially concentrate on process indicators to demonstrate how well the program has been implemented.

- 0744 Chowdhury, A.; D'Souza, S. A DESIGN AND FIELD METHODS FOR MONITORING IMPACT ON MORTALITY OF AN ORAL THERAPY PROGRAMME. ICDDR,B, Working Paper no. 27, July 1982, 25 p.

This is a draft case study prepared for the Inter-Regional Course on Health Services in Research Evaluation with Emphasis on Diarrhoeal Disease Control Projects at the International Centre for Diarrhoeal Disease Research, Bangladesh, September 7-18, 1981.

- 1577 Cleary, T.G.; Cleary, K.R.; DuPont, H. THE RELATIONSHIP OF ORAL REHYDRATION SOLUTION TO HYPERNATREMIA IN INFANTILE DIARRHEA. *J of Pediatrics*, Nov. 1986, vol. 99, no.5, 739-741.
- This study which was conducted in Cairo, Egypt, attempts to trace the relationship between rehydration solution & hypernatremia in infantile diarrhea. It concludes that where there is no understanding or supervision of ORT, the potential for developing hypernatremia is real. The study also stresses that when ORS is alternated with water in a 2:1 ratio and is given under supervision, hypernatremia was corrected in all cases.
- 1740 Clements, M. LA EXPERIENCIA MUNDIAL CON LA REHIDRATAACION ORAL. PRITECH Report, 6 p.
- This report is a brief summary of the global ORT program. Case studies of Bangladesh, Egypt, Honduras, The Gambia and the United States are highlighted.
- 0553 Cole-King, S. ORAL REHYDRATION THERAPY AND ITS LINKAGES WITH HEALTH AND OTHER PROGRAMS. ICORT Conference Proceedings, Washington, D.C., 7-10 June, 1983, p. 132-138.
- It is important that ORT be inserted into a variety of other ongoing activities and programs, depending, within a country, on what is there already and which programs or sectors are most effective.
- 1816 Cooper, E.S. COCONUT WATER. *The Lancet*, August 2, 1986, 281.
- This letter to the editor describes the success of using coconut water for the home treatment of diarrhea in children of St. Lucia. Because coconut water tastes better, infants need not be thirsty to drink it.
- 1720 Coreil, J. INNOVATION AMONG HAITIAN HEALERS: THE ADOPTION OF ORAL REHYDRATION THERAPY. *Human Organization*, vol. 47, 1988, 48-57.
- This paper presents findings from a study of knowledge and use of ORT among four categories of Haitian healers. The analysis shows how differential adoption of ORT by type of healer reflects the influence of gender and occupational roles.
- 0559 Coulibaly, B. ORAL REHYDRATION IN MALI. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 109-111.
- This paper discusses the effectiveness of ORT as a method of controlling diarrhea. Positive points include the fact that it is inexpensive, easy to set up, and fits into the framework of primary health care.

- 0366 Coulter, J.; Hughes-Davies, T.; Tripp, J.; et al. ORAL REHYDRATION FLUIDS. Archives Disease in Childhood, June 1984, 592-93.
- Letters offering supporting and opposing viewpoints to the use of ORT are included.
- 1826 Cutting, W. COCONUT WATER AND HOME REHYDRATION. The Lancet, September 13, 1986, 64-65.
- The benefits of using coconut water in oral rehydration solutions are more limited than generally realized. Different species of coconut have different chemical content, as do coconuts of different maturity.
- 1849 Dale, C.; Northrup, R. SYMPOSIUM PROCEEDINGS, CEREAL-BASED ORAL REHYDRATION THERAPY: THEORY AND PRACTICE. International Child Health Foundation and PRITECH, 1988, 59 p.
- This report contains the proceedings of a symposium on cereal-based ORT that took place at the National Academy of Sciences in February 1987. Discussion topics included the history of ORT development, implementation of ORT, status of cereal-based ORT research, and nutritional aspects.
- 0703 Datta, P.; Datta, D.; et al. EFFECTIVENESS OF ORAL ELECTROLYTE SOLUTION IN THE TREATMENT OF ACUTE DIARRHOEAS IN NEONATES AND YOUNG INFANTS. Indian Journal of Medical Research, 80, October 1984, 435-438.
- The safety and efficacy of ORT with simultaneous feeding of breast milk or milk formula to manage diarrhea in neonates and young infants is studied. Fifty-five children under one year, of which 19 were less than one month old, were successfully treated with ORT. None developed any clinical complications or showed any electrolyte imbalance.
- 1097 De Montero, M.L. INFORME SOBRE COOPERACION TECNICA OFRECI DA A LA SECRETARIA DE SALUBRIDAD Y ASISTENCIA DE MEXICO SOBRE PROGRAMA DE CONTROL DE DIARREAS Y TERAPIA DE HIDRATAACION ORAL. Mexico, Ministry of Health, AM/ICP/CDD/OIO/WR/84-85, 1984, 104 p.
- The integrated program of ORT in Mexico is described in this report.
- 0560 De Saya, M. ORAL REHYDRATION IN BRAZIL. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 106-109.
- The northeast region of Brazil, comprising 33% of the population has one of the highest infant mortality rates in South America with diarrhea comprising 50% of the deaths. For operationalization of a program instigated through community participation, use of the rezadeira (second level of care - traditional healer) was essential.

- 0673 De Zoysa, I.; Carson, D.; Feachem, R. PERCEPTIONS OF CHILDHOOD DIARRHEA AND ITS TREATMENT IN RURAL ZIMBABWE. *Soc. Sci. Med.*, 19, no. 7, 1984, 8 p.
- Attitudes and beliefs about diarrhea and treatment were revealed in a study of home based ORT in rural Zimbabwe. Diarrhea was perceived as a community and family threat caused by physical, social, and spiritual factors. This article confirms the necessity to incorporate local beliefs into health care activities.
- 0612 Drasbek, C. AN INVENTORY OF AID SUPPORTED ORAL REHYDRATION THERAPY AND DIARRHEAL DISEASE CONTROL ACTIVITIES. USAID/S&T, June 1983, 59 p.
- This overview provides information on AID's many CDD projects, and compares their findings.
- 0993 Elkamel, F.; Hirschhorn, N. THIRST FOR INFORMATION: DEVELOPMENT COMMUNICATION IN ORT. Presented to NCIH 11th Annual Int'l. Health Conference, June 1984, 11 p.
- The theoretical model and the communication strategy behind an ORT campaign in Egypt are outlined in this article. Before the program only 15% of the population in Alexandria knew anything about ORT. After the mass media program 70.8% knew about ORS.
- 0666 Ellerbrock, T. ORAL REPLACEMENT THERAPY IN RURAL BANGLADESH WITH HOME INGREDIENTS. *Tropical Doctor*, October 1981, 179-183.
- The program demonstrated that village women in Bangladesh who are predominantly illiterate can learn oral therapy, including how to make oral solution correctly from locally available substances using finger measurements.
- 0794 Elliott, K. TRAINING IN ORAL REHYDRATION. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 172-174.
- One of the most underexplored and undocumented aspects of training in ORT is the matter of professional detraining in order that effective retraining can take place.
- 0692 Evans, N.; Hendrickse, R.; et al. LOPERAMIDE IN ACUTE DIARRHOEA IN CHILDHOOD: RESULTS OF A DOUBLE BLIND, PLACEBO CONTROLLED MULTICENTRE CLINICAL TRIAL. *British Medical Journal*, 289, 10 November 1984, 1263-67.
- This double blind clinical trial produced results which indicate that loperamide, in the doses employed, is safe and may in selected cases be a useful adjunct to ORT in the management of acute diarrhea in well nourished children.

- 1088 Faust, H. CONSULTANCY VISIT FOR ORS PRODUCTION IN PAKISTAN. November 1981, 14 p., unpublished.

The ORS production project in Pakistan is evaluated in this report. The roles of different agencies involved with this program are looked at as well.

- 0792 Faust, H. FIELD EXPERIENCE WITH ORS PRODUCTION. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983.

Locally produced ORS, though no less expensive than importing packets, in most cases has advantages of national self-reliance, flexibility to produce according to local needs and savings in foreign currency.

- 1094 Faust, H. ORS PRODUCTION IN MEXICO: REPORT OF A SITE VISIT BY HANS FAUST. WHO/UNICEF, 12-17 November 1984, 11 p.

This report reviews and evaluates local ORS production and how it fits in the national plan for ORT.

- 0808 Favin, M.N.; McMurty, M.E. ORAL REHYDRATION THERAPY. WFPHA, Information for Action: Resource Guide, May 1983, 24 p.

This guide is meant for persons who have limited time for reading technical materials, and describes only a small portion of recent literature on ORT. Readers interested in a more in-depth study of this topic should examine bibliographies such as PAHO and ICDDR,B bibliographies as well as references found in the publications listed in this guide.

- 1773 Finberg, L. ORAL REHYDRATION: FINDING THE RIGHT SOLUTION. Contemporary Pediatrics, vol. 4, February 1987, 61-67.

This article discusses development of early rehydration solutions and the rehydration solutions available today. Suggestions for pediatricians on treatment of children in the U.S. with diarrhea are offered.

- 0279 Finberg, L. ROLE OF ORAL ELECTROLYTE-GLUCOSE SOLUTIONS IN HYDRATION FOR CHILDREN - INTERNATIONAL AND DOMESTIC ASPECTS. J. Pediatrics, 1980, vol. 96, no. 1, 51-54.

Preventing and treating dehydration occurring secondary to diarrhea are addressed in this article. The focus is on the use of the oral route. Conflicts have arisen concerning how to carry out an oral regimen. The domestic implications of the international problem warrant emphasis as well.

- 1906 Frankel, S.; Lehmann, D. ORAL REHYDRATION THERAPY: COMBINING ANTHROPOLOGY AND EPIDEMIOLOGICAL APPROACHES IN THE EVALUATION OF A PAPUA NEW GUINEA PROGRAMME. *Journal of Tropical Medicine and Hygiene*, 1984, 87, 137-142.

The impact of an ORT program for diarrheal diseases was evaluated through continuous surveillance of the Huli-speaking population of the Tari district in Papua New Guinea. A great reduction in mortality rates was shown, dropping from 3.3/1000 to 1.3/1000/year after ORT. The implications of the study for the design of similar programs are discussed.

- 1691 Frankel, S.; Lehmann, D. ORAL REHYDRATION THERAPY: COMBINING ANTHROPOLOGICAL AND EPIDEMIOLOGICAL APPROACHES IN THE EVALUATION OF A PAPUA NEW GUINEA PROGRAMME. *J. of Tropical Medicine and Hygiene*, 1984, vol. 87, 137-142.

This study is intended to demonstrate the value of combining epidemiological and anthropological methods in the evaluation of health programs in Papua New Guinea. In particular, the study focussed on the impact of ORT for treatment of diarrheal disease. In concluding, the study indicated that any failings of the ORT programme could be attributed to a failure to present the theoretical case for change adequately, and to the unpalatability of ORS. The study underlines the need for health programs to be sensitive to the culture of the target population.

- 0952 Frankel, S.; Lehmann, D. ORT: COMBINING ANTHROPOLOGICAL AND EPIDEMIOLOGICAL APPROACHES IN THE EVALUATION OF A PAPUA NEW GUINEA PROGRAMME. *Journal of Tropical Medical Hygiene*, vol. 87, 1984, 137-142.

Mortality from diarrheal disease in the under fives fell from 3.31/1000/annum to 1.3/1000/annum as a result of an ORT program in Papua New Guinea. However, evidence shows that attendance rates for diarrheal treatment declined after the program.

- 1843 Gaye, P.; Tesi, D. TRAINING OF TRAINERS' WORKSHOP FOR LAUNCHING AN ORAL REHYDRATION CAMPAIGN IN TOGO, VOLUME III: SUMMARY OF THREE TRAINING WORKSHOPS. *Water and Sanitation for Health Project, Field Report #168, February 1986, 92 p.*

Three workshops were held in Togo to train social sanitation field agents who would, in turn, train village women to prepare a home-made oral rehydration solution. This report provides a summary of participant and trainer assessments of the workshop.

- 1746 Goodall, R. MISE A JOUR SUR LA THERAPIE PAR REHYDRATATION ORALE. UNICEF, June 1984, CDD Information paper no. 1, 5 p.

Addresses the question of when home-mix ORS solutions should be used for diarrhea and when pre-mixed packets or medical help should be sought.

0253 Guignard, J.P. POTASSIUM IN COCA-COLA. *The Lancet*, 26 February 1983.

The frequent use of coca-cola in mild infant gastroenteritis is commented on. A check of mineral content shows only small amounts of potassium, which had been thought to be the chief beneficial element.

0581 Habtz, D.; Abeb, G. ORT EXPERIENCE IN ETHIOPIA. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 82-83.

Preliminary results from a study show that there is a good use rate of ORT in Ethiopia. There are hopes that ORS can be distributed outside the health infrastructure, making it available to 100% in need.

1585 Haffejee, I, E.; Moosa, A. HONEY IN THE TREATMENT OF INFANTILE GASTROENTERITIS. *British Medical J.*, 22 June 1985, volume 290, 1866-1867.

A clinical study was undertaken at the R. K. Khan Hospital, in Durban, South Africa, which used honey in oral rehydration solution in infants and children suffering from gastroenteritis. The aim of the study was to evaluate the influence of honey on the duration of acute diarrhea and to determine its value as a glucose substitute in oral rehydration. The results indicated that honey shortens the duration of bacterial diarrhea, does not prolong the duration of non-bacterial diarrhea, and may safely be used as a substitute for glucose in an ORS containing electrolytes.

0277 Harper, P.A.; Finberg, L.; Harrison, H.E.; et al. ORAL REHYDRATION FOR DIARRHEA. *J. Pediatrics*, October 1982, 497-99.

From March 15-17, 1982, an international group of 35 pediatricians, epidemiologists, and public health workers met to review the concepts of oral fluid balance maintenance, and nutritional therapy. The agenda for the meeting included a discussion of the appropriate composition and methods of usage of oral electrolyte-glucose solution for rehydration, feeding during acute enteritis and designing programs for developing countries.

0552 Heiby, J. SUPERVISION OF ORAL REHYDRATION THERAPY WITH PRIMARY HEALTH CARE PROGRAMS. ICORT Conference Proceedings, Washington, D.C., 7-10 June, 1983, 138-140.

Integrating ORT into health programs depends on transferring problem-identification and problem resolution skills to those with less extensive training, using real world problems.

- 0621 Hernandez, F.; Jones, L. SERVICIO DE HIDRATACION ORAL EN EL HOSPITAL INFANTIL DE MEXICO FEDERICO GOMEZ. Hospital Infantil Mexico de Federico Gomez, 1985?, 8 p.

Oral rehydration service in the Children's Hospital Mexico, Federico Gomez is described in this article.

- 0568 Hirschhorn, N. ORAL REHYDRATION THERAPY: THE SCIENTIFIC AND TECHNICAL BASES. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 19-23.

Five stages of scientific inquiry are outlined in this article: 1) observation, 2) measurement, 3) creative hypotheses, 4) testing, experimenting, and 5) application.

- 1019 Hirschhorn, N. ORT: THE PROGRAM AND THE PROMISE. John Snow, Inc. (unpublished), May 1985, 27 p.

Four questions about ORT are examined in this report: 1) outcomes of ORT under ideal conditions; 2) the actual effect on mortality and illness; 3) the problems and prospects for making ORT work in whole populations; and 4) potential interactions with other of the UNICEF strategies for enhancing child survival.

- 0093 Hirschhorn, N. THE TREATMENT OF ACUTE DIARRHEA IN CHILDREN - AN HISTORICAL AND PHYSIOLOGICAL PERSPECTIVE. American J. Clinical Nutrition, 1980, vol. 33, 637-63.

This review examines historical, physiological, clinical and epidemiological evidence to support a method of therapy. Use of fluid and nutritional therapy has progressed over the years to a point where acute mortality can be reduced to nearly zero.

- 0220 Hirschhorn, N.; Kinzie, J.; Sachar, D.; et al. DECREASE IN NET STOOL OUTPUT IN CHOLERA DURING INTESTINAL PERFUSION WITH GLUCOSE-CONTAINING SOLUTIONS. New England J. Medicine, 25 July 1968, vol. 269, no. 4, 176-81.

This article asserts that where intravenous fluids are scarce in cholera-affected areas, oral electrolyte solutions containing glucose can supplement parenteral fluids in the treatment of cholera.

- 0840 Hoffman, S.; Moechtar, M.; et al. CITRATE BASED ORS SUPERIOR TO BICARBONATE BASED ORS FOR REHYDRATION AND MAINTENANCE THERAPY OF CHOLERA PATIENTS IN JAKARTA. Indonesia, Ministry of Health, October 1984, 23 p.
- A citrate based formulation of ORS differing from WHO BBORS only in base composition is considered a possible alternative to or replacement for BBORS. The results of this study indicate that CBORS was superior to BBORS for treatment of children as well as adults.
- 1680 Honduras, Ministry of Health. ESTUDIO EN EL PERSONAL DE SALUD SOBRE SUS CONOCIMIENTOS, ACTITUDES Y PRACTICAS EN RELACION A LAS NORMAS DE LA TERAPIA DE REHIDRACION ORAL. Ministry of Public Health, Honduras, November 1984, 35 p.
- A study of health personnel conducted in Tegucigalpa by the Ministry of Health and Management Sciences for Health, this report concerns the knowledge, attitudes, and practices among their personnel regarding ORT. It also recommends that hospital personnel incorporate the study findings into training modules on ORT.
- 1007 Hughes-Davies, J.H. DIARRHOEA, DEHYDRATION, AND DRUGS. British Medical Journal, vol. 289, no. 6457, 1 December 1984, 1542.
- This article suggests that when dehydration is severe a salt and glucose drink may be better, to avoid too rapid a fall in plasma concentration with too great a shift of water into the cells, and possibly to replace salts and stimulate their absorption.
- 0997 ICDDR, B. ANNOTATED BIBLIOGRAPHY ON COMPOSITION OF ORS. ICDDR,B, March 1985, 38 p.
- This is a compilation of annotated resources dealing with the subject of ORS salts.
- 1002 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON ORAL REHYDRATION THERAPY. ICDDR,B, March 1985, 83 p.
- This is a detailed annotated bibliography of articles and books written on the subject of ORT.
- 1157 INCAP. PROYECTO REGIONAL DE PROMOCION Y APOYO A LOS PROGRAMAS DE REHIDRACION ORAL. INCAP, 1983, 9 p.
- This report describes the objectives of a project to enhance support for national ORT programs in Central America, Panama and the Dominican Republic, and promote technical collaboration and information sharing among these nations.

- 0710 Islam, M.; Ahmed, S.M. ORAL REHYDRATION SOLUTION WITHOUT BICARBONATE. Archives of Diseases in Childhood. 59, 1984, 1072-1075.

Ninety-eight children with varying degrees of acute diarrhea were treated with either WHO recommended ORS formula, or ORS without bicarbonate. All but three children who receive ORS without bicarbonate were successfully treated. This study proposes that ORS without bicarbonate may be used where complete formula solution is not available.

- 0672 Isolauri, E.; Vesikari, T. COMBINATION OF ORAL REHYDRATION AND RAPID FEEDING IN ACUTE DIARRHOEA. Pediatrics Research, 18, no. 10, Oct. 1984, 1049.

Eighty-one children hospitalized for acute diarrhea were treated with both WHO-ORS and traditional oral fluid replacement and a glucose- electrolyte solution (sodium 36 mmol/l). Each group received either a rapid or gradual (over 5 days) return to full feedings. Of the four combinations of treatment, the WHO-ORS plus rapid was associated with the best weight gain, shortest duration of diarrhea, and shortest hospital stay. The application of these principles for treatment of acute infantile diarrhea in industrialized countries is recommended.

- 1389 Jolly, R. ORAL REHYDRATION THERAPY: BUILDING ON A DECADE OF SUCCESS - BEYOND ICORT II. UNICEF, CF/PD/DIR/1986-005, 13 February 1986, 7p.

This paper reviews the progress that has been made in the first decade of use of ORT and what opportunities must be built on in the next five to ten years.

- 0391 Keusch, G.; Cash, R.; Hirschhorn, N. MANAGEMENT OF THE DIARRHEAL DISEASES AT THE COMMUNITY LEVEL. National Academy Press, 1981, Washington, D.C., 22 pp.

This detailed report reviews ORT and continued feeding as management interventions for acute diarrhea. The efficacy of different OR solutions, varying according to sodium, potassium content, glucose vs. sucrose, are reviewed as are different modes of preparing ORS and the cost-effectiveness of different ORT programs. The need to continue feeding during and after diarrhea is stressed. Further field studies are necessary to evaluate educational techniques.

- 0561 Khadraoui, S. EXPERIENCE OF THE ORAL REHYDRATION PROGRAMS - TUNISIA. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 100-106.

The Tunisia ORT program is outlined. Several less successful aspects, such as non-collaboration of private doctors and city pharmacists, and reticence of some hospitals to use ORT are mentioned in this report.

- 1107 Khadraoui, S.; Hamza, B. THE ROLE OF INTERNATIONAL AGENCIES IN TUNISIAN PROGRAMME OF TREATMENT OF DIARRHOEAL DISEASE. National Institute for Child Health, 4 p.
- Before 1980, ORT was a common practice in only 3 regions of Tunisia. This paper calls for new and higher priority to be given ORT use in Tunisia.
- 1582 Khan, M.A.; Ramzan, M.A.; Rahman, G.N. THE ROLE OF FEEDING AND WEANING PRACTICES IN THE MANAGEMENT OF INFANTILE DIARRHOEA. National Institute of Child Health, Karachi, Pakistan, 1985. 36 annexes.
- This study was carried out to: (1) obtain information about knowledge, attitudes and practices of mothers regarding diarrhea management; (2) demonstrate to mothers methods for feeding and weaning during treatment of diarrhea.
- 0060 Khuffash, F.A.; Majeed, H.A. HYPERNATREMIC DEHYDRATION IN INFANTS WITH GASTROENTERITIS. Clinical Pediatrics, May 1984, vol. 23, no. 5, 255-258.
- This article alleges that in Kuwait the most important risk factor for the development of hypernatremia is young age. A retrospective study of 1045 children revealed that the peak incidence of hypernatremic dehydration was encountered in infants less than three months old.
- 1380 Klish, W. USE OF ORAL FLUIDS IN TREATMENT OF DIARRHEA. Pediatrics in Review, July 1985, vol. 7, no. 1, 27-30.
- The point of this article is that rehydration is effective, safe and inexpensive in children with dehydration. The author presents an overview of diarrhea agents, mechanisms of absorption, composition of oral fluids, and ORT.
- 0611 Knebel, P. REHYDRATION AT FIXED CENTERS IN DEVELOPING COUNTRIES: A MANUAL BASED ON THE MALI EXPERIENCE. USAID/Bamako, Sahel Development Program, SAHEL D (83) 195, Bamako, Mali, March 1983, 27 p.
- The efficacy of oral rehydration units (treatment centers that administer ORT) is assessed in this paper, based on their success in Mali.
- 1169 Kuberski, T. APPROPRIATE TECHNOLOGY: COCONUT WATER FOR THE ORAL REHYDRATION OF CHILDHOOD DIARRHEA. New Zealand Medical Journal, vol. 91, May 28, 1980. 390-392.
- The issue of whether the use of prepackaged ORS is appropriate for inaccessible and remote areas such as the Pacific islands where a possible alternative, coconut water, is available is addressed in this article. The efficacy and cost-effectiveness of coconut water compared to a chemical preparation is also explored.

- 1170 Kuberski, T.; Roberts, A.; Linehan, B. COCONUT WATER AS A REHYDRATION FLUID. *New Zealand Medical Journal*, vol. 90, August 8, 1979, 98-100.
- This study, conducted in the Gilbert Islands, analyzed coconut water to assess its potential usefulness in the oral and parenteral rehydration of patients with cholera and other severe forms of gastroenteritis.
- 1171 Kumar, V. ORAL REHYDRATION THERAPY FOR DIARRHEA IN CHILDREN. *Indian Pediatrics*, vol. 17, Sept. 1980, 739-743.
- This general article discusses the effectiveness of ORT and urges the launching of a national CDD program for India.
- 1678 Laboratorios Asuncion. REHIDRATANT SOLUTION ORAL: EL EQUILIBRIO ELECTOLITICO EXACTO. Laboratorios Asuncion, 1986 (?).
- This is a packet of information including specifics about ORS. Two pamphlets, one on diarrhea treatment and the other on a WHO regional group meeting on diarrhea, are included in the packet. All materials are in Spanish.
- 1950 Ladislaus-Sanei, L.; Scully, P. ICORT II PROCEEDINGS: SECOND INTERNATIONAL CONFERENCE ON ORAL REHYDRATION THERAPY, DECEMBER 10-13, 1985, WASHINGTON, DC. USAID, Office of Health, December 1986, 169 p.
- These are the proceedings of the Second International Conference on ORT, which was attended by 1200 participants from nearly 100 countries. The conference dealt with all aspects of ORT from planning to evaluation.
- 0007 Lasch, E.E.; Abed, Y.; Guenina, A.; et al. EVALUATION OF THE IMPACT OF ORAL REHYDRATION THERAPY ON THE OUTCOME OF DIARRHEAL DISEASE IN A LARGE COMMUNITY. *Israel J Medical Science*, 1983, vol. 19, 995-97.
- This reviews an ORT program established in 1979 in Gaza encompassing all community health centers. By 1981, diarrhea-related hospital admissions were reduced by 42% and hospital deaths due to diarrhea by 37%. The program stressed community health education and participation.

- 1580 Lasch, E.E.; Abed, Y.; Guenina, A. EVALUATION OF THE IMPACT OF ORAL REHYDRATION THERAPY ON THE OUTCOME OF DIARRHEAL DISEASE IN A LARGE COMMUNITY. Israel J. of Medical Sciences, 1983, vol. 19, pp. 995-997.

The availability of a well organized health service in the Gaza Strip provided an excellent opportunity to institute a large-scale project to evaluate the effectiveness of early ORS therapy in reducing diarrhea-related hospital admissions, mortality, and malnutrition. A 3 year program was started in 1979, encompassing all community health centers and including intensive community education in the use of ORS. The study determined that diarrhea-related hospital admissions and hospital deaths from diarrheal diseases had declined dramatically. The study also succeeded in establishing active community and family participation.

- 0065 Levine, M. ORAL THERAPY FOR DIARRHOEA: PAST, PRESENT & FUTURE. J. Tropical Medicine & Hygiene, 1981, vol. 84, 185-7.

This article provides a historical overview of how oral rehydration therapy has become recognized as a legitimate way of treating diarrhea.

- 0575 Mahalanabis, D. ORT AS USED IN THE HOSPITAL SETTING FOR BOTH INPATIENT AND OUTPATIENT CARE. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 52-54.

In both in- and out-patient hospital settings, the WHO/ORS formula has met with success in infants with hyponatremia. Results are superior to the best rebottled IV-treated series.

- 0219 Mahalanabis, D.; Choudhuri, A.; Bagchi, N.; et al. ORAL FLUID THERAPY OF CHOLERA AMONG BANGLADESHI REFUGEES. Hopkins Medical J., March 1973, vol. 132, 197-205.

This is a description of a field trial of oral electrolyte solutions in the treatment of cholera during the 1971 Indian war refugee crisis. Practical guidelines for the use of ORT were formulated from this experience.

- 0495 Mahalanabis, D.; Merson, M.; Barua, D. ORAL REHYDRATION THERAPY - RECENT ADVANCES. World Health Forum, 1981, vol. 2, no. 2, 245-49, also WHO/WP/05 14-17 July 1980, Brazzaville.

Recent advances in ORS composition, use, and effectiveness as well as related nutritional benefits are detailed in this article.

- 0216 Mahalanabis, D.; Sack, R.B.; Jacobs, B.; et al. USE OF AN ORAL GLUCOSE-ELECTROLYTE SOLUTION IN THE TREATMENT OF PAEDIATRIC CHOLERA - A CONTROLLED STUDY. *Environmental Child Health*, April 1974, 82-87.
- A clinical study taken to evaluate the use of an oral glucose electrolyte solution in replacing part of the initial fluid deficit and virtually all of the subsequent stool losses is outlined. It also defines the practical problems involved in carrying out such treatment in infants and children with cholera.
- 1079 Mahoney, R.T.; Verzosa, C.C.; et al. ACCEPTABILITY AND USE OF ORS. THE DEVELOPMENT OF USER PAMPHLETS AND IMPROVED PACKAGING. *PIACT/PATH*, 23 February 1982, 9 p.
- The problems of how to properly train mothers in the use of ORT through pamphlets and package instructions are analyzed in this report.
- 1666 ORAL REHYDRATION THERAPY IN NIGERIA. PRITECH Report, SS 79, February 1986, 180 p.
- The purpose of this consultancy was to assist AID/Lagos and Unicef/Nigeria in ORT efforts with Child Survival Programs. It found that there is a sound, appropriate, and applicable ORT methodology established, but further training of health personnel in its use is needed.
- 1785 Mehta, M.; Patel, D.S. THE ROLE OF ORAL REHYDRATION IN MANAGEMENT OF ACUTE DIARRHOEA IN CHILDREN. *Journal of Tropical Pediatrics*, vol. 30, April 1984, 83-87.
- A study was conducted in an Indian hospital to demonstrate the efficacy of oral fluids in preventing dehydration, to study the time taken for correction of dehydration, and to study the role of oral fluids in decreasing the duration of hospital stay.
- 1811 Merson, M. ORAL REHYDRATION THERAPY - FROM THEORY TO PRACTICE. *WHO Chronicle*, vol. 40, no. 3, 1986, 116-118.
- This article is based on Merson's summary address which was delivered at ICORT II in December 1985. It gives a brief progress report on ORT, covering the categories of communications and social marketing, distribution and logistics, health personnel training, supervision and monitoring, evaluation and cost, and integrating ORT with other health activities.
- 1095 Mexican Institute of Social Safety. LINEAMIENTOS PARA EL EMPLEO DE LA HIDRATAACION ORAL EN LA UNIDAD MEDICA RURAL. Mexican Institute of Social Safety, March 1984, 7 p.
- The use and proper administration of ORT are described in this report.

- 1096 Mexico, National Institute of Sciences and Technology. PROGRAMA DE HIDRATAACION ORAL EN NINOS CON DIARREA, CURSO DE CAPACITACION. National Institute of Sciences and Technology, Mexico, October 1984, 57 p.
- The course of training of health personnel in the preparation, administration, and education of ORT is outlined. The severity of the problem of diarrhea and the role that ORT and nutrition play in combating dehydration caused by diarrhea are also discussed.
- 0683 Mir, N.A.; Elzouki, A.Y. ORAL REHYDRATION SOLUTIONS AND ELECTROLYTE CONTENT OF WATER. Arch. Dis. Child 59, No. 9, September 1984, 903.
- The use of WHO-ORS packets is discouraged because of different electrolyte contents of water. It is recommended that pediatricians working in developing countries or remote rural areas ascertain the electrolyte content of regional drinking water before making any protocols for ORT.
- 0632 Mirza, A. ORAL REHYDRATION THERAPY SURVEY, PREPARATION OF SUGAR/SALT SOLUTION. Office of Health, Population and Nutrition, USAID/Pakistan, 10 March 1985, 21 p.
- This study makes the case for a home-based ORT program in Pakistan. Of the mothers surveyed, only 32% used ORS during and since the last diarrheal season. Prior to the demonstration session, only 2% of the women could measure one liter of water correctly.
- 1749 Missoni, E.; Sierra, B. MANUAL DE PROCEDIMIENTOS PARA SU FUNCIONAMIENTO. Mexico Children's Hospital/UNICEF, 1986, 47 p.
- This is a procedure manual on ORT for the control of diarrhea in Mexico. Subjects discussed are clinic evaluation and evaluation of oral rehydration service, treatment and therapy plans, limitations of oral rehydration, and clinic development. Educational activities and feeding are also discussed.
- 0267 Mobarak, A.B. DIARRHEAL DISEASE CONTROL STUDY: SECOND PROGRESS REVIEW MEETING ON THE DIARRHEAL DISEASE CONTROL STUDY. Ministry of Health, Egypt, 1980, 22 p.
- Following the study in 1980 to determine an effective means of reducing the exorbitantly high number of preschool child deaths, a design was prepared to test the electrolyte solution Oralyte and home-prepared rehydration mixture.

- 1985 Mota-Hernandez, F.; Perez-Capilla, A.; Velasquez-Jones, L. IMPACTO DEL SERVICIO DE HIDRATACION ORAL SOBRE LA HOSPITALIZACION DE NINOS CON DIARREA EN UN HOSPITAL DE TERCER NIVAL DE ATENCION. Bol. Med. Hosp. Infant Mex., vol. 44, no. 5, May 1987, p. 260-264.

The article evaluates the impact of the Oral Rehydration Services on the hospitalization of children with diarrhea at a third level hospital in Mexico.

- 1574 Murtaza, A.; Zulficar, I.; Hussain, W. A SIMPLE AND SAFE 'PUSH' TECHNIQUE FOR RAPID TREATMENT OF SHOCK IN CHILDREN WITH SEVERE DEHYDRATION. The Lancet, July 16, 1983, 157.

This letter to the editor describes a new method for rapid shock treatment in severely dehydrated children. Patients at the King Edward Medical College in Lahore now receive an immediate injection into the temporal vein of 30 ml/kg of 5% dextrose in isotonic saline, causing marked improvement.

- 1583 Murtaza, A.; Zulficar, I.; Khan, S.R. REGULATION OF SERUM SODIUM IN DEHYDRATED AND ORALLY REHYDRATED INFANTS: INFLUENCE OF AGE AND OF PURGING RATES. St. Garans Hospital, Stockholm, Sweden, 1986, 15 p.

This study reports serum and urine electrolytes in 60 consecutively admitted male infants with histories of short term diarrhea and moderate dehydration. The study analyzed the relative importance of age and of rapid reduction of the purging rate for the control of serum NA-concentration. The authors concluded that it is important to consider age when prescribing ORT. Correction of S-Na and sodium balance is enhanced by a rapid reduction of abnormal intestinal losses.

- 0437 Nalin, D. NUTRITIONAL BENEFITS RELATED TO ORAL THERAPY: AN OVERVIEW. Bellanti, J., ed., ACUTE DIARRHEA: ITS NUTRITIONAL CONSEQUENCES IN CHILDREN, Nestle, Vevey/Raven Press, 1983, New York, 185-191.

The impact of nutritional practices on ORT is analyzed in this chapter. ORT supplemented with early refeeding leads to increased weight gain; additional studies to define the causal variables are needed in view of some unexplained negative findings and the importance of identifying and facilitating reproducibility of oral therapy's significant nutritional benefit.

- 0068 Nalin, D.; Levine, M.; Mata, L.; et al. ORAL REHYDRATION AND MAINTENANCE OF CHILDREN WITH ROTAVIRUS AND BACTERIAL DIARRHEAS. Bulletin of the WHO, 1979, vol. 57, no. 3, 153-459.

This study tested the efficacy of ORT with viral diarrheas (rotavirus) which tend to inhibit the intestine's absorptive capacity. ORT was found to safely and effectively treat 58 of 62 infants with both viral and bacterial diarrheas accompanied by 5-10% dehydration.

- 0960 Nalin, D. DIARRHOEA, DEHYDRATION, AND DRUGS. British Medical Journal, vol. 290, no. 6466, 9 February 1985, 473.

This article clarifies that the success of ORT is based on the presence of glucose or another suitable substrate, required to render salt and water absorbable during acute diarrhea.

- 0221 Nalin, D.; Cash, R.; Islam, R.; et al. ORAL MAINTENANCE THERAPY FOR CHOLERA IN ADULTS. The Lancet, 17 August 1968, 370-72.

In a control trial with patients who received only intravenous replacement of their stool losses, the patient receiving oral solution required 80% less intravenous fluids for cure. ORT for acute cholera in adults has the potential for being more widely available in the future.

- 0006 Nalin, D.; Hirschhorn, N. RESEARCH ON ORT FOR DIARRHOEAL DEHYDRATION. World Health Organization, WHO/BVD (DDC)/79.6, 4 JUNE 1979, 9 p.

A review of research in ORT incorporating the authors' suggested priority areas for future study.

- 1700 Ndiku, J.; Mandevu, R. A STUDY OF MATERNAL KNOWLEDGE ABOUT ORAL REHYDRATION THERAPY FOR UNDER-FIVE CHILDREN WITH ACUTE DIARRHOEA, NAKURU HOSPITAL, KENYA. Afro Regional Senior Level Course in Epidemiology and Disease Control, Nairobi, Kenya, October 1986, 25 p.

The mother occupies a central position in ORT activities; her level of motivation and knowledge about ORT will largely determine the success of any diarrheal disease control program. A study was conducted in 1986 to test maternal knowledge about ORT. The results are reported here, largely reflecting unsatisfactory knowledge. Recommendations are made for improving the situation.

- 0358 Nichols, B.; Soriano, H. A CRITIQUE OF ORAL THERAPY OF DEHYDRATION DUE TO DIARRHEAL SYNDROMES. American J. Clinical Nutrition, September 1977, vol. 30, 1457-1472.

This recommends early administration of ORS when breastfeeding is not possible for home rehydration of diarrheal syndromes. Proper times, places and situations for the use of ORT are discussed.

- 0658 Nigeria, African Regional Health Education Center. A CONSULTATION MEETING TO EXAMINE THE HEALTH EDUCATION OF EXPANDED IMMUNIZATION, ORT AND MALARIA CONTROL. University of Ibadan, Nigeria.
- The meeting conducted on November 26, 1982 discussed expanded programs on immunization, citing the lack of health education, poor cold chain maintenance, political intrusions and lack of integration as problems in this area. Oral Rehydration Therapy, educational efforts, and ideas for improvement are also included in this report.
- 1882 Nigerian Control of Diarrheal Diseases Program. ORT--MANAGEMENT AND PREVENTION OF DIARRHOEA FOR MIDDLELEVEL HEALTH WORKERS IN NIGERIA: TRAINER'S GUIDE. Nigeria's Control of Diarrheal Diseases Program, Field Test, July-September 1987, 15 p.
- These guidelines are intended to assist in training health workers to treat diarrhea using the manual for Management and Prevention of Diarrhea.
- 1391 Northrup, R. PRITECH LESSONS FROM EXPERIENCE. APHA Conference Presentation, 21 November 1985, 11p.
- This presentation briefly outlines PRITECH's efforts to establish national ORT programs. It touches on the working relationship between Ministries of Health and the private sector, training and mass media, distribution of packets vs. home-mixed solutions and incorporating ORT campaigns into existing PHC programs.
- 0790 O'Connor, R.; Hartman, F.; LeSar, J. LOGISTICS DECISIONS IN THE IMPLEMENTATION OF ORT PROGRAMS. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 150-153.
- The public health system alone cannot be relied upon for ORT delivery. Private sector distribution, marketing and direct home-based preparation must also be utilized.
- 1944 Oruamabo, R.S.; Wari-Toby, C.T.; Okoji, G.O. EARLY EXPERIENCES IN THE TREATMENT OF ACUTE DIARRHOEA WITH ORAL REHYDRATION THERAPY AT THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL, NIGERIA. Public Health, vol. 101, 1987, 375-381.
- This reports on a study undertaken at a hospital in Nigeria in which 140 children were treated with ORT for diarrhea. 47% of the mothers had started their children on antibiotics and other drugs prior to presentation at the hospital, demonstrating the need to further publicize ORT.

- 2007 PAHO. EL USO DE LA TERAPIA DE REHIDRATACION ORAL POR LOS PROGRAMAS NACIONALES DE CONTROL DE ENFERMEDADES DIARREICAS. Pan American Health Organization, March 1986, 8 p.
- This paper discusses the use of ORT in National CDD programs to combat diarrheal diseases.
- 0795 Parker, R. IMPLEMENTATION OF ORT PROGRAMS - TRAINING. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 170-171.
- Although training health workers and families in the use of ORT is known to be a key element in implementation, there has been almost no research specifically designed to measure quantitatively the essential inputs and processes required for training. These data are badly needed.
- 0171 Parker, R. ORAL FLUID THERAPY IN DIARRHEA AND DEHYDRATION: CURRENT CONCEPTS AND PRACTICAL CONSIDERATIONS. Department of International Health, Johns Hopkins University, School of Public Health, July 1980, Baltimore, MD, 29 pp.
- This is a general background document that addresses current concepts and potential areas of development in oral rehydration therapy.
- 0435 Parker, R.; Rinehart, W.; Piotrow, P.; et al. ORAL REHYDRATION THERAPY (ORT) FOR CHILDHOOD DIARRHEA. Population Reports, July-August 1984, Series L, no. 2, Revised, 75 p.
- This article provides excellent coverage of ORT from all angles. Numerous tables, including comparison of IV and ORT therapies, are included as is information on implementation of national programs, community-based distribution projects, and an excellent updated bibliography.
- 0585 Perkin, G. FOUR WAYS TO IMPROVE ACCEPTANCE, AVAILABILITY AND CORRECT USE OF ORT. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 161-162.
- The procedures for mixing ORS with locally available and produced materials are outlined in this paper.
- 0831 PIACT/PATH. ORAL REHYDRATION SALTS: PROMOTION OF ACCEPTABILITY AND OF SAFE AND EFFECTIVE USE - PROJECT REPORT. PIACT/PATH unpublished report, 114 p.
- This paper states the results of a study conducted to promote the use of oral rehydration salts. Several key messages are identified which aid in identifying the minimum content which educational materials on oral rehydration therapy should have for service providers.

- 0069 Pizarro, D. DISCUSSION I: ORAL THERAPY FOR NEONATES WITH DEHYDRATING DIARRHEAS. Holme T; Holmgren J. (eds.), ACUTE ENTERIC INFECTIONS IN CHILDREN, NEW PROSPECTS FOR TREATMENT AND PREVENTION, Elsevier/North-Holland Biomedical Press, 1981, 319-322.
- This study concludes that the use of glucose based ORS in the treatment of neonates with dehydrating diarrhea is suitable.
- 0014 Pizarro, D.; Posada, G.; Levine, M. HYPERNATREMIC DIARRHEAL DEHYDRATION TREATED WITH "SLOW" (12-HOUR) ORT: A PRELIMINARY REPORT. J. Pediatrics, February 1984, vol. 104, no. 2, 316-19.
- Thirty-five infants with hypernatremic diarrheal dehydration were treated with ORT administered at a slower rate and without water. These modifications allowed successful ORT without convulsions.
- 0009 Pizarro, D.; Posada, G.; Villavicencio, N.; et al. ORAL REHYDRATION IN HYPERNATREMIC AND HYPONATREMIC DIARRHEAL DEHYDRATION. American J Diseases of Childhood, August 1983, vol. 137, 730-34.
- 94 well-nourished infants suffering from hypernatremic or hyponatremic diarrhea were treated successfully with ORT. 8% of hypernatremic infants manifested convulsions during ORT compared to 14% of infants treated by IV rehydration. Recommends that WHO GES be administered at full strength, 90 mmol/l of sodium with water given separately.
- 0161 Pizarro, D.; Posada, G.; Levine, M.; et al. ORAL REHYDRATION OF INFANTS WITH ACUTE DIARRHEAL DEHYDRATION: A PRACTICAL METHOD. J. Tropical Medicine, 1980, vol. 83, 241-45.
- Fifty children under 2 years old with acute diarrheal disease were studied for effectiveness of simple ORT administration. The entire volume of GES was administered as rapidly as possible, followed by ingestion of plain water. This method appears to be effective and simple.
- 1005 Pizarro, D.; Posada, G.; Mata, L. TREATMENT OF 242 NEONATES WITH DEHYDRATING DIARRHEA WITH AN ORAL GLUCOSE - ELECTROLYTE SOLUTION. Journal of Pediatrics, vol. 102, January 1983, 153-156.
- Oral rehydration is an entirely satisfactory choice for treatment of uncomplicated dehydration in neonates. The article details how hypernatremia, hyponatremia, and acidosis were corrected within a few hours in 234 neonates.

- 2567 PRITECH. ORAL REHYDRATION THERAPY AND RELATED HEALTH ISSUES: AN ANNOTATED BIBLIOGRAPHY. PRITECH (Technologies for Primary Health Care), September 1985, 215 p.

The PRITECH Information Center has developed a bibliographic data base which covers the topics of diarrheal diseases, ORT, immunization, and related health issues. The annotated bibliography was drawn from the data base and reflects the Center's collection of 1200 documents as of September 1985. The indexing scheme used by the Information Center is based on the UNESCO THESAURUS. The bibliographic listing and indexes are followed by descriptive summaries of three other AID sponsored projects which hold documentation related to the subject matter of the PRITECH Collection.

- 0123 Rahaman, M.; Aziz, K.; Munshi, M.; et al. A DIARRHEA CLINIC IN RURAL BANGLADESH. INFLUENCE OF DISTANCE, AGE AND SEX ON ATTENDANCE AND DIARRHEAL MORTALITY. American J. Public Health, October 1982, vol. 72, No. 10, 1124-28.

Attendance rates at a diarrhea clinic in Bangladesh were monitored. Within a one-mile radius of the clinic, 90% of the cases came to the clinic for treatment. At 2 miles, 70% of males and 40% of females came for treatment. On average, the greater the distance to the clinic, the more severe was dehydration on presentation.

- 1812 Reddy, V.; Raghuramulu, N.; Arunjyoti, M. ABSORPTION OF VITAMIN A BY CHILDREN WITH DIARRHOEA DURING TREATMENT WITH ORAL REHYDRATION SALT SOLUTION. Bulletin of the World Health Organization, vol. 64, no. 5, 1986, 725-728.

The results of a study on vitamin A absorption by children with acute diarrhea are reported in this article. Absorption is lower in children with acute diarrhea compared with normal children. The glucose or electrolytes in ORS had no effect on the absorption. However, 70% of the administered dose of vitamin A was absorbed and retained.

- 1388 Rohde, J.; LeSar, J. IMPROVING ORT USE AND NUTRITIONAL STATUS IN CENTRAL AMERICA AND PANAMA. PRITECH, 21 February-9 March, 1984, DC13, 32 p.

This report outlines the background of the nutritional status of children in Central America and Panama. The report also sets out CDD proposals and discusses the roles of various donors in these efforts.

- 1080 Rohde, J.; Fabricant, S. ORT COUNTRY ASSESSMENT REPORT. Management Sciences for Health, 23 April - 4 May 1984, 91 p.

This report summarizes the diarrheal disease situation in the Philippines and the steps the government has taken to control the situation. Analyzes the institutional development of the program.

0976 Rolston, D.; Boraodo, M.M.; Farthing, M.J. BICARBONATE LOSS FROM COMMERCIAL ORS. *The Lancet*, vol. 1, no. 8429, 16 March 1985, 638-639.

This article asserts that the loss of bicarbonate from ORS may prove to be unimportant clinically.

0946 Roy, S.; Sinha, R.P.; Prasad, R.S. EVALUATION OF ORAL FLUIDS FOR TREATMENT OF DIARRHOEA IN KIDS. *Indian Veterinary Journal*, vol. 61, Nov. 1984, 946-952.

This article describes a study of neonatal kids treated with two different oral fluids for the oral treatment of diarrhea in kids.

0025 Roy, S.K.; Rabbani, G.H.; Black, R. ORAL REHYDRATION SOLUTION SAFELY USED IN BREAST-FED CHILDREN WITHOUT ADDITIONAL WATER. *J. Tropical Medicine and Hygiene*, 1983, vol. 65, 209-11.

The use of additional water during rehydration therapy of breastfed children may not be required if instead they are breastfed during the therapy. None of the children developed clinical signs or symptoms of hypernatremia.

0453 Rust, J.; McQuestion, M. SYMPOSIUM ON APPROPRIATE TECHNOLOGY FOR HEALTH. ORT: PERSPECTIVES ON A POWERFUL APPROPRIATE TECHNOLOGY INNOVATION. Pan American Health Organization/World Health Organization, 6-10 October 1980, Washington, D.C., 12 p.

This report provides an overview of the need for an inexpensive treatment for diarrhea, how ORT has answered that need, and various program implementation issues, ranging from ORS production to cultural settings.

0509 Sack, D. TREATMENT OF ACUTE DIARRHOEA WITH ORAL REHYDRATION SOLUTION. *Drugs*, 1982, vol. 23, 150-157.

This review.s some of the principles of oral rehydration, and outlines some practical methods for using oral rehydration solution.

0355 Sack, R.B.; Pierce, N.F.; Hirschhorn, N. THE CURRENT STATUS OF ORAL THERAPY IN THE TREATMENT OF ACUTE DIARRHEAL ILLNESS. *American J. Clinical Nutrition*, December 1978, vol. 31, 2251-57.

This article outlines the advantages and hindrances of ORT as it currently is administered. Minor refinements in ORS composition and specifically defining the ORT position in health care delivery systems are recommended.

- 0002 Samadi, A.R.; Islam, R.; Huq, M.I. REPLACEMENT OF INTRAVENOUS THERAPY BY ORAL REHYDRATION SOLUTION IN A LARGE TREATMENT CENTRE FOR DIARRHOEA WITH DEHYDRATION. Bulletin of the World Health Organization, 1983, vol. 61, no. 3, 471-76.

The efficacy of ORT was compared with IV therapy in a treatment centre in Bangladesh. The results showed that ORS is as effective as IV therapy, costs less and presents fewer risks in the treatment of diarrheal dehydration.

- 1390 Santosham, M.; Reid, R. DIARRHOEA MANAGEMENT. World Health, April 1986, 8-9.

Traces the development of treatment for dehydration due to cholera, the development of ORS and its growing acceptance as treatment for dehydration due to diarrhea of all etiologies all over the world.

- 0270 Santosham, M.; Foster, S.; Garrett, S.; et al. OUTPATIENT USE OF ORAL REHYDRATION SOLUTIONS IN APACHE POPULATION: EFFECT OF INSTRUCTIONS ON PREPARATION AND CONTAMINATION. J. Pediatric Gastroenterology and Nutrition, 1984, 687-691.

This article summarizes a study of the comprehension of ORS instructions by the Apache American Indian tribe.

- 0507 Saragih, M.; Ramayati, R.; Karo-Karo, M.; et al. THE KNOWLEDGE OF PARENTS OF CHILDREN WITH DIARRHEA ON ORALIT AT THE DEPARTMENT OF CHILD HEALTH, DR. PIRNGADI GENERAL HOSPITAL MEDAN. Paediatrica Indonesiana, May-June 1983, vol. 23, no. 5-6, 103-109.

The knowledge of parents of children with diarrhea about Oralit is below expectations. Supply and distribution of Oralit is not evenly spread. Mass media is playing only a minor role in this process.

- 0264 Shirkie, R. A HEALTHY ATTITUDE: ORAL REHYDRATION IN EGYPT. IDRC Reports, 1983, vol. 11, no. 4, 16-17.

This describes the change in Egypt since introducing oral rehydration therapy. IDRC gave support to planning the most effective way to deploy ORT and change the concept that diarrhea was just a normal way of growing up...like getting new teeth or being weaned.

- 0555 Shu-Cheng, D. ORAL REHYDRATION THERAPY IN CHILDREN WITH ACUTE DIARRHEA IN SOME PLACES IN CHINA. ICORT Conference Proceedings, Washington, D.C., 7-10 June, 1983, 124-126.

ORS has been widely distributed in some places in China, but more work will have to be done to obtain accurate data. In the future modified rice soup may be used, as it is more suitable to Chinese custom, particularly in the countryside.

- 1065 Smith, W. BEYOND SLOGANS: A SERIOUS NEW ROLE FOR RADIO. Development Communication Report, no. 37, March 1982, 2-3.
- The role which radio has played in ORT campaigns in Honduras and The Gambia is detailed in this report.
- 0584 Smith, W. EDUCATING THE PUBLIC ABOUT ORT. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 174-180.
- This paper examines the risks of using ORT in unsupervised settings and addresses the relevant issues that arise when teaching mothers about ORT. Case examples in The Gambia and Honduras are used as guidelines for other ORT health education campaigns geared toward mothers.
- 1062 Smith, W.; Pareja, R.; et al. HEALTH COMMUNICATIONS FOR ORT IN HONDURAS. Academy for Educational Development, October 1984, 24 p.
- The Academy for Educational Development's Mass Media and Health Practices ORT project in Honduras is described in this report.
- 1070 Smith, W.; HEALTH EDUCATION BY RADIO. CHILD DIARRHEA DEATH'S FALL AS MOTHERS LEARN ORT. International Exchange News, vol. 27, no. 2, 2-3.
- This article reviews how practical educational messages on radio were able to inform mothers in The Gambia about the use of ORT.
- 1848 Smith, W.; Verzosa, C.; Whitesell, P.; et al. TALKING WITH MOTHERS ABOUT DIARRHEA: A WORKSHOP FOR PHYSICIANS. PRITECH, 1988, 24 p.
- This manual was designed to be used in workshops that provide physicians with the necessary skills and knowledge to improve communications with the mothers of diarrhea patients. A Leader's Guide, providing trainers with full instructions on leading workshops, accompanies the manual.
- 1073 Smith, W.; Pareja, R.; Boot, E. MASS MEDIA AND HEALTH PRACTICES IMPLEMENTATION. IMPLEMENTATION PLAN: HONDURAS. Academy for Educational Development, 1980, 64 p.
- This report summarizes the MMHP ORT project in Honduras. The campaign strategy with the use of mass media is outlined as well.

- 1676 Smith, W.; Pareja, R. PACKETS: DO VISUAL INSTRUCTIONS MAKE A DIFFERENCE? USAID/AED, Mass Media and Health Practices, Field Notes, April 1981, 6 p.
- The interaction of radio, face-to-face instruction, and simple graphic material offers an economical way to reach the largest number of mothers with effective detailed information. Visual instructions alone on ORS packets do not appear to make that much difference.
- 0505 Solter, S. ORAL REHYDRATION THERAPY. 1983, 10 p.
- The critical issues affecting the effectiveness of ORT programs are raised in this report, including local production vs. home-made solutions, feeding during diarrhea, and program organization.
- 1384 Srivastava, V.; Arya, H; Uppal, S.; et al. COMPARISON OF ORAL AND INTRAVENOUS REHYDRATION AMONG HOSPITALIZED CHILDREN WITH ACUTE DIARRHOEA. J. Diarrheal Diseases Research, June 1985, vol. 3, no. 2, 92-95.
- This study compared the efficacy and cost of managing mildly or moderately dehydrated diarrhea patients with ORS vs. intravenous fluids. ORS was found useful for hospital-based management of acute diarrhea, even when moderately dehydrated. ORS use reduced hospital stay and costs.
- 0582 Sullesta, E. ORAL REHYDRATION THERAPY IN THE DIARRHEAL DISEASE PROGRAM: THE PHILIPPINE EXPERIENCE. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 78-81.
- The Philippine ORT program shows a favorable reduction in mortality, ward admission, and in the cost of treatment.
- 0377 Swedberg, J.; Steiner, J. ORAL REHYDRATION THERAPY IN DIARRHEA: NOT JUST FOR THIRD WORLD CHILDREN. Postgraduate Medicine, November 1983, vol. 74, no. 5, 335-341.
- This is a review of the composition of available ORT fluids and of treatment regimens. Asserts that ORT is not only practical for the developing nations, but also for the industrialized world.
- 1387 Taylor, C.; Yu, X. ORAL REHYDRATION IN CHINA. American J. Public Health, vol. 76, no. 2, February 1985, 187-89.
- Oral rehydration with salt and sugar solution for diarrhea seems to have been widely used in China for more than 20 years. Surveys in 5 rural counties in widely distributed provinces have revealed that over 90% of barefoot doctors and county doctors have been using a simple salt and sugar solution.

- 0788 Tercero, E. ORAL REHYDRATION IN NICARAGUA: THREE YEARS OF EXPERIENCE. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 83-87.

Present in Nicaragua is a political will from central government to give "health for all by the year 2000" and involvement of the masses in planning and control of the programs. ORT, with emphasis on children, is immersed in this general politics.

- 1385 Thane-Toe; Khin-Maung U; Tin-Aye; et al. ORAL REHYDRATION THERAPY IN THE HOME BY VILLAGE MOTHERS IN BURMA. Transactions Royal Society Tropical Medicine Hygiene, 1984, vol. 78, 581-89.

This article describes a field research project in six villages near Rangoon, Burma, to study the acceptability, and effectiveness of ORT when administered in the home by mothers. Children under two with 3 or more diarrheal episodes a year who are treated with ORS, were protected from a loss of body-weight compared to those children who did not receive ORS.

- 1381 Tolia, V.; Dubois, R. UPDATE ON ORAL REHYDRATION: ITS PLACE IN TREATMENT OF ACUTE GASTROENTERITIS. Pediatrics Annals, April 1985, vol. 14, no. 4, 295-303.

This article summarizes research to date on ORS composition, survey of ORT use worldwide, current ORT practices and feeding during diarrhea of all etiologies. Pathogens of acute diarrheal diseases are reviewed, and the efficacy of ORT compared in various studies.

- 1063 Touchette, P.; Block, C.; Smith, W. USING BEHAVIORAL ANALYSIS IN PLANNING A PROGRAM TO ALTER HEALTH PRACTICES IN RURAL HONDURAS. NCIH Conference, June 1983, 1-13.

This paper describes the application of behavior analysis to the selection of intervention targets in a campaign designed to alter maternal response to diarrhea and subsequent dehydration in rural Honduras.

- 0949 Trounce, J.Q.; Walker-Smith, J. DEXTROLYTE IN THE MANAGEMENT OF CHILDREN WITH ACUTE GASTROENTERITIS. Practitioner, vol. 229, January 1985, 80-82.

Dextrolyte, a ready to use GES, was successfully used in the outpatient management of 25 children aged under two years with acute gastroenteritis. Following an initial improvement, two children developed a recurrence of symptoms and were admitted to hospital. Its use was readily accepted by parents and children.

- 1886 UNICEF/Nigeria. MANAGEMENT OF DIARRHOEA: ORAL REHYDRATION THERAPY, A MANUAL FOR NURSES. UNICEF/Nigeria, April 1985, 20 p.
- This manual is a guide for nurses to help them better understand the problems, treatment, and preparation of diarrhea in children.
- 1555 Urir, D.A.; Aguilar, A.M.; Torriio, E.A. MANUAL DE PROCEDIMIENTO PARA EL CONTROL Y TRATAMIENTO DE LA ENFERMEDAD DIARREICA AGUDA. Bolivia Ministry of Health, June 1984.
- Discusses the symptoms and diagnosis of acute diarrhea and proper treatment with ORT. Ways of increasing family participation are stated.
- 1067 USAID. HEALTH EDUCATION AND MASS MEDIA. USAID Resources Report, no. 26, May-June 1983, 1-2.
- An interview with officials is recorded in this article. The reasons behind the successful ORT radio campaigns in Honduras and The Gambia are also listed.
- 1913 USAID. NEW YORKER SENTENCED IN ORT CASE. USAID News Release, Office of Press Relations, October 9, 1987, 1 p.
- This press release describes the sentencing of Mohammad Haleem Khan for misrepresenting his company's ability to fulfill a \$266,000 contract for ORS packets to be used in Peru. Some packets contained excessive potassium, resulting in the deaths of four infants.
- 1105 USAID. UGANDA ORAL REHYDRATION THERAPY. PROJECT DATA SHEET. USAID/Africa Bureau, 1984, 82 p.
- This is a proposal to improve the understanding of ORT and to increase demand for, and supply of, Oral Rehydration Salts in Uganda.
- 1177 Varavithya, W.; Chernchit, L.; Wongsaroj, P. COMPARISON OF ORAL REHYDRATION WITH ELECTROLYTE SOLUTION AND SOY MILK IN ACUTE DIARRHEA. Journal of the Medical Association of Thailand, vol. 63, Nov. 1980, 593-597.
- The effect of soy milk in treatment of acute diarrhea is evaluated as compared to conventional oral electrolyte rehydration, followed by diluted breastmilk or milk formula. Results showed that soy milk had no advantages; conventional ORS followed by breastmilk was the most appropriate method.

- 1980 Vega-Franco, L. EL ENTEROCITO Y LA ABSORPCION DE AZUCARES: IMPLICACIONES MEDICODIETETICAS EN LA HIDRATACION POR VIA BUCAL. Bol. Med. Hesp. Infant Mex., vol. 41, no. 2, February 1984, 75-80.
- These articles, on the enterocyte and the absorption of sugar, found that use of ORT had a favorable cost-benefit ratio and should be incorporated as a public health measure in developing countries.
- 2022 Velasquez-Jones, L.; Mota-Hernandez, F.; Donnadien-Castallanos, I. HIDRATACION ORAL EN NINOS CON DIARREA AGUDA. Bol. Med. Hosp. Infant. Mex., vol. 44, no. 10, October 1987, 636-641.
- In this paper, the method of oral rehydration in children with acute diarrhea with and without dehydration, the limitations of the method, and the indications of intravenous therapy and the feeding recommendations, are reviewed.
- 0986 Waterston, T. INFANTS IN JUBA. The Lancet, vol. 2, no. 8407, 13 October 1984, 865.
- This article comments on the issue that babies need drinking water routinely while being breastfed. It suggests that older children be properly taught to care for their younger siblings.
- 0736 WHO. ANSWERS TO THE QUESTIONS ON ORAL THERAPY MOST FREQUENTLY ASKED BY PEDIATRICIANS, NURSES AND OTHER HEALTH WORKERS INVOLVED IN THE CARE OF INFANTS WITH DIARRHOEA AND DEHYDRATION. Draft based on a World Health Organization Manual, Annex 5, 1984, 9 p.
- These questions are taken from WHO's "Manual for the Treatment of Acute Diarrhea, For Use by Physicians and Other Senior Health Workers," Annex 5. The questions cover a wide range of treatment issues.
- 1721 WHO. DIARRHOEAL DISEASES CONTROL PROGRAM: EVALUATION OF ORAL REHYDRATION THERAPY. Weekly Epidemiological Record, no. 44, October 30, 1987, 329-332.
- This article evaluates the ORT Center at the Kamuzu Central Hospital in Malawi and provides recommendations for the organization of ORT centers.
- 1743 WHO. MEDICAMENTS DANS LE TRAITEMENT DE LA DIARRHEE AIGUE DU NOURRISSON ET DU JEUNE ENFANT. World Health Organization, 1986, 7 p., WHO/CDD/SER/86.1.
- Ninety percent of those children with watery diarrhea were treated successfully with ORT and continued feeding at a health center. Treatment with antibiotics or antiparasitics was reserved for those illnesses in which signs of dysentery, cholera, *e. histolytica* or *G. lamblia* were recognized. ORT is the most cost-effective treatment for diarrhea.

- 1698 WHO. ORAL REHYDRATION THERAPY FOR TREATMENT OF DIARRHEA IN THE HOME. World Health Organization, WHC/CDD/SER/86.9.

This report discusses the use of sugar-salt solution, food-based solutions and commercial beverages and other fluids in the home. It also provides recommendations for preparation of sugar-salt solutions.

- 0602 WHO. ORAL REHYDRATION THERAPY: SECOND EDITION. WHO/PAHO, 1983-84, 172 p.

This is a collection of relevant documents categorized according to history, clinical trials, composition, impact, and implementation. It also contains a sequential bibliography and an author and country index.

- 1744 WHO. THERAPIE PAR REHYDRATATION ORALE POUR LE TRAITEMENT A DOMICILE DE LA DIARRHEE. World Health Organization, 1986, 14 p. WHO/CDD/SER/86.9.

Oral rehydration solutions (SSS) have proven their effectiveness in treating dehydration at home. The usage of home solutions must be promoted and personnel must be on hand to train people to use them. The goal is to utilize home solutions in place of ORS packets; to have the system self-sustaining.

- 2021 Williams, G. A SIMPLE SOLUTION. UNICEF Special Report, June 1987, 62 p.

This special report focuses on Oral Rehydration Therapy (ORT) and how it is averting child death from diarrheal dehydration. Approximately 70% of diarrheal deaths are caused by dehydration. ORT works by restoring the lost quantities of water and salts to the body.

ORS Delivery System

- 1842 Ali, A.; Hasan, T.; Mahmood, T. A STUDY FOR UNICEF ON PREVAILING MANUFACTURING/MARKETING OF ORAL REHYDRATION SALTS. Report prepared for UNICEF, Pakistan Consultancy Services, June 1987, 100 p.
- The authors conducted a market study to assess the prevailing manufacturing and marketing activities of ORS in Pakistan. They assessed the existing and potential demand for ORS and identified steps to promote the sale and distribution of ORS through the private sector.
- 0502 Chakraborty, J. REPORT ON BANGLADESH ORAL REHYDRATION PROGRAM. ICDDR,B, 7 p.
- This describes the ORT delivery system that ICDDR,B uses in a town of 80,000. Volunteer mothers at the bari level (extended household or neighborhood social unit) are trained in ORT. These mothers are supervised by paid female village workers. As a result, 80-90% of the population are reported to use ORT at home.
- 0159 Chen, L.; Black, R.; Sarder, A.M.; et al. VILLAGE-BASED DISTRIBUTION OF ORAL REHYDRATION THERAPY PACKETS IN BANGLADESH. *American J. Tropical Medicine*, 1980, vol. 29, no. 2, 285-290.
- This article evaluates a community-based system of distributing ORT packets.
- 1192 Cornaz, I.; Pyle, D.F. EVALUATION OF THE ORAL THERAPY EXTENSION PROGRAMME (OTEP) PHASE II (1983-1986) OF THE BANGLADESH RURAL ADVANCEMENT COMMITTEE (BRAC). Bangladesh Rural Advancement Committee, 1986.
- This is an evaluation of BRAC's Oral Therapy Extension Programme and a formative evaluation of the child Survival Programme (CSP). Sections include an overview of BRAC, the health status in Bangladesh, a description of personnel and their effectiveness (field staff and management), training of health volunteers, and a look at how objectives are achieved.
- 1369 Daulaire, N.M.P.; Joshi, M.; Thorne, M.C. FIELD TESTING THE PINCH AND SCOOP METHOD OF ORAL REHYDRATION SOLUTION PREPARATION. USAID, Integrated Rural Health/Family Planning Services Grant, 1985?, 9 p.
- Because the logistics of distributing ORS packets are so difficult due to the terrain and little infrastructure, the Nepal MOH conducted a field test of various pinch and scoop methods for measuring salt and sugar. They concluded that there is so much variation in size of measurements that the long-term cost effective and safest method of providing ORS might be to invest in improving the delivery system of packets.

- 0140 Elliot, V. ORAL REHYDRATION SALTS: AN ANALYSIS OF AID'S OPTIONS. Office of Health, Agency for International Development, September 1984, 26 p.
- This report presents alternative strategies for AID regarding ORS formulae, production and supply, and reviews collaborative mechanisms between AID and other agencies to manufacture ORS.
- 1377 Fabricant, S. PRIVATE SECTOR COMPONENTS OF ACCELERATED COOPERATION FOR CHILD SURVIVAL (ACCS) PROPOSAL FOR PROJECT SUPPORT ASSISTANCE FOR AN ORS COMMERCIAL SALES PROGRAM IN YEMEN. PRITECH, March 1986, SS119, 35 p.
- This report describes strategies for local production of ORS, improving access to ORS packets for most of the population, mass media education in ORS, and advertising ORS availability through the private sector.
- 0404 Goodall, R. SUMMARY OF UNICEF ORS PACKET DISTRIBUTION. UNICEF, 1984, 15 p.
- This series of tables shows UNICEF, WHO, IDA, SIDA, Red Cross, and AID distribution of ORS packets by region and country. Also included are basic country data for Burma, Sri Lanka, Nepal, India.
- 1378 Goodall, R. UNICEF: 11 YEARS IN THE FIELD. World Health, April 1986, 12-13.
- From 1975 when UNICEF first purchased ORS packets to the current WHO/UNICEF collaboration, ORS use has grown worldwide. Some of the reasons for increased use are field research, education, and widespread availability.
- 0339 Gray, C.S. ISSUES IN DEFINING AND MEASURING RECURRENT AND CAPITAL COSTS OF PRIMARY HEALTH CARE INTERVENTIONS IN AFRICA. Harvard Institute for International Development, 1982, 15 p.
- This report discusses work on recurrent cost issues in terms of: 1) whether or not to treat annual depreciation of capital assets as a recurrent cost; 2) clarifying training as investment and retraining as recurrent; 3) experimentation as investment rather than recurrent expenditures.
- 2017 Olson, C. REPORT OF A CONSULTANCY ON ORS SUPPLY AND DISTRIBUTION IN NIGERIA. PRITECH Report, DC 303, June 1987, 13 p.
- This consultancy report is an outline and specifications draft for a USAID Request for Proposal to contract for private sector involvement in production, marketing, and distribution of ORS packets. The report has two parts: a review of some of the issues with recommendations and the draft for RFP.

- 1193 Olson, C.; Bates, J. EVALUATION OF THE PUBLIC SECTOR ORS SUPPLY SYSTEM IN PAKISTAN. PRITECH, DC 195, 7 August-10 September 1986, 63 p.
- This consultancy report reviews the functions and the principal component of the ORS supply system, identifies existing and potential constraints, and recommends solutions for these problems. The report finds that distribution operations need to be improved.
- 0396 Rahaman, M.; Aziz, K.; Patwari, V.; et al. DIARRHOEAL MORTALITY IN 2 BANGLADESHI VILLAGES WITH AND WITHOUT COMMUNITY-BASED ORT. The Lancet, 20 October 1979, 809-12.
- This paper shows a dramatic difference in diarrhea-related mortality rates in 2 villages in an area where facilities for ORT were available.
- 0381 Shepard, D. PROJECTED COSTS OF A WORLDWIDE PROGRAM USING ORT. 1984, 7 p.
- The overall costs of implementing ORT strategies globally, including cost of personnel and supplies, are assessed in this paper. ORT costs are compared with EPI costs.
- 0349 Survey Research Indonesia. ORAL REHYDRATION TABLETS - A RESEARCH PROPOSAL PREPARED FOR PATHI. Survey Research Indonesia, 1984, 9 p.
- The objectives of this study are to establish a data base on current awareness, consumption and marketing of oral rehydration products (salts, powders, etc.), to assess the impact of the introduction and marketing of Oral Rehydration Tablets on increasing awareness of oral rehydration products, and to assess the impact of advertising and promotion of Oral Rehydration Tablets on stimulating and developing the market potential for oral rehydration products in Indonesia.
- 1376 Tawfik, Y. IMPROVING ORAL REHYDRATION SALTS "ORS" DISTRIBUTION IN RURAL AREAS OF EGYPT. Egypt Ministry of Health, Strengthening Rural Health Delivery Project (SRHD), February 1985, 86 p.
- To improve ORS availability at the village level, ORS production and importation, government and commercial storage and distribution, and KAP of health providers and caretakers of children with diarrhea were investigated in Egypt.
- 0401 UNICEF. SUMMARY OF ORS PACKETS SUPPLIED BY UNICEF. UNICEF, 1984, 7 p.
- This is a listing of the aggregated number of ORS packets distributed by UNICEF 1980-1983 by country.

- 1194 Walker, D.; Schneider, R. THE FEASIBILITY OF A FEMALE VILLAGE DEPOT HOLDER SUB-PROJECT IMPLEMENTED BY THE MINISTRY OF SOCIAL WELFARE AND WOMEN'S AFFAIRS. PRITECH, SS 172, 19 November-15 December 1982, 22 p.

This consultancy report details an analysis of the feasibility of using a community-based system to distribute family planning and ORT products in Bangladesh. The consultant team found the profit-motivated system as potentially viable.

- 0434 WHO. GUIDELINES FOR THE PRODUCTION OF ORAL REHYDRATION SALTS. World Health Organization, WHO/CDD/SER/80.3, 1980, 58 p.

These guidelines have been prepared to assist national authorities in establishing facilities for the production of packets of ORS of pharmaceutical quality for use as a non-prescription drug for the prevention and treatment of clinical dehydration.

- 1379 WHO. ORAL REHYDRATION SALTS: PLANNING, ESTABLISHMENT AND OPERATION OF PRODUCTION FACILITIES. World Health Organization, WHO/CDD/85.8, 1985, 136 p.

These guidelines are to help countries adapt ORS production to their needs. A variety of production related issues are covered, including manufacturing, procedures, ingredients, equipment and quality control.

- 0475 WHO. PROVISION AND PRODUCTION OF ORAL REHYDRATION SALTS IN NATIONAL PROGRAMMES. World Health Organization, WHO/SER/83.1, 1983, 4 p.

This brief paper outlines a plan of operations for a national CDD program to obtain ORS, including importation and local production.

ORS Formula and Preparation

- 0019 BIBLIOGRAPHY ON USE OF COCONUT WATER IN TREATMENT OF DIARRHOEAL DISEASES. DISC, International Centre for Diarrhoeal Disease Research, Bangladesh, 23 February 1984.

This is a listing of references on the use of coconut water as O.R.S., compiled through the library at ICDDR,B.

- 0397 Acra, A.; Karahagopian, Y.; Raffoul, Z.; et al. DISINFECTION OF ORAL REHYDRATION SOLUTIONS BY SUNLIGHT. *The Lancet*, 6 December 1980, 1257-58.

Experiments showed that the viricidal activity of sunlight can be used to prepare ORS by disinfecting contaminated water.

- 0328 Ahmak, K. OLD WISDOM MAY YET WORK ON CONTROL OF DIARRHOEA/CHOLERA. *Nutrition News*, January 1984, vol. 2, no. 8, 1-2.

This article recommends implementing old methods of treating diarrhea into new forms of treatment, e.g. using rice powder or coconut water.

- 0132 American Academy of Pediatrics. ORAL HYDRATING SOLUTION FOR PEDIATRIC USE IN THE UNITED STATES. Report to the Food and Drug Administration, DHHS, by the Committee on Nutrition, American Academy of Pediatrics, June 1983, 21 p.

This report gives a history of ORT and recommends WHO-ORS except in the case of the infant who experiences continuing loss of fluids from the gastrointestinal tract. ORS should only be used under medical supervision for treatment of under-threes.

- 0004 Aperia, A.; Marin, L.; Zetterstrom, R.; et al. SALT AND WATER HOMEOSTASIS DURING ORAL REHYDRATION THERAPY. *J Pediatrics*, September 1983, vol. 103, no. 3, 364-69.

The authors conducted a study of changes in sodium balance and urinary and stool sodium output during ORT with 22 well-nourished infants. It was concluded that moderate differences in sodium intake during ORT do not result in significant differences in sodium homeostasis.

- 0043 Black, R.; Merson, M.; Taylor, P.; et al. GLUCOSE VS. SUCROSE IN ORAL REHYDRATION SOLUTIONS FOR INFANTS AND YOUNG CHILDREN WITH ROTAVIRUS-ASSOCIATED DIARRHEA. *Pediatrics*, January 1981, vol. 67, no.1, 79-83.
- The use of oral rehydration solutions containing essential electrolytes and either glucose or sucrose of equal osmolality was compared in a double-blind sequential trial of 784 children with rotavirus-associated diarrhea treated at a center in rural Bangladesh. Glucose is the preferred carbohydrate for oral electrolyte solutions, although sucrose can be substituted with only minimum loss of efficacy.
- 0083 Black, R.; Levine, M.; Clements, M.; et al. PROLIFERATION OF ENTEROPATHOGENS IN ORAL REHYDRATION SOLUTIONS PREPARED WITH RIVER WATER FROM HONDURAS AND SURINAM. *J. Tropical Medicine & Hygiene*, 1981, vol. 84, 195-97.
- The effects of administering ORS prepared with contaminated river water are analyzed in this article. It ascertains that the potential exposure to bacteria in the water must be considered; nevertheless, prompt administration of ORS to infants with diarrhea should proceed.
- 1359 Cameron, J. DIARRHEA TREATMENT: ORAL REHYDRATION SALT. *Canadian Medical Association J.*, 15 November 1985, vol. 133, 952.
- The author suggests establishing easily accessible supplies of ORS packets in hospitals and clinics in districts of Canada. He cites the successful use of ORS to treat diarrhea from cholera in the developing world, and suggests that deaths partially due to dehydration in an Ontario retirement home might have been fewer had ORS been available and used.
- 0044 Clements, M.; Levine, M.; Hughes, T.; et al. COMPARISON OF SIMPLE SUGAR/SALT VERSUS GLUCOSE/ELECTROLYTE ORS IN INFANT DIARRHEA. *J. Tropical Medicine & Hygiene*, 1981, vol. 84, 189-94.
- Sixty-one infants suffering moderate diarrheal dehydration were treated in a Honduran hospital with either simple sugar salt ORS or glucose electrolyte ORS. SSS solutions frequently produced hypokalemia and increased vomiting during treatment. However, if the SSS is carefully prepared, and accompanied by adequate potassium supplementation, it may be a preferable alternative to GES formula when the latter is unavailable.
- 0085 Clements, M.; Levine, M.; Black, R.; et al. POTASSIUM SUPPLEMENTS FOR ORAL DIARRHEA REGIMENS. *The Lancet*, 18 October 1980, 854.
- This article discusses adding bananas to provide the supplemental potassium necessary with the simple sugar/salt solution. A larger volume may be necessary than originally had been determined. Lemon and orange juices are too low in potassium.

- 0399 Cutting, W.; Ellerbrock, T. HOME-MADE ORAL SOLUTION FOR DIARRHOEA. *The Lancet*, 2 May 1981, 998.
- This letter to the editor discusses home made Oral Rehydration Solutions and the simplicity of mothers learning to prepare it.
- 0005 Cutting, W.; Elliott, K.M. ORAL REHYDRATION. *British Medical J*, 15 October 1983, vol. 287, 1141.
- This article points to the need for early ORT interventions in response to diarrhea. Home-mix ORS remedies are encouraged as well as traditional fluids, i.e., chicken soup, herbal teas, etc.
- 1370 Cutting, W.; Mehta, M.; Subramaniam, S. IS RICE WATER RIGHT FOR REHYDRATION? *The Lancet*, 31 May 1986, 1267-68.
- The superiority of rice water as a rehydrative solution to glucose electrolyte solution is debated in this article.
- 1935 De Zoysa, I.; Lindsay-Smith, E. DIARRHOEA MANAGEMENT AND ORAL REHYDRATION THERAPY IN RURAL HOMES IN ZIMBABWE. Report prepared for Save the Children Fund, March 1983, 99 p.
- This study was conducted in four areas of rural Zimbabwe to assess the acceptability, feasibility and accuracy of sugar-salt solutions and to investigate attitudes, beliefs and practices related to home management of diarrhea. It also includes a comparison of reliability of three methods of sugar-salt solution preparation.
- 0052 De Zoysa, I.; Carson, D.; Feachem, R.; et al. HOME-BASED ORAL REHYDRATION THERAPY IN RURAL ZIMBABWE. *Transactions Royal Society Tropical Medicine Hygiene*, 1984, vol. 78, 102-105.
- Several rural households in Zimbabwe were visited and information was sought on action taken during a recalled episode of diarrhea in a child. 53% took the child to the health facility, 28% gave traditional remedies, and 5% gave ORS at home. Fifty-two of the three hundred sixty-seven respondents claimed knowledge of ORT, however, despite awareness, few used ORT.
- 0051 De Zoysa, I.; Kirkwood, B.; Feachem, R.; et al. PREPARATION OF SUGAR-SALT SOLUTION. *Transactions Royal Society Medicine Hygiene*, 1984, vol, 78, 260-262.
- This study in Zimbabwe compared reliability of three methods of preparing ORS; it also looked at the influence of grades of sugar and salt on the preparation of proper solutions.

- 1372 El-Mougi, M.; Santosham, M.; Hirschhorn, N.; et al. ACCURACY OF MEASURING ORAL REHYDRATION SOLUTION AT HOME BY EGYPTIAN MOTHERS. *J. Diarrheal Disease Research*, September 1984, vol. 2, no 3, 159-161.
- A comparative study of home-mixed ORS was held among two groups of Egyptian women each receiving oral instructions and packets of ORS. One group received a standard 220 cc plastic cup for mixing the ORS, and the second group were only shown a cup as an example. Samples taken the next day of solutions mixed at home by each group showed higher sodium concentration in the control group. The suggestion is to provide standard containers to ensure accurate mixing of ORS at home.
- 1665 Gaye, P.; Tesi, D. TRAINING OF TRAINERS' WORKSHOP FOR LAUNCHING AN ORAL REHYDRATION CAMPAIGN IN TOGO. *WASH Field Report*, No. 168, February 1986 (EN), March 1986 (FR), 92 p.
- These proceedings cover a workshop held in Togo to train social sanitation field agents who train selected village women to prepare homemade ORS. The workshop focused on 1) a review of basic training and health education concepts, 2) intermediate training and skill acquisition, 3) study of the manual designed for the training of village women in ORT, and 4) logistical planning for launching the ORT program.
- 0591 Greenough, W. DIRECTIONS OF FUTURE RESEARCH ON ORT. *ICORT Conference Proceedings*, Washington, D.C., 7-10 June 1983, 199-201.
- This is an excellent technical explanation of how ORT works: enhancing nutrition while replacing fluid losses.
- 0332 Greenough, W. SUPER ORT. *J. Diarrhoeal Disease Research*, June 1983, vol. 1, no. 2, 74-75.
- The implications of each nation adapting ORT to its own needs and using its own materials are discussed. The crucial dimension of improving long term nutrition in young diarrhea victims treated consistently with ORS is also iterated.
- 0260 Hesperian Foundation. HOW THE CHILDREN OF AJOYA, SINALOA, MEXICO ARE HELPING THE CHILDREN OF THE WORLD. Hesperian Foundation, 2 p.
- This promotion describes spoons made of old beer or cola bottle caps for measuring salt and sugar made by children. Sample spoons can be ordered from this Mexican village or the Hesperian Foundation.
- 0400 Ho, T.; Yip, W.; Tay, J.; et al. RICE WATER AND MILK: EFFECT ON ILEAL FLUID OSMOLALITY AND VOLUME. *The Lancet*, 16 January 1982, 169.
- This letter to the editor states that rice water produced significantly lower ileal fluid osmolality and lower ileal fluid volume when compared with milk.

- 1364 Ho, T.; Yip, W.; Tay, J.; et al. RICE WATER AND DEXTROSE-SALINE SOLUTION: A COMPARATIVE STUDY OF OSMOLALITY. *J. Singapore Pediatric Society*, 1982, vol. 24, no. 1 & 2, 87-91.

Osmolality of dextrose-saline solution and rice water was tested. Results show that rice water has a much lower osmolality which could prevent hyperosmolality associated with dextrose-saline solution. However, these results have not been tested in malnourished and dehydrated infants as in developing countries.

- 1363 Hoffman, S.; Moechtar, M.; Simanjuntak, C.H; et al. REHYDRATION AND MAINTENANCE THERAPY OF CHOLERA PATIENTS IN JAKARTA: CITRATE-BASED VERSUS BICARBONATE-BASED ORAL REHYDRATION SALT SOLUTION. *J. Infectious Diseases*, December 1985, vol. 152, no. 6, 1159-1165.

This study was designed to determine whether the more stable citrate based formula or ORS is a suitable replacement or alternative for the standard WHO bicarbonate based ORS. The two formulas were administered to cholera patients in Djakarta over a period of 6 months. It was observed that the citrate resulted in less stool output, less vomiting, more rapid clinical recovery and more rapid rise in content of serum CO₂.

- 0620 Huerta, S. SOLUCIONES PARA HIDRATACION ORAL. PREPARADAS CON ALIMENTOS DE LA COMUNIDAD EN NINOS CON DIARREA. UICEIP/SJI/IMSS, 9 p.

This is a report on oral rehydration solutions for children with diarrhea prepared with ingredients from the community.

- 1373 Ibrahim, M.K.; Hirschhorn, N.; El-Sayyad, L. PRE-PACKAGED ORS: DIFFICULT TO OPEN AND DISSOLVE. *Glinapse*, July-August 1985, vol. 7, no. 4, 2-3.

The difficulty in opening ORS packets without scissors and difficulty in dissolving the salts may lead to less use and reuse of ORS. All packets need to be designed to be easy opening and uniform standards of solubility need to be enacted for any company making ORS.

- 0153 ICDDR,B. PREPARATION OF ORAL SOLUTION AND TREATMENT OF DIARRHEA AND CHOLERA BY YOURSELF. ICDDR,B, 5 p.

This report provides instructions on how to prevent and treat diarrhea.

- 0330 International Institute for Environment and Development. RICE POWDER INSTEAD OF SUGAR. THE SUGAR AND SALT LIFELINE: ORT FOR DIARRHOEA. International Institute for Environment and Development, London, February 1984, 18-21.

A cereal-based electrolyte solution containing rice powder is said to be twice as effective in oral rehydration therapy as the glucose or sucrose-based solutions. Rice-based solutions are more nutritive, cheaper, safer, and more efficient to use in ORT than sugar.

- 1354 Islam, M. CITRATE CAN EFFECTIVELY REPLACE BICARBONATE IN ORAL REHYDRATION SALTS FOR CHOLERA AND INFANTILE DIARRHEA. Bulletin of the World Health Organization, vol. 64, no. 1, 1986, 145-150.

This study suggests that ORS-citrate which has the advantage of a longer shelf-life in hot and humid climates can effectively be used instead of ORS-bicarbonate for hydration and correction of acidosis in cases of cholera and infantile diarrhea.

- 1371 Islam, M.; Bardhan, P.K. A COMPARISON OF ORAL SOLUTIONS FROM COMMON SALT AND CRUDE SUGAR (MOLASSES) WITH AND WITHOUT BICARBONATE IN SEVERE PEDIATRIC DIARRHOEA. Asian Medical J, 1985, vol. 27, no. 4, 243-49.

Home solutions of simple salt-crude sugar, with and without sodium bicarbonate were tested for efficacy and safety in the treatment of severe diarrhea. In heavily purging cases of diarrhea such as clinical cholera, oral replacement therapy should include all of the four electrolyte components as recommended by WHO (sodium, potassium, chloride and bicarbonate). For less severe diarrhea, however, an oral solution without bicarbonate may be as good as an oral solution with bicarbonate.

- 0183 Islam, M.; Samadi, A.R.; Ahmed, S.M.; et al. ORAL REHYDRATION THERAPY: EFFICACY OF SODIUM CITRATE EQUALS TO SODIUM BICARBONATE FOR CORRECTION OF ACIDOSIS IN DIARRHOEA. Gut, 1984, vol. 25, 900-904.

The efficacy, safety, and acceptability of an ORS containing sodium citrate for rehydration and correction of acidosis in diarrhea were favorably compared to a WHO recommended ORS containing sodium bicarbonate.

- 1375 Karahagopian, A.A. SOLAR DISINFECTION OF DRINKING WATER AND ORAL REHYDRATION SOLUTIONS: GUIDELINES FOR HOUSEHOLD APPLICATION IN DEVELOPING COUNTRIES. UNICEF, American University of Beirut, Dept. of Environmental Health, 1984, 56 p.

This book outlines how developing countries with scarce resources and bountiful sunshine can increase their supply of disinfected water and quality of ORS. Also included are instructions for Housewives' solar disinfection of drinking water and ORS.

- 0067 Levine, M.; Clements, M.; Black, R.; et al. A PRACTICAL, RELIABLE METHOD FOR PREPARING SIMPLE SUGAR/SALT ORAL REHYDRATION SOLUTION. *J. Tropical Medicine & Hygiene*, 1981, vol. 84, 73-76.

This study devised a reliable method for preparing home-mix ORS using teaspoons as opposed to other methods such as pinch and scoop. The solution prepared by 5 U.S. nurses using teaspoons were compared to the solutions prepared by 20 Honduran mothers. There was very little variance and all were within the safe and effective range in sodium and sucrose levels in the ORS prepared by the nurses and the Honduran mothers.

- 0018 Levine, M.; Clements, M.; Black, R.; et al. DISCUSSION 3: ORAL REHYDRATION WITH SIMPLE SUGAR/SALT SOLUTIONS AS AN ALTERNATIVE IN RURAL AREAS WHEN GLUCOSE/ELECTROLYTE SOLUTIONS ARE UNAVAILABLE. ACUTE ENTERIC INFECTIONS IN CHILDREN: NEW PROSPECTS FOR TREATMENT AND PREVENTION, T. Holme, J. Holmgren, M. Merson, R. Mollby, eds., 1981, Elsevier/North Holland Biomedical Press, 323-331.

This study tested a variety of measuring methods used in the preparation of home-mix ORS. Sodium levels of ORS solutions prepared in 3 different ways by 5 US nurses were compared to sodium levels of ORS prepared by 14 village mothers. It was concluded that carefully instructed home-mix ORS was suitable as a substitute for glucose, pre-mixed packets.

- 1789 Levine, M.; Hughes, T.; Black, R. VARIABILITY OF SODIUM AND SUCROSE LEVELS OF SIMPLE SUGAR/SALT ORAL REHYDRATION SOLUTIONS PREPARED UNDER OPTIMAL AND FIELD CONDITIONS. *Journal of Pediatrics*, vol. 97, August 1980, 324-327.

This study compared salt-sugar solutions prepared by U.S. nurses familiar with oral rehydration to solutions prepared by uneducated mothers in rural Honduras. The Honduran mothers were found to commonly prepare solutions with sodium levels beyond the acceptable range.

- 1172 Lionel, J.; Steinhoff, M.C.; Pereira, S.M. COMMERCIAL ORAL REHYDRATING SOLUTIONS AND HYPERNATREMIA. *Indian Pediatrics*, vol. 21, August 1984, 595-599.

The authors reviewed locally available commercial ORS to investigate their composition and package instructions. Out of 17 different solutions, they found that 35% had the WHO recommended composition and 53% had excessive glucose.

- 1591 Listernick, R.; Zieserl, E.; Davis, A. ORAL GLUCOSE-ELECTROLYTE SOLUTIONS AS MAINTENANCE THERAPY OF ACUTE DIARRHEA. *AJDC*, June 1985, vol. 139, no. 8, 571-574.

This article reports on a study in Chicago that compared the safety and efficacy of two oral solutions. The solutions differed primarily in the sodium and glucose concentrations. The conclusion is that a solution with a high concentration of sodium initially designed for rehydration can be safely and effectively used as a maintenance solution for the treatment of well-hydrated children older than 3 months of age.

- 0461 Mahalanabis, D. REPORT ON VISIT TO LONDON, 2-4 MARCH 1980. World Health Organization, March 1980, 2 p.

A discussion with a British pediatrician about the safety and efficacy of the WHO recommended oral rehydration formula in acute infantile diarrhea is outlined in this report.

- 0334 Mahalanabis, D.; Patra, F. IN SEARCH OF A SUPER ORAL REHYDRATION SOLUTION: CAN OPTIMUM USE OF ORGANIC SOLUTE-MEDIATED SODIUM ABSORPTION LEAD TO DEVELOPMENT OF AN ABSORPTION PROMOTING DRUG? *J. Diarrhoeal Disease Research*, June 1983, vol. 1, no. 2, 76-81.

Through clinical trials, attempts were made to define the optimum composition of a Super ORS.

- 1932 McDivitt, J.A.; Foote, D. THE MASS MEDIA AND HEALTH PRACTICES EVALUATION: A COMPARISON OF LEARNING AND PRACTICE FOR PACKET-BASED AND WATER-SUGAR-SALT ORAL REHYDRATION THERAPIES. Report to Stanford University and AID by Applied Communication Technology, September 1985, 90 p.

The findings from projects in Honduras and The Gambia that introduced two different approaches to ORT are reported, one using packets of salts, the other relying on home mixing of water, sugar, and salt. The main source of data was longitudinal studies of panels of mothers in each country.

- 1365 Mehta, M.; Subramaniam, S. COMPARISON OF RICE WATER, RICE ELECTROLYTE SOLUTION, AND GLUCOSE ELECTROLYTE SOLUTION IN THE MANAGEMENT OF INFANTILE DIARRHOEA. *The Lancet*, 12 April 1986, 843-45.

Based on a study of treatments of 150 infants aged under 6 months admitted to hospitals with acute gastroenteritis, authors conclude that rice water and rice-based electrolyte solutions were superior to glucose electrolyte solutions in reducing the frequency and volume of stool output and in producing weight gain.

- 1358 Michell, A.R. COMPOSITION OF ORAL REHYDRATION SOLUTIONS. *Veterinary Record*, 16 November 1985, 535.

This letter criticizes the bewildering variety of ORS compositions recommended for the treatment of diarrhea. In mixing instructions many manufacturers apparently fail to specify the electrolyte concentrations administered to the animal in mmol/liter. The author comments that an ORS solution containing only 27% of the amount necessary for optimum absorption defeats the purpose of rehydration. For severe dehydration the sodium administered through this ORS composition would provide only about half of the extracellular sodium required for replacement.

- 0012 Molla, A.M.; Greenough, W.; Rohde, J.; et al. RICE WATER IS NOT RICE CEREAL ORAL REHYDRATION SOLUTION. *The Lancet*, 7 July 1984, 40.

The distinction between Rice Powder ORS and Rice Water ORS is drawn in this letter. ICDDR,B regards the former as effective ORS. The latter is suitable for early or mild diarrhea.

- 0331 Molla, A.M.; Hossain, M.; Sarker, S.; et al. RICE-POWDER ELECTROLYTE SOLUTION AS ORAL THERAPY IN DIARRHOEA DUE TO *V. CHOLERA*E AND *E. COLI*. *The Lancet*, 12 June 1982, 1318-19.

A rice-powder electrolyte solution is efficient and safe to use as a rehydrating oral fluid in acute diarrhea. One-hundred twenty four patients with acute diarrhea due to *V. cholera* or *E. coli* were treated with either the standard sucrose-electrolyte solution or a cereal-based electrolyte solution. Treatments were compared and results were comparably positive.

- 1366 Molla, A.M.; Ahmed, S.M.; Greenough, W.B. RICE-BASED ORAL REHYDRATION SOLUTION DECREASES THE STOOL VOLUME IN ACUTE DIARRHOEA. *Bulletin of the World Health Organization*, 1985, vol. 63, no. 4, 751-756.

This study examined the maximum concentration of rice that could be made into a drinkable solution with the same electrolytes as the WHO solution. In a trial comparison of the glucose ORS and rice ORS, the patients treated with rice-ORS required less volume of solution for rehydration and showed a reduced stool output in both children and adults.

- 0190 Nalin, D.; Cash, R.; Rahman, M.; et al. EFFECT OF GLYCINE AND GLUCOSE ON SODIUM AND WATER ABSORPTION IN PATIENTS WITH CHOLERA. *Gut*, 1970, vol. 11, 768-72.

Results from this study show that an ORS containing both glucose and glycine provides more effective therapy than solution containing either glucose or glycine alone.

- 1008 Nalin, D.; Cash, R. RICE POWDER AND ELECTROLYTE SOLUTIONS. *The Lancet*, 17 July 1982, 155-6.
- Rice powder appears to be most useful in the majority of mild cases of dehydration which most often confront the mother at home, particularly in rice-eating Asian countries.
- 1714 Nathoo, K.J.; Glyn-Jones, R.; Nhembe, M. SERUM ELECTROLYTES IN CHILDREN ADMITTED WITH DIARRHOEAL DEHYDRATION MANAGED WITH SIMPLE SALT SUGAR SOLUTION. *Central African Journal of Medicine*, vol. 33, August 1986, 200-204.
- A study was carried out in Harare, Zimbabwe to assess the type and prevalence of electrolyte abnormalities in dehydrated children who had been managed with salt sugar solution. SSS is ideal for the prevention of dehydration but in cases of established dehydration the WHO formula is more appropriate.
- 1996 Noceda, L.A.C.; Gill, G.D.; Doldan, O.I. TRATAMIENTO DE LES DISTURBIOS DEL EQUILIBRIO HIDRO-ELECTROLITICO ACIDO-BASICO CON REHIDRATAACION POR VIA ORAL. *Pediatría*, vol. 12, no. 2, July-December 1984, 11-26.
- The article, on treatment of electrolyte imbalance with ORS, studies 43 nursing infants on ORS with different degrees and types of dehydration in order to understand their response to oral rehydration depending on the infant's nutritional status.
- 0084 PAHO. COMPARISON OF "HIGH" AND "LOW" SODIUM AND POTASSIUM CONTENT IN ORAL GLUCOSE-ELECTROLYTE THERAPY OF INFANT DIARRHEAS. Pan American Health Organization, Pre-Printed Manuscript, 2 p.
- Low salt formula has no particular advantage and is associated with hyponatremia. High salt formula gives superior salt absorption but additional free water should be allowed to avoid transit hypernatremia.
- 2008 PAHO. DESARROLLO DE UNA FORMULACION MEJORADA DE SALES REHIDRATAACION ORAL (SRO) CON PROPIEDADES ANTIDIARREICAS Y NUTRICIONALES: "SUPER SRO." Pan American Health Organization, CDD/TAG.85.4, 1986, 18 p.
- This paper discusses the development of an improved ORS formula with anti-diarrheal properties and nutrients commonly called Super ORS.

- 0218 Palmer, D.; Koster, F.; Islam, A.; et al. COMPARISON OF SUCROSE AND GLUCOSE IN THE ORAL ELECTROLYTE THERAPY OF CHOLERA AND OTHER DIARRHEAS. *New England J. Medicine*, 17 November 1977, vol. 297, no. 20, 1107-10.

The effectiveness of sucrose and glucose electrolyte solutions as fluid replacement in cholera and severe diarrheas from other causes are compared in this article. Potential disadvantages of sucrose include insufficient glucose generation to effect electrolyte fluid absorption in acute diarrhea or malnutrition.

- 1587 PATH. FEASIBILITY STUDY REPORT: SMALL SCALE ANHYDROUS GLUCOSE PRODUCTION IN SOUTHEAST ASIA. Program for Appropriate Technology in Health (PATH), Health Link, April 1986, 23 p.

This is a report which has been prepared by PATH under its USAID - funded Health Link program. It discusses the feasibility of manufacturing anhydrous glucose in developing countries, which is used in manufacturing ORS. The study concludes by stating that countries in Southeast Asia should try to identify alternate formulations, because it has not been deemed feasible for those countries to establish local production of anhydrous glucose. If alternate formulas are not identified, those countries mentioned will have to rely on importing glucose.

- 0465 PATH. ORAL REHYDRATION SALT TABLETS. Program for Appropriate Technology in Health/PIACT, 1 p.

This information sheet outlines the advantages of the PATH Oral Rehydration Salt Tablets.

- 0335 Patra, F.; Mahalanabis, D.; Jalan, K.; et al. IN SEARCH OF A SUPER SOLUTION: CONTROLLED TRIAL OF GLYCINE - GLUCOSE ORAL REHYDRATION SOLUTION IN INFANTILE DIARRHOEA. *Acta Paediatrica Scandinavica*, 1984, vol. 73, 18-21.

From a clinical trial it is suggested that glycine fortified glucose electrolyte solution decreases diarrhea stool output, duration of diarrhea, and volume of oral rehydration fluid required to achieve and maintain hydration.

- 0333 Patra, F.; Mahalanabis, D.; Jalan, K.; et al. IS ORAL RICE ELECTROLYTE SOLUTION SUPERIOR TO GLUCOSE ELECTROLYTE SOLUTION IN INFANTILE DIARRHOEA? *Archives Disease in Childhood*, 1982, vol. 52, 910-912.

In a controlled trial of ORT, a rice-based electrolyte solution was evaluated in a group of infants and young children with moderate to acute diarrheal dehydration and results were compared with a group receiving WHO ORS. The rice-based electrolyte solution was more effective: lower rate of stool output, a shorter duration of diarrhea, and a smaller intake of rehydration fluid were demonstrated.

- 0203 Price, H.; Dodge, J.; Thomas, M. ORAL REHYDRATION WITHOUT ADDED BICARBONATE FOR CHILDHOOD GASTROENTERITIS. *British Medical J.*, 1 September 1984, vol. 289, 532.

Childhood gastroenteritis in Britain and other developed countries can be treated with a sterile pre-packed ORS that is free of bicarbonate. Unlike most recommended ORS, IV rehydrate does not include bicarbonate, yet proves equally satisfactory.

- 1374 Ree, G.H. ORAL REHYDRATION SOLUTIONS. *Current Opinion Gastroenterology*, 1985, vol. 1, 116-118.

This brief article reviews the various compositions of ORS and reasons for their use under various circumstances. The author also reviews the clinical reasons for using ORS instead of parenteral therapy for rehydration, and concludes that despite limited complications, ORT is the most effective rehydration mechanism.

- 1361 Rolston, D.; Farthing, M.; Clark, M.L.; et al. CITRATE IN ORAL REHYDRATION THERAPY. *Gut*, 1984?, 429.

Two letters point out that the concentration of the tribasic salt in the sodium citrate reported by Islam in a recent clinical trial of citrate-based ORS would yield a solution of 10 mmol/l citrate solution and not 30 mmol/l as had been stated.

- 0487 Russell, B. SIMPLE RECIPE SAVING MILLIONS OF CHILDREN IN THE THIRD WORLD. *Canada News*, 16 July 1984, 13.

This article describes the preparation, use, and impact of ORT on dehydrated children.

- 0024 Saberi, M.S.; Assaei, M. ORAL HYDRATION OF DIARRHOEAL DEHYDRATION COMPARISON OF HIGH AND LOW SODIUM CONCENTRATION IN REHYDRATION SOLUTIONS. *Acta Paediatrica Scandinavica*, 1983, vol. 72, 167-70.

This double blind clinical trial concludes that in spite of widespread concern, the risk of significant hyponatremia with the WHO recommended formula is minimal in infants.

- 1367 Sacher, R.K.; Javal, G.S.; Cowan, B.; et al. HOME-BASED EDUCATION OF MOTHERS IN TREATMENT OF DIARRHOEA WITH ORAL REHYDRATION SOLUTION. *J. Diarrhoeal Disease Research*, March 1985, vol. 3, no. 1, 29-31.

A group of 650 Indian women were visited in their homes and taught how and when to administer ORS. A follow-up study 6 months later found that 68% knew of ORS, 29% could prepare it properly. The conclusion is that teaching must be constant and that emphasis on home-based ORS might be most effective since local health practitioners were reluctant to prescribe ORS.

- 0336 Sack, D.; Merson, M.; Black, R. ORAL REHYDRATION IN ROTAVIRUS DIARRHOEA: A DOUBLE BLIND COMPARISON OF SUCROSE WITH GLUCOSE ELECTROLYTE SOLUTION. *The Lancet*, 5 August 1978, 280-283.

Of 57 male children aged 5 months to 2 1/2 years with rotavirus diarrhea 28 were given oral therapy with sucrose electrolyte solution and 29 were given glucose electrolyte solution in a randomized double-blind trial. All were rehydrated and remained so on oral therapy alone. The ORT groups and IV groups did not differ clinically in the rate of rehydration or the rate of purging.

- 0090 Sack, D.; Islam, S.; Brown, K.; et al. ORAL THERAPY IN CHILDREN WITH CHOLERA: A COMPARISON OF SUCROSE AND GLUCOSE ELECTROLYTE SOLUTIONS. *J. Pediatrics*, January 1980, vol. 96, no. 1, 20-25.

This study demonstrates that sucrose is an effective alternative to glucose in the oral therapy solution, but either must be used in conjunction with intravenous solution when treating severe dehydrating diarrhea.

- 0398 Sandle, G.; Holmes, R.; Lobley, R. GLUCOSE OR SUCROSE FOR THE ORAL TREATMENT OF INFECTIOUS DIARRHOEA. *The Lancet*, 2 May 1981, 998.

Sucrose at a concentration used in oral therapy can promote intestinal water secretion and this may explain the occasional failures found with sucrose-salt solution.

- 1772 Santosham, M. GLYCINE-BASED ORAL REHYDRATION SOLUTION REASSESSMENT OF SAFETY AND EFFICACY. *Digestive Diseases and Sciences*, vol. 32, July 1987, 87-88.

This brief communication discusses the addition of glycine to standard ORS.

- 0301 Santosham, M.; Daum, R.; Dillman, L.; et al. ORAL REHYDRATION THERAPY OF INFANTILE DIARRHEA: A CONTROLLED STUDY OF WELL-NOURISHED CHILDREN HOSPITALIZED IN THE U.S. AND PANAMA. *New England J. Medicine*, 6 May 1982, 1070-1076.

146 well-nourished children under 2, hospitalized for dehydration secondary to diarrhea, were treated with glucose-electrolyte solutions containing 90 or 50 mmol of sodium per liter. This study concludes that both solutions are effective and safe.

- 1586 Santosham, M.; Foster, S.; Reid, R. ROLE OF SOY-BASED LACTOSE-FREE FORMULA DURING TREATMENT OF ACUTE DIARRHEA. *Pediatrics*, August 1985, vol. 76, NO. 2, 292 - 298.

A controlled study was conducted comparing the standard method of treating hospitalized infants with acute diarrhea (limited starvation) with the initiation of early feeding using a soy-based, lactose-free formula in infants of an American Indian tribe 12 months of age or younger. It was concluded that soy-based, lactose-free formulas can be safely used during the acute phase of diarrheal illness in infants and that their use shortens the duration of illness and decreases stool output in comparison with standard therapy.

- 0126 Santosham, M.; Evans, S.; Black, R. STORING ORAL REHYDRATION SOLUTION. *The Lancet*, 3 April 1982, 797.

This study analyzed the stability of bicarbonate in the WHO ORS in both contaminated and uncontaminated solutions. WHO ORS remains stable for at least one week at 26 degrees Celsius; bicarbonate remains stable even in the presence of contamination with *E. coli*. In developing countries, WHO ORS can be stored at room temperature for one week.

- 1788 Shields, D.S.; Nations-Shields, M.; Hook, E.W. ELECTROLYTE/GLUCOSE CONCENTRATION AND BACTERIAL CONTAMINATION IN HOME-PREPARED ORAL REHYDRATION SOLUTION: A FIELD EXPERIENCE IN NORTHEASTERN BRAZIL. *Journal of Pediatrics*, vol. 98, May 1981, 839-841.

The authors investigated home-prepared ORS for both electrolyte concentration and bacterial contamination in a home-based oral rehydration program in rural northeastern Brazil. They also investigated the growth rate of bacteria in ORS prepared with two commonly used village water sources.

- 0040 Snyder, J.; Yunus, M.; Wahed, M.; et al. HOME-ADMINISTERED ORAL THERAPY FOR DIARRHOEA: A LABORATORY STUDY OF SAFETY AND EFFICACY. *Transactions Royal Society Tropical Medicine & Hygiene*, 1982, vol. 76, no. 3, 329-33.

The ORT education efforts in Matlab are reviewed over a 2 year period. It is concluded that ORT administered in the homes was safe and effective.

- 1356 Sokucu, S.; Marin, L.; Gunoz, H; et al. ORAL REHYDRATION THERAPY IN INFECTIOUS DIARRHOEA, COMPARISON OF REHYDRATION SOLUTIONS WITH 60 AND 90 MMOL SODIUM PER LITRE. *Acta Paediatrica Scandinavia*, 1985, vol. 74, 489-494.
- The efficacy of ORT solutions containing 60 and 90 mmol sodium per liter were compared in the treatment of infants and young children with non-cholera infectious diarrhea. The clinical response and changes in water and salt homeostasis (judged from serum sodium levels, salt and water retention and renal handling of sodium) were compared in this study of 60 mmol sodium/liter ORS to results from a previous, similar study of patients rehydrated with a 90 mmol sodium/liter solution.
- 0281 Torres-Pinedo, R.; Conde, E.; Rabillard, G.; et al. STUDIES ON INFANT DIARRHEA, III. CHANGES IN COMPOSITION OF SALINE AND GLUCOSE SOLUTIONS INSTILLED INTO THE COLON. *Pediatrics*, August 1968, vol. 42, no. 2, 303-311.
- Eighteen infants with acute diarrhea who had received IV therapy for 2-3 days previously were studied. ORT solutions were introduced through the colon; changes in composition of fluid instilled were noted.
- 1914 Trapsida, J.M. CONTRIBUTION A L'EVALUATION DE L'APTITUDE DES MERES A PREPARER LA SOLUTION EAU-SUCREE-SALEE. Programme National de Lutte Contre les Maladies Diarrheiques, Niger, 1987.
- This study analyzed 78 samples of water-sugar-salt solution to determine the aptitude of the mothers at preparing the oral rehydration solution in their homes.
- 1619 UNICEF; WHO. SALES DE REHIDRATAACION ORAL: PLANIFICACION, ESTABLECIMIENTO Y OPERACION DE LAS INSTALACIONES DE PRODUCCION. OMS/UNICEF Programa de Control de Enfermedades Diarreicas, 168 p.
- This technical manual in Spanish is on the various methods of preparing ORS.
- 1052 UNIDO. PRODUCCION DE SALES ORALES DE REHIDRATAACION. UNIDO, DP/ID/SER/B/204, Vienna, 14 June 1979, 21 p.
- The feasibility of local production of oral rehydration salts for rural regions of Bolivia is analyzed in this report.
- 1991 Vega-Franco, L.; Covarrubias-Monarres, M.; Velasco-Sanchez, F. ABSORPCION DE SODIO Y AGUA EN LA DESNUTRICION, UTILIZANDO SOLUCIONES PARA REHIDRATAACION POR VIA BUCAL. ESTUDIO EXPERIMENTAL. *Bol. Med. Hosp. Infant. Mex*, vol. 44, no. 3, March 1987, 148-154.
- The article reviews a study which compared two Oral Rehydration Solutions. The absorption of sodium and water in cases of malnutrition studied.

- 1994 Vega-Franco, L.; Velasco-Sanchez, F.; Covarrubias-Monarres, M. LA LIDAMIDINA COMO PROMOTOR DE LA ABSORCION INTESTINAL DE SOLUCIONES DESENADES PARA LA REHIDRATAACION POR VIA BUCAL. MODELO EXPERIMENTAL. Bol. Med. Hosp. Infant Mex., vol. 44, no. 9, September 1987, 521-524.

This article discusses the effect of lidamidine in the intestinal absorption of oral rehydration solutions. The experiment uses three different Oral Rehydration Solutions.

- 0001 Watkinson, M. ORAL REHYDRATION: TOO HIGH A PRICE TO PAY? British Medical J., 27 August 1983, vol. 287, 618.

The relatively high cost of pre-mixed ORS packets necessitates the availability of cheaper methods for preparing ORS, such as double-ended spoons.

- 0156 Watkinson, M.; Lloyd-Evans, N.; Watkinson, A. THE USE OF ORAL GLUCOSE ELECTROLYTE SOLUTION PREPARED WITH UNTREATED WELL WATER IN ACUTE NON-SPECIFIC CHILDHOOD DIARRHOEA. MRC Dunn Nutrition Unit, 18 p.

Forty-eight village children split into 2 groups matched for age and nutritional status were given glucose electrolyte solution with clean water or well-water GES whenever diarrhea was reported. The study concluded that the incidence and duration of acute diarrheal attacks were similar in both groups; thus, the use of contaminated water can be therapeutically beneficial.

- 1368 Weizman, L. COLA DRINKS AND REHYDRATION IN ACUTE DIARRHEA. New England J. Medicine, 18 September 1986, 768.

Cola drinks have a very high osmolality and very low electrolyte content. They are not appropriate for use as rehydration solutions for diarrhea in particular.

- 1355 Wendland, B.E.; Arbus, G.S.; McCuig, C.C.; et al. ORAL FLUID THERAPY: SODIUM AND POTASSIUM CONTENT AND OSMOLALITY OF SOME COMMERCIAL "CLEAR" SOUPS, JUICES AND BEVERAGES. Canadian Medical Association J., 8 September 1979, vol. 121, 564-71.

The sodium and potassium content and osmolality of 90 commercial fluids - including soups, juices, carbonated beverages and gelatins - were analyzed. This proves useful in the home and hospital management of patients requiring control of fluid and electrolyte intake. Examples are given to show how clear-fluid therapy can be tailored in gastroenteritis.

- 1362 WHO. ORAL REHYDRATION SALTS (ORS) FORMULATION CONTAINING TRISODIUM CITRATE. World Health Organization, WHO/CDD/SER/84.7 Rev. 1 (1985), 2 p.

This short statement documents the need for a more stable ORS composition and presents the reasons for adoption of ORS-citrate. Also discussed is the cost of the formula and packaging.

- 2026 WHO. ORAL REHYDRATION SALTS. World Health Organization, WHO/CDD Update, no. 2, American Anthropological Association Annual meeting, November 1987, 3 p.

This update summarizes some of the major issues involved in increasing the world ORS supply to approximately 270 million liter equivalents annually. Topics covered include stability, packet size, flavoring and coloring, classification, and local production versus importation.

- 0438 WHO. USE OF LOCALLY AVAILABLE DRINKING WATER FOR PREPARATION OF ORAL REHYDRATION SALT (ORS) SOLUTIONS. World Health Organization, WHO/CDD/SER/81.1, 1981, Geneva, 7 p.

Current knowledge on the growth of bacteria in ORS is summarized in this report. Risks associated with using non-bacteria-free ORS and the possible methods of decontamination, either of the water prior to preparation of ORS or the solution itself, are also discussed.

Drug Therapy and IV

- 1253 HONEY: ITS ANTIBACTERIAL ACTION IN THE TREATMENT OF GASTROENTERITIS. *Glimpse*, November-December 1985, vol. 7, no. 6, 1.
- Honey has been used effectively in oral rehydration solutions in place of sugar. In addition, honey has been found to decrease the duration of bacterial diarrhea in children. The antimicrobial properties of honey have been demonstrated in clinical tests.
- 0302 MANAGEMENT OF ACUTE DIARRHEA. *The Lancet*, 19 March 1983, 623-25.
- This editorial discusses current pharmacological treatment of acute diarrhea - antimotility and antisecretory agents, antibiotics and antimicrobials, adsorbents such as kaolin and charcoal. Oral rehydration still remains the mainstay, however, of watery diarrhea.
- 1252 NIH PANEL DEVELOPS GUIDELINES TO TREAT TRAVELER'S DIARRHEA. *AFP*, vol. 31, no. 5, 246.
- An NIH panel suggests that travellers carry antimotility agents and antimicrobial agents with them to developing countries and treat themselves after the onset of diarrhea. The panel does not recommend using antimotility agents for prophylaxis, but encourages taking soft drinks, potable fruit juices, and salted crackers to maintain fluid and electrolyte balances.
- 0700 VACCINE MAY END DIARRHOEA DEATHS. *New Scientist*, 9, October 25, 1984, 9.
- A live vaccine developed to combat rotaviral infections is discussed.
- 1760 Africa Consultants. ETUDE SUR LES MEDICAMENTS ANTI-DIARRHEIQUES ET ETUDE SUR LES FORMULES INFANTILES POUR L'UNICEF. Report submitted by Africa Consultants to John Snow, Inc., August 1985, 15 p.
- This report consists of a number of charts and tables concerning anti-diarrheal medications and infant formula. Information on medications most often used, cost and volume of antidiarrheals used in 1980, 1982, and 1984, both in the private and public sectors, and infant formula brand producer volume and cost is provided.
- 0367 Awouters, F.; Niemegeers, C.; Janssen, P. PHARMACOLOGY OF ANTIDIARRHEAL DRUGS. *Annual Review of Pharmacology and Toxicology*, 1983, vol. 23, 279-301.
- This describes drugs that have been used in the past for effective treatment of diarrhea and dysentery. It asserts that antidiarrheal specificity is therefore a key concept in the pharmacology of drugs with antidiarrheal properties.

- 1257 Bergstrom, T.; Alestig, K.; Thoren, K.; et al. SYMPTOMATIC TREATMENT OF ACUTE INFECTIOUS DIARRHOEA: LOPERAMIDE VERSUS PLACEBO IN A DOUBLE-BLIND TRIAL. *Journal of Infection*, vol. 12, 1986, 35-38.

Loperamide was compared with a placebo in the treatment of 112 adults with acute infectious diarrhea. The authors conclude that the drug loperamide has little or no clinical effect on the recovery of patients with acute diarrhea. Rather the diarrheal episodes are usually benign and quickly self-limiting when properly managed by rehydration and dietary restrictions.

- 1869 Buggy, B.; Fekety, R.; Silva, J. THERAPY OF RELAPSING CLOSTRIDIUM DIFFICILE-ASSOCIATED DIARRHEA AND COLITIS WITH THE COMBINATION OF VANCOMYCIN AND RIFAMPIN. *Journal of Clinical Gastroenterology*, vol. 9, 1987.

This case study found that vancomycin and rifampin in combination appear to be useful in the therapy of relapsing antibiotic-associated diarrhea due to *C. difficile*.

- 0208 Caldwell, J. ORAL CROMOLYN THERAPY FOR ALLERGIC EOSINOPHILIC GASTROENTERITIS. *Gastroenterology*, May 1984, vol. 86, no. 5, 1038.

Six patients with allergic eosinophilic gastroenteritis whose symptoms and laboratory abnormalities did not respond to dietary restriction alone were treated with oral sodium cromoglycate (cromolyn) to determine if this therapy is a suitable alternative to corticosteroids.

- 1897 Chetley, A.; Gilbert, D. PROBLEM DRUGS: LOMOTIL. *Health Action International, Antidiarr. 1D, Problem Drugs Guide*, 1986, 3.

The dangers of using Lomotil for treating diarrhea in children were recognized as long ago as 1975. It can mask the signs of dehydration and cause fatal toxic reactions, and Lomotil is an important cause of accidental poisoning under the age of five in England.

- 1881 Chetley, A.; Gilbert, D. PROBLEM DRUGS. *Health Action International, information packet*, 1986.

This is an information packet containing several separate pamphlets describing the problems related to specific pharmaceuticals, including Lomotil and antidiarrheals in general.

- 1896 Chetley, A.; Gilbert, D. PROBLEM DRUGS: IMODIUM. Health Action International, Antidiarr. 1C, Problem Drugs Guide, 1986, 3.

Imodium loperamide is the world's leading antidiarrhea drug. It acts on the muscles of the gut wall and slows down movement of the gut contents in a similar manner as an opiate. It has not proven effective in the treatment of diarrhea in children up to four years of age. It is potentially harmful if it is used in the treatment of acute infective diarrhea caused by bacteria or amoeba.

- 0172 Clements, M.; Black, R.; Levine, M. TREATMENT OF ENTERIC INFECTIONS AND COMBINATIONS. HANDBOOK OF EXPERIMENTAL PHARMACOLOGY. Hitchings, G., ed., Springer-Verlag, Berlin, 1983, vol. 64, 357-378.

This handbook describes several types of diarrhea and the clinical treatments that have been used.

- 0257 Cutting, W.; Marshall, W. LOPERAMIDE AND ACUTE INFECTIVE DIARRHEA IN CHILDREN. The Lancet, 10 November 1979, 1022.

This article advises against the use of loperamide for the control of acute and chronic diarrhea, especially in children.

- 0356 Datta, T.; Deb, A. CLOFIBRATE, A NEW ANTIDIARRHOEAL AGENT IN INFANCY AND CHILDHOOD. Journal of Indian Medical Association, 16 January 1983, vol. 80, no. 2, 36.

This article suggests the use of clofibrate as an antidiarrheal. Of 50 patients treated with this, 47% responded within 72 hours.

- 1255 De Zoysa, I.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: CHEMOPROPHYLAXIS. Bulletin of the World Health Organization, vol. 63, no. 2, 1985, 295-315.

Available chemoprophylaxis is reviewed for a variety of diarrheal diseases. Although many effective treatments are available, the cost of widespread chemoprophylaxis in developing countries is prohibitive for national-level distribution. The potential for widespread antimicrobial resistance is also a contraindication to interventions promoting widespread chemoprophylaxis.

- 1890 Diarrheal Diseases Study Group. LOPERAMIDE IN ACUTE DIARRHOEA IN CHILDHOOD: RESULTS OF A DOUBLE BLIND, PLACEBO CONTROLLED MULTICENTRE CLINICAL TRIAL. *British Medical Journal*, vol. 289, 10 November 1984, 5 p.

The results of an experiment testing the effectiveness of Loperamide combined with ORT on acute diarrhea in children are reported. Loperamide is safe and may be a useful adjunct to ORT in the management of acute diarrhea in well-nourished children.

- 1606 Donowitz, M.; Wicks, J.; Sharp, G. DRUG THERAPY FOR DIARRHEAL DISEASES: A LOOK AHEAD. *Reviews of Infectious Diseases*, May-June 1986, Vol. 8, Supplement 2.

The gastrointestinal tract is involved in both absorption and secretion of electrolytes and water, with absorption as the predominant process. In diarrheal diseases, this balance is disturbed, and the result is not secretion. Most of the drugs used for the treatment of diarrhea (at least partially) act by (1) stimulating absorption only, (2) both stimulating absorption and inhibiting secretion, or (3) inhibiting secretion only. The therapeutic usefulness of an antidiarrheal agent depends on how efficiently it alters secretion and/or absorption and on how few systemic adverse reactions it causes.

- 0732 *Drug and Therapeutics Bulletin*. PRESCRIBING FOR ACUTE DIARRHOEA *Drug and Therapeutics Bulletin*, 21, no. 26, 30 December 1983, 101-104.

The use of antibacterial drugs in acute diarrhea used to be widespread, until it was realized in the last decade that they seldom helped, even when a micro-organism was involved. Recently, some new organisms have been recognized to cause diarrhea which can be treated. This article considers some of the situations when an antibiotic may be useful and advises on the choice of antibiotic.

- 0129 DuPont, H.; Hornick, R. ADVERSE EFFECT OF LOMOTIL THERAPY IN SHIGELLOSIS. *Journal of the American Medical Association*, 24-31 December 1973, vol. 226, no. 13, 1525-1528.

This article concludes that lomotil may be contraindicated in shigellosis. Diarrhea may represent a defense mechanism in which disease is caused by a bacterial pathogen which penetrates the intestinal epithelium to produce illness.

- 1895 DuPont, H.; Sullivan, P.; et al. SYMPTOMATIC TREATMENT OF DIARRHEA WITH BISMUTH SUBSALICYLATE AMONG STUDENTS ATTENDING A MEXICAN UNIVERSITY. *Gastroenterology*, vol. 73, no. 4, part 1, 1977, 715-718.
- Students from the United States with diarrhea attending a Mexican university were most affected by treatment with bismuth subsalicylate. Students attending the university who developed diarrhea were randomly treated with bismuth subsalicylate or a placebo. Those US students who had most recently arrived in Mexico experienced the most success in being treated, this being apparently related to the favorable effect of bismuth subsalicylate on the course of toxigenic *Escherichia coli* infection.
- 1246 Elarabi, I. WHERE DRUGS DON'T HELP. *World Health*, April 1986, 10-11.
- Mothers and doctors both often prescribe drugs to control diarrhea, antibiotics, anti-diarrheals and anti-emetics. These do little to cure the diarrhea, and often have side effects that do nothing to lessen dehydration. The solution is to give ORS with food and let the diarrhea run its course.
- 0370 Gaginella, T. DIARRHEA: SOME NEW ASPECTS OF PHARMACOLOGY. *Drug Intelligence and Clinical Pharmacology*, December 1983, vol. 17, 914-916.
- This editorial examines the history of diarrhea treatment and concludes that the current emphasis on ORT is positive. However, additional convenient and effective methods of treatment offered by pharmacotherapy should be investigated.
- 0369 Gertler, S.; Pressman, J.; Cartwright, C.; et al. MANAGEMENT OF ACUTE DIARRHEA. *Journal of Clinical Gastroenterology*, December 1983, vol. 5, 523-34.
- Medical therapies for acute diarrhea in adults are evaluated in this article. Antidiarrheal agents and antibiotics used in these treatments are discussed.
- 1998 Ghisolfi, J.; Baudoin, C.; Charlet, J.P.; et al. EFFETS DE LA LOPERAMIDE SUR L'ELIMINATION ELECTROLYTIQUE FECALE DANS LES DIARRHEES AIGUES DU NOURRISSON. *Arch. Fr. Pediatr.*, 1987, vol. 44, 483-487.
- The effect of loperamide (Imodium) on fecal excretion of electrolytes was studied using a double-blind protocol in 63 infants aged 1 to 32 months with acute diarrhea. Oral rehydration and Imodium were administered to all infants. The use of loperamide, compared with the placebo, did not result in a significant decrease in the number of stools or more rapid recovery from the diarrheal syndrome.

- 0589 Goodall, R. ORS IN THE CONTEXT OF THE ESSENTIAL DRUG PROGRAM. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 159-161.
- The provision of ORT should be an integral part of a comprehensive essential drugs policy, rather than a vertical monocomponent program. This essential drugs policy in itself is a part of the strategy of primary health care.
- 0373 Gordon, R. METRONIDAZOLE OR VANCOMYCIN FOR CLOSTRIDIUM DIFFICILE-ASSOCIATED DIARRHOEA. *The Lancet*, 17 December 1983, 1417.
- In response to Dr. Teasley, et al. (*The Lancet*, 5 November 1983): Trials indicate that metronidazole is as effective in treating clostridium difficile-associated diarrhea, and metronidazole is much less expensive than vancomycin.
- 1892 Graham, D.; Estes, M.; et al. DOUBLE-BLIND COMPARISON OF BISMUTH SUBSALICYLATE AND PLACEBO IN THE PREVENTION AND TREATMENT OF ENTEROTOXIGENIC ESCHERICHIA COLI-INDUCED DIARRHEA IN VOLUNTEERS. *Gastroenterology*, 85, 1983, 1017-1022.
- In a study conducted on 32 hospitalized volunteers who were challenged orally with enterotoxigenic *E. coli*, doses of bismuth subsalicylate or placebo were intermittently given. Only 13% of the patients receiving bismuth subsalicylate experienced diarrhea.
- 0688 Grandalini, S.; Migliavacca, M.; et al. EFFECT OF ANTI-DIARRHOEAL AGENTS ON NUTRIENT TRANSPORT. *Italian Journal of Gastroenterology*, 16, no. 3, September 1984, 272.
- This study assessed the effects of some new anti-diarrheal drugs on absorption of glucose and other nutrients.
- 1258 Gryboski, J.; Hillemeier, A.; Grill, B.; et al. BISMUTH SUBSALICYLATE IN THE TREATMENT OF CHRONIC DIARRHEA OF CHILDHOOD. *American J. Gastroenterology*, 1985, vol. 80, no. 11, 871-875.
- A double-blind study was designed to determine the efficacy and a safe and effective dosage of bismuth subsalicylate for infants and children. Results indicated that the bismuth subsalicylate group gained significantly more weight and had significantly fewer and firmer stools with less water content than the placebo group.

- 0784 Hall, A.P. THE TREATMENT OF MALARIA. *British Medical Journal*, 7 February 1976, 323-328.
- This reviews the management of severe malaria and its complications. The use of quinine, mefloquine, sulfadoxine-pyrimethamine for the treatment of chloroquine-resistant falciparum malaria is discussed. IV infusions in treatment are also reviewed.
- 0324 Hautefeuille, M.; Peyrot, M.; Grasset, E.; et al. LES ANTISECRETOIRES DE LA MUQUEUSE INTESTINALE. VERS UN TRAITEMENT PHARMACOLOGIQUE DES DIARRHEES AIGUES? *Gastroenterology and Clinical Biology*, 1984, vol. 8, 436-443.
- This article describes antisecretory agents and their effectiveness in treating diarrhea.
- 0258 Heap, J. LOPERAMIDE AND ACUTE INFECTIVE DIARRHOEA IN CHILDREN. *The Lancet*, 15 December 1979, 1299.
- This letter is a response to criticism (Cutting, *The Lancet*, 10 November 1979) of loperamide as treatment for infant and childhood diarrhea. Heap claims that loperamide is effective and safe and should be used in conjunction with rehydration.
- 1249 Hernborg, A. STEVENS-JOHNSON SYNDROME AFTER MASS PROPHYLAXIS WITH SULFADOXINE FOR CHOLERA IN MOZAMBIQUE. *The Lancet*, 9 November 1985, 1072-1073.
- The possible fatal side effects of sulfadoxine should be considered when deciding what to prescribe as prophylaxis against malaria in countries where chloroquine resistance is prevalent.
- 1753 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON ANTISECRETORY AGENTS IN THE TREATMENT OF DIARRHOEAL DISEASES. ICDDR,B, Specialized Bibliography Series No. 10, February 1986, 86 p.
- Antisecretory agents include many drugs and chemicals which have been shown to be potent inhibitors of secretion in animals. The agents are listed alphabetically in the subject section. An author section follows.
- 1184 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON DRUG RESISTANCE OF SHIGELLA. ICDDR,B, July 1985, 49 p.
- This annotated bibliography focuses on literature related to Shigellosis. Subject sections include clinical therapeutics, genetics/R factors, mechanisms of resistance, and susceptibility. An author index follows the subject section.

- 1254 Johnson, P.; Ericsson, C.; DuPont, H.; et al. COMPARISON OF LOPERAMIDE WITH BISMUTH SUBSALICYLATE FOR THE TREATMENT OF ACUTE TRAVELER'S DIARRHEA. *Journal of the American Medical Association*, vol. 255, no. 6, 14 February 1986, 757-60.

U.S. students in 7 Latin American countries were treated for acute non-dysenteric travelers' diarrhea with either loperamide hydrochloride or bismuth subsalicylate (Pepto-Bismol). Loperamide is concluded to be a safe and effective alternative to bismuth subsalicylate for the treatment of non-dysenteric traveler's diarrhea.

- 1259 Khin-Maung, V; Myo-Khin; Nyunt, N.; et al. CLINICAL TRIAL OF BERBERINE IN ACTIVE WATERY DIARRHOEA. *British Medical J.*, 7 December 1985, vol. 291, 1601-1605.

This clinical trial studied the antisecretory effect of berberine in diarrhea in a random double blind placebo controlled trial of berberine, tetracycline, and berberine and tetracycline. Tetracycline considerably reduced the volume of diarrhea, frequency of diarrhea motions, and the duration of diarrhea in the 185 patients with cholera. The doses of berberine did not significantly reduce the excretion of vibrios in stools or produce a clinically significant antisecretory effect. Neither tetracycline nor berberine produced better results over the placebo in the 215 patients with non-cholera diarrhea.

- 0298 Knoop, F.; Thomas, D. EFFECT OF LODOXAMIDE ON THE SECRETORY RESPONSE INDUCED BY ESCHERICHIA COLI AND VIBRIO CHOLERAE ENTEROTOXINS IN INFANT MICE. *Infection and Immunity*, May 1984, 406-408.

The effect of lodoxamide tromethamine, a calcium antagonist, on intestinal fluid accumulation induced by *Escherichia coli* and *Vibrio cholerae* enterotoxins in infant mice was investigated. These data suggest that calcium may be important in the induction of fluid accumulation. Further studies on the potential use of lodoxamide tromethamine in both the prophylaxis and treatment of diarrheal disease appear warranted.

- 2553 Levine, M. ANTIMICROBIAL THERAPY FOR INFECTIOUS DIARRHEA. *Reviews of Infectious Diarrhea*, May-June 1986, Vol.8, Supplement 2, S207-S216.

Acute diarrheal disease may be due to viral, bacterial, or protozoal enteropathogens. In current state of knowledge and medical practice, specific antiviral agents are not used in the treatment of known or presumed viral diarrhea. In contrast, for a number of the bacterial and protozoal diarrheal infections, therapy with certain antimicrobial agents can significantly ameliorate the severity and duration of illness and curtail the excretion of the pathogen. Many antibiotics that show potent activity *in vitro* have little or no efficacy *in vitro*. Controlled clinical trials are necessary to assess the clinical and bacteriologic efficacy of an antibiotic in diarrheal infections.

- 1856 Mamdani, M.; Walker, G. ESSENTIAL DRUGS AND DEVELOPING COUNTRIES: A REVIEW AND SELECTED ANNOTATED BIBLIOGRAPHY. Evaluation and Planning Centre for Health Care, London, Winter 1985, no. 8, 97 p.

This paper considers the problems encountered in the provision of cost-effective therapeutic drugs to treat the major illnesses in developing countries and the rationale of the essential drug concept.

- 1790 Mikhail, I.A.; Bourgeois, A.L.; Hyams, K.C. IN VITRO ACTIVITY OF CIPROFLOXACIN COMPARED TO TRIMETHOPRIM-SULFAMETHOXAZOLE AGAINST CAMPYLOBACTER SPP., SHIGELLA SPP. AND ENTEROTOXIGENIC ESCHERICHIA COLI CAUSING TRAVELLERS' DIARRHEA IN EGYPT. Scandanavian Journal of Infectious Diseases, vol. 19, 1987, 479-481.

A study in Egypt found that ciprofloxacin is potentially a useful drug for the treatment of diarrhea caused by bacterial enteropathogens encountered in the Near East.

- 1251 Mohan, M.; Daral, T.S.; Singh, H.P.; et al. ASPIRIN IN CHILDHOOD GASTROENTERITIS. Journal of Diarrhoeal Diseases Research, December 1985, vol. 3, no. 4, 215-18.

Rehydration with the WHO-recommended ORS alone was compared with WHO-ORS plus aspirin and the results are presented in this article.

- 1260 Morgan, D.; Seelin, J.; Gutierrez, L.; et al. EVALUATION OF BW942C, A NOVEL ANTIDIARRHEAL AGENT, AGAINST ENTEROTOXINS OF ESCHERICHIA COLI AND VIBRIO CHOLERAEE. Infection and Immunity, June 1985, 754-758.

This article discusses the effectiveness of BW942C in symptomatic relief of diarrhea without undesirable side effects. The compound has limited constipating effects, low abuse potential, limited effects on the central nervous system, and a high therapeutic effect.

- 1256 Moustafa, S. CORTIGEN B6 OF NO VALUE IN VOMITING WITH ACUTE DIARRHEA. Diarrhea Control Newsletter, Summer 1984, No. 2, 24-26.

Results from this study indicate that vomiting decreases in frequency when children are treated with ORS (by acting to reverse dehydration and acidosis), and that Cortigen B6 has no additional value. Given the existing popularity of this drug in Egypt, the author makes recommendations to re-emphasize the effectiveness and superiority of ORS in heavy dehydration exacerbated by vomiting.

- 0290 Moylan, I. ALUMINUM HYDROXIDE IN THE SYMPTOMATIC TREATMENT OF INFANTS WITH CHRONIC DIARRHEA. *Journal of Pediatric Gastroenterology and Nutrition*, 1983, vol. 2, no. 2, 295-98.

This article is on the use of aluminum hydroxide on 4 infants with acute or chronic diarrhea to induce constipation. Case studies are presented. It suggests that further investigation is required before conclusive findings can be reported.

- 1889 Phillips, K.; Hailey, F. THE USE OF FUROXONE: A PERSPECTIVE. *Journal of International Medical Research*, vol. 14, no. 1, 1986, 19-29.

Furazolidone (Furoxone) has been used for 30 years for the specific and symptomatic treatment of bacterial or protozoal diarrhea and enteritis caused by susceptible organisms. The toxicity of furazolidone is relatively low, and it minimizes the development of resistant organisms.

- 1891 Pickering, L.; Feldman, S.; et al. ABSORPTION OF SALICYLATE BISMUTH FROM A BISMUTH SUBSALICYLATE-CONTAINING COMPOUND (PEPTO-BISMOL). *Journal of Pediatrics*, October 1981, 654-656.

This article reports on a study conducted to evaluate the absorption of salicylate and bismuth following single and multiple oral doses of Pepto-Bismol in children and adults. The amount of salicylate absorbed by children following the label directions to the maximum recommended dose would be equivalent to ingesting 1.5-5.5 325 mg. aspirin tablets in children 3-14 years of age. Use of these products should be avoided by young children.

- 1756 Pietrusko, R. DRUG THERAPY REVIEW: PHARMACOTHERAPY OF DIARRHEA. *American Journal of Hospital Therapy*, vol. 36, June 1979, 757-767.

This article reviews gastrointestinal physiology and the pathophysiology, diagnosis, symptoms, and treatment of acute chronic diarrhea. Most acute diarrheal conditions can be managed successfully by avoiding oral solids and ingesting carbohydrate-electrolyte solutions. Synthetic antidiarrheals may increase the toxicity associated with bacterial diarrhea.

- 0359 Portnoy, B.; DuPont, H.; Pruitt, D.; et al. ANTIDIARRHEAL AGENTS IN THE TREATMENT OF ACUTE DIARRHEA IN CHILDREN. *Journal of the American Medical Association*, August 1976, vol. 236, no. 7, 844-46.

A study of 80 Guatemalan children with acute diarrhea was conducted to evaluate the efficacy of antidiarrheal agents in treatment of diarrheal illnesses. Results were that Kaolin-pectin and diphenoxylate-atropine do not appear to be useful in the treatment of nonspecific diarrhea.

- 0167 Robins-Browne, R.; Levine, M. EFFECT OF CHLORPROMAZINE ON INTESTINAL SECRETION MEDIATED BY E. COLI HEAT STABLE ENTEROTOXIN AND 8 BR-CYCLIC GMP IN INFANT MICE. *Gastroenterology*, 1981, vol. 80, 321-326.

This article studies the effectiveness of chlorpromazine in the treatment of diarrhea in infant mice.

- 0089 Rosenberg, I.; Solomons, N.W. THE POTENTIAL FOR ANTIDIARRHEAL AND NUTRIENT-SPARING EFFECTS OF ORAL ANTIBIOTIC USE IN CHILDREN: A POSITION PAPER. *American Journal Clinical Nutrition*, December 1978, vol. 31, 2202-07.

In view of the interactions of diarrhea, malabsorption, and malnutrition, one approach for control that has been proposed is the prophylactic administration of antibiotics to children. This paper examines the relevant previous experience with the chronic administration of antibiotics in animals and man, much of which has been negative.

- 1607 Sack, R.B.; Froehlich, J.L.; Orskov, F., et al. DOXYCYCLINE IS AN EFFECTIVE TREATMENT FOR TRAVELLER'S DIARRHOEA. *Journal of Diarrhoeal Diseases Research*, Sept. 1986, 4(3), 144-148.

Twenty-six adult volunteers who had arrived in four developing countries and had developed symptoms of travellers' diarrhea were treated with either doxycycline or a placebo in a randomized, double-blind manner. Those taking doxycycline had a significantly shorter illness (1.2 days) after beginning treatment than those taking the placebo (2.2 days; $p < 0.05$). The illness lasted less than 24 hours in 17 of 20 people taking doxycycline ($p < 0.02$). These results suggest that doxycycline could be useful to treat traveller's diarrhea.

- 1191 Salazaer-Lindo, E.; Sack, B.; Chea-Woo, E. EARLY TREATMENT WITH ERYTHROMYCIN OF CAMPYLOBACTER JEJUNI-ASSOCIATED DYSENTERY IN CHILDREN. *Journal of Pediatrics*, vol. 109, no. 2, August 1986, 355-360.

Erythromycin has been recommended as the drug of choice in treating *c. jejuni* infection. Recent clinical trials have shown that although erythromycin shortened the duration of fecal excretion, it did not abbreviate the duration of diarrhea when treatment was begun 4 or more days after the onset of symptoms. This article describes a similar study conducted, the difference being that treatment was started immediately upon arrival at a treatment facility. It proved effective in both eliminating *c. jejuni* from the feces and abbreviating the duration of diarrhea.

- 1893 Suharyono, V.; Sunoto, M. REDUCTION BY ASPIRIN OF INTESTINAL FLUID-LOSS IN ACUTE CHILDHOOD GASTROENTERITIS. *The Lancet*, June 21, 1980, 1329-1330.

Fecal fluid losses were reduced and weight gain was enhanced in a group of malnourished infants and young children with gastroenteritis and dehydration given soluble aspirin in a double-blind trial. Aspirin may be useful in reducing intestinal fluid-loss in childhood gastroenteritis.

- 0124 Suharyono, V.; Sunoto, M. REDUCTION BY ASPIRIN OF INTESTINAL FLUID-LOSS IN ACUTE CHILDHOOD GASTROENTERITIS. *The Lancet*, 21 June 1980, 1329-30.

In a double-blind trial on 84 children suffering from gastroenteritis and malnutrition, soluble aspirin was administered orally to some. Fecal fluid losses were reduced and weight-gain enhanced in the group receiving aspirin.

- 0293 Teasley, D.; Olson, M.; Gebhard, R.; et al. PROSPECTIVE RANDOMIZED TRIAL OF METRONIDAZOLE VERSUS VANCOMYCIN FOR CLOSTRIDIUM-DIFFICILE-ASSOCIATED DIARRHOEA. *The Lancet*, 5 November 1983, 1043-46.

Metronidazole and vancomycin have equivalent efficacy and relapse rates and are tolerated to a similar extent by patients with *C. difficile*-related diarrhea and colitis, but metronidazole is considerably more economical.

- 1608 Unda, R.F. THE ABUSE OF ANTIDIARRHEAL AGENTS AND ANTIMICROBIAL DRUGS IN THE TREATMENT OF INFANT DIARRHEA IN MEXICO. *Pritch, DC 229*, 30 March 1987, 66 p.

This report is a supplementary study that intends to illustrate the widespread abuse of antidiarrheal and antimicrobial agents. No scientific protocol or epidemiological method was followed. Nonetheless, the evidence informally gathered here should suffice to encourage the use of epidemiological methods to formally evaluate the severity and extent of the problem in Mexico.

- 0091 Weaver, L.T.; Richmond, S.W.J.; Nelson, R. LOPERAMIDE TOXICITY IN SEVERE PROTRACTED DIARRHOEA. *Archives of Disease in Childhood*, July 1983, 568-69.

Suggests that caution should be observed when prescribing loperamide and that opiate-like poisoning be included with ileus as a potential adverse effect of loperamide.

- 1247 WHO. DRUGS IN THE MANAGEMENT OF ACUTE DIARRHEA IN INFANTS AND YOUNG CHILDREN. World Health Organization, WHO/CDD/CMT/86.1, 1986, 6 p.

This is an overview of current therapeutic practices as recommended by WHO. ORT is the keystone of all national diarrheal disease control programs; antidiarrheal drugs are of moderate clinical value. An improved ORS solution containing glycose in addition to glucose may be the most effective and safest antidiarrheal drug.

- 0276 WHO. REPORT OF THE FIRST MEETING OF THE SCIENTIFIC WORKING GROUP ON DRUG DEVELOPMENT AND MANAGEMENT OF ACUTE DIARRHOEAS. GENEVA, 15-18 SEPTEMBER 1980. WHO Group on Drug Development and Management of Acute Diarrhoea, World Health Organization, WHO/CDD/DDM/81.2.

The main function of this meeting was to review existing knowledge, designate areas where research is needed, recommend approaches, and prepare a plan.

- 0441 WHO. REPORT OF THE SECOND MEETING OF THE SCIENTIFIC WORKING GROUP ON DRUG DEVELOPMENT AND MANAGEMENT OF ACUTE DIARRHOEAS. World Health Organization, WHO/CDD/DDM/82.3, 22-24 September 1982, 24 p.

This meeting of the Scientific Working Group addressed itself to the development of new antidiarrheal drugs that could serve as an adjunct to oral rehydration therapy.

- 1755 WHO. USE OF DRUGS IN THE TREATMENT OF DIARRHEA. World Health Organization, WHO/CDD/TAG/87.5, Technical Advisory Group, Eight Meeting, 9-13 March 1987, 18 p.

Approximately 90% of children with watery diarrhea who visit a health facility can be successfully treated solely with ORT and continued feeding. Antibiotic or antiparasitic therapy should be reserved for patients with dysentery, proven or presumed cholera, or proven infection with *E. histolytica* or *G. lamblia*. ORT is the only proven cost-effective method of treating diarrhea.

Dietary Regimen

- 1578 GOOD REASONS TO COOK WITH HONEY. *Waterlines*, October 1986, vol. 5, No. 2, 7.

This article discusses the benefits that have been associated with using honey in ORS when given to infants and children suffering from gastroenteritis. When given with ORS, honey shortens the duration of bacterial diarrhea. It may be safely used as a substitute for glucose, provided the solution also contains electrolytes. Honey has proven especially useful among infants aged between 0 and 24 months. The benefits derived from honey are not limited to ORS; honey has proven effective when used on wounds, bed sores and infected surgical wounds.

- 0618 Aranda, J. ALIMENTACION DURANTE LA DIARREA Y LA CONVALESCENCIA. PREVENCIÓN DEL DAÑO NUTRICIONAL CAUSADO POR LA DIARREA EN NIÑOS SIN TOLERANCIA DE ALIMENTOS. International Workshop Seminar on Oral Hydration, 7 p.

Feeding during diarrhea and the convalescence following are discussed in this paper. The prevention of nutritional damage caused during diarrhea in children who lack food tolerance is emphasized.

- 1917 Ashworth, A.; Feachem, R.G. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: IMPROVING LACTATION. World Health Organization, WHO/CDD/85:2, 1985, 17 p.

This report analyzes the effect of improving lactation on diarrhea morbidity and mortality, and reviews interventions to increase the quantity or quality of breast milk. On the basis of currently available information, the improvement of lactation by maternal dietary supplementation is not a promising primary intervention for national diarrheal diseases control programs.

- 1162 Auricchia, S.; Cucchiaca, S.; D'Antonio, A.M. GASTROINTESTINAL ALLERGY OR INTOLERANCE TO MULTIPLE FOODS IN SEVERE CHRONIC DIARRHEA IN EARLY INFANCY. *Chronic Diarrhea in Children*, E. Lebenthal, ed., Nestle, Vevey/Raven Press, 1984, p. 425-434.

Diagnosis of a gastrointestinal allergy and food intolerance are described in this article. Use of a rice-chicken diet to treat such cases has been successful in many situations, but three cases of rice intolerance are cited.

- 0016 Brown, K.; MacLean, W. NUTRITIONAL MANAGEMENT OF ACUTE DIARRHEA: AN APPRAISAL OF THE ALTERNATIVES. *Pediatrics*, February 1984, vol. 73, no. 2, 119-25.

The advantages and disadvantages of delayed vs. continuous feeding in the treatment of acute infantile diarrhea are reviewed. In most cases, food withdrawal should be minimized.

- 1950 Dewit, O.; Boudraa, G.; Touhami, M. BREATH HYDROGEN TEST AND STOOL CHARACTERISTICS AFTER INGESTION OF MILK AND YOGURT IN MALNOURISHED CHILDREN WITH CHRONIC DIARRHEA AND LACTOSE DEFICIENCY. *Journal of Tropical Pediatrics*, vol. 33, August 1987, 177-180.

This study, undertaken in Algeria, compared the absorption of lactose and the clinical tolerance after ingestion of milk and yogurt. The results showed that the absorption of lactose was better after ingestion of yogurt than after milk; diarrhea may be improved by the substitution of yogurt for milk.

- 1954 Donovan, G.K.; Torres-Pinedo, R. CHRONIC DIARRHEA AND SOY FORMULAS. *American Journal of Diseases in Childhood*, vol. 141, October 1987, 1069-1071.

In this study, the authors found that, in the absence of lactose intolerance, a soy lactose formula could be useful in treating chronic diarrhea and secondary protein intolerance.

- 0323 Farriaux, J.; Ghisolfi, J.; Navarro, J.; et al. TRAITEMENT DIETETIQUE DES DIARRHEES AIGUES DE L'ENFANT. *Archives Francaises de Pediatrie*, 1984, vol. 41, 211-216.

This article explains the importance of treating acute diarrhea with food-based oral rehydration therapy. It provides examples of dietary regimens.

- 1739 Huffman, S.; Bentley, M.; Aramburu, C. DIETARY MANAGEMENT OF DIARRHEA IN PERU: SAMPLE SURVEY PROPOSAL. *Johns Hopkins University, Dept. of International Health*, March 1986.

This proposal describes a study to be conducted in Peru to determine appropriate foods to be promoted for use during and after diarrhea. It will examine cultural beliefs and practices, feeding patterns of children, constraints to feeding certain foods, influence of health practitioners on mothers, and access to mass communication channels.

- 1876 Jelliffe, E.; Jelliffe, D.; Feldon, K. FEEDING DURING AND AFTER DIARRHOEA: TRADITIONAL PRACTICES AND NEWER PATHOPHYSIOLOGY. Prepared for the Joint 3rd Scientific Working Group on Drug Development and Management of Acute Diarrhoeas, Geneva, 1984, 99 p.
- Past and present feeding practices during diarrhea episodes are reviewed in this paper, focusing mainly on traditional practices reported to be used in home feeding in diarrhea. Also suggested is how traditional practices could be integrated into early feeding or oral nutrition therapy.
- 1777 Jelliffe, E.; Jelliffe, D.; Feldon, K. TRADITIONAL PRACTICES CONCERNING DIETARY MANAGEMENT DURING AND AFTER DIARRHOEA (WITH SPECIAL REFERENCE TO ACUTE DEHYDRATING DIARRHOEA IN YOUNG CHILDREN). World Health Organization, WHO/NUT/86.5, 43 p.
- This report presents information on cultural concepts concerning foods considered to have an impact on diarrheal disease throughout the world.
- 0374 Lebenthal, E.; Rossi, T. INTRACTABLE DIARRHEA OF INFANCY. AN ALTERNATIVE TREATMENT STRATEGY. *Postgraduate Medicine*, August 1983, vol. 74, no. 2, 153-159.
- Conventional therapy for infantile diarrhea calls for clear liquids and gradual reintroduction of cow's milk or formula. This article points out, however, that in some cases this formula exacerbates diarrhea. The authors recommend the use of oral elemental diets for most infants in this category, and total parenteral nutrition for some.
- 0717 MacFarland, P.I.; Miller, V. HUMAN MILK IN THE MANAGEMENT OF PROTRACTED DIARRHOEA OF INFANCY. *Archives Diseases in Childhood*, 59, 1984, 260-265.
- Eleven of thirteen children with diarrhea were successfully treated with donor human milk. Despite high lactose content, human milk has nutritional and immunologic properties that may reverse many factors causing diarrhea. Human milk is important in management and may obviate the need for IV nutrition.
- 0214 Merritt, R.; Shah, P.; Hack, S.; et al. TREATMENT OF PROTRACTED DIARRHEA OF INFANCY. *American J. Diseases of Children*, August 1984, vol. 138, 770-74.
- This article reports on infants with protracted diarrhea who were given 130 calories/kg/day as amino acids. Other than improved nitrogen balance, no clinical benefits were observed among these patients.

- 1873 Mhenni, H. L'ALIMENTATION APRES DIARRHEE ET REHYDRATATION ORALE. Prepared for the 2nd Congres Internationale pour la Sante de la Mere et du Nouveau-Ne, Monastir, 22-26 Novembre 1984.

The importance of continued feeding during diarrhea, with emphasis on current practices in Tunisia, are discussed in this paper.

- 1878 Mora, J. HOME MANAGEMENT OF ACUTE DIARRHEA: AN INTEGRATED APPROACH TO PREVENTING MALNUTRITION AND IMPROVING THE HEALTH OF YOUNG CHILDREN. International Nutrition Unit, Technical Report Series, 1985 (?), 52 p.

An integrated approach is proposed to improve the home management of acute diarrhea in children as part of the Primary Health Care (PHC) strategies for Diarrheal Disease Control (DDC) and child survival in developing countries. The approach addresses both the dehydration and the malnutrition effects of diarrhea, with the ultimate goal of reducing diarrheal and overall mortality while preventing malnutrition in the survivors.

- 1752 Nalin, D. EFFECT ON CLINICAL OUTCOME OF BREAST FEEDING DURING ACUTE DIARRHOEA. British Medical Journal, 20 April 1985, vol. 290, 1217.

The effects of breast-feeding on the duration and severity of diarrhea and amount of ORS needed during rehydration cannot be accurately determined unless the groups compared have similar characteristics to start with.

- 1877 National Research Council. NUTRITIONAL MANAGEMENT OF ACUTE DIARRHEA IN INFANTS AND CHILDREN. National Academy Press, Washington, DC, 1985, 41 p.

Written primarily for health professionals, this report reviews nutritional aspects of acute diarrhea in children and offers guidelines for incorporating nutritional considerations into its treatment.

- 1174 Noah, M.A. SOY-BASED FORMULA FOR INFANTILE DIARRHOEA: A CONTROLLED TRIAL. Nigerian Medical Journal, vol. 9, 1979, 243-245.

This article attempts to evaluate the role of lactose in food in the recovery phase of gastroenteritis. Infants with acute diarrhea were given either soy-based formula or cow's milk formula after 24 hours of IV fluids. There was no difference in length of hospital stay between the two groups.

- 1589 Oni, G.; Bentley, M.; Brown, K. DIETARY MANAGEMENT OF DIARRHEA IN NIGERIA: SAMPLE SURVEY PROPOSAL. University of Ilorin, Nigeria, 1986.

This proposal describes a study to be conducted in Nigeria to assess knowledge, attitudes and practices of mothers to determine the appropriate foods to be promoted for use during and after diarrhea. It discusses existing information on KAP and the methodology of the planned study.

- 1175 Placzek, M.; Walker-Smith, J. COMPARISON OF TWO FEEDING REGIMENS FOLLOWING ACUTE GASTROENTERITIS IN INFANCY. *Journal of Pediatric Gastroenterology and Nutrition*, vol. 3, 1984, 245-248.

A comparison between two approaches to the management of acute gastroenteritis in children less than 18 months of age is reported in this article. It concludes that children over nine months with acute gastroenteritis may be given full-strength milk immediately after 24 hours of treatment with a glucose-electrolyte solution, but children under nine months should receive the conventional regrading over several days.

- 1864 WHO. A DECISION PROCESS FOR ESTABLISHING POLICY ON FLUIDS FOR HOME THERAPY OF DIARRHOEA. World Health Organization, WHO/CDD/SER/87.10., 12 p.

This document describes a simple, rational process for determining the best fluids to be used for early treatment of diarrhea. It will help the managers of national diarrheal disease control programs to establish a policy on home therapy that is suited to conditions in their own countries.

- 1831 WHO. ORAL REHYDRATION THERAPY FOR TREATMENT OF DIARRHOEA IN THE HOME. World Health Organization, WHO/CDD/SER/86.9, 13 p.

This report reviews the information available on the use of sugar-salt solutions, food-based solutions, and commercial beverages for treatment of diarrhea in the home.

- 1579 WHO. RECENT ADVANCES IN RESEARCH ON FEEDING DURING AND AFTER ACUTE DIARRHOEA. World Health Organization, WHO/CDD/DDM/85.2, 9 p.

At its October 1984 meeting, the Scientific Working Group addressed the topic of feeding during and after acute diarrhea. The group first considered nutritional requirements of infants and young children, the physiology and pathophysiology of digestion and absorption of food, and the cultural factors that influence dietary practices during diarrhea.

- 1593 WHO. TERAPIA DE REHIDRATACION ORAL PARA EL TRATAMIENTO DE LA DIARREA EL HOGAR. World Health Organization, WHO/CDD/SER/ 87.10, 13 p..

This document describes a simple, rational process for determining the best fluid(s) which can be used for early home treatment of diarrhea as an alternative to ORS. The reason behind this decision was to provide children with convenient and less costly fluids as soon as diarrhea started, thus preventing children from becoming dehydrated. This document is intended to help managers of national CDD programs to establish a policy on home therapy for diarrhea that is suited to conditions in their own countries.

II. Prevention Strategies

- 1114 AED. CASE STUDY PREVENTION AND TREATMENT OF ACUTE DIARRHEA IN SWAZILAND. Academy for Educational Development, 2 p.

The MMHP activity in Swaziland's Rural Water Borne Disease Control program is outlined. This is part of a three pronged health program which includes immunization, malaria control, and prevention.

- 1141 APIHA. COMMUNITY HEALTH EDUCATION IN DEVELOPING COUNTRIES. Report prepared for the Peace Corps, December 1977, 209 p.

This manual was developed for persons interested in promoting change to improve the health conditions of their communities. It includes instructions on making health education materials, such as visual aids.

- 1392 Feachem, R. PREVENTING DIARRHOEA: WHAT ARE THE POLICY OPTIONS? Health Policy and Planning, vol. 1, no. 2, 1986, 109-117.

Estimates are presented on the cost-effectiveness of certain interventions that supplement ORT in reducing diarrhea morbidity and mortality rates among children under 5 years of age. Interventions include: promotion of breastfeeding, weaning education, measles immunization; improving water supply and sanitation, promotion of hygiene and possible new immunizations (cholera and rotavirus).

- 1393 Feachem, R. PREVENTION BETTER THAN CURE. World Health, April 1986, 18-19.

The various strategies, which can be promoted and supported on national levels for control of diarrheal diseases are outlined: water and sanitation improvements, improved hygiene practices, breastfeeding with proper weaning, and measles immunization. As the title suggests, prevention is the only sure way to reduce diarrheal incidence.

- 1165 Hamilton, J.R. NUTRITIONAL THERAPY OF CHRONIC DIARRHEA. Chronic Diarrhea in Children, E. Lebenthal, ed., Nestle, Vevey/Raven Press, 1984, 535-539.

This article discusses nutritional therapy of chronic diarrhea as well as the preventive aspects of nutritional care. Breastfeeding and hygienically prepared foods can do much to reduce the incidence and severity of diarrhea. There is some risk in total parenteral nutrition but it is very powerful in sustaining severely affected babies.

- 1763 Han, A.; Myint, T. SOME RISK FACTORS FOR DIARRHOEA AMONG CHILDREN IN SUBURBAN BURMA. *Journal of Diarrhoeal Disease Research*, Sept. 1986, 153-156.
- During July and August 1981, a prospective study on a cohort of 1545 under-five children was conducted in a suburban community in Rangoon to determine whether age, low family income, overcrowding, poor maternal and paternal education, source of drinking water, and rearing domestic animals were associated with acute diarrhea. Age and overcrowding were the only associations demonstrated in this study.
- 1970 Harrison, P.F.; Cross, P.; Fojardo, I.M.; et al. IMMUNIZATION/ORT/CHILD SURVIVAL PROGRAM, GUATEMALA PROJECT PAPER SUPPLEMENT, CONCEPT DEVELOPMENT. PRITECH report SS 185, March-April 1987.
- This supplemental report evaluates the Immunization/ORT/Child Survival program in Guatemala, focusing on concept development. The current situation and key issues are outlined, and the project is described, followed by annexes on technical studies.
- 1819 Hayunga, E.G.; Duncan, J.F.; Stek Jr., M. DEVELOPMENT OF CIRCULATING ANTIGEN ASSAY FOR RAPID DETECTION OF ACUTE SCHISTOSOMIASIS. *The Lancet*, September 27, 1986, 716-718.
- A circulating antigen assay to detect acute schistosomiasis mansoni in infected mice has been developed. The assay detects a 100-worm infection as early as one week after exposure. A rapid and accurate diagnosis of acute schistosomiasis in travellers would facilitate appropriate chemotherapy before the onset of pathology.
- 0716 Herbert, J.; Miller, D.R. WATER SUPPLY AND SANITATION. EFFECT ON DIARRHOEAL DISEASES. *International Journal of Epidemiology*, 13, no. 4, December 1984, 543-544.
- This article critiques and reviews Feachem and Blum's article, "Measuring the Impact of Water Supply and Sanitation on Diarrhoeal Diseases" (*Int'l. J. Epid.*, 12, 1983). Feachem and Blum point out major past studies on water supply and sanitation, but fail to offer solutions. Their critique concludes that more discussion and central introspection of epidemiological and statistical concepts are necessary in water supply and sanitation studies.
- 0811 Joseph, S. PROTECTING THE WORLD'S CHILDREN: VACCINES AND IMMUNIZATION WITHIN PHC: A BELLAGIO CONFERENCE (13-15 MARCH 1984). Rockefeller Foundation, June 1984, 131 p.
- Shared concerns and common goals led to a conference in Bellagio to protect the world's children. The outcome is a plan not only to immunize all of the world's children, but also to promote other effective means - ranging from oral rehydration to family planning.

- 1674 Khan, M.U.; Khan, M.R.; et al. ALUM POTASH IN WATER TO PREVENT CHOLERA. *The Lancet*, November 3, 1984, 1032.
- Cholera is primarily transmitted by water on the Indian subcontinent. The efficacy of mixing a pinch of aluminum potassium sulfate into each pitcher of household water is examined. A significant difference was noticed between family contacts using alum (9.6%) and control families (17.7%).
- 1833 Phillips, M.; Feachem, R.; Mills, A. OPTIONS FOR DIARRHOEA CONTROL: THE COST AND COST-EFFECTIVENESS OF SELECTED INTERVENTIONS FOR THE PREVENTION OF DIARRHOEA. Evaluation & Planning Centre for Health Care, London School of Hygiene & Tropical Medicine, 1987, 145 p.
- This document examines six non-clinical interventions that might play a role in diarrhea control in terms of cost and cost effectiveness: measles, rotavirus, and cholera vaccinations; breastfeeding promotion; improved weaning practices; and personal and domestic hygiene promotion.
- 0329 Rohde, J.; Cash, R.; Guerrant, R.; et al. THERAPEUTIC INTERVENTION FOR DIARRHEA. Chen, L.; Scrimshaw, S., eds., *Diarrhea and Malnutrition*, Plenum Publishing Corp., 1981, chapter 17, 287-295.
- This article indicates the practical therapeutic guidelines aimed at the practitioner and community health worker. Implementation of these measures will substantially reduce not only the immediate deleterious effects of diarrhea, dehydration, and in some cases, death, but also the longer-term, more prevalent and insidious effects on nutrition.
- 1732 Smith, W. AU-DELA DES CAMPAGNES DE SENSIBILISATION: UNE NOUVELLE APPROCHE DU ROLE DES MEDIA DANS L'EDUCATION. Academy for Educational Development, 28 p.
- This report outlines how various forms of media can be used to teach improved health practices.
- 1584 Stanton, B.; Clemens, J.; Khair, T. FOLLOW-UP OF CHILDREN DISCHARGED FROM HOSPITAL AFTER TREATMENT FOR DIARRHOEA IN URBAN BANGLADESH. *Tropical and Geographical Medicine*, 1986, vol. II, no. 2, 113-118.
- To determine the subsequent mortality of urban children in Bangladesh after an episode of diarrhea, the authors visited 74 children in their homes 4 months after they had received treatment at ICDDR,B. Parents and health workers were questioned about their perceptions of the nutritional status of the children. Parents were significantly less likely to recognize malnutrition in the children.

- 1617 Victora, C.G.; Vaughan, J.P.; Kirkwood, B. RISK FACTORS FOR MALNUTRITION IN BRAZILIAN CHILDREN: THE ROLE OF SOCIAL AND ENVIRONMENTAL VARIABLES. *Bulletin of the World Health Organization*, 1986, Vol. 64, No. 2, 299-309.

This study, which was conducted in Rio do Sul in Brazil to find the relationship between malnutrition in Brazilian children and the role of social and environmental variables, concluded that four environmental characteristics were associated with one or more nutritional indicators. They are as follows (A) Availability of water (B) Type of sewerage disposal (C) Type of building (D) Degree of crowding. In addition, the study demonstrated that many of the above mentioned associations remained significant even after the effect of family income had been taken into consideration. This study supports the hypothesis of a causal link between the four above mentioned factors and malnutrition.

- 0458 WHO. ENVIRONMENTAL HEALTH AND DIARRHOEAL DISEASE PREVENTION. MALAYSIA 3-6 JULY 1979. *World Health Organization*, WHO/DDC/80.5, 1980, 33 p.

This report presents available knowledge on environmental health as it relates specifically to diarrheal disease prevention and defines priorities for further research that could contribute to the environmental control of diarrheal diseases.

- 1992 WHO. INTERVENCIONES PARA REDUCIR LA MORBILIDAD Y MORTALIDAD POR ENFERMEDADES DIARRHEICAS: HAVAZGO E IMPLICACIONES PARA EL DESARROLLO DE LAS ACTIVIDADES DE CED. *World Health Organization*, March 24, 1986, 17 p.

This paper on interventions to reduce morbidity and mortality from diarrheal diseases analyzes various interventions including promoting maternal breastfeeding, immunizations, water and sanitation, personal and domestic hygiene, improved weaning practices and use of growth charts.

- 1119 WHO. MALARIA CONTROL AND NATIONAL HEALTH GOALS: REPORT OF THE SEVENTH ASIAN MALARIA CONFERENCE. *World Health Organization*, Technical Report Series, 680, 1982, 68 p.

This technical report covers the global malaria situation and the role of malaria programs within national strategies for Health for All.

- 1631 WHO. MEASLES: SPOT THAT KILLS. *World Health Organization*, Expanded Programme on Immunization, December 1986.

This update on measles presents information on clinical features, immunization, transmission, and control, and provides the latest data on measles immunization rates by country.

0797 WHO. PANEL OF EXPERTS ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL, REPORT ON 4TH MEETING. World Health Organization, WHO/VBC/84.5, October 1984, 82 p.

The Technical Discussion sessions of the fourth meeting were dedicated to the subject of institutional arrangements to ensure the incorporation of health and environmental safeguards in water resources development projects.

Immunization

- 0402 ANTI-DIARRHEAL VACCINE FOR BABIES DEVELOPED. Washington Post, 10 October 1984, A16.

This article describes the development of a vaccine capable of protecting 6-18 month-old children from rotavirus.

- 0757 MEASLES IMMUNIZATION IN THE ZAMBIAN COPPERBELT: "CAUSE FOR CONCERN." Transactions of the Royal Society of Tropical Medicine Hygiene, 77, no.2, 1983, 276-277.

The immunization rate of the population is a positive determinant of immunization campaign success, possibly more so than vaccine potency.

- 1822 ORAL CHOLERA VACCINES. The Lancet, September 27, 1986, 722-723.

The possibility of preventing cholera with an oral vaccine has been given renewed prominence. Clemens, et al carried out a rapid large-scale analysis of the protective efficacy of a combined whole-cell/toxin B subunit vaccine.

- 0421 ORAL ENTERIC VACCINES. REPORT ON A WHO WORKING GROUP. EURO Reports and Studies 63, 1982, 42 p.

The WHO Working Group met to review progress in the study and application of oral enteric vaccines and to stimulate further research in this field in Europe. Recent studies in animals and man on secretory intestinal response and secretory immunoglobulins seem to be of particular relevance for the advancement of research in the field of oral enteric vaccines.

- 0759 ACOG Technical Bulletin. IMMUNIZATION DURING PREGNANCY. ACOG Technical Bulletin, 20, March 1975, 4 p.

This article discusses factors which physicians should consider when deciding whether or not to immunize a pregnant woman. A chart that indicates risks to mother and fetus of various vaccines and of the disease itself is included.

- 0735 American Academy of Pediatrics, Committee on Infectious Diseases. RUBELLA IMMUNIZATION, MEASLES IMMUNIZATION, POLIOVIRUS IMMUNIZATION. American Academy of Pediatrics, Committee on Infectious Diseases, 2 p.

These are comments made by the Committee on Infectious Diseases, including new recommendations on Rubella immunization and Measles immunization, and a re-examination of the Poliovirus immunization.

- 0776 Anderson, R.M.; May, R.M. CONTROL OF COMMUNICABLE DISEASES BY AGE - SPECIFIC IMMUNISATION SCHEDULES. The Lancet, 16 January 1982, 160.

This article suggests methods which will permit the design of more effective immunization schedules for the control of infectious disease within the community. A quantitative assessment of the extent to which an infection may be controlled by immunization requires serological surveys to determine the average age at which the infection is acquired.

- 1163 Battersby, A.; Jansdaal, P. HOW TO CHOOSE AND MAKE A COLD BOX: CHOOSING, BUYING, ADAPTING, MAKING, TESTING COLD BOXES. AHRTAG, London, 1983, 79 p.

This manual will allow decision makers and technicians to choose the right kind of cold boxes to preserve and transport vaccines in isolated communities. Many valuable graphics are included.

- 0780 Brazil, Chile, Costa Rica, Ecuador Ministries of Health; PAHO. SEROCONVERSION RATES AND MEASLES ANTIBODY TITER INDUCED BY MEASLES VACCINE IN LATIN AMERICAN CHILDREN 6-12 MONTHS OF AGE. Ministries of Health in Brazil, Chile, Costa Rica, Ecuador, PAHO, 18 p.

The response to measles vaccine was studied with over 2000 children, 6-12 months old, in South America. Seroconversion rates in children of low weight-for-age and infants under 8 months were high and low in infants over 11 months. The optimal age for vaccination is between 7-7 1/2 months for Africa and South America.

- 0779 CDC. ABSCESSSES ASSOCIATED WITH DTP VACCINE. Morbidity and Mortality Weekly Report, 27, no. 36, 8 September 1978, 1 p.

This is a survey of reactions to the DTP vaccine in Oklahoma which was conducted following 24 reports of abscesses in recipients. No major complications were reported.

- 0761 CDC. DIPHTHERIA AND TETANUS TOXOIDS AND PERTUSSIS VACCINE. Morbidity and Mortality Weekly Report, 30 October 1971, 396-397.

Routine immunization against diphtheria, tetanus and pertussis in infancy or childhood has been widely advocated and generally practiced in the U.S. for the past 25 years. Its effectiveness is reflected in the marked decrease in cases and deaths from these three diseases.

- 0781 CDC. GENERAL RECOMMENDATIONS ON IMMUNIZATION. Morbidity and Mortality Weekly Report, 22 February 1980, 76-79.
- Certain basic immunization procedures related to simultaneous administration of vaccines, hypersensitivity, severe febrile illness, and pregnancy are recommended.
- 0823 CDC. IMMUNIZATION - ABSTRACTS AND BIBLIOGRAPHY. HHS/PHS/CDC, April, June, October, 1979-1981.
- This survey of recently published periodical literature in the field of vaccine-preventable diseases was compiled from the National Library of Medicine's MEDLARS-II.
- 0822 CDC. IMMUNIZATION - SURVEY OF RECENT RESEARCH. HHS/PHS/CDC, No. 83-8391, April 1983, and No. 85-8391, December 1984.
- These volumes on immunization, both 1983 and 1984, replace the former three volumes per year series.
- 1806 Chiba, S.; Nakata, S.; Urasawa, T. PROTECTIVE EFFECT OF NATURALLY ACQUIRED HOMOTYPIC AND HETEROTYPIC ROTAVIRUS ANTIBODIES. The Lancet, August 1986, 417-421.
- Two of the most important questions concerning the development of rotavirus vaccines are how long homotypic immunity remains effective in preventing reinfection and clinical illness and whether heterotypic cross-protection occurs. This article reports on the relation between pre-existing homotypic and heterotypic antibody levels and resistance to infection or clinical illness caused by type three rotavirus.
- 0116 Cravioto, A. PROSPECTOS PARA EL ELABORACION DE UNA VACUNA ANTIADHESIVA CONTRA CEPAS DE ESCHERICHIA COLI CAUSANTES DE DIARRHEA EN HUMANOS. SEGUNDA PARTE Y TERCERA PARTE. Boletín Medical Hospital Infantil de Mexico, Abril 1984, vol. 41, no. 4, 188-196; Mayo 1984, vol. 41, no. 5, 253-261.
- Several types of E. coli that cause diarrhea in humans are described and advances in the development of antidiarrheal vaccines are explained.

- 0756 De Haas, P.W.; Masurel, N.; Anker, W.J. MEASLES IN TANZANIA: ANTIBODY RESPONSE IN CHILDREN AFTER VACCINATION AND ANTIBODY STATE OF MOTHERS AND NEWBORNS. *Trans R S Trop Med. Hyg.*, 77, no. 2, 1983, 267-270.
- Studies were taken with two groups of African children, and vaccines resulted with differential seroconversion rates. Antibody levels were also studied with 234 mothers and newborns. Antibody response to attenuated live vaccines is discussed.
- 1315 De Zoysa, I.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: ROTAVIRUS AND CHOLERA IMMUNIZATION. *Bulletin of the World Health Organization*, 1985, vol. 63, no. 3, 569-583.
- The potential effects of rotavirus and cholera immunization (with an improved vaccine) on diarrheal morbidity and mortality among young children are reviewed using data from field studies and theoretical calculations.
- 0772 Edelman, R.; Hardegree, M.; Chadid, L. SUMMARY OF AN INTERNATIONAL SYMPOSIUM ON POTENTIATION OF THE IMMUNE RESPONSE. *Journal of Information Dissemination*, 141, no.1, January 1980, 103-112.
- This symposium reviewed three promising synthetic adjuvants: muramyl dipeptides, polymucleotides and liposomes. Adjuvant safety was also discussed.
- 0771 Faulk, W.P.; Edsall, G. VACCINES AND VACCINATION PROGRAMS - SPECIAL EMPHASIS IN MALNUTRITION. *American Journal of Clinical Nutrition*, 31, December 1978, 2238-2247.
- This paper reviews the immunological correspondences of malnutrition and of immunization programs. Also looks at toxic reactives induced by vaccination.
- 0037 Feachem, R.; Koblinsky, M. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: MEASLES IMMUNIZATION. *Bulletin of the World Health Organization*, 1983, vol. 61, no. 4, 641-652.
- The effects of measles immunization on diarrheal morbidity and mortality are reviewed in this article using data from field studies and theoretical calculations. "With measles" is distinguished from "post measles" diarrhea. It is theoretically estimated that measles immunization between 9-11 months, with coverage of between 45-90% can avert 3.8% of the diarrhea episodes and 6-26% of diarrhea-related deaths among under-5 children.

- 0210 Glass, R.; Holmgren, J.; Khan, M.; et al. A RANDOMIZED, CONTROLLED TRIAL OF THE TOXIN-BLOCKING EFFECTS OF B SUBUNIT IN FAMILY MEMBERS OF PATIENTS WITH CHOLERA. *Journal of Infectious Diseases*, April 1984, vol. 149, no. 4, 495-500.
- A field trial was performed in Bangladesh to test the ability of the non-toxin binding portion of cholera toxin to block the toxin receptors in the small intestine. The results confirm that B subunit is immunogenic and can induce an anti-agent toxin response similar to that of V. cholerae itself.
- 0762 Heinonen, O.P.; Shapiro, S.; et al. IMMUNIZATION DURING PREGNANCY AGAINST POLIOMYELITIS AND INFLUENZA IN RELATION TO CHILDHOOD MALIGNANCY. *International Journal of Epidemiology*, 2, no. 3, 1973, 229-235.
- Over 50,000 pregnancies were studied in relation to immunization during pregnancy. Immunization during pregnancy against polio and flu was evaluated in relation to risk of malignancy in the offspring. No evidence was found of excess of malignancies in children exposed in utero to attenuated live polio vaccine, influenza vaccine or to spontaneous viral infections.
- 0973 Jacob, C.; Arnon, R.; et al. SYNTHETIC APPROACH FOR VACCINE DEVELOPMENT AGAINST "CHOLERA LIKE" HEAT LABILE TOXINS. *Israeli Journal of Medical Science*, vol. 21, no. 2, February 1985, 186.
- A suggestion on new vaccine developments for cholera is offered in this article.
- 1312 Klipstein, F.; Engert, R.; Houghten, R. IMMUNIZATION OF VOLUNTEERS WITH A SYNTHETIC PEPTIDE VACCINE FOR ENTEROTOXIGENIC ESCHERICHIA COLI. *The Lancet*, 1 March 1986, 471-72.
- A synthetic peptide vaccine orally administered to 13 volunteers resulted in raised anti-toxin titres. Jejunal aspirates taken from the vaccinated volunteers neutralized the secretory activity of toxins. These findings indicate that synthetically produced vaccines are immunogenic in human beings, and that the peptide is a promising vaccine for E. coli caused by diarrhea.
- 0048 Levine, M.; Rice, P.; Gangarosa, E.; et al. AN OUTBREAK OF SONNE SHIGELLOSIS IN A POPULATION RECEIVING ORAL ATTENUATED SHIGELLA VACCINES. *American Journal of Epidemiology*, 1974, vol. 99, no. 1, 30-36.
- A wild strain of shigella caused an outbreak of dysentery in a state institution for mentally retarded children, who at that time were all receiving shigella vaccines. This report describes the investigation which ensued to determine if the vaccine strain had reverted to a virulent invasive state.

- 0073 Levine, M.; DuPont, H.; Hornick, R. ATTENUATED, STREPTOMYCIN-DEPENDENT SALMONELLA TYPHI ORAL VACCINE: POTENTIAL DELETERIOUS EFFECTS OF LYOPHILIZATION. *J. Infectious Diseases*, April 1976, vol. 133, no. 4.

This paper summarizes studies of streptomycin-dependent *S. typhi* as an oral typhoid vaccine. 172 received multiple doses of streptomycin-dependent vaccine. The preparation caused no adverse reactions unlike parenteral killed vaccines. However, practical and economic considerations call for a streptomycin dependent vaccine in lyophilized form that is effective without streptomycin.

- 0045 Levine, M.; Hornick, R. LACTULOSE THERAPY IN SHIGELLA CARRIER STATE AND ACUTE DYSENTERY. *Antimicrobial Agents & Chemotherapy*, November 1975, vol. 8, no. 5, 581-84.

The efficacy of two shigella flexneri vaccines, ampicillin and lactulose, are described. While lactulose seemed to show promise for the treatment of shigella carriers, it appeared to offer little in the treatment of acute shigellosis.

- 0597 Levine, M.; Kaper, J.; Black, R. NEW KNOWLEDGE IN PATHOGENESIS OF BACTERIAL ENTERIC INFECTIONS AS APPLIED TO VACCINE DEVELOPMENT. *Microbiological Reviews*, 47, no. 4, (Dec. 1980), 510-550.

For many years attempts have been made to prepare immunizing agents against some of these enteric infections...more recently, however, there have occurred great advances in our knowledge of the pathogenesis of infections due to these bacterial enteropathogens. This new information has been applied toward vaccine development, resulting in fresh evaluations of older vaccines as well as innovative new approaches.

- 0046 Levine, M.; Woodward, W.; Formal, S.; et al. STUDIES WITH A NEW GENERATION OF ORAL ATTENUATED SHIGELLA VACCINE: *E. COLI* BEARING SURFACE ANTIGENS OF SHIGELLA FLEXNERI. *Journal of Infectious Diseases*, October 1977, vol. 136, no. 4, 577-582.

This article describes attempts to make a safe, proliferating, oral shigella vaccine via antigenically modified *E. coli*. Theoretically, the modified *E. coli* should provide a safe environment for the vaccine organism to propagate. In practice, however, this did not occur.

- 0075 Levine, M.; Black, R.; Clements, M.; et al. DURATION OF INFECTION-DERIVED IMMUNITY TO CHOLERA. *Journal of Infectious Diseases*, June 1981, vol. 143, no. 6, 818-820.

This article suggests that the most positive approach in the development of cholera vaccines is to immunize with orally administered attenuated strains of *V. cholerae*. Nine volunteers were administered attenuated strains of *V. cholerae* 3 years after initial induced-cholera infection. None of the veterans and four of the five control volunteers developed diarrhea.

- 0169 Levine, M.; Black, R.; Clements, M.; et al. VOLUNTEER STUDIES IN DEVELOPMENT OF VACCINES AGAINST CHOLERA AND ENTEROTOXIGENIC E. COLI. A REVIEW. T. Holme, J. Holmgren, M. Merson, et al. eds. Acute Enteric Infections in Children, New Prospects for Treatment and Prevention, chapter 26, Elsevier/North-Holland Biomedical Press, 1981.
- The findings from volunteer studies involving ingestion of E. coli strains are summarized in this chapter.
- 0760 Phillips, C. CHILDREN OUT OF STEP WITH IMMUNIZATION. Pediatrics for the Clinician, 1975, 877-881.
- This article discusses ways in which the present immunization schedules can be modified and consolidated to meet the individual needs of children who receive only sporadic crisis health care or no care at all.
- 0071 Pierce, N.F.; Cray, Jr., W.C.; Sacci, Jr., J.B., et al. PROCHOLERAGENOID: A SAFE AND EFFECTIVE ANTIGEN FOR ORAL IMMUNIZATION AGAINST EXPERIMENTAL CHOLERA. Infection and Immunity, June 1983, vol. 40, no. 3, 1112-1118.
- Procholeragenoid, in combination with other antigens of V. cholerae, may constitute a simple, safe, and effective oral vaccine for cholera. When subsequently challenged with virulent Vibrio cholerae, immunized dogs showed 83% protection against the development of severe or lethal diarrhea compared with non-immunized controls.
- 0782 Rappaport, R.S.; Bonde, G. DEVELOPMENT OF A VACCINE AGAINST EXPERIMENTAL CHOLERA AND ESCHERICHIA COLI DIARRHEAL DISEASE. Infection and Immunity, 32, no. 2, May 1981, 535-541.
- The development of a simple-vaccine formula which might be used as protection against cholera and E. coli diarrheal disease is reviewed. The vaccine is prepared from an LT-only enterotoxigenic strain.
- 0770 Ruben, F.L.; Smith, F.A.; et al. SIMULTANEOUS ADMINISTRATION OF SMALL POX, MEASLES, YELLOW FEVER, AND DIPHTHERIA-PERTUSSIS-TETANUS ANTIGENS TO NIGERIAN CHILDREN. Bulletin of the World Health Organization, 48, 1973, 175-181.
- This study measures efficacy of smallpox vaccinations at 7 days and the serologic responses to smallpox, DPT, yellow fever and measles vaccines when given by a jet injector at 4 months.

- 1668 Sherris, J.; Blackburn, R. IMMUNIZING THE WORLD'S CHILDREN. Population Reports, Series L, no. 5, March-April 1986, 39 p.
- Immunization saves about one million lives annually, but 3.5 million other annual deaths could be prevented by vaccination. An overview of measles, pertussis, neonatal tetanus, polio, tuberculosis, and diphtheria, including information on the cold chain, communication strategies, personnel, costs, monitoring, and evaluation are provided in this article.
- 0814 IMMUNIZATION: A KEY TO PRIMARY HEALTH CARE. PATH, 3, no. 1, January 1983, 6 p.
- This newsletter covers the six major killers in the developing world on which the EPI is concentrating. Program management and equipment are discussed.
- 1022 Walsh, J. IMMUNIZATION: A QUESTION OF PRIORITIES. May 1985, 24 p.
- The issue of why immunization rates have been so low is examined in this report. Ways to improve immunization coverage rapidly are suggested.
- 1660 West, G. MEASLES IMMUNIZATION IN INDIA: A PROPOSAL FOR A PROGRAM. Centers for Disease Control, January 1985, 17 p.
- The public health systems in India have the capacity for initiating and maintaining highly successful measles immunization programs. Steps for setting up such programs are outlined in this report.
- 1818 WHO. DEVELOPMENT OF VACCINES AGAINST SHIGELLOSIS. World Health Organization, WHO/CDD/IMV/86.1, 1986, 12 p.
- A meeting was held in Calcutta, India on May 19-22, 1986 concerning vaccines against Shigellosis. The development of vaccines for the prevention of Shigellosis is particularly important since the measures currently used to control this infection are of limited efficacy. This report summarizes the meeting.
- 0456 WHO. IMMUNITY AND VACCINE DEVELOPMENT. World Health Organization, WHO/DDC/78.2, 14-16 August 1978, 21 p.
- As part of the research component of the WHO Global CDD Programme, a Scientific Working Group met to discuss recent advances in knowledge of gut-associated immunity, the application of new genetic knowledge to enteric vaccine development, and prospects for improvement of existing immunizing agents and the development of new ones.

- 1781 Wyatt, R.; Kapakian, A.Z.; Greenberg, H.B. DEVELOPMENT OF VACCINES AGAINST ROTAVIRUS DISEASE. *Prog. Fd. Nutr. Sci.*, vol. 7, 1983, 189-192.

The progress that has been made in the development of vaccines against rotavirus is reviewed in this article.

- 0028 Yoshioka, J.; Iseki, K.; Fujita, K. DEVELOPMENT AND DIFFERENCES OF INTESTINAL FLORA IN THE NEONATAL PERIOD IN BREAST-FED AND BOTTLE-FED INFANTS. *Pediatrics*, September 1983, vol. 72, no. 3, 317-20.

Bottle-feeding and breast-feeding are compared in the growth promotion of bifidobacteria and suppression of coliform. Breast-feeding revealed the most beneficial results.

Hygiene

- 1307 EDUCATION SANITAIRE: COURS ELEMENTAIRE AND COURS MOYEN. Peace Corps, Information Collection and Exchange Reprint Series R-52, 1984, 122 p.
- This document presents practical lesson-by-lesson plans for teaching hygiene at the elementary and higher grade levels. The topics covered range from personal hygiene to preventive measures of community sanitation. Treatment of diarrhea stresses ORS for infants and antidiarrheal medicines for others, while noting the dangers of dehydration.
- 1955 Bairagi, R.; Chowdhury, M.; Kim, Y. THE ASSOCIATION BETWEEN MALNUTRITION AND DIARRHOEA IN RURAL BANGLADESH. *International Journal of Epidemiology*, vol. 16, 1987.
- The interaction between diarrheal disease and nutritional status was investigated in children aged 1-4 in rural Bangladesh. The incidence of diarrhea was not found to be related to nutritional status measured by anthropometric criteria, while duration of diarrhea was related consistently to nutritional status.
- 0245 Black, R.; Dykes, A.; Anderson, K.; et al. HANDWASHING TO PREVENT DIARRHEA IN DAY-CARE CENTERS. *American J. Epidemiology*, 1981, vol. 113, no. 4, 445-51.
- Four day care centers in Georgia were studied. A handwashing program was instituted and the incidence of diarrhea fell and then fluctuated.
- 0162 Black, R.; Brown, K.; Becker, S.; et al. CONTAMINATION OF WEANING FOODS AND TRANSMISSION OF ENTEROTOXIGENIC E. COLI DIARRHOEA IN CHILDREN IN RURAL BANGLADESH. *Transactions Royal Society Tropical Medicine Hygiene*, 1982, vol. 76, no. 2, 259-64.
- This article emphasizes the importance of seeking locally available foods that are hygienic as well as nutritious. In a study of 2 villages, 70 children's dietary intake was assessed. 41% of the sample weaning foods tested contained E. coli.
- 0038 Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: PROMOTION OF PERSONAL AND DOMESTIC HYGIENE. *Bulletin of the World Health Organization*, 1984, vol. 62, no.3, 467-476.
- Three studies are reviewed from the United States, Guatemala, and Bangladesh on hygiene education programs and diarrhea. The studies showed reduction in diarrhea rates between 14-48%. Hygiene education may be a cost-effective intervention for diarrhea.

- 1304 Kozicki, M.; Steffen, R.; Schar, M. "BOIL IT, COOK IT, PEEL IT OR FORGET IT": DOES THIS RULE PREVENT TRAVELLER'S DIARRHOEA? *Int'l. Journal of Epidemiology*, 1985, vol. 14, no. 1, 169-172.

Travelers going to Sri Lanka, East or West Africa were asked to record everything they ate and any episodes of diarrhea for the first five days of travel in these countries. From the recorded eating habits, dietary mistakes were identified including the use of uncooked food, fruits and vegetables that could not be peeled, or unbottled cold beverages. When five dietary mistakes were committed, the incidence of diarrhea was highest. This incomplete survey indicates a link between dietary abstention and preventing diarrhea.

- 1649 THE RESPONSE OF MOTHERS TO HEALTH EDUCATION AND THE INCIDENCE OF GASTRO-ENTERITIS AMONG THEIR BABIES IN ILE-IFE, NIGERIA. *Social Science and Medicine*, 1982, 1353-1360.

This study was conducted in Ile-Ife, Nigeria among 100 nursing mothers attending infant welfare clinics in order to evaluate their behavioral responses to methods of hygiene taught to them about their babies' feeding utensils by health workers. The respondents studied were those with children whose ages ranged between 0 and 12 months. In the analysis, consideration was given to the environmental conditions under which respondents lived. The response of the mothers was positive to health education. In addition, there was a significant difference in the incidence of diarrhea among babies at the 1% level after exposure of their mother to health education.

Nutrition

- 0982 Ament, M.E. MANAGEMENT OF CHRONIC DIARRHEA WITH PARENTERAL NUTRITION AND ENTERAL INFUSION TECHNIQUES. *Pediatric Annals*, vol. 14, no. 1, January 1985, 53-60.

Parenteral nutrition has increasingly been used as a form of therapy for those with debilitating chronic diarrhea. The authors warn that parenteral support should be provided only as long as necessary and only at a level to provide what the gastrointestinal tract cannot absorb.

- 1799 Ashworth, A.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: WEANING EDUCATION. *Bulletin of the World Health Organization*, vol. 63, 1985, 1115-1127.

A review of data from 12 developing countries suggests that it is possible to substantially improve the nutritional status of infants by weaning education. The paper describes several successful weaning education programs that were community oriented.

- 1841 Ashworth, A.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: IMPROVING LACTATION. *World Health Organization*, CDD/85.2.

The effect of improving lactation on diarrhea morbidity and mortality is analyzed and interventions to increase the quantity or quality of breast milk are reviewed.

- 1034 Austin, J. THE PERILOUS JOURNEY OF NUTRITION EVALUATION. (unpublished), Harvard School of Public Health, May 1985, 30 p.

Evaluation barriers for nutrition programs are analyzed in this report. It explains why evaluations of the past have been vague and incomplete and makes suggestions for more cost-effective nutrition evaluations in the future.

- 1955 Bairagi, R.; Chowdhury, M.; Kim, Y. THE ASSOCIATION BETWEEN MALNUTRITION AND DIARRHOEA IN RURAL BANGLADESH. *International Journal of Epidemiology*, vol. 16, 1987.

The interaction between diarrheal disease and nutritional status was investigated in children aged 1-4 in rural Bangladesh. The incidence of diarrhea was not found to be related to nutritional status measured by anthropometric criteria, while duration of diarrhea was related consistently to nutritional status.

- 1937 Barclay, E.J.; Van der Vynckt, S. EASY-TO-MAKE TEACHING AIDS. UNESCO, ED/84/WS.89, Nutrition Education Series, no. 10, 138 p.
- This is a collection of easy to make teaching aids for people who are interested in trying out innovative ways to promote effective nutrition teaching. It includes flannel graphs, flipcharts, posters, games, drama, demonstrations, flash cards and chalkboards.
- 1057 Bauerfeind, J. THE SAFE USE OF VITAMIN A. Nutrition Foundation, Washington, D.C., September 1980, 44 p.
- Issues surrounding the usage of vitamin A are discussed in this report, including safety, infection and disease, and dosage.
- 1041 Berggren, G.; Alvarez, M.; Genece, E. et al. THE NUTRITION DEMONSTRATION FOYER: A MODEL FOR COMBATTING MALNUTRITION IN HAITI. International Food and Nutrition Program, MIT, July 1984, 51 p.
- This paper presents an overview of the project in which mothers are taught how to prepare nutritious meals and to rehabilitate their malnourished children.
- 1804 Burns, J.O.; Carriere, R.C.; Rohde, J. GROWTH CHARTS. Discussion paper for the UNICEF Global Growth Monitoring Meeting, New Delhi, May 7-10, 1986.
- This paper describes the purposes of a growth chart in promoting food nutrition and provides suggestions for designating effective growth charts.
- 1946 Carter, E.P. COMPARISON OF WEIGHT: HEIGHT RATIO AND ARM CIRCUMFERENCE IN ASSESSMENT OF ACUTE MALNUTRITION. Archives of Disease in Childhood, vol. 62, 1987, 833-835.
- A study of 1260 children aged 1-5 in Ethiopia showed that weight: height ratio and arm circumference yielded significantly different proportions of children with malnutrition, the proportion being much larger when arm circumference was used.
- 0987 Chen, L.; Chowdhury, A.; Huffman, S. THE USE OF ANTHROPOMETRY FOR NUTRITIONAL SURVEILLANCE IN MORTALITY CONTROL PROGRAMS. American Journal of Clinical Nutrition, vol. 34, 1981, 2596-2599.
- This article comments on the selection of appropriate indicators for nutritional screening in individuals at risk to nutrition-related mortality and on the character of mortality risk associated with varying nutritional states. The quantitative significance of malnutrition in contributing to overall mortality among preschool- aged children is also discussed.

- 1736 Costello, A.; Gray, R.H. VITAMIN A SUPPLEMENTATION AND CHILDHOOD MORTALITY. *The Lancet*, July 19, 1986, 161-162.
- These two letters discuss the claim that Vitamin A supplementation may decrease childhood mortality by as much as 34% in countries with high mortality rates. Both letters recommend further research before these claims can be confirmed.
- 1156 Cruz, J.R. INTESTINAL INFECTIONS IN THE LACTATING MOTHER: EFFECTS ON THE IMMUNOLOGICAL QUALITY OF HER MILK. Unpublished paper, 1980, 29 p.
- This paper correlates intestinal infections of the mother with the immunologic quality of her breastmilk and the possible implications for the nursing infant.
- 0970 Cunningham, J.J. RESTING ENERGY EXPENDITURE IN MALNUTRITION. *American Journal of Clinical Nutrition*, vol. 41, no. 2, February 1985, 371-372.
- The clinical aspects of malnutrition and energy are addressed in this article.
- 0259 Davidson, G.; Robb, T. CHILDREN WITH CHRONIC DIARRHOEA AND ALTERED DISACCHARIDASE RATIO WHO RESPOND TO SUCROSE WITHDRAWAL. *The Lancet*, 7 August 1982, 325.
- This article assesses the value of the breath hydrogen test, the disaccharidase assay, and the intestinal biopsy in determining causes of infantile diarrhea. Children with chronic diarrhea and altered lactose/sucrose ratio were given a sucrose-free diet. It suggests that the altered lactose/sucrose ratio may indicate bacterial overgrowth and sucrose restriction can deprive these organisms of their major substrate.
- 1044 Delgado, H.; Valverde, V.; Hurtado, E. CASE STUDY ON INFANT MORTALITY, PRIMARY HEALTH CARE AND NUTRITION IN RURAL GUATEMALA. Institute of Nutrition of Central America and Panama (INCAP), Guatemala, 101 p.
- This report reviews the current state of knowledge concerning health, nutrition, population, and community development in Central America in general and in Guatemala in particular. The approach and methodology of a simplified health care program implemented in different rural areas in Guatemala is described, and a simplified integrated model of health, nutrition, and family planning services for rural areas is proposed.
- 1152 Delgado, H.; Martorell, R.; Brineman, E. NUTRITION AND LENGTH OF GESTATION. *Nutrition Research*, vol. 2, 1982, 117-126.
- This article examines whether a food supplementation program carried out in Guatemala affected the length of gestation.

- 1153 Delgado, H.; Valverde, V.; Martorell, R. RELATIONSHIP OF MATERNAL AND INFANT NUTRITION TO INFANT GROWTH. *Early Human Development*, vol. 6, 1982, 273-286.
- The results of a study of a nutrition and mental development project in four rural villages in Eastern Guatemala are evaluated as they related to infants born between 1969 and 1977.
- 0695 Dunbar, S. MALNUTRITION AND ANAEMIA AMONG SOMALI REFUGEE CHILDREN IN LONG TERM CAMPS. *Disasters*, 8 no. 3, 1984, 174-177.
- The prevalence of PEM and anemia among Somali refugee children is studied. It is suggested that food rations adequate for short term needs may not provide adequate nutrients for long term subsistence.
- 0966 Fagundes-Neto, U.; Viaro, T.; Lifshitz, F. TOLERANCE TO GLUCOSE POLYMERS IN MALNOURISHED INFANTS WITH DIARRHEA AND DISACCHARIDE INTOLERANCE. *American Journal of Clinical Nutrition*, vol. 41, no. 2, February 1985, 228-234.
- This article assesses the response of 20 infants with diarrhea and lactose intolerance to feedings containing soy protein and sucrose (sobee) and/or to a carbohydrate free formula (RCF) to which glucose polymers were added. It shows that some infants with diarrhea, malnutrition, and lactose-sucrose intolerance may also develop intolerance to glucose polymers and require further dietary management.
- 0036 Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: SUPPLEMENTARY FEEDING PROGRAMMES. *Bulletin of the World Health Organization*, 1983, vol. 61, no. 6, 967-979.
- Using data from field studies, the effect of supplementary feeding programs on diarrheal disease morbidity/mortality among preschool children is reviewed. Evidence suggests that poor nutritional status predisposes kids to more severe diarrhea and higher case fatality. Supplementary feeding programs, however, are probably not a cost-effective intervention for national diarrheal disease control programs.
- 1868 Feachem, R. VITAMIN A DEFICIENCY AND DIARRHOEA: A REVIEW OF INTER-RELATIONSHIPS AND THEIR IMPLICATIONS FOR THE CONTROL OF XEROPHTHALMIA AND DIARRHOEA. *Tropical Disease Bulletin*, vol. 84, 1987, R2-R16.
- The purpose of this review is to explore the relationships between Vitamin A deficiency and diarrhea among young children. The major focus is on the implications of these relationships for policies toward the control of childhood diarrhea and xerophthalmia.

- 0035 Feachem, R.; Koblinsky, M. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: PROMOTION OF BREAST-FEEDING. Bulletin of the World Health Organization, 1984, vol. 62, no. 2, 271-291.

Thirty-five studies from 14 countries are reviewed regarding relative risks of diarrheal morbidity to infants on different feeding modes. Promotion of breastfeeding can reduce diarrhea morbidity rates.

- 1802 Feachem, R.; Koblinsky, M. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: PROMOTION OF BREAST-FEEDING. Bulletin of the World Health Organization, vol. 62, 1984, 271-291.

This paper reviews the literature on the relative risks of diarrhea morbidity and mortality to infants in different feeding modes. It shows how breastfeeding can be promoted by changes in hospital routine and by giving information and support to mothers.

- 1027 Field, J. FROM NUTRITION PLANNING TO NUTRITION MANAGEMENT: THE POLITICS OF ACTION. June 1985, 58 p.

This paper discusses the importance and usefulness of implementation as an organizing concept and the steps needed to include implementation problems in the planning process.

- 1738 Forman, M.R.; Graubard, B.I.; Hoffman, H.J. THE PIMA INFANT FEEDING STUDY: BREAST FEEDING AND GASTROENTERITIS IN THE FIRST YEAR OF LIFE. American Journal of Epidemiology, vol. 119, no. 3, 1984, 335-349.

In 1978, a retrospective study was conducted among Indian women of reproductive age residing on the Gila River Reservation, Arizona. The purposes were to describe the trend in breast and bottle feeding over time and to relate type of feeding to infectious disease in the first year of life.

- 0975 Forte, W.; Campos, J.; Leao, R. NON SPECIFIC IMMUNOLOGICAL RESPONSE IN MODERATE MALNUTRITION. Allergol et Immunopatho, vol. 12, no. 6, Nov.-Dec. 1984, 489-496.

The reduction of the non-specific immunological response in malnourished children as compared with well-nourished children is discussed in this article.

- 1828 Ganguly, S.; Nimbalkar, U.; Shanubhogue, A. LOGISTIC REGRESSION . APPROACH FOR MODELING RISK FACTORS OF MALNUTRITION AMONG PRE-SCHOOL CHILDREN. Indian Journal of Medical Research, vol. 86, July 1987, 112-118.
- A cross-sectional survey was carried out to determine whether the chance of exposure to malnutrition depends on age, sex, birth order, socioeconomic status of the guardian, literacy status of mother or family size. It revealed that literacy status of the mother was mainly responsible.
- 0783 Good, R.A.; Hanson, L.A.; Edelman, R. INFECTIONS AND UNDERNUTRITION. Nutrition Reviews, 40, no. 4, April 1982, 119-128.
- A 1980 conference on related issues of nutrition, immunity and infection is reported on. The changing ecology of infection and undernutrition in the Third World, weaning, infant rehydration, diarrheal nutrient absorption, primary immunodeficiency disease, parasitic disease, impact of nutrient intake on immunity and infection, and activation of infection by nutrients are reviewed.
- 0903 Graitcer, P. A MANUAL FOR THE BASIC ASSESSMENT OF NUTRITION STATUS IN POTENTIAL CRISIS SITUATIONS. Centers for Disease Control, March 1981. 41 p.
- This manual is intended for use by short-term consultants called upon to assess the nutrition status of population groups who may have been subjected to severe nutrition hardships due to events such as famine, drought or war. It is a first-level primer for nutrition status evaluation.
- 0950 Grassull, M.A.; Cabre, E.; Vilar, L. PROTEIN-ENERGY MALNUTRITION: AN INTEGRAL APPROACH AND A SIMPLE NEW CLASSIFICATION. Human Nutrition: Clinical Nutrition, vol. 38C, 1984, 419-431.
- Three accepted measurements of PEM are evaluated: triceps skinfold, mid-arm muscle circumference and serum albumin. A combination method to more effectively detect PEM in patients is proposed.
- 1859 Griffiths, M.; Manoff, R.; Tighe, J. GUIDE TO MASS MEDIA AND SUPPORT MATERIALS FOR NUTRITION EDUCATION IN DEVELOPING COUNTRIES. International Nutrition Communication Service, Newton, Massachusetts, January 1985, 128 p.
- This guide presents the range of nutrition education efforts and the tools designed for their implementation, such as flip charts, posters, and radio spots. The content, format and audience for the materials are noted for each item.

- 1722 Guiro, A.T.; Sall, M.G.; Kane, O. PROTEIN-CALORIE MALNUTRITION IN SENEGALESE CHILDREN: EFFECTS OF REHABILITATION WITH A PEARL MILLET WEANING FOOD. *Nutrition Reports International*, vol. 65, November 1987, 1071-1079.
- In this study, the efficiency of a pearl millet weaning food was evaluated to rehabilitate malnourished children in Senegal. It concludes that pearl millet is a nutritious and efficient diet for the treatment of protein-calorie malnutrition.
- 1948 Henry, F.J.; Alam, N.; Aziz, K. DYSENTERY, NOT WATERY DIARRHOEA, IS ASSOCIATED WITH STUNTING IN BANGLADESHI CHILDREN. *Human Nutrition: Clinical Nutrition*, vol. 41 C, 1987, 243-249.
- Results of a study of 300 children in Bangladesh showed that the duration of dysentery was significantly longer in the severely malnourished children who were stunted but not for those wasted. Cases of watery diarrhea were not associated with any nutritional indicator.
- 1028 Herrera, M. MATERNAL NUTRITION AND CHILD SURVIVAL. May 1985, 30 p.
- Implications of giving maternal health greater emphasis in the GOBI plan are discussed in this paper.
- 1905 Hoyle, B.; Yunus, M.; Chen, L. BREAST-FEEDING AND FOOD INTAKE AMONG CHILDREN WITH ACUTE DIARRHEAL DISEASE. *American Journal of Clinical Nutrition*, 33, November 1980, 2365-2371.
- The 24-hour food and breast milk intakes of 41 children 6-35 months, divided into three groups, were measured. The results suggest that child anorexia may be an important cause of reduced food intake during diarrhea. Anorexia was not overcome with intensive educational efforts. Breast milk was found to be an important nutrient source with breastfed children better protected against reduced intake during diarrhea.
- 1857 Israel, R.; Zeitlin, M. CONSULTANT REPORT FOR GHANA (SEPTEMBER 12-19, 1982), A WORKSHOP ON HOW TO ADAPT PROTOTYPE NUTRITION EDUCATION MATERIALS. *International Nutrition Communication Services*, Newton, Massachusetts, 1982, 10 p.
- This report describes a Ghanaian Workshop on Adaptation of Prototype Nutrition Education Materials. Three draft Ghanaian village modules on nutrition and diarrheal diseases are included as examples of the kinds of curricula that could be designed.

- 1861 Israel, R.; Lamptey, P. NUTRITION TRAINING MANUAL CATALOGUE FOR HEALTH PROFESSIONALS, TRAINERS AND FIELD WORKERS IN DEVELOPING COUNTRIES. International Nutrition Communication Service, Newton, Massachusetts, 101 p.

This catalog reviews 116 training manuals whose focus is nutrition in developing countries. It provides the user with a guide for identifying texts appropriate to a specific topic, task, region, target group, and language.

- 1161 Israel, R.; Tighe, J. NUTRITION EDUCATION: STATE OF THE ART REVIEW AND ANALYSIS OF THE LITERATURE. UNESCO, Division of Science, Technical and Vocational Education, 1984, 115 p.

This annotated bibliography was compiled to reflect the changing approach to nutrition education. Rather than simple knowledge and information dissemination, emphasis is now also being placed on communication, training and behavior change in the nutrition education field. Categories represented include policy issues, conceptual approaches, baseline information and ethnographies, case studies, exemplary materials, and evaluation.

- 1083 Kanashiro, H.C.; Supervielle, T. REPORT OF ACTIVITIES IN GROWTH MONITORING AND NUTRITION EDUCATION AND THEIR INTEGRATION IN THE PROGRAMS OF PRIMARY HEALTH CARE OF THE MINISTRY OF HEALTH. March 1984, 27 p.

This paper presents a description and analyzes activities in growth monitoring, the detection of malnutrition and aspects of nutrition education observed in various PIIC programs in the Peruvian MOH.

- 0910 Lavoipierre, G.J.; Keller, W.; et al. MEASURING CHANGE IN NUTRITIONAL STATUS - GUIDELINES FOR ASSESSING THE NUTRITIONAL IMPACT OF SUPPLEMENTARY FEEDING PROGRAMMES FOR VULNERABLE GROUPS. World Health Organization, 1983, 101 p.

These guidelines are for the field nutritionist to measure effects of a supplementary feeding program on the vulnerable population groups. Methods of anthropometric data collection, analysis, and interpretation are detailed, and examples which are taken from real projects are included.

- 1309 Lebenthal, E.; Heithlinger, L.; Lee, P.C.; et al. CORN SYRUP SUGARS: IN VITRO AND IN VIVO DIGESTIBILITY AND CLINICAL TOLERANCE IN ACUTE DIARRHEA OF INFANCY. Journal of Pediatrics, July 1983, vol. 103, no. 1, 29-34.

In a clinical trial of three corn syrup sugars and one infant formula containing a corn sugar, it was found that more than 85% of the infants tolerated the formula and gained weight well. The clinical trial included in vitro studies with human duodenal fluid and jejunal mucosa as well as in vitro intragastric perfusion studies and tolerance tests.

- 1059 LeFrancois, P.; Chevassus-Agnes, S.; et al. VITAMIN A STATUS OF POPULATIONS IN THREE WEST AFRICAN COUNTRIES. *International Journal of Vitamin Nutrition Research*, vol. 50, no. 4, 1980, 352-363.
- The results of food consumption surveys, epidemiological surveys undertaken in three sub-sahelian countries, have established: 1) the existence of xerophthalmia in Upper Volta; 2) a transitory Vitamin A deficiency during the dry season in South Mali, and 3) a good vitamin A status in South Senegal.
- 1824 Loeb, H.; Mozin, M. PREVENTION OF CHRONIC DIARRHEA: NUTRITIONAL IMPLICATIONS. *Journal of Pediatric Gastroenterology and Nutrition*, 1983, 5328-5334.
- The importance of nutrition in prevention of chronic diarrhea is discussed in this article. Infants with poor nutrition can more readily develop chronic diarrhea. The results obtained after several years via a dietetic approach involving systematic use of a semi-elemental diet in rapidly increasing concentrations are reported.
- 1784 MacFarlane, P.J.; Miller, V. HUMAN MILK IN THE MANAGEMENT OF PROTRACTED DIARRHOEA OF INFANCY. *Archives of Disease in Childhood*, vol. 59, 1984, 260-265.
- In this study, 11 of 13 children with the protracted diarrhea syndrome of infancy were successfully treated with human milk. The authors conclude that breastmilk has an important role in management of this syndrome and may obviate the need for intravenous nutrition as a lifesaving measure.
- 1808 Martinez, H.; Shekar, M.; Latham, M. VITAMIN A SUPPLEMENTATION AND CHILD MORTALITY. *The Lancet*, August 23, 1986, 451.
- Questions are asked in this letter as to the accuracy of a randomized community study of the effects of vitamin A supplementation on child mortality (conducted by Sommer and colleagues). While the evidence linking mild Vitamin A deficiency to increased child mortality is deemed important, the recall methods used in the study are subject to under-reporting and the assessment of vitamin A distribution is subject to error.
- 1734 Moock, P.; Leslie, J. CHILDHOOD MALNUTRITION AND SCHOOLING IN THE TERAI REGION OF NEPAL. *Journal of Development Economics* 20, 1986, 33-52.
- Data on 350 children from subsistence farm households in the Terai region of Nepal were analyzed to assess the relationship between nutritional status and school participation. Nutritional status was found to be a significant determinant of both enrollment in school and age-adjusted grade attainment.

- 1649 Odumus, M. THE RESPONSE OF MOTHERS TO HEALTH EDUCATION AND THE INCIDENCE OF GASTRO-ENTERITIS AMONG THEIR BABIES IN ILE-IFE, NIGERIA. *Social Science and Medicine*, 1982, 1353-1360.

This study was conducted in Ile-Ife, Nigeria among 100 nursing mothers attending infant welfare clinics in order to evaluate their behavioral responses to methods of hygiene taught to them about their babies' feeding utensils by health workers. The respondents studied were those with children whose ages ranged between 0 and 12 months. In the analysis, consideration was given to the environmental conditions under which respondents lived. The response of the mothers was positive to health education. In addition, there was a significant difference in the incidence of diarrhea among babies at the 1% level after exposure of their mothers to health education.

- 0711 Oyedeji, G.A. THE PRESENT DAY EPIDEMIOLOGY OF SEVERE PROTEIN-ENERGY MALNUTRITION IN NIGERIA. *Clinical Pediatrics*, 23, no. 11, November 1984, 623-628.

Eighty-eight patients with severe PEM were studied to define patterns and factors of PEM. The more common complications observed were gastroenteritis, hypothermia, pneumonia, and anemia. Implications of the neglect of breastfeeding, increased urbanization and migration rates, other diseases, social problems and poverty are discussed.

- 1058 PATH. XEROPHTHALMIA. *Health Technology Directions*, vol. 5, no. 1, 1985, 5-7.

This article describes clinical signs, prevention and treatment of xerophthalmia.

- 0893 Popkin, B.M.; Bilborrow, R.E.; Akin, J.S. BREAST-FEEDING PATTERNS IN LOW-INCOME COUNTRIES. *Science*, vol. 218, December 1982, 6 p.

Evidence on breast-feeding patterns in low-income countries from nationally representative World Fertility Surveys shows that in all but a few such countries most children are breast-fed for at least a few months. The limited evidence available on trends indicates a decline in the duration of breast-feeding.

- 1735 Rees, D.G.; Henry, C.J.K.; Diskett, P. MEASURES OF NUTRITIONAL STATUS: SURVEY OF YOUNG CHILDREN IN NORTH-EAST BRAZIL. *The Lancet*, January 10, 1987, 87-89.

This article reports the results of a nutritional survey conducted by the Oxfam staff in the state of Ceara in Northeast Brazil.

- 1742 Rohde, J. ALIMENTATION, FEEDBACK ET LES SOINS DE SANTE PRIMAIRES. *PRITECH*, 24 p.

Malnutrition is pinpointed as the principal health problem in the world today. For the malnourished infant, any infection could become potentially fatal. It is important yet difficult to maintain proper nutrition practices.

- 0752 Sarker, S.; Molla, A.M.; et al. CALORIE INTAKE IN CHILDHOOD DIARRHOEA. ICDDR,B, Scientific Report no. 57, July 1982, 12 p.
- Intake of calories during acute diarrhea and after recovery were studied longitudinally. The results suggest that anorexia may be an important factor in reducing intake during the acute stage of diarrhea.
- 1308 Shulman, R.; Wong, W.; Irving, C.; et al. UTILIZATION OF DIETARY CEREAL BY YOUNG INFANTS. *Journal of Pediatrics*, July 1983, vol. 103, no.1, 23-28.
- This clinical trial determined the extent to which young infants can utilize cereal. Absorption of carbohydrates was measured by the appearance of breath CO₂, and stools were analyzed for the quantity of carbon that originated from the cereal. The authors conclude that young infants can utilize cereal, although absorption of the complex carbohydrates is not always complete.
- 1793 Smith, A.E.; Powers, C.A.; Cooper-Meyer, R.A. IMPROVED NUTRITIONAL MANAGEMENT REDUCES LENGTH OF HOSPITALIZATION IN INTRACTABLE DIARRHEA. *Journal of Parenteral and Enteral Nutrition*, 1986, vol. 10, no. 5, 479-481.
- The effects of a new refeeding protocol requiring close nutritional support in the treatment of intractable diarrhea syndrome of infancy between 1982 and 1984 are compared to retrospective data gathered during 1980-1982. The results of protocol patients showed significant improvement in clinical care, reduction in length of hospitalization, and cost-effectiveness.
- 0685 Solomons, N.W. ABSTRACT: NUTRITIONAL CONSEQUENCES OF DIARRHEA. *Journal of the American College of Nutrition*, 3, No. 3, 1984, 225.
- Six mechanisms which - alone or in combination - contribute to nutritional depletion in diarrheal disease are discussed in this article.
- 1737 Sommer, A.; Tarwotjo, I.; Djunaedi, E. IMPACT OF VITAMIN A SUPPLEMENTATION ON CHILDHOOD MORTALITY: A RANDOMISED CONTROLLED COMMUNITY TRIAL. *The Lancet*, May 24, 1986, 1169-1173.
- This article reports results of a randomized, controlled, community trial of vitamin A prophylaxis in northern Sumatra. The results link mild vitamin A deficiency to increased mortality and suggest that supplements given to vitamin A deficient populations may decrease mortality by as much as 34%.

- 1809 Sommer, A.; Katz, J.; Tarwotjc, I. INCREASED RISK OF RESPIRATORY DISEASE AND DIARRHEA IN CHILDREN WITH PREEEXISTING MILD VITAMIN A DEFICIENCY. *American Journal of Clinical Nutrition*, vo. 40, November 1984, 1090-1095.
- A study of preschool-aged Indonesian children showed that the risk of respiratory disease and diarrhea was more closely associated with vitamin A status than with general nutritional status.
- 0962 Tolboom, J.; Raitapole-Maruping, A.P.; et al. CARBOHYDRATE MALABSORPTION IN CHILDREN WITH SEVERE PROTEIN ENERGY MALNUTRITION. *Tropical Geographical Medicine*, vol. 36, no. 4, 1984, 355-365.
- One hundred and five children with PEM were tested for carbohydrate malabsorption. Results showed that malabsorption occurred most frequently in children with kwashiorkor.
- 1006 Tomkins, A. NUTRITIONAL STATUS AND SEVERITY OF DIARRHOEA AMONG PRE-SCHOOL CHILDREN IN RURAL NIGERIA. *The Lancet*, vol. 1, 18 April 1981, 860-862.
- The influence of pre-existing malnutrition on the severity of diarrhea was investigated by assessing attack rate and duration of diarrhea in children aged between 6 months and 32 months at the beginning of the rainy season in Nigeria. Pre-existing malnutrition affected the duration of diarrhea.
- 1106 Tunisia, Ministry of Health. DIARRHEES DU NOURRISSON & DU JEUNE ENFANT. Tunisia, MOH, 6 p.
- This discusses the problem of diarrhea among young children and the importance of nutrition and rehydration in controlling diarrhea.
- 1938 Turner, S.A.; Ingle, R.B. NEW DEVELOPMENTS IN NUTRITION EDUCATION. UNESCO, ED.85/WS.7, 232 p.
- This monograph is a collection of some of the papers presented at a conference on New Developments in Nutrition Education, London, July 1983. It includes papers on teaching approaches, teaching resources, training, mass media, education policy and evaluation.
- 0617 Urrutia, J. RELATIONSHIP BETWEEN DIARRHEA AND NUTRITION. PAHO, 20 p.
- This Spanish document describes the relationship between diarrhea and nutrition, including digestive disruption, nutrient absorption, and metabolical alteration.

- 1865 Varma, R.; Suskind, L.; Thanangkul, O. CATCH-UP GROWTH IN MALNOURISHED CHILDREN. Chronic Diarrhea in Children, ed. by E. Lebenthal, New York: Vevev/Raven Press, 1984.
- The nutritional support of the growth-retarded child and the general pattern of catch-up growth are discussed, focusing on energy and protein.
- 1048 Vera, R.; Moore, M.; Varela, G.; et al. ESTADO NUTRICIONAL DE LA POBLACION BOLIVIANA. National Institute of Food and Nutrition, Bolivia, 1981, 135 p.
- The overall nutritional state in Bolivia is detailed in this report.
- 1733 Victora, C.G.; Vaughan, J.P.; Kirkwood, B.R. RISK FACTORS FOR MALNUTRITION IN BRAZILIAN CHILDREN: THE ROLE OF SOCIAL AND ENVIRONMENTAL VARIABLES. Bulletin of the World Health Organization, vol. 64, 2, 1986, 299-304.
- This article reports the effects of several socio-economic and environmental indicators on the nutritional status (stunting, underweight and wasting) of groups of children aged 12-40 months in urban and rural areas of Southern Brazil.
- 1830 Weinberg, R.; Tipton, G.; Klish, W. EFFECT OF BREASTFEEDING ON MORBIDITY IN ROTAVIRUS GASTROENTERITIS. Pediatrics, vol. 74, August 1984, 250-255.
- The authors conducted a study of the protective effect of breastfeeding against rotavirus gastroenteritis. They found that breastfeeding offered little protection.
- 0911 WHO. GUIDELINES FOR TRAINING COMMUNITY HEALTH WORKERS IN NUTRITION. World Health Organization, Offset Publication no. 59, 1981, 154 p.
- These guidelines have been prepared to help trainers overcome problems associated with nutrition training. They are designed to train a community health worker to improve nutrition in her area by learning in a practical way the most important things she will need to know and do.
- 0718 Zaman, K.; Islam, M.; et al. NUTRITIONAL STATUS AND ELECTROLYTE ANOMALIES IN CHILDREN WITH DIARRHEA IN RURAL BANGLADESH. Nutrition Reports International, 30, no. 4, October 1984, 865-871.
- This investigates the presence of major biochemical disturbances in rural Bangladeshi children with diarrhea where malnutrition is evident. Results show that hypokalemia and acidosis are common metabolic abnormalities in kids with diarrhea in rural Bangladesh.

- 1840 Zeitlin, M. BREAST-FEEDING AS A COMPONENT OF THE CHILD SURVIVAL STRATEGY: THE "B" IN GOBI-FFF. Prepared for the UNICEF Conference on Child Health and Survival, Harvard, May 30-31, 1985.

This paper was written to provide background information and to stimulate discussion on the role of breastfeeding in an overall child health, survival, and development strategy.

Water Supply and Sanitation

- 1051 Anderson, M. HEALTH AND NUTRITION IMPACT OF POTABLE WATER IN RURAL BOLIVIA. *Journal of Tropical Pediatrics*, 27 February 1981, 39-46, 8 p.
- The results from a CARE survey which supports the need for potable water as a public health measure are discussed in this article. The high rate of malnutrition, diarrhea, and child deaths due to unsanitary water supplies are cited.
- 1142 Blum, D.; Feachem, R. MEASURING THE IMPACT OF WATER SUPPLY AND SANITATION INVESTMENTS ON DIARRHOEAL DISEASES: PROBLEMS OF METHODOLOGY. *International Journal of Epidemiology*, vol. 12, 1983, 357-365.
- This article examines eight methodological problems of water supply and sanitation investments: lack of adequate control, the one-to-one comparison, confounding variables, health indicator recall, health indicator definition, failure to analyze by age, failure to record usage, and seasonality of impact variables.
- 1688 Blum, D.; Feachem, R.; Huttly, S.R. THE EFFECTS OF DISTANCE AND SEASON ON THE USE OF BOREHOLES IN NORTHEASTERN IMO STATE, NIGERIA. *Journal of Tropical Medicine and Hygiene*, vol. 90, 1987, 45-50.
- This article reports on a survey conducted in Nigeria to examine the effect of distance and season on the use of boreholes. The survey found that in both dry and wet seasons, most households used a borehole or rainwater as their sole source of water.
- 1686 Briscoe, J.; Feachem, R.; Rahaman, M. EVALUATING HEALTH IMPACT: WATER SUPPLY, SANITATION, AND HYGIENE EDUCATION. International Development Research Centre, Ottawa, Canada, 1986, 80 p.
- This monograph summarizes the results of a workshop hosted by the International Centre for Diarrhoeal Disease Research, in November 1983, which addressed the conditions under which health impact evaluations should be undertaken; indicators for measuring health impact; study designs which can be used; and, how to interpret the results.

- 1442 Briscoe, J.; Feachem, R.; Rahaman, M. MEASURING THE IMPACT OF WATER SUPPLY AND SANITATION FACILITIES ON DIARRHOEA MORBIDITY: PROSPECTS FOR CASE-CONTROL METHODS. World Health Organization, WHO/CWS/85.3/CDD/OPR/85.1, 71 p.
- The paper addresses the need for information on the effectiveness of water supply and sanitation projects. A health impact evaluation is proposed for a water and sanitation project with diarrhea morbidity as the health impact measure. A new case-control method is described as well as other possible study designs.
- 1437 Cvjetanovic, B. HEALTH EFFECTS AND IMPACT OF WATER SUPPLY AND SANITATION. World Health Statistics Quarterly, 1986, vol. 39, 105-117.
- This article reviews selected information on the health benefits of water supply and sanitation, and analyzes the concepts, methodologies, and interpretation of the results of studies on health effects.
- 0517 Cvjetanovic, B.; Chen, L.; Kronmal, R.; et al. MEASURING AND EVALUATING DIARRHEA AND MALABSORPTION IN ASSOCIATION WITH VILLAGE WATER SUPPLY AND SANITATION. Arlington, Va., Water and Sanitation for Health, December 1981, 42 p.
- This review of the Food Wastage/Sanitation Cost-Benefit Methodology Project (Guatemala) describes the impact of water quality and quantity on village health. It also evaluates the role of health education in this process.
- 1687 Esrey, S.; Habicht, J.P. EPIDEMIOLOGIC EVIDENCE FOR HEALTH BENEFITS FROM IMPROVED WATER AND SANITATION IN DEVELOPING COUNTRIES. Epidemiologic Reviews, vol. 8, 1986, 117-128.
- This article reviews the water and sanitation literature and concludes that despite advances in knowledge, the cost effectiveness of water and sanitation interventions needs to be improved.
- 1475 Esrey, S.; Feachem, R.; Hughes, J. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: IMPROVING WATER SUPPLIES AND EXCRETA DISPOSAL FACILITIES. Bulletin of the World Health Organization, 1985, vol. 63, no. 4, 757-772.
- This article analyzes a proposed theoretical model which relates the level of ingestion of diarrhea-causing pathogens to the frequency of diarrhea in the community. Based on this model, it is concluded that improvements in water quality have less of an impact than improvements in water availability or excreta disposal.

- 1443 Esrey, S.; Feachem, R.; Hughes, J. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: IMPROVING WATER SUPPLIES AND EXCRETA DISPOSAL FACILITIES. Bulletin of the World Health Organization, 1985, vol. 63, no. 4, 757-772.
- This article argues that improvements in water quality have less impact than improvements in water availability or excreta disposal on diarrheal diseases in children.
- 1151 Esrey, S.; Feachem, R.; Hughes, J. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: IMPROVING WATER SUPPLIES AND EXCRETA DISPOSAL FACILITIES. Bulletin of the World Health Organization, 1985, vol. 63, pp. 757-772.
- This article presents a theoretical model that relates the frequency of diarrhea in the community to the level of sanitation and water supply. By reviewing 67 studies from 28 countries the article shows that substantial reductions in diarrhea morbidity and mortality rates can be expected from investments in water supply and excreta disposal.
- 1150 Fry, S. A SYSTEMIC APPROACH TO COMMUNITY PARTICIPATION: REPLICABLE LESSONS FROM THE TOGO RURAL WATER AND SANITATION PROJECT. Paper presented at the APIIA annual meeting, Anaheim, November 12-16, 1984.
- An approach to community participation developed in a large rural water and sanitation program is presented in this paper. The effects of this particular approach on collaboration and communication between engineering and social components are examined, and key lessons for future projects are identified.
- 0937 Gilman, R.; Skillicorn, P. BOILING OF DRINKING-WATER: CAN A FUEL SCARCE COMMUNITY AFFORD IT? Bulletin of the World Health Organization, vol. 63, no. 1, 1985, 157-163.
- The financial practicalities of advising villagers to boil household drinking water in order to prevent diarrhea are described. Boiling would result in an 11% increase in the household budget for a typical low income family. It concludes that economic feasibility should be demonstrated before recommendations are made to boil drinking water in developing countries.
- 1115 Green, E. A KAP SURVEY OF WATER AND SANITATION IN SWAZILAND. Academy for Educational Development, October 1982, 85 p.
- This report assesses the overall KAP of water and sanitation. Water access, quality, sanitation, hygiene and infant feeding practices are examined.

- 1438 Herbert, J.; Miller, D.R. WATER SUPPLY AND SANITATION: EFFECT ON DIARRHOEAL DISEASES. *Int'l. J. Epidemiology*, December 1984, vol. 13, no. 4, 543-544.
- To control for confounding of variables in measuring impact of water supply and sanitation investments on diarrheal diseases, the authors suggest several statistical techniques. The factors to be controlled should be those that would vary for individuals within the study population rather than for a village as a whole.
- 0938 Herbert, J.R. EFFECTS OF WATER QUALITY AND WATER QUANTITY ON NUTRITIONAL STATUS: FINDINGS FROM A SOUTH INDIAN COMMUNITY. *Bulletin of the World Health Organization*, vol. 63, no. 1, 1985, 143-155.
- Data was collected on the nutrition status of 627 children in 3 urban communities in Southern India and on water quality, quantity, household sanitation, socioeconomics, and housing. Results indicate that for children under three, water quality is relatively more important as a determinant of nutritional status. At older ages water quantity is more important.
- 0802 Hughes, J. POTENTIAL IMPACTS OF IMPROVED WATER SUPPLY AND EXCRETA DISPOSAL ON DIARRHOEAL DISEASE MORBIDITY: AN ASSESSMENT BASED ON PUBLISHED STUDIES. *World Health Organization, WIIO/CDD*, document 2245E, 6 July 1981, 33 p.
- This report reviews available published studies that have quantitated indicators of diarrheal disease in populations with different levels of water supply and/or excreta disposal facilities in an attempt to identify a range of reductions in diarrhoeal disease morbidity.
- 1718 Huttly, S.R.; Blum, D.; Kirkwood, B. THE EPIDEMIOLOGY OF ACUTE DIARRHOEA IN A RURAL COMMUNITY IN IMO STATE, NIGERIA. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, vol. 81, 1987, 865-870.
- A baseline cross-sectional study of diarrhea and its putative risk factors was conducted in five villages in Imo State, Nigeria. Risk factors included lower socioeconomic status, an unclean domestic environment, use of non-purified water, absence of soap, and infant feeding methods other than exclusive breastfeeding.
- 1690 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON WATER, SANITATION AND DIARRHOEAL DISEASES: ROLES AND RELATIONSHIPS. ICDDR,B, December 1986. 186 p.
- This bibliography includes citations of 412 papers on water, sanitation, and diarrheal diseases arranged by subject. Contains an author index as well.

- 1148 Isely, R. A MAJOR OBSTACLE TO ACHIEVING HEALTH BENEFITS FROM RURAL WATER SUPPLY AND SANITATION PROJECTS: COORDINATION OF WATER SUPPLY AGENCIES AND MINISTRIES OF HEALTH. Paper presented at the APIIA meeting, Anaheim, November 12-16, 1984.
- The obstacles inherent to rural water supply agencies and MOH's, and the potential contributions to be made by each type of agency to the achievement of health benefits from a rural water supply and sanitation project are discussed in this paper.
- 1149 Isely, R. WHO PRACTICES SANITATION IN RURAL AREAS OF DEVELOPING COUNTRIES? ROLES AND RESPONSIBILITIES FOR SANITATION MEASURES. Paper presented at the APHA annual meeting, Anaheim, November 12-16, 1984.
- This paper focuses on the introduction of latrines and other sanitation measures which can have far-reaching effects on the health conditions of communities.
- 1439 Isely, R. LINKING WATER SUPPLY AND SANITATION TO ORAL REHYDRATION THERAPY IN THE CONTROL OF DIARRHEAL DISEASES. Water and Sanitation for Health, July 1985, Technological Report no. 31, 19 p.
- ORT is effective in preventing diarrheal dehydration and death. Other measures are necessary, however, to reduce the incidence of diarrhea, including sufficient quantities of water, good water quality, and personal and domestic hygiene.
- 1956 Khan, M.U. LIMITATION OF COMMUNAL LATRINES IN CHANGING THE PREVALENCE OF PARASITES AND DIARRHOEAL ATTACK RATE IN DHAKA PERI-URBAN SLUMS. Environmental Pollution, vol. 47, 1987, 187-194.
- A study of the effects of communal latrines on diarrheal incidence and parasite prevalence rates was conducted. It was found that use of communal latrines, without strict disposal of excreta, does not affect parasite prevalence and diarrhea rates.
- 0204 Llysd-Evans, N.; Pickering, H.; Goh, S.; et al. FOOD AND WATER HYGIENE AND DIARRHOEA IN YOUNG GAMBIAN CHILDREN: A LIMITED CASE CONTROL STUDY. Transactions Royal Society Tropical Medicine & Hygiene, 1984, vol. 78, 209-11.
- Diarrheal morbidity of 300 urban children under 3 years old was monitored during the 1982 rainy season. Samples of children's food and water were tested for coliform counts, E. coli and other pathogens. Stored gruels were found to be least hygienic. This study did not find a correlation between water/food contamination and the occurrence of infantile diarrhea. Suggests research is needed on why some children, despite environment, do not develop diarrhea.

- 0886 Razak, V. HUMAN RESOURCE DEVELOPMENT: A SELECTED AND ANNOTATED BIBLIOGRAPHY FOR USE IN THE WATER SUPPLY AND SANITATION SECTOR. Water and Sanitation for Health, Technical Report no. 22, February 1984, 82 p.

As recognition grows of the importance of human resource development (HRD) in the water supply and sanitation field, there is an increasing need for access to key IIRD references. In order to respond to this need, the Water and Sanitation for Health (WASH) Project has compiled an annotated bibliography of selected HRD references.

- 0623 Shiffman, M.; Schneider, R. SEASONALITY IN WATER RELATED INTESTINAL DISEASE IN GUATEMALA. International Journal Biometeor, 20, no. 3, 1976, 223-229.

This article evaluates the relationship between environmental improvements and the prevalence of diarrheal diseases. The field studies are designed to provide further insight into these seasonal influences as well as to variations which are related to epidemic cycles, environmental factors, and the range of socioeconomic development in these areas.

- 0403 Thacker, S.; Music, S.; Pollard, R.; et al. ACUTE WATER SHORTAGE AND HEALTH PROBLEMS IN HAITI. The Lancet, 1 March 1980, 471-474.

This study analyzed the impact of water restriction on the health of 400 urban families. Diarrhea and disease rates among children corresponded to the quantity of water used in the household.

- 1154 Torun, B.; Angel, L.G.; Delgado, H. HEALTH IMPACT STUDIES RELATED TO DIARRHEAL DISEASE CONDUCTED BY INCAP. Paper prepared for the International Workshop on Measuring the Health Impact of Water Supply and Sanitation Projects, Bangladesh, November 1983.

The difficult task of improving environmental factors in developing countries as a step in controlling and preventing diarrheal diseases is described in this report.

- 1120 WHO. MAXIMIZING BENEFITS TO HEALTH... AN APPRAISAL METHODOLOGY FOR WATER SUPPLY AND SANITATION PROJECTS. World Health Organization, ETS/83.7, 1983, 45 p.

A method for evaluating water supply and sanitation is outlined in this paper.

- 1639 WHO. TECHNOLOGY FOR WATER SUPPLY AND SANITATION IN DEVELOPING COUNTRIES: REPORT OF A WHO STUDY GROUP. World Health Organization, 1987, 38 p.

This report outlines the discussions of a WHO study group which met in Geneva in April 1986 to consider whether advances in technology have been useful in relation to community needs and local resources.

- 1715 Young, B.; Briscoe, J. A CASE-CONTROL STUDY OF THE EFFECT OF ENVIRONMENTAL SANITATION ON DIARRHOEA MORBIDITY IN MALAWI. *Journal of Epidemiology and Community Health*, vol. 42, 1987, 83-88.

This case-control study evaluated the effect of improved environmental sanitation on diarrheal diseases in rural Malawi. The study demonstrates the feasibility of using the case-control method. Results indicated that children whose families use good quality water supplies and latrines experience 20% less diarrhea as reported to health clinics during the warm, rainy season.

- 1440 Young, B.; Briscoe, J. HEALTH IMPACT EVALUATION OF THE MALAWI RURAL PIPED WATER SUPPLY: A CASE-CONTROL STUDY OF DIARRHEA. APPENDIX B TO WATER AND HEALTH IN RURAL MALAWI. Department of North Carolina Department of Environmental Sciences and Engineering, from a report prepared for USAID mission to Malawi, February 1985, 30 p.

This report presents the methods and results of the case-control study of the association between childhood diarrhea and water and sanitation improvements. The implications for future health interventions are addressed.

- 1441 Young, B.; Briscoe, J. WATER AND HEALTH IN RURAL MALAWI: ASPECTS OF THE PERFORMANCE, UTILIZATION AND HEALTH IMPACT OF THE MALAWI SELF-HELP RURAL WATER SUPPLY PROJECT. Report for USAID Mission/Malawi, February 1986.

This evaluation was designed to assess the health impact of the Malawi Rural Water Project, and to determine whether the water systems perform adequately and are used appropriately by villagers. The health impact evaluation measured the relative risk of diarrhea in young children depending on whether their families used the piped water or traditional water supplies.

Education

- 0579 Abed, F. HOUSEHOLD TEACHING OF ORAL REHYDRATION THERAPY IN RURAL BANGLADESH. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 65-70.
- BRAC (Bangladesh Rural Advancement Committee) developed a successful technique for teaching ORT in the home. A three year program is in place where teams of women (ORWs) teach 2.5 million households in 5 of 20 districts of Bangladesh.
- 0878 AED. ROLE OF PUBLIC EDUCATION/SOCIAL MARKETING IN PRITECH. Academy for Educational Development, 11 p.
- This set of graphics and charts demonstrates public communications models, social marketing, behavior influences, management strategies, ORT regimens, etc.
- 1476 Ashworth, A.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: WEANING EDUCATION. Bulletin of the World Health Organization, 1985, vol. 63, no. 6, 1115-1127.
- A review of data from 12 developing countries suggests that it is possible even in poor communities to substantially improve the nutritional status of infants and young children by weaning education. Face to face communication reinforced by radio and other mass media may be the most effective channel. Early studies suggest weaning education to be cost-effective in reducing diarrhea mortality.
- 0590 Ayred, D. EDUCATION OF THE PUBLIC. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 178-180.
- Increasing public awareness of ORT will require widespread social marketing campaigns. Materials and messages produced must be in complete understanding of the community at which they are aimed.
- 0888 Bolivia, Ministry of Health. TEACHING GUIDES AND TEST EXERCISES ON MANAGEMENT AND CONTROL OF DIARRHEA, ANEMIA, AND PARASITISM, GRADES 1-6. Ministry of Education and Cultural Affairs, Region VI, Western Visayas, Division of Iloilo. La Paz, Bolivia, 130 p.
- This collection of instructional materials emphasizes the educational aspects of learning how to control diarrhea, anemia and parasitism for levels one through six.

- 1263 Dowling, M.A.C.; Ritson, R. LEARNING MATERIALS FOR HEALTH WORKERS. World Health Organization Chronicle, 1985, vol. 39, no.5, 171-175.
- The WHO/UNDP Interregional Health Learning Materials Programme produces training materials for the education of PHC health workers. This paper reviews the program in Kenya.
- 1267 El-Akkad, N.; El-Hady, M. Mong, A.; et al. HOW TO TEACH MOTHERS TO USE ORAL REHYDRATION THERAPY. Diarrhea Control Newsletter, Summer 1984, 2, 23-24.
- The problem of teaching Egyptian mothers how to use ORT may be hindered not by their illiteracy but by physicians' teaching methods. With the right approach, mothers will retain what physicians and nurses teach.
- 0496 Finberg, L.; Mahalanabis, D.; Nalin, D. ORAL THERAPY FOR DEHYDRATION IN ACUTE DIARRHOEAL DISEASES WITH SPECIAL REFERENCES TO THE GLOBAL DDC PROGRAMME. World Health Organization, WHO/BAC/DDC/79.1, 1979, 6 p.
- This paper summarizes the principles involved in the composition of oral fluid for rehydration and in the use of oral rehydration therapy according to patient age, and makes recommendations for the application of oral therapy and related research.
- 0899 Greiner, T.; Latham, M. REGULATION AND EDUCATION: STRATEGIES FOR SOLVING THE BOTTLE FEEDING PROBLEM. Cornell University Program on Int'l. Nutrition and Development Policy, Monograph Series no. 4, 1979, 78 p.
- Strategies for encouraging mothers in developing countries to breastfeed their children rather than bottle feed are discussed in this paper.
- 0908 Griffiths, M.; Avila de Hails, P. TRAINING IN COMMUNITY NUTRITION PROGRAM PLANNING AND IMPLEMENTATION, WORKSHOP II: DEVELOPMENT OF NUTRITION AND HEALTH EDUCATION MATERIALS. International Nutrition Communication Service (INCS), April 1984, 53 p.
- This workshop taught participants how to develop educational materials by having them actually make materials and test them in the community. Topics covered included diet during pregnancy, initiation of breastfeeding, infant feeding, treatment of diarrhea, educational objectives, educational material design, and pretesting of materials.

- 1303 Haiti, Ministry of Health and Population. *GID EDIKASYON POU TRAVAYE SANTE/ GUIDE EDUCATIVE A L'USAGE DE TRAVAILLEURS DE LA SANTE*. Ministry of Public Health and Population, Haiti, August 1982, 14 p.
- This health education flip chart in Haitian Creole is accompanied by a French translation. Various topics addressed include breastfeeding, nutrition, gardening, vaccination, family planning, diarrhea, and tuberculosis.
- 1567 Hoff, W. *TRAINING TRADITIONAL HEALERS TO ASSIST IN THE CONTROL OF CHILDHOOD DISEASES IN SWAZILAND*. Paper prepared at the NCIH Annual Meeting, Washington, DC, June 1986.
- A project in Swaziland used the traditional health sector to provide more effective health care services to rural homesteads. The project demonstrated how specific PHC services could be provided to mothers and children by nurses cooperating together.
- 1271 Lesotho, Ministry of Health. *CYCLE OF HEALTH CARDS ON DIARRHEA*. Maseru, Lesotho, Health Education Unit, Ministry of Health, 1985(?), 1 p.
- The cycle of health cards are drawings without a narrative. Village health workers, teachers, and others in the communities in Lesotho, learn about the Cycle of Health cards from workers at the health centers. The cards are used in communities to start discussions, identify problems and find solutions.
- 0588 Ling, J. *EDUCATING THE PUBLIC*. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 180-182.
- ORT education should not be divorced from other essential information about prevention, it must be used to facilitate inter-sectorial action.
- 1728 Management Sciences for Health. *ANNEXE MODULE 2: LE CHOLERA*. PRITECH, 1987, 16 p.
- This annex is designed to accompany Module 2: *PRISE EN CHARGE DES CAS DE DIARRHEE ET PREVENTION DE LA DIARRHEE*. It covers the characteristics, epidemiology and treatment of cholera, as well as measures for preventing the spread of cholera.
- 1731 Management Sciences for Health. *LIVRET DE STAGE*. PRITECH, 1987, 40 p.
- This workbook was designed to accompany the set of four modules developed for health workers in the Sahel on diarrheal diseases. It consists of a series of exercises that guides the students' work and helps the instructor evaluate the students' understanding of the material.

- 1727 Management Sciences for Health. MODULE 2: PRISE EN CHARGE DES CAS DE DIARRHEE ET PREVENTION DE LA DIARRHEE. PRITECH, 1987, 50 p.
- This module, the second of four, was developed for health workers in the Sahel at the intermediary level. The module shows the reader how to prepare ORS, how to organize a treatment system for diarrhea patients, and discusses the role that nutrition and hygiene can play in preventing and treating diarrhea.
- 1729 Management Sciences for Health. MODULE 3: APPLICATION DES TECHNIQUES D'EDUCATION POUR LA SANTE DANS LES PROGRAMMES DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. PRITECH, 1987, 31 p.
- This module, the third of four developed for health workers in the Sahel at the intermediary level, explains how to launch a health education program on diarrheal disease.
- 1730 Management Sciences for Health. MODULE 4: LES ELEMENTS D'UN PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. PRITECH, 1987, 29 p.
- This module, the last of four, covers the basic elements of a national program for control of diarrheal diseases, including training personnel, starting a monitoring and information system, supervising, and evaluating.
- 1726 Management Sciences for Health. MODULE I: APERCU EPIDEMIOLOGIQUE ET NOTIONS CLINIQUES. PRITECH, 1987, 24 p.
- This module, one of four, was designed for health workers at the intermediary level who have studied survey methodology, anatomy, physiology, bacteriology and parasitology. It covers etiology of diarrhea, dehydration signs, surveying the local population to determine the prevalence of diarrhea, and the relationship between diarrhea and malnutrition.
- 1699 Mayer, J. DIARRHOEAL STUDY - MOH/USAID - KAKAMEGA DISTRICT: KAP I QUESTIONNAIRE. PRITECH Report on Health Communications Activities in Support of the Kenyan National CDD Program, 1987, Appendix C.
- This questionnaire tests the knowledge of diarrheal symptoms and treatment among child-caretakers in Kenya.
- 2011 PAHO. GUIA PARA EL DISENO, UTILIZACION Y EVALUACION DE MATERIALES EDUCATIVOS DE SALUD. PAHO, 1984, 75 p.
- A guide for the design, implementation, and evaluation of health education materials.

- 2010 PAHO. MANUAL DE TECNICAS PARA UNA ESTRATEGIA DE COMUNICACION EN SALUD. PAHO, 1985, 108 p.
- This manual of techniques for a health communication strategy is in Spanish.
- 1266 Prysor-Jones, S. LA LIAISON ENTRE LA FORMATION ET L'EXECUTION DE PROGRAMMES DE R.V.O./ LINKING TRAINING TO ORT PROGRAM DEVELOPMENT. PRITECH, December 1985, 7 p.
- This paper, presented at the ICORT II Conference in December 1985 as part of the Health Personnel Training presentation, discusses the fact that training is often poorly integrated into overall program development.
- 0278 Rohde, J.; Sadjimin, T. ELEMENTARY SCHOOL PUPILS AS HEALTH EDUCATORS: ROLE OF SCHOOL HEALTH PROGRAMMES IN PRIMARY HEALTH CARE. *The Lancet*, 21 June 1980, 1350-52.
- Action-oriented health lessons aimed at modifying community health-related behavior were designed to suit the teaching format familiar to rural teachers. Evaluation of the teaching module on diarrhea showed a substantial improvement in knowledge, skills, and attitudes of rural families regarding this illness, and indicated how a vastly increased outreach of primary health care activities is possible through a well-designed school health program.
- 1566 Shrestha, P. PRACTICAL TRAINING FOR TEACHERS OF HEALTH WORKERS. *World Health Forum*, 1986, vol. 7, 154-5.
- Training workshops for teachers of health personnel were introduced at Nepal's Institute of Medicine in 1981. They have resulted in an increase in the use of group work as an aid to learning and in a more practical approach to student evaluation.
- 1717 Smith, L.G. TEACHING TREATMENT OF MILD, ACUTE DIARRHEA AND SECONDARY DEHYDRATION TO HOMELESS PARENTS. *Public Health Reports*, vol. 102, Sept./Oct. 1987, 539-542.
- An educational program was developed in Texas to help homeless parents recognize and treat mild, acute diarrhea and secondary dehydration.
- 0592 Touchette, P. BEHAVIOR ANALYSIS APPLIED TO TRAINING RURAL HEALTH CARE PROVIDERS IN HONDURAS AND THE GAMBIA. *ICORT Conference Proceedings (Washington, D C.)*, 7-10 June 1983, p. 164-169.
- Promotion of ORT throughout a country presents an extraordinary challenge to trainers. Behavioral analysis makes an important contribution to understanding how to change behavior patterns though projects made strong effort to use training built on existing behavior.

- 1854 WHO. COMMUNITY-BASED EDUCATION OF HEALTH PERSONNEL. World Health Organization, Technical Report Series, no. 746, 1987, 89 p.
- This WHO Study Group met to clarify the meaning of the term community-based education. Determining its implications, putting it into practice, and methods of fostering community-based education were all discussed.
- 0497 WHO. DIARRHOEAL DISEASES CONTROL (PICTORIAL). World Health Organization, 1982, 14 p.
- The problems and causes of diarrhea are discussed, and treatment and prevention are presented, including a description of Oral Rehydration Salts.
- 0498 WHO. DIARRHOEAL DISEASES CONTROL: EXAMPLES OF HEALTH EDUCATION MATERIALS. World Health Organization, WHO/CDD/1982, Geneva, 56 p.
- This visual treatment and explanation of materials for health education use: posters, leaflets, flashcards, slide sets, newsletters, and comics from many countries, includes a good listing of sources of health education materials.
- 0887 WHO. EDUCATION AND TRAINING OF NURSE TEACHERS AND MANAGERS WITH SPECIAL REGARD TO PRIMARY HEALTH CARE - REPORT OF A WHO EXPERT COMMITTEE. World Health Organization, Technical Report Services, no. 708, 1984, 54 p.
- A WHO Expert Committee on the Education and Training of Nurse Teachers and Managers with Special Regard to Primary Health Care met in Geneva from 3 to 7 October 1983.
- 0436 WHO. GUIDELINES FOR THE TRAINERS OF COMMUNITY HEALTH WORKERS ON THE TREATMENT AND PREVENTION OF ACUTE DIARRHOEA. World Health Organization, WHO/CDD/SER/80.1, 1980, 29 p.
- These guidelines have been prepared to help the trainers of CHWs to introduce these methods and approaches into training programs. The general principles apply in all situations, but the methods and approaches will have to be adapted to meet local needs and customs.
- 0824 WHO. HEALTH EDUCATION METHODS AND MATERIALS FOR PRIMARY HEALTH CARE. *Appropriate Technology for Health Newsletter*, December 1981, 23 p.
- This complete issue is dedicated to health education methods, with many and varied illustrations including an article on visual instructions, using ORT/Litrosol.

- 0433 WHO. MANUAL FOR THE TREATMENT OF ACUTE DIARRHOEAS - FOR USE BY PHYSICIANS AND OTHER SENIOR HEALTH WORKERS. World Health Organization, WHO/CDD/SER/80.2, 1984, Geneva, 25 p.

This manual describes the principles and practices of treating diarrhoea in all ages, placing special emphasis on the use of oral rehydration therapy in infants, along with proper dietary management during and after acute diarrhea.

- 0943 WHO. TREATMENT AND PREVENTION OF ACUTE DIARRHOEA - GUIDELINES FOR THE TRAINERS OF HEALTH WORKERS. WHO, 1985, 35 p.

These guidelines have been established to help the trainers of community health workers. The methods will have to be modified for different circumstances.

- 0470 WHO. TREATMENT AND PREVENTION OF ACUTE DIARRHOEA - A MANUAL FOR PRIMARY HEALTH WORKERS. World Health Organization, Geneva, 25 March 1980, 21 p.

This manual, intended for primary health care workers, can be used as is or adapted for use in countries where its present form is not acceptable.

- 1126 WHO. SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES. World Health Organization, WHO/TDR/WP/76, 1974, 115 p.

This WHO project was designed to involve tropical countries themselves so that they may become competent through training and research to deal with their own disease problems.

Social Marketing

- 1275 AED. FIELD NOTES: MASS MEDIA AND HEALTH PRACTICES PROJECT. Academy for Educational Development, Mass Media and Health Practices Project, 1981.
- This is a collection of short papers illustrating issues that have arisen in the field during the implementation of the MMHP project. Each paper discusses the relationship between research in the field and the design of visual and mass media information for teaching ORT to rural, mostly non-literate people.
- 1269 AED. HEALTHICOM, COMMUNICATION FOR CHILD SURVIVAL. FIELD NOTES. Academy for Educational Development, USAID, October 1985, 129 p.
- This is a collection of anecdotal accounts of specific program experiences in promoting the use of ORT.
- 1776 Applied Communication Technology. THE MASS MEDIA AND HEALTH PRACTICES EVALUATIONS IN HONDURAS AND THE GAMBIA: SUMMARY REPORT OF THE MAJOR FINDINGS. Report from Stanford University to USAID, September 1985, 75 p.
- This document summarizes the major findings of the evaluations of two projects on infant diarrhea, one in Honduras, the other in The Gambia. The purpose of the project was to introduce the correct mixing and administration of ORS and to test a methodology for improved public health communication.
- 1569 Bertrand, J. LE PRETEST DES COMMUNICATIONS. University of Chicago, Community and Family Health Center, 1978, 185 p.
- This manual provides information on the various steps needed to adequately pretest various media. It provides sample questionnaires and results, and is written for those with or without social science research background.
- 0426 Block, C.; Meyer, A.; Smith, W. COST: THE PRACTICAL SIDE OF MASS MEDIA EDUCATION IN A TRADITIONAL CONTEXT. Conference Paper, National Council International Health Conference, June 1983, Washington, D.C., 8 p.
- This paper describes the costs incurred in projects like the Mass Media and Health Practices intervention by the Academy for Educational Development in Honduras and The Gambia. The focus is on the operational costs of designing and implementing social marketing campaigns. The cost of education and establishment of experimental programs are not included.

- 0918 CEFPA. INTRODUCING ICSMP, THE INTERNATIONAL CONTRACEPTIVE SOCIAL MARKETING PROJECT. CEFPA, Social Marketing Update, vol. 1, no. 1, April 1981, 4 p.
- This describes the ICSMP, a part of The Futures Group in Washington, D.C. It began operations in October 1980 to act as a central technical assistance and funding resource for contraceptive social marketing (CSM) programs in Latin America, Africa, the Middle East, and Asia.
- 1272 Echols, J. HEALTH COMMUNICATION, EL SALVADOR. PRITECH, 7-20 May 1986, SS141, 69 p.
- This report details recommendations for AID assistance to CEPROCE in El Salvador (Centro de Producción de Comunicación Educativa) for audio-visual, print, TV and radio education materials.
- 1934 Foote, D.; Martorell, R. McDivitt, J.A. THE MASS MEDIA AND HEALTH PRACTICES EVALUATION IN THE GAMBIA: A REPORT OF THE MAJOR FINDINGS. Report from Stanford University to AID prepared by Applied Communication Technology, August 1985, 329 p.
- The major findings from the evaluation of the AID Mass Media and Health Practices Project in The Gambia are reported in this paper. The purpose of the project was to introduce home-based ORT to the rural areas of The Gambia and to develop improved methods of using mass communication.
- 1931 Foote, D.; Martorell, R.; McDivitt, J.A. THE MASS MEDIA AND HEALTH PRACTICES EVALUATION: A REPORT ON MORBIDITY AND MORTALITY. Report to Stanford University and AID by Applied Communication Technology, September 1985, 98 p.
- This paper reports the findings on diarrheal morbidity and mortality from the evaluation of the Mass Media and Health Practices Project in Honduras and The Gambia. It examines whether adoption of ORT led to changes in morbidity and mortality.

- 0924 Furst, B. SOCIAL MARKETING ORAL REHYDRATION THERAPY SOLUTION - A WORKSHOP. PRITECH, DC 74, January 1985, 82 p.

Recent trends in overseas economic development have led to an interest in marketing certain technologies in developing countries with the goal of making them self-supporting and self-sustaining over time. In November 1984 the AID Office of Health, through the PRITECH project, sponsored a workshop which explored the potential of marketing ORT/ORS for the treatment of childhood and infant diarrheal dehydration.

- 1273 Greenburg, R.; Novelli, W.; Curtin, L.; et al. A MODEL FOR MARKET RESEARCH IN CONTRACEPTIVE SOCIAL MARKETING. The Futures Group, Int'l. Contraceptive Social Marketing Project (ICSMP), 14 Feb 1983, 80 p.

This report provides background for concepts and definitions of marketing, the marketing procedure, and market research, including methods and applications to Commercial Social Marketing Programs (CSMP). Constraints and consideration to CSM are reviewed.

- 1564 Hornik, R.; Sankar, P. COMMUNICATION FOR DIARRHEAL DISEASE CONTROL; EVALUATION OF THE SWAZI HealthCom, February 1986, 112 p.

This report evaluates Swaziland's health education campaign. Acceptance of the use of sugar-salt solution as a treatment for diarrhea, maintenance of feeding during diarrheal episodes, and giving special feeding afterwards were its focus. It relied on a combination of radio messages, flyers, outreach workers, clinic nurses, and training.

- 0017 Kendall, C.; Foote, D.; Martorell, R. ANTHROPOLOGY, COMMUNICATIONS & HEALTH: THE MASS MEDIA AND HEALTH PRACTICES PROGRAM IN HONDURAS. Human Organization, Winter 1983, vol. 42, no. 4, 353-60.

This report describes initial program planning of the Mass Media and Health Practices Project in Honduras. It describes folk etiologies of diarrhea in Honduras.

- 1264 Manoff, R. WHEN THE CLIENT IS HUMAN LIFE ITSELF. Advertising Age, 22 August 1983, 4-5.

The author describes the introduction of commercial advertising techniques to health education through the media and the development of mass media applications to developing countries.

- 0922 Meyer, A.; Boni, A.F. CRS AND ORT: AID'S ALPHABET FOR SOCIAL MARKETING. USAID, draft for review, February 1984, 10 p.
- Contraceptive Retail Sales (CRS) and Oral Rehydration Therapy (ORT) are major programs of the Agency for International Development which have taken a social marketing approach to changing public health practices in developing countries. The success of social marketing with ORT in Honduras and The Gambia suggests a new user orientation for future CRS programs.
- 1276 National Institute of Public Cooperation and Child Development. CHILD HEALTH AND MASS MEDIA, AN INTERNATIONAL SEMINAR 3-6 DECEMBER 1984. National Institute of Public Cooperation and Child Development, New Delhi, 3-6 December 1984, 169 p.
- These are proceedings of a conference of child health and mass media experts from Asia to discuss how mass media can be used in child survival programs as a vehicle for education about ORT, immunization, and other strategies.
- 0351 PATH/PIACT. INTRODUCTION AND SOCIAL MARKETING OF ORAL REHYDRATION TABLETS (ORT) IN INDONESIA: A MARKET IMPACT ANALYSIS. PATH/PIACT, 1983, 16 p.
- This is a proposal for a grant to assess the impact of a social marketing project of ORT in Indonesia.
- 1930 Pinto, G.; Storey, J.D. FINAL REPORT ON THE EVALUATION OF THE PROCOMSI II DIARRHEAL AND IMMUNIZATIONS CAMPAIGNS. Report from Stanford University for AID prepared by Applied Communication Technology, September 1985, 114 p.
- This report cites the results of the evaluation of the Diarrhea and Immunizations campaigns of the Mass Media and Health Practices Project in Honduras.
- 0914 Scheffstede, W.P. SOCIAL MARKETING PROJECT - TEST MARKETING OF ORASALINE. Population Services International, Oct.- Dec. 1983, 5 p.
- Test marketing of Orasaline in Bangladesh showed that familiarity with and use of rehydration products vary directly with socioeconomic status.
- 1554 Smith, W. HAPPY BABY LOTTERY; POPULARIZING ORAL REHYDRATION THERAPY IN THE GAMBIAN VILLAGES. Project Support Communications Newsletter, 1983, vol 7, no. 1.
- This report describes the Happy Baby Lottery, a national contest launched by The Gambia to educate rural mothers in the proper treatment of diarrhea. Through graphic materials, radio programs and health program support, rural mothers were taught to use a sugar and salt solution in the home.

- 1071 Smith, W. MASS MEDIA AND HEALTH PRACTICES IMPLEMENTATION. BEYOND CAMPAIGNS: A NEW APPROACH TO THE MEDIA AND EDUCATION. Academy for Educational Development, 13 p.
- This report recommends the social marketing method for successfully educating the public on important health interventions. It also elaborates on how social marketing can discourage and alter poor health practices.
- 1068 Smith, W. POPULARIZING ORT IN THE VILLAGE. Project Support Communications Newsletter, vol. 7, no. 1, April 1983, 2 p.
- The National Happy Baby Lottery contest and the events which led to its culmination in The Gambia are described. The impact that this creative ORT health education strategy had on rural infant health is also detailed in the report.
- 1069 Smith, W.; Rasmuson, M.; et al. DELIVERING ORT TO THE VILLAGE. NCIH Conference, Washington, D.C., 1983, 9 p.
- The ORT social marketing campaigns in Honduras and The Gambia are outlined in this paper. It explains how programs were designed to incorporate local beliefs and reach remote mothers.
- 1274 Smith, W.; Pareja, R.; Booth, E.; et al. HEALTH COMMUNICATION FOR ORT IN HONDURAS. Assignment Children UNICEF. 1984, vol. 65/68, 57-93.
- On the basis of comprehensive research, this case study concentrated on the use of mass media to promote ORT in an integrated strategy of radio/print/face-to-face communication. Social marketing techniques were used to plan comprehensively around consumer needs and attitudes. This report has been integrated into other Honduran Ministry of Health activities and its methodologies adopted for use in other health priorities, such as immunization and malaria control.
- 1270 Smith, W.; Booth, E.; Foote, D. HEALTHCOM, COMMUNICATION FOR CHILD SURVIVAL. LESSONS FROM FIVE COUNTRIES: HONDURAS, THE GAMBIA, SWAZILAND, ECUADOR, PERU. USAID, Bureau for Science & Technology, Office of Education, Office of Health, October 1985, 57 p.
- This is an overview of the HEALTHCOM-Communication for Child Survival Project which applies communications and social marketing to promote ORT and related child survival practices. Detailed evaluations of successful projects in Honduras and The Gambia are included.

- 0915 Smith, W. SOCIAL MARKETING: TWO WAYS TO IMPROVE HEALTH DELIVERY. Academy for Educational Development, September 1984, 4 p.
- The promotion of ORS encompasses a wide array of techniques for using different communication channels to make sure that consumers know what the product is, what it is for, what benefits it has, how it is used, etc. The issue of what might motivate a consumer to seek it out and use it properly is of special importance; the consequences of improper mixing and administration of ORS in the home are potentially life-threatening.
- 1933 Spain, P.; Snyder, L. THE MASS MEDIA AND HEALTH PRACTICES EVALUATION IN THE GAMBIA: A REPORT OF THE PROCESS EVALUATION. Report from Stanford University to AID by Applied Communication Technology, August 1985, 59 p.
- The major findings from the Process Evaluation of the AID Mass Media and Health Practices activity in The Gambia are reported in this paper.
- 1553 Wards, G.W. HOW TO SELL HEALTH. World Health News, 1986, Vol. 7, 169-177.
- Producers and sellers of goods have marketing techniques that are highly efficient. The author shows how these same techniques can be applied to selling health. He presents highlights of the social marketing process and its underlying operational principles.
- 1093 Westinghouse; USAID; CRS. FIVE-YEAR REPORT. THE WESTINGHOUSE - USAID - HMG - NEPAL CONTRACEPTIVE RETAIL SALES (CRS) PROJECT. Westinghouse, 31 May 1983, 14 p.
- The progress of the Nepal Family Planning and Maternal Child Health Project is detailed in this report.
- 0897 WHO. INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES. World Health Organization, 1981, 36 p.
- In January 1981, the Executive Board of the World Health Organization, at its sixty-seventh session, considered the fourth draft of the international code of marketing of breast milk substitutes. It endorsed and recommended it unanimously. The text of the code is presented here.

Social Anthropology

- 1178 Allman, J.; Pierre-Louis, M.B. CARRYING OUT A SURVEY ON ATTITUDES TO DIARRHEA. *Diarrhea Dialogue*, no. 9, May 1982, 6-7.
- This article describes a survey conducted in Haiti to determine mothers' attitudes on diarrhea in the community and their beliefs about its cause and cure.
- 1887 Bastien, J. CROSS-CULTURAL COMMUNICATION BETWEEN DOCTORS AND PEASANTS IN BOLIVIA. *Soc. Sci. Med.*, vol. 24, no. 12, 1987, 1109-1118.
- The lack of knowledge of traditional health practices among practitioners of modern medicine in Bolivia makes them less effective at improving health among Andean peasants. This article describes a method for teaching traditional concepts of health and disease to practitioners of modern medicine.
- 2018 Bentley, M. DIARRHEA-ASSOCIATED MORTALITY: CASE STUDIES FROM RURAL NORTH INDIA. Presented at American Anthropological Association Annual Meeting, November 1987, 25 p.
- This paper reports on an anthropological investigation of diarrhea-associated mortality that was carried out in three villages in rural North India during 1984. The focus was to investigate how and why children in this setting die from diarrhea.
- 1770 Crean, J.; Ling, S.; Pearson, D. DHARAVI PROJECT 1985: AN INVESTIGATION INTO PATTERNS OF INFANT FEEDING AND MALNUTRITION IN THE URBAN SLUM OF DHARAVI IN BOMBAY. *Journal of Tropical Pediatrics*, vol. 33, Supplement 2, 1987, 30 p.
- The Dharavi Project studied infant feeding patterns in the urban slum of Dharavi in Bombay. This paper summarizes the findings, emphasizing the socioeconomic background of the people and the nutritional status of the infants.
- 0719 De Cerella, M.T.; Bonano, M.R.; et al. ESTUDIO EN EL PERSONAL DE SALVO SOBRE SUS CONOCIMIENTOS, ACTITUDES Y PRACTICAS EN RELACION A LAS NORMAS DE LA TERAPIA DE REHIDRATACION. Ministerio de Salud Publica, Direccion General de Salud, Tegucigalpa, Honduras, November 1984, 22 p.
- This study surveyed Honduran health workers' knowledge, attitudes and practices in their treatment of diarrhea. The goal of the survey is to identify and correct misinformation and improve the promotion of ORT in a national CDD program.

- 0694 De Garine, I. DE LA PERCEPTION DE LA MALNUTRITION DANS LES SOCIETES TRADITIONNELLES. *Information sur les Sciences Sociales*, 23, no. 4/5, 1984, 731-754.
- This article is a review of social and cultural factors which may contribute just as significantly to malnutrition and other nutrition disorders in the Third World as actual physiological deficiencies.
- 1693 DeClerque, J.L. CODING GUIDE FOR PERSONAL HYGIENE AND SANITATION SURVEY. Department of Maternal and Child Health, University of North Carolina, School of Public Health, Chapel Hill, January 1986, 80 p.
- This is a set of questionnaires, coding guide and responses related to a survey conducted in the province of Cebu, in the Philippines on personal hygiene and sanitation. This is part of an overall survey related to national KAP and diarrheal disease.
- 1885 Eisemon, T.; Patel, V.; Sena, S. USE OF FORMAL AND INFORMAL KNOWLEDGE IN THE COMPREHENSION OF INSTRUCTIONS FOR ORAL REHYDRATION THERAPY IN KENYA. 1986, 41 p.
- This paper examines uses of formal and informal medical knowledge in the comprehension of instructions for administering pre-mixed ORT solutions to children. Results suggest that prior school-acquired knowledge of physical and biological causes of diarrhea is important in using pre-mixed ORS and that mothers' comprehension can be increased by simple changes in text instruction.
- 1167 Escobar, G.J.; Salazar, E.; Chuy, M. BELIEFS REGARDING THE ETIOLOGY AND TREATMENT OF INFANTILE DIARRHEA IN LIMA, PERU. *Social Science Medicine*, vol. 17, 1983, 1257-1269.
- Three groups of women were interviewed regarding their beliefs about the etiology and treatment of infantile diarrhea. Results confirm that diarrhea is not seen as an infectious disease; rather it is believed to be caused by invasion of the body by cold or ingestion of foods designated as being cold.
- 0184 Green, E.; Makhubu, L. TRADITIONAL HEALERS IN SWAZILAND: TOWARD IMPROVED COOPERATION BETWEEN THE TRADITIONAL AND MODERN HEALTH SECTORS. *Social Science Medicine*, 1984, vol. 18, no. 12, 1071-1079.
- This research report focuses on manpower in the traditional health sector, and assesses the potential for improved cooperation between the government and traditional health sectors.

- 1430 Green, E.C. TRADITIONAL HEALERS, MOTHERS AND CHILDHOOD DIARRHEAL DISEASE IN SWAZILAND: THE INTERFACE OF ANTHROPOLOGY AND HEALTH EDUCATION. *Social Science Medicine*, 1985, vol. 20, no. 3, 277-85.

This article discusses traditional beliefs in Swaziland of the causes and treatment of childhood diarrheas. Because traditional beliefs are very strong and traditional healers are usually consulted first, health education must reinforce similarities between traditional and modern medical practices. Traditional healers as well as mothers need to be targeted. The role of ORT and strategies for health education should be addressed in terms of cultural affinities.

- 1186 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON ANTHROPOLOGICAL STUDIES IN DIARRHOEAL DISEASES. International Center for Diarrhoeal Disease Research, Bangladesh, June 1985, 47 p.

This is an annotated bibliography designed to bring to light anthropological literature in the field of diarrheal disease. The bibliography includes abstracts on knowledge, attitudes and practice, cultural practice, ecological factors, race-associated differences, and socio-economic and cultural correlates. Documents are arranged by subject and author.

- 1432 Kendall, C.; Foote, D.; Martorell, R. ETHNOMEDICINE AND ORAL REHYDRATION THERAPY: A CASE STUDY OF ETHNOMEDICAL INVESTIGATION AND PROGRAM PLANNING. *Social Science Medicine*, 1984, vol. 19, no. 3, 253-60.

Diarrheal disease prevention and diarrheal disease control with oral rehydration therapy are major goals of the World Health Organization and the international community. This paper promotes the use of ethnography in a diarrheal disease prevention and control program in Honduras by illustrating how knowledge of local beliefs and practices partially shaped promotion efforts. It confirms the validity of the original ethnographic findings by reporting the results of a survey conducted two years after program onset.

- 0876 Kendall, C.; Foote, D.; Booth, E. THE CULTURAL CONTEXT AND HOW IT WAS INVESTIGATED. Paper for presentation at NCIH conference, May 1983, 9 p.

This paper illustrates the use of anthropological models of rural life for program planning and evaluation in the Mass Media and Health Practices project, describing four models of rural life that are often implicit images for program planners, and how these models can be seen to represent two distinctive perspectives of community parameters and program goals which need to be integrated into investigation and planning.

- 1926 Kouame, E.K. ENQUETE D'OPINION SUR LES MALADIES DIARRHEIQUES EN MILIEU RURAL IVOIRIEN. Service National d'Education Sanitaire, September 1984, 136 p.
- This document gives the results of a rural survey conducted in Cote d'Ivoire concerning diarrhea. The importance of a campaign for using oral rehydration therapy is reinforced through this opinion survey.
- 1922 Kouame, K. PROJET DE RECHERCHE APPLIQUEE TRADITIONNELLE ET MODERNE AU DOMAINE DE LA COMMUNICATION VILLAGEOISE. UNICEF Cote d'Ivoire, December 1985, 11 p.
- This report identifies the need for investigating effective methods of communication, both traditional and modern, for disseminating information about diarrheal disease treatment to rural villages. The areas of investigation include Akan, Krou, Mande and Ngur.
- 1761 Lindblad, B.; Mahmud, A.; Jalil, F. SEASONAL GROWTH VELOCITIES AND ACUTE AND PERSISTENT DIARRHOEA OF YOUNG INFANTS IN A LONGITUDINAL STUDY OF POOR COMMUNITIES IN AND AROUND THE CITY OF LAHORE, PAKISTAN. Swedish Agency for Research Cooperating with Developing Countries, 7 p.
- The main socioeconomic cause of the high morbidity rates in poor areas is the rapid urbanization and industrialization process. This study aims at finding the characteristic patterns of child health monitors in communities representing different stages of urbanization.
- 1762 Lindblad, B.; Khan, S.; Jalil, F. THE PREVALENCE OF ACUTE AND PERSISTENT DIARRHEA IN A LONGITUDINAL STUDY OF YOUNG INFANTS IN FOUR AREAS IN AND AROUND THE CITY OF LAHORE, PAKISTAN. Swedish Agency for Research Cooperation with Developing Countries, 8 p.
- This paper gives some of the results of a longitudinal study of 550 infants, aged 0-6 months. Feeding practices, diarrheal diseases, and growth of very young infants in areas representing different stages of urbanization and industrialization are studied.
- 1431 Ntilivamunda, A.; Deming, M.; Neill, M. ENQUETES NATIONALES SUR LE TRAITEMENT DE LA FIEVRE ET DE LA DIARRHEE CHEZ LES ENFANTS DE MOINS DE 5 ANS A DOMICILE ET DANS LES FORMATIONS SANITAIRES, NOVEMBRE, 1985: RAPPORT FINAL. CCCD/RWANDA, November 1985, 37 p.
- This paper reports on a study to evaluate the Rwanda CCCD projects. Actual treatment of children with fever and/or diarrhea was surveyed.

- 0056 Ojofeitimi, E.O.; Adelekan, M.D.; PARTNERSHIP WITH FATHERS IN COMBATING MALNUTRITION: THEIR VIEWS AS TO CAUSES AND TREATMENT OF PROTEIN ENERGY MALNUTRITION. *Child: Care, Health and Development*, 1984, vol. 10, 61-66.

This article discusses the role that fathers can assume in fighting malnutrition. A study of Nigerian fathers revealed their knowledge of the causes and treatment of PEM.

- 1884 Patel, V.; Eisemon, T.; Arocha, J. UNDERSTANDING COMPLEX INSTRUCTIONS FOR ADMINISTERING MEDICINE IN RURAL KENYA. *Centre for Medical Education, McGill University*, 1986, 18 p.

This paper reports the results of a study on the extent to which rural Kenyan mothers are able to comprehend instructions for giving medicine (in this case ORS) to their children. The study shows that the pictorial display has a strong effect on the recall of information. Removing irrelevant information from the text helped mothers remember relevant information.

- 0292 Shahid, N.; Rahman, A.; Aziz, K.; et al. BELIEFS AND TREATMENT RELATED TO DIARRHOEAL EPISODES REPORTED IN ASSOCIATION WITH MEASLES. *Tropical and Geographic Medicine*, 1983, vol. 35, no. 2, 155-156.

Eighty women were interviewed concerning their beliefs and practices regarding diarrhea associated with measles in Bangladesh. Half of the mothers believed diarrhea was caused by wastes and was therefore beneficial. The association of diarrhea with measles is seen as a process of cleansing or purifying the body.

- 1176 Srinivasa, D.K.; Alfonso, E. COMMUNITY PERCEPTION AND PRACTICES IN CHILDHOOD DIARRHEA. *Indian Pediatrics*, no. 20, Nov. 1983, 859-864.

One hundred families were questioned about their knowledge and beliefs of causes of diarrhea in children as well as feeding practices and treatment in Goa, India.

- 1433 Tassen, D.; Badji, I. RITUAL BUFFOONERY: A SOCIAL PREVENTIVE MEASURE AGAINST CHILDHOOD MORTALITY IN SENEGAL. *The Lancet*, 18 January 1986, vol 1, no. 8473, 142-143.

This article describes a ritual performed by women in Senegal for a woman who has had two children die early, two miscarriages, or infertility. The ritual establishes the cause of misfortune and aims to reduce child mortality and ensure successful pregnancy.

- 1692 Weiss, M. PERCEPTIONS OF DIARRHEAL ILLNESS AND THEIR EFFECTS ON BEHAVIOR. Review paper for Technical Advisory Group Meeting, HIID, October 1986, 31 p.

This paper reviews research on diarrheal illness-related beliefs and practices. It offers strategies for promoting ORT, developing health education programs that recognize indigenous concepts, and incorporating traditional healers into health programs.

- 1928 WHO. DIARRHOEA MORBIDITY, MORTALITY AND TREATMENT PRACTICES: HOUSEHOLD SURVEY MANUAL. World Health Organization, WHO/CDD/SER/86.2, 1986.

This manual describes the steps necessary to plan and conduct a household survey. It describes how to determine sample size and calculate rates and limits of precision and includes pages that can be adapted and given to surveyors to study during their training. Also includes sample exercises for training surveyors and supervisors.

- 0704 Yap, K.L.; Sabil, D.; Muthu, P.A. HUMAN ROTAVIRUS INFECTION IN MALAYSIA, II. A STUDY ON THE INFLUENCE OF LIVING STANDARD ON THE PREVALENCE OF ROTAVIRUS - ASSOCIATED GASTROENTERITIS IN CHILDREN HOSPITALIZED WITH DIARRHOEA. *Journal of Tropical Pediatrics*, 30, October 1984, 269-71.

This article describes a study of the association between different living standards and the prevalence of rotaviral diarrhea in hospitalized children. The prevalence of the disease was higher in large families and in lower socioeconomic classes.

- 1867 Zambia, Ministry of Health. TRADITIONAL HEALERS IN ZAMBIA. Zambia, Ministry of Health, health Education Unit, Lusaka, 1987, 11 p.

This booklet reviews the history of traditional healers in Zambia, differences between modern doctors and traditional healers, different types of healers, and cooperation between modern and traditional medicine.

III. CDD General

- 1903 TRAVELERS' DIARRHEA. *Journal of the American Medical Association*, May 10, 1985, vol. 253, no. 18, 2700-2704.
- The incidence of travelers' diarrhea varies markedly by destination and may depend on the number of dietary indiscretions made by the traveler and on the lifestyle of travel. This article answers questions as to the epidemiology, causes, prevention measures, treatment measures, and the direction of future research.
- 1628 WATER RELATED DIARRHOEAL DISEASES AND INFANT MORTALITY AND MORBIDITY. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 1985, Vol. 79, 285-290
- This article presents summaries of the four papers presented at a 1984 symposium on water related diarrheal diseases. The papers address the areas of growth faltering in children with diarrhea, recent advances in viral diarrheas, new developments in oral rehydration, and campylobacters in the Third World.
- 1072 AED. COMMUNICATIONS FOR HEALTH : THE ACADEMY'S PROGRAM OF DIARRHEAL DISEASE CONTROL. Academy for Educational Development, 12 p.
- AED has been collaborating with other international agencies to develop and disseminate an effective strategy for teaching rural women to use ORT in the home.
- 1986 Arrendondo, J.L. DIARRREA EN EL RECIEN NACIDO. *Bol. Med. Hosp. Infant Mex.*, vol. 44, no. 6, June 1987, 360-368.
- The article discusses diarrhea in newborns, its causes and its results.
- 0789 Ashley, D. DIARRHEA DISEASE CONTROL. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 114-117.
- Emphasis will now be placed on health information services, surveillance and health education in Jamaica.
- 1124 Ayre, D.; Jimerson, A.; Smith, W. PUBLIC COMMUNICATIONS SUPPORT FOR CDD PROGRAMMES. World Health Organization, WHO/CDD, October 1983, 32 p.
- This report summarizes discussions held between WHO/CDD staff and three advisers working in public communications with particular experience in the promotion of ORT.

- 1166 Brunser, O.; Araya, M.; DAMAGE AND REPAIR OF SMALL INTESTINAL MUCOSA IN ACUTE AND CHRONIC DIARRHEA. Chronic Diarrhea in Children, E. Lebenthal, ed., Nestle Vevey/Raven Press, 1984, 31-35.

Details concerning damage to the mucosa of the digestive tract are discussed in this article, including the specific process by which the damage occurs. Mucosal repair, regulation of renewal of the epithelium, and repair of the epithelium under pathological conditions are also described in relation to mucosal damage of the digestive tract.

- 0715 Cadrancl, S. PLACE DE LA GENETIQUE DANS LES DIARRHEES DE L'ENFANT. Acta Gastro-Enterologica Belgica, 47, Mar/Apr. 1984, 113-114.

This article explores the possibility of genetic predispositions to infantile diarrhea.

- 0971 Clow, D.J. CONTROL OF DIARRHOEAL DISEASE IN TONGA 1978-83. British Medical Journal, vol. 290, no. 6469, 2 March 1985, 691-692.

The training of medical assistants and village administrators in the correct use of ORS is described in this article, and the impact of this training on the number of deaths due to diarrhea is described.

- 1918 Cote d'Ivoire, INSP. L'EDUCATION POUR LA SANTE ET LA DIARRHEE DANS LES PERSPECTIVES SSR DE SOINS DE SANTE PRIMAIRES. Cote d'Ivoire, INSP, Reunion Nationale, 7-8 January 1985, 7 p.

The objectives of the program are to reinforce and promote methods of controlling diarrheal disease in Cote d'Ivoire, specifically focusing on improving drinking water, educating mothers on care, symptoms and treatment of diarrhea, including ORT.

- 1923 Cote d'Ivoire, Ministry of Public Health. APPEL DU MINISTERE DE LA SANTE PUBLIQUE ET DE LA POPULATION A L'OCCASION DE L'OUVERTURE DE LA CAMPAGNE NATIONALE DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. Cote d'Ivoire, Ministry of Public Health and Population, 1985, 8 p.

This paper discusses the importance of a national program against diarrhea, with the government playing a significant role in educating the population toward better health practices.

- 1921 Cote d'Ivoire, Programme de Lutte Contre les Maladies Diarrheiques. COMPTE-RENDU DE LA REUNION NATIONALE DES 7 ET 8 JANVIER 1985. INSP, Abidjan, January 1985, 18 p.
- This report describes an evaluation established to assess the efficacy of the diarrheal disease program in the Cote d'Ivoire. It is also a report of the national meeting on the Programme for the Control of Diarrheal Diseases held from 7-8 January 1985.
- 1805 Cravioto, A.; Reyes, R.E.; Ortega, R. INCIDENCIA Y ETIOLOGIA DE LA DIARRREA AGUDA DURANTE LOS PRIMEROS DOS AÑOS DE VIDA DE UNA COHORTE DE NINOS RURALES. Bol. Med. Hosp. Infant Mex., vol. 44, no. 6, June 1987, 316-321.
- This article analyzes the etiology of acute diarrhea during the first two years of life in a rural central Mexican village. The incidence of diarrhea during the first year was 97%, and fell to 93% during the second year.
- 0749 Curlin, G.; Aziz, A.M.; Khan, M.R. THE INFLUENCE OF DRINKING TUBEWELL WATER ON DIARRHEA RATES IN MATLAB THANA, BANGLADESH. ICDDR,B, Working Paper no. 1, June 1979, 18 p.
- One effort to reduce infectious diarrheal disease incidence underway in Bangladesh is the rural tubewell water improvement program. Recently, UNICEF and the Bangladesh government announced a plan to double the number of available tubewells in the rural areas. This paper gives the first year results of a UNICEF-CRS study of the impact handpump tubewells have on health as measured by diarrhea rates in a rural population in Matlab.
- 0945 Cutting, W.; Hardy, F.M. ACUTE DIARRHOEA IN CHILDREN. British Medical Journal, vol. 290, 12 January 1985, 157.
- The ineffectiveness of ORS in Manchester homes reveals that ORS was administered in insufficient amounts, not misused as speculated. Authors also explain that the results from withholding food during diarrhea are more hazardous for undernourished children in developing nations than in Great Britain.

- 0954 DuPont, H.; Ericsson, C.; Johnson, P. CHEMOTHERAPY AND CHEMOPROPHYLAXIS OF TRAVELERS' DIARRHEA. *Annals of Internal Medicine*, vol. 102, no. 2, February 1985, 260-261.
- The effectiveness and limitations of two antimicrobial agents used as chemoprophylaxis for travelers are discussed in this article.
- 0916 Elkamel, F. NATIONAL CONTROL OF DIARRHEAL DISEASES PROJECT (NCDDP) - CAMPAIGN UPDATE NO. 2. Egypt, Ministry of Health, August 1984, 6 p.
- This report outlines the Egyptian National Control of Diarrheal Diseases Project television information campaign for 1984-85.
- 0958 Fitzgerald, J. MANAGEMENT OF THE INFANT WITH PERSISTENT DIARRHEA. *Pediatric Infectious Disease*, vol. 4, no. 1, January-February 1985, 6-9.
- This article describes the problem of infantile diarrhea from the perspective of the pediatric practitioner.
- 1710 Furnell, J.R.G.; Dutton, P.V. ALLEVIATION OF TODDLER'S DIARRHOEA BY ENVIRONMENTAL MANAGEMENT. *Journal of Psychosomatic Research*, vol. 20, no. 3, 1986, 283-288.
- Twenty-nine children, consecutively referred to pediatricians following prolonged histories of toddler's diarrhea and diverse behavior difficulties, were offered treatment comprised of alleviation of environmental stress and management of child behavior. The treatment was successful, suggesting a psychosomatic model for the etiology of toddler's diarrhea whereby complex environmental influences on the child are mediated through physical process.
- 0543 Ghana, Ministry of Health. PLAN OF OPERATION: PROGRAMME FOR THE CONTROL OF DIARRHEAL DISEASES, GHANA. World Health Organization.
- This is a working document for the development of a national Diarrheal Disease Control Program in Ghana.
- 1880 Haiti, Dept. de la Sante Publique et de la Population. AIDE-MEMOIRE DE L'AGENT DE SANTE: DIARRHEE. Haiti, Dept. de la Sante Publique et de la Population, Sept. 1981, 9 p.
- This is a booklet for health workers to use when educating mothers about diarrhea and its effective management.

- 0742 ICDDR,B. ICDDR,B WORKSHOP: MEDICAL EDUCATION ON DIARRHOEAL DISEASES AND RELATED SUBJECTS, DACCA, 15-21 NOVEMBER 1980. International Center for Diarrhoeal Disease Research, Bangladesh, special publication no. 14, September 1981, 33 p.
- The proceedings of the workshop are covered in this booklet. Topics discussed include recommended medical and paramedical education, problems of diarrheal diseases in developing countries, current medical education on diarrheal disease and related subjects, and developing a training program for personnel.
- 1000 International Children's Center. CONTROL OF ACUTE DIARRHOEAL DISEASES IN CHILDREN. International Children's Center, 1983, 12 p.
- This report describes the role of mass media in the control of diarrheal diseases. It is geared toward mass media specialists.
- 1834 Kabalikat. MANAGEMENT AND PREVENTION OF DIARRHEA: A PHYSICIAN'S MANUAL. Kabalikat ng Pamilyang Pilipino, 1983, 72 p.
- Developed for physicians in rural areas, this document covers management, therapy, and prevention of diarrhea, as well as questions and answers about ORT that are commonly asked by medical practitioners.
- 0941 Khan, M.A. INFANTILE DIARRHOEA - A MANUAL FOR MEDICAL PRACTITIONERS. National Nutrition Foundation, 1985, 91 p.
- This book on diarrheal disease brings together the most practical and essential information of recent origin. Medical practitioners and health administrators as well as pediatric post-graduate students will find the book useful.
- 1911 Lebenthal, E. DEVASTATING EFFECTS OF CHRONIC DIARRHEA IN CHILDHOOD. Chronic Diarrhea in Children, E. Lebenthal (ed.), Nestle, Vevey/Raven Press, 1984, 1-2.
- Ten children die from chronic diarrhea every minute of the day in the developing world. Environmental factors, including poor sanitation, contaminated water supply, improper waste disposal, inadequate food processing, storage and handling, and underlying poor nutrition are the initiating factors.
- 1098 Malawi, Ministry of Health. COUNTRY ASSESSMENT, COMBATTING CHILDHOOD COMMUNICABLE DISEASES, REPUBLIC OF MALAWI. Malawi, Ministry of Health, USAID, August-September 1983, 74 p.
- This paper presents an outline of the national program to Control Diarrheal Diseases in Malawi.

- 1135 Mata, L. DIARRHOEAL DISEASES: HOW COSTA RICA WON. *World Health Forum*, vol. 2, 1981, 141-142.
- This article explains how Costa Rica has reduced its number of diarrheal deaths through an overall social development program.
- 1745 Merson, M. LA REHYDRATATION PAR VOIE ORALE: DE LA THEORIE A LA PRATIQUE. *WHO Chronicle*, 1986, vol. 40, no. 3, 127-130.
- This article contains remarks by the director of the WHO CDD program inspired by the ICORT II Conference in December 1985. Lessons learned, national program success, feeding during diarrhea, and future challenges are all addressed.
- 1920 Messou, E. BILAN DE LA CAMPAGNE DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. *Cote d'Ivoire, SNES/INSP*, Nov. 1985, 28 p.
- This is an evaluation of the Program of Diarrheal Disease Control in the Cote d'Ivoire. It assesses the activities already implemented as well as those that are to be implemented in the future.
- 0549 Muhith, A. IMPORTANCE OF HEALTH AND MORE SPECIFICALLY, DIARRHEAL DISEASE FOR THE ECONOMIC AND SOCIAL DEVELOPMENT OF THE DEVELOPING COUNTRIES. *ICORT Conference Proceedings*, 7-10 June 1983, 16-19.
- In developing countries, diarrhea takes twice as many lives as in developed countries. Disparity in living conditions underscores the relationship between development and diarrhea.
- 1049 Murillo, A. SITUACION DE LA DIARREA AGUDA INFANTIL EN BOLIVIA. *Ministry of Social Foresight and Public Health, Division of Maternal/Child Health, Bolivia*, 1982, 43 p.
- This report examines the acute infantile diarrhea situation in Bolivia. It observes the present role of maternal child health education, community participation, and practices.
- 0566 Oldfield, F. DIARRHEA DISEASE CONTROL: A GAMBIAN EXPERIENCE. *ICORT Conference Proceedings (Washington, D.C.)*, 7-10 June 1983, 73-78.
- Face to face instruction appears as best medium for controlling diarrhea. Radio communication by itself is unlikely to be effective, but is good support.

- 1978 PAHO. CONTROL DE LAS ENFERMEDADES DIARREICAS (CED): ANALISIS DE POSIBLES PARA REDUCIR SU ALTA INCIDENCIA - UNA COLECCION DE ARTICULOS PUBLICADOS EN EL BOLETIN DE LA OFICINA SANITARIA PAN AMERICANA. Pan American Health Organization, 1986, 74 p.

This collection of articles, published in the Bulletin of the Pan American Sanitation Office, includes interventions to reduce morbidity and mortality from diarrheal disease, control of diarrheal diseases, analysis of possible interventions to reduce their high incidence, measles immunization, food supplement programs, promotion of breastfeeding, promotion of personal and domestic hygiene, and CDD in children under five years of age.

- 2002 PAHO. PROGRAMA PARA EL CONTROL DE LAS ENFERMEDADES DIARREICAS: PAUTAS SOBRE TRATAMIENTO Y PREVENCION DE LA DIARREA AGUDA PARA INSTRUCTORES DE AUXILIARES DE SALUD DE LA COMUNIDAD. Pan American Health Organization, OMS/CDD/SER/80.1, 40 p.

This manual, for auxiliary instructors in community health, provides criteria for understanding the problem of diarrhea, treatment of acute diarrhea, and prevention of diarrhea.

- 1077 Philippines, Ministry of Health. MANAGEMENT AND PREVENTION OF DIARRHEA. A PHYSICIAN'S MANUAL. Philippines, Ministry of Health, and composite of WHO/CDD/SER/80.2 and ORT for Childhood Diarrhea, PIP, Johns Hopkins University, 1983, 72 p.

This manual is directed toward physicians in rural areas. Its main purpose is to enhance support for the government program to promote ORT and ORESOL (indigenous oral rehydration salts).

- 1810 Phonboon, K.; Kunasol, P.; Chayaniyayodhin, T. SURVEILLANCE OF DIARRHOEAL DISEASES IN THAILAND. Bulletin of the World Health Organization, 1986, 64, no. 5, 715-720.

This report evaluates the diarrheal disease situation in Thailand.

- 1636 Prins, A. POTENTIAL CDD PROGRAM ACTIVITIES IN GUINEA, CONAKRY. Technologies for Primary Health Care (PRITECH) Project, SS178, 19-30, January 1987, 28 p.

In January of 1987, the PRITECH mission to Guinea/Conakry assessed the current situation in Guinea in the area of diarrheal disease control in order to make recommendations concerning PRITECH's eventual assistance to the existing CDD program in this area. The team found that no national program currently exists.

- 1825 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: GLOBAL ACTIVITIES, 1984-1985. Weekly Epidemiological Record, 15 August 1986, 249-252.

This report summarizes some of the more important developments and achievements of the World Health Organization's Diarrheal Diseases Control program for 1984-1985.

- 1836 WHO. GUIDELINES FOR CHOLERA CONTROL. World Health Organization, WHO/CDD/SER/80.4 Rev. 1, 1986.

These guidelines have been prepared to help national health workers, particularly the managers of CDD programs, to implement cholera control activities within the context of such programs.

- 1748 WHO. MANUAL TRATAMIENTO DE DIARREA SERIE PALTEX (EN IMPRESSION) CONTROL DE ENFERMEDADES DIARREICAS (CED) PROGRAMA SALUD MATERNOINFANTIL. World Health Organization/Pan American Health Organization, February 1987, 149 p.

This is a manual of the diarrheal disease control programs in Latin America and the Caribbean. The chapters are devoted to intestinal physiology and absorption of water, electrolytes and macronutrients, etiology of diarrhea, pathogenesis of diarrheal infection, and physiopathology of dehydration.

- 1672 WHO. PROGRES RECENTS DE LA MISE AU POINT D'AGENTS ANTIDIARRHEIQUES NON ANTIMICROBIENS. World Health Organization, September 1982, 16 p.

This report of the scientific work group meeting in September 1982 focuses on intestinal physiology as it relates to acute diarrheal disease. Both the small and large intestinal functions are discussed, along with effects of medication.

- 1685 WHO. QUATRIEME RAPPORT DU PROGRAMME, 1983-1984. World Health Organization, WHO/CDD/85.13, 1985, 109 p.

This report summarizes the strategies and activities of the World Health Organization's fight against diarrheal disease from 1983-1984. Details of WHO collaboration with other organizations, of research techniques and findings, resources, and publications are provided.

- 1183 WHO. RAPPORT SUR LA TROISIEME REUNION DE TRAVAIL SCIENTIFIQUE SUR LA MISE AU POINT DES MEDICAMENTS ET LA PRISE EN CHARGE DES DIARRHEES AIGUES. World Health Organization, October 1984, 17 p.
- This report of the third meeting of the Scientific Working Group for acute diarrheal management discusses the importance of continued feeding during diarrhea, various medication therapies, and various ORT studies. It also states that it expects research of feeding during and after acute diarrhea to become a priority topic within WHO.
- 0841 WHO. REPUBLIC OF INDONESIA DIARRHOEAL DISEASES CONTROL PROGRAMME: COMPREHENSIVE PROGRAM REVIEW. World Health Organization, WHO/CDD/84.1, 1984, 63 p.
- This is a review of the CDD program after two years in place. Achievements, problems, and recommendations are cited.
- 1821 WHO. SEVENTH MEETING OF THE CDD TECHNICAL ADVISORY GROUP, ALEXANDRIA, 16-20 MARCH 1986. World Health Organization, WHO/CDD/TAG/86.5 (Program for the Control of Diarrhoeal Diseases, Africa), 1986, 17 p.
- This report outlines the objectives and targets of the CDD program for the African region, and cites the important areas of action in 1985.
- 1883 WHO. SUPERVISORY SKILLS: MONITORING PERFORMANCE. World Health Organization, WHO/CDD, 34 p.
- This is a guide for monitoring the performance of health workers that affects the quality of health care being delivered to people in health areas. Information, examples, and a practice exercise are included in the module.

CDD National Program

- 1036 Allman, J. BASELINE DATA RELEVANT TO THE NATIONAL CONTROL OF DIARRHEAL DISEASE PROGRAM IN HAITI. DHFN/Columbia University, New York, 1984, 8 p.
- The preliminary results of a few sample questions from a National Representative survey conducted May-August 1983 are presented in this paper. The awareness and acceptance of ORT use in Haiti is studied.
- 0520 Angola, Ministry of Health. PROJET D'UN PLAN NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES EN REPUBLIQUE POPULAIRE D'ANGOLA. MOH, Angola, 1983, 26 p.
- This is an outline of the national diarrheal disease control program in Angola.
- 0644 Bangladesh, Ministry of Health. NATIONAL PROGRAM: PROJECT DOCUMENT FOR THE NATIONAL DIARRHOEAL DISEASE CONTROL PROGRAMME FOR BANGLADESH. Bangladesh, Ministry of Health, World Health Organization, 1982, 50 p.
- This is an outline of the national program for diarrheal disease control in Bangladesh, including country description, government policy, budget allocation, health education and schedule of activities for implementation.
- 0285 Barua, D.; Craig, J.; Feachem, R.; et al. TECHNICAL VISIT ON CONTROL OF DIARRHEAL DISEASES, PEOPLE'S REPUBLIC OF CHINA. 11-22 AUGUST 1980. World Health Organization, WHO/ICP/BVM/009, 1980.
- This international team report discusses the diarrheal disease control prevention and research activities in China. It provides data on incidence, etiology, TAB and cholera vaccine production, environmental health conditions, public health education, training and research. Concluding recommendations include a training series for pediatricians in ORT, developing management skills among health officers and planners, strengthening diagnostic lab capabilities, improving surveillance systems, and improving vaccines and sanitation.
- 1047 Batu, A. ACUTE DIARRHOEA IN CHILDHOOD. Research Seminar on Acute Diarrhea in Childhood, Rangoon, February 1982, 164 p.
- The proceedings of the Burmese Seminar of Acute Diarrhea in Childhood are summarized in this report. Statistics on all aspects of childhood diarrhea in Burma are also provided.

- 1558 Belachew, C. ETHIOPIA LIFE SAVER. World Health, April 1986, 29.
- This article presents a brief description of the health education activities of Ethiopia's CDD program.
- 0665 Bhatio, S.; Cash, R.; Cornaz, I. EVALUATION OF THE ORAL THERAPY EXTENSION PROGRAM (OTEP) OF THE BANGLADESH RURAL ADVANCEMENT COMMITTEE (BRAC), II APPENDICES. Swiss Development Cooperation and Humanitarian Aid, 1983, 30 p.
- Evaluation team activities from January 24, 1983 - February 12, 1983 are described in this paper, along with points to remember in case of diarrhea, seminar modules, and several charts related to ORT and ORS.
- 0548 Botswana, Ministry of Health. NATIONAL PROGRAM: REPUBLIC OF BOTSWANA, MINISTRY OF HEALTH: DIARRHOEAL DISEASES CONTROL PROGRAMME - PROGRAMME POLICY, GUIDELINES, AND ACTION PLAN. Botswana, Ministry of Health, 1982, 22 p.
- This is an overview of the National Diarrheal Disease Control program in Botswana.
- 0525 Burkina Faso, Ministry of Health. NATIONAL PROGRAM: MALADIES DIARRHEIQUES EN HAUTE-VOLTA. Ministry of Health, Upper Volta (Burkina Faso), 1980, 2 p.
- This document outlines the national program for the control of diarrheal diseases in Upper Volta in 1980 (presently Burkina Faso).
- 0645 Burma, Ministry of Health. NATIONAL PROGRAM: DIARRHOEAL DISEASE CONTROL AND RESEARCH IN BURMA. Burma, Ministry of Health, World Health Organization, 8 p.
- This is an outline of the diarrheal disease control program for Burma including planning, evaluation, training and research.
- 0539 Burundi, Ministry of Health. PROGRAMME DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. MOH, Burundi, 26 p.
- This report provides a description of the national program for the control of diarrheal diseases in Burundi.

- 0659 CCCD. COUNTRY ASSESSMENT COMBATTING CHILDHOOD COMMUNICABLE DISEASES (CCCD), KINGDOM OF SWAZILAND. Combatting Childhood Communicable Diseases Project, Swaziland Ministry of Health, USAID/Swaziland, 1983, 56 p.

In May 1983, a team of representatives of the Swaziland Ministry of Health and Social Welfare, USAID, and the Centers for Disease Control conducted a CCCD assessment of primary health care activities in Swaziland. It included a review of plans for primary health care outlined in the Swaziland Fourth National Development Plan, and discussions with MOH representatives from national training institutions, the health education unit, the public health unit and the malaria control unit.

- 0656 CCCD. COUNTRY ASSESSMENT: COMBATTING CHILDHOOD COMMUNICABLE DISEASES PROJECT, ZAIRE. Combatting Childhood Communicable Diseases Project, Government of Zaire, USAID, 1982, 40 p.

This description of the country plan for combatting diarrheal disease in Zaire includes a description of the problem, program implementation, government policies and plans, malaria control and EPI.

- 1565 CCCD. THIRD ANNUAL CCCD MEETING. Combatting Childhood Communicable Diseases Project, Brazzaville, March 25, 1986.

This is a collection of papers presented at the CCCD meeting on: (1) development communications in Swaziland; (2) a plan to monitor program indicators in Malawi; (3) data from the ORT unit at Hopital Memo Yemo in Zaire; and (4) results from a household survey in Kimbanseke health zone.

- 0546 Chad, Ministry of Health. CHAD: CONTROL OF INFANT DIARRHOEAS AND IMPROVE HYGIENE AND SANITATION OF N'DJAMENA GENERAL HOSPITAL. World Health Organization, 1983. 1 p.

This is a one page outline of a project in Chad which aims at improving the overall health situation of the population in Chad, through controlling diarrhea and improving sanitation.

- 0563 Corrales, G.; Melara, A.; Bonnano, M. CONTROL OF DIARRHEAL DISEASES EXPERIMENT WITH A NATIONAL PROGRAM IN HONDURAS. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 89-95.

This paper outlines a national diarrheal disease control program in Honduras.

- 0638 Costa Rica, Ministry of Health. PROGRAMA DE CONTROL DE DIARREAS. Costa Rica, Ministry of Health, World Health Organization, 16 p.
- This report outlines the Costa Rican program for the control of diarrhea. It includes objectives, strategies and administration.
- 1670 Cote d'Ivoire, INSP. PROJET DE LUTTE CONTRE LES DIARRHEES. Cote d'Ivoire, INSP, 1985 (?), 31 p.
- Diarrheal diseases are the principal cause of morbidity and mortality in young children, particularly those under five years old. This program responds to priorities expressed in the 1981-1985 five year plan, noting the reduction in infant mortality through health education and community education from the perspective of PHC.
- 0639 Dominican Republic, Ministry of Health. PROGRAMA NACIONAL DE LUCHA CONTRA LAS ENFERMEDADES DIARREICAS: REHIDRATAACION ORAL. Dominican Republic, Ministry of Health, World Health Organization, April 1979, 20 p.
- This paper outlines the National Program for the fight against diarrheal illnesses in the Dominican Republic.
- 1046 Ecuador, Ministry of Health. PROGRAMA DE CONTROL DE ENFERMEDADES DIARREICAS DEL ECUADOR. Ecuador, Ministry of Health, December 1980.
- This paper describes the extent of diarrheal diseases in Ecuador and the CDD objectives and implementation strategies.
- 1139 Egypt, Ministry of Health. REPORT OF THE JOINT GOVERNMENT/USAID/ UNICEF/WHO PHASE ONE REVIEW, 19-31 MAY, 1984. Ministry of Health, Egypt, 1984, 72 p.
- This document reviews phase one of the National CDD project in Egypt. The review was conducted by a GOE/USAID/UNICEF/WHO group after the first eighteen months of the project.
- 1463 Egypt, Ministry of Health. THE NATIONAL CONTROL OF DIARRHEAL DISEASES PROJECT: A THREE-YEAR STATUS REPORT. Egypt, Ministry of Health, February 1986, 31 p.
- This paper summarizes the first three years of Egypt's National Control of Diarrheal Diseases Project (NCDDP). Egypt is cited as a forerunner in innovative programs for diarrheal disease. NCDDP is credited with contributing to Egypt's reduction by about 60% of children's diarrheal-associated mortality.

- 0634 El Salvador, Ministry of Health. PROGRAMA PARA EL CONTROL DE LAS DIARREAS EN LA REGION CENTRAL DE SALUD 1980. World Health Organization, 1980, 20 p.
- This paper presents the National Program for the control of diarrheal diseases in the central region in El Salvador for 1980.
- 0558 El-Sayyad, L. NATIONAL CAMPAIGN TO PROMOTE ORAL REHYDRATION IN EGYPT. ICORT Conference Proceedings (Washington, D.C.), 7-10 June, 1983, 111-114.
- Even though most children suffering from diarrhea were physician-attended, 25% of the children died after one week. This may be because of inanition (withholding breast milk and most food). The principal objectives in this program are twofold: promotion of ORT and continued feeding.
- 0654 El-Sayyad, L. NATIONAL PROGRAMME: DEVELOPMENT OF A NATIONAL ORAL REHYDRATION PROGRAMME, EGYPT. Egypt, Ministry of Health, World Health Organization, 13 p.
- A plan to control diarrheal disease in Egypt through the use of ORT is outlined in this report. It includes information on training of health workers, health education, and constraints experienced during implementation.
- 0545 Ethiopia, Ministry of Health. ETHIOPIA: GUIDELINES AND STRATEGIES FOR THE CONTROL OF DIARRHOEAL DISEASES. Ministry of Health, Ethiopia, 1983, 72 p.
- This document provides guidelines for implementing Ethiopia's national CDD program.
- 1767 Ewbank, D. DEMOGRAPHIC EVALUATION OF THE CCCD MORTALITY AND HEALTH UTILIZATION SURVEYS. Atlanta, Centers for Disease Control, International Health Programs Office, 7 March 1986, 111 p.
- Detailed evaluations of six Mortality and Health Utilization Surveys in three countries are provided in this article. Sections include levels and age patterns of mortality, country-specific information, evaluations, and suggestions for measuring program impact in the future.

- 1969 Fabricant, S. ORS LOGISTICS IN CAMEROON: DEMAND, SPECIFICATIONS, DISTRIBUTION, PROCUREMENT, AND FEASIBILITY OF LOCAL PRODUCTION OF ORAL REHYDRATION SALTS. PRITECH report DC 327, July-August 1987, 23 p.
- A plan for a national CDD program was not developed in Cameroon until 1986. The plan was revised in 1987, and this report is the first formal input to the national CDD program since the PRITECH assistance agreement was signed in 1986.
- 0547 Gabon, Ministry of Health. PLAN OF OPERATION: NATIONAL PROGRAM FOR THE CONTROL OF DIARRHEAL DISEASES. Gabon, Ministry of Health, 1984, 28 p.
- This is a brief summary of the plan of operation for the national program on diarrheal disease control in Gabon as of 1984.
- 0544 Gambia, The, MOH. DIARRHOEAL DISEASE CONTROL PROGRAMME: THE GAMBIA: OUTLINE FOR A PLAN OF OPERATION. World Health Organization, 1982, 24 p.
- This document is a draft proposal for a national diarrheal diseases control program in The Gambia. It was used by the Ministry of Health as the basis for their CDD program, and some of the activities included in the proposal have been implemented.
- 0519 Guinea-Bissau, Ministry of Health. PLAN D'OPERATION: PROGRAMME DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. MOH, Guinea-Bissau, 1982, 28 p.
- This paper briefly outlines the national program for the control of diarrheal diseases in Guinea-Bissau.
- 0635 Haiti, Ministry of Health. PROGRAMME NATIONAL DE LUTTE CONTRE LES DIARRHEES. Ministry of Health, Haiti, World Health Organization, 12 p.
- This report outlines the National Program for the Control of Diarrheal Diseases in Haiti, including specific objectives, workplan, and relevant resources.
- 0554 Hogan, R. NATIONAL HEALTH POLICY AND ORAL REHYDRATION THERAPY. ICORT Conference Proceedings (Washington, D.C.), 7-10 June, 1983, 130-132.
- This paper outlines five policies which would imply rapid acceptance and use of ORT, policy decisions which need to be made to bring about the benefits ORT promises, and elements WHO feels should be included in a country's plan of operations.

- 1901 Hogle, J. PROMOTION OF ORAL REHYDRATION THERAPY IN NIGER. Management Sciences for Health, draft report, 25 p.
- This paper discusses Niger's National Diarrheal Disease Control Program, which has as its main objective promotion of the use of home-made and packaged ORS by health workers and mothers. Development of culturally appropriate educational materials for use by the program is emphasized.
- 1042 Honduras, Ministry of Health. CONTROL DE ENFERMEDADES DIARREICAS: EXPERIENCIA DE UN PROGRAMA A NIVEL NACIONAL EN HONDURAS. MOH/Honduras, 1983, 23 p.
- This report analyzes the implementation of a CDD program in Honduras. Political influence, organization, community participation, health education, and evaluation are all examined.
- 0636 Honduras, Ministry of Health. NATIONAL PROGRAM FOR THE CONTROL OF DIARRHOEAL DISEASES. Honduras, Ministry of Health, World Health Organization, 1981, 21 p.
- This paper outlines the Honduran national program for diarrheal disease control, including objectives, strategies, goals, and expected results.
- 0646 India, Ministry of Health. NATIONAL PROGRAM: NATIONAL DIARRHOEAL DISEASES CONTROL PROGRAM. India, Ministry of Health, World Health Organization, 1982, 42 p.
- This action plan for India's diarrheal disease control includes proceedings of the first meeting of the state program officers held on 23rd September 1982 at New Delhi.
- 1140 Indonesia, Ministry of Health. DIARRHEAL DISEASES IN INDONESIA. Jakarta, Indonesia, Ministry of Health, Directorate General Communicable Diseases Control and Environmental Health, 1985(?), 4 p.
- This four page bulletin outlines the objectives of Indonesia's CDD program, active since 1978. Implementation issues, progress to date and survey data are all included in the outline.
- 0647 Indonesia, Ministry of Health. NATIONAL PROGRAM: DIARRHOEAL DISEASES CONTROL PROGRAMME IN INDONESIA. Indonesia, Ministry of Health, World Health Organization, 1980. 23 p.
- This report outlines Indonesia's diarrheal disease control program, including country description, description of the diarrhea problem, maternal and child care practices, and operational targets.

- 1559 Jasmin, L. HAITI'S NATIONAL PROGRAMME. *World Health*, April 1986, 26 p.
 This article briefly describes Haiti's national CDD program, which was begun in 1983.
- 0538 Kenya, Ministry of Health. NATIONAL PROGRAM: DRAFT PLAN OF CONTROL OF DIARRHOEAL DISEASES IN THE REPUBLIC OF KENYA. MOH, Kenya, 1982, 32 p.
 This is a draft of the national program for the control of diarrheal diseases in Kenya.
- 0580 Khan, A. NATIONAL ORAL REHYDRATION PROGRAM IN BANGLADESH. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 70-73.
 One-third of the deaths in Bangladesh are due to diarrhea. With proper implementation of ORT (training, community involvement), the government expects a strong reduction not only in mortality but also in hospitalization.
- 1847 LeSar, J.; Harrison, P.; Buxbaum, A. MANUAL FOR ASSESSMENT AND PLANNING OF NATIONAL ORT PROGRAMS. PRITECH, December 1985.
 Intended as a reference guide to those engaged in assessing or planning national ORT programs, this manual includes sixteen articles on various CDD issues ranging from financing ORT programs to marketing and sales of ORT.
- 0537 Lesotho, Ministry of Health. NATIONAL PROGRAM: CURRENT STATUS OF DIARRHOEAL DISEASE CONTROL PROGRAM IN LESOTHO. MOH, Lesotho, 1981, 18 p.
 This document provides a brief overview of the national diarrheal disease program for Lesotho.
- 1017 Liberia, Ministry of Health. CDC. USAID. COMBATTING CHILDHOOD COMMUNICABLE DISEASES--COUNTRY ASSESSMENT, LIBERIA. Combatting Childhood Communicable Diseases Project, August 1982, 44 p.
 An assessment of the CCCD project in Liberia, this report evaluates budgets and management problems of the EPI, diarrheal diseases, and malaria projects. It also examines the national health policy.

- 0542 M'Bakob, J.R.; Kesseng Maben, G. PROGRAMME DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. MOH, Cameroon, 16 February 1981, 5 p.
- This document outlines strategies for the Cameroon National Program for the Control of Diarrheal Diseases.
- 0535 Mali, Ministry of Health. PLAN D'OPERATION DU PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. MOH, Mali, 1983, 50 p.
- This report provides the details of the national program to combat diarrheal diseases in Mali.
- 1468 Mali, Ministry of Health. PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. Ministry of Health, Mali, September 1985, 35 p.
- As part of Mali's ten year plan for health (1981-1990), a national campaign for diarrheal disease control for three years is proposed. The focus will be oral rehydration therapy targeted to children under five years old. The project will be jointly funded by the GOM, USAID, WHO, and UNICEF. Plans are outlined for distribution and production of ORS packets, training, record-keeping, and project evaluation at the end of the three years to determine if a second three years should be implemented.
- 0534 Mauritania, Ministry of Health. NATIONAL PROGRAM: PLAN NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES EN REPUBLIQUE ISLAMIQUE DE MAURITANIE. Ministry of Health, Mauritania, 1983, 35 p.
- The national program against diarrheal diseases for Mauritania is outlined in this document.
- 1562 Mbrundvla, M.W. THE IMPACT OF CONTROL OF DIARRHOEAL DISEASES IN MALAWI. Paper presented at the 3rd CCCD Annual Meeting, Brazzaville March 25, 1986.
- This paper summarizes the progress that has been made by Malawi's CDD program after its first year of operation. It presents figures for the years 1981 to 1985 on the number of children admitted to the Kamuzu Central Hospital ORT Centre, case fatality rates, and admissions due to diarrheal diseases.
- 1641 Merson, M.; Northrup, R.; PAKISTAN NATIONAL CDD ORT PROGRAM REVIEW. A Report to the National Institute of Health by a Joint UNICEF/WHO/USAID Team, November 1986, 21.
- In November of 1986, a WHO/UNICEF/USAID team in collaboration with the CDD program staff, was asked to review the status of the national CDD program and to discuss future activities and their support. This report briefly summarizes the status of the CDD program and presents the observations and recommendations of the team.

- 1560 Merson, M. TACKLING DIARRHOEA ON A WORLD SCALE. World Health, April 1986, 2-4.
- This report is an overview of the WHO CDD Programme and the progress it has made worldwide since its inception in 1978. A summary of the ICORT II conference is also presented.
- 0641 Mexico, Ministry of Health. PROGRAMA NACIONAL DE HIDRATACION ORAL EN DIARREAS. Mexico, Ministry of Health, World Health Organization, 1985, 25 p.
- The National Program of oral rehydration in diarrhea in Mexico is outlined in this paper.
- 1975 Mexico, Secretaria de Salud. ENCUESTA SOBRE MORBILIDAD, MORTALIDAD, Y TRATAMIENTO DE DIARREAS EN MEXICO. Mexico, Secretary of Health, Secretary of Health Services, May 1986.
- The study looks at morbidity, mortality and treatment of diarrhea in Mexico. This overview is a preliminary, annual report on the state of diarrheal diseases in Mexico in 1985.
- 0266 Mobarak, A.B. DIARRHEAL DISEASE CONTROL STUDY: FINAL REPORT ON PHASE I. Ministry of Health, Egypt, 1981, 31 p.
- The S.R.H.D. project efforts to incorporate ORT as a high priority are described in this report. This study compares the effectiveness of different ORT methods, and analyzes the impact of ready availability of ORT. It concludes that ORT can be effective as part of existing MOH infrastructures if a) home visits can become a part of health services; b) workers are supervised and trained in ORT; and c) incentives are devised.
- 1472 National Institute of Cholera and Enteric Diseases. ANNUAL REPORT: 1984-1985. National Institute of Cholera and Enteric Diseases, India Council of Medical Research, 1985, 32 p.
- India's National Diarrheal Disease Control Program is based on the three-tier implementation strategy developed by the National Institute of Cholera and Enteric Diseases, in a community-based study where mothers played a pivotal role in the prevention of dehydration with early introduction of 'home-available fluid' therapy. The Institute's accomplishments in research, training, and management are reported in this paper.

- 1471 National Institute of Cholera and Enteric Diseases. NATIONAL DIARRHOEAL DISEASES CONTROL PROGRAMME: INDIA; MANAGEMENT OF ACUTE DIARRHOEA. National Institute of Cholera and Enteric Diseases, Indian Council of Medical Research, (?1981), 17 p.

In view of the recommendation of the 31st WHO Assembly in May 1978, India launched its National Diarrheal Disease Control Program in 1981. The major emphasis is on the implementation of the short-term objective of reducing mortality through effective introduction of ORT at the most peripheral level.

- 0653 Nepal, Ministry of Health. NATIONAL PROGRAM: NATIONAL CDD PROGRAMME FOR NEPAL. Nepal, Ministry of Health, World Health Organization, 1983, 33 p.

This document is a progress report on the diarrheal disease control program in Nepal. It includes information on the extent of diarrhea problems in Nepal, objectives and targets, strategies, training and education, phases of program implementation, tentative budget and sources of funding.

- 0642 Nicaragua, Ministry of Health. PLAN DE ACCION PARA EL PROGRAMA DE PREVENCIÓN Y CONTROL DE DIARREA. Nicaragua, Ministry of Health, World Health Organization, 1981, 14 p.

This paper presents an outline of the plan of action for the program for the prevention and control of diarrhea in Nicaragua for 1981.

- 1090 Niger, Ministry of Health Education and Nutrition. SEMINAIRE SUR LES MALADIES DIARRHEIQUES. La Direction de l'Enseignement, de l'Education Sanitaire et Nutritionnelle, 1982, 23 p.

The national priorities, objectives, and evaluation for the Niger Diarrheal Disease program are summarized in this document

- 0662 North, W.H.; LaForce, F.M. MID-TERM EVALUATION: COMBATTING CHILDHOOD COMMUNICABLE DISEASES, OCTOBER 1983. Combatting Childhood Communicable Diseases Project, USAID, 1983, 85 p.

AID has a unique opportunity to finance, and more important, to facilitate an important international program in health in Africa. A sustained program in Africa over the next 10-15 years can make a major contribution to the reduction of African childhood morbidity and mortality and support the establishment of well organized, trained National Primary Health Care services.

- 1638 Nyi, N. ORT AND MUCH MORE-DEVELOPING WHOLE CDD PROGRAMMES. UNICEF, 15 January 1987, 9 p.

The paper is a follow-up to CD/PD/DIR 1986-005 entitled "Beyond ICORT II" and updates the discussion of the programmatic issues raised. The author discusses priority programming components which, if implemented, could lead to (1) a steady increase of ORS production; (2) an increase in the proportion of ORS produced in developing countries versus proportion obtained from external agencies; (3) correct anomalies of supply and usage nationally, regionally, or sectorially (e.g. urban/rural); (4) increased numbers of trained providers of ORS who can correctly demonstrate its use in the public and private sector; (5) increases in the appropriate and timely use of ORT in the management of acute childhood diarrhea in the home; and (6) more widespread utilization of various preventive strategies.

- 2005 PAHO. CONTROL DE ENFERMEDADES DIARREAS PROGRAMA DE ACTIVIDADES 1985-1987. Pan American Health Organization/World Health Organization, 1985, 94 p.

This paper, an overview of Peru's national program to combat diarrheal diseases between 1985 and 1987, includes objectives, methods, strategies, delivery, and implementation of Peru's national CDD plan.

- 1003 PAHO. EVALUATION OF THE DIARRHEAL DISEASE CONTROL PROGRAM (IN PERU). Pan American Health Organization, 13 Feb.- 1 Mar. 1985, 151 p.

The strategy and results of a national diarrheal disease control program in Peru are described in this evaluation.

- 1979 PAHO. PROGRAMA REGIONAL PARA EL CONTROL DE LAS ENFERMEDADES DIARREICAS (CED). Pan American Health Organization, February 1986.

This is a collection of documents on controlling diarrheal infection at the regional level. Documents include: [A PROGRAM TO CONTROL DIARRHEAL DISEASE; STATE OF CDD AT A GLOBAL LEVEL; USE OF WATER TO PREPARE ORS; USE OF ORT FOR CDD; PREPARING ORS WITH CITRATE; and THE DEVELOPMENT OF SUPER ORS.]

- 0643 Panama, Ministry of Health. PROGRAMA DE REHIDRATACION ORAL. Panama Ministry of Health, World Health Organization, 1981, 36 p.

This paper is an outline of the national program of oral rehydration in Panama for 1981.

- 2009 PRITECH. INFORMACION ESTADISTICA. PRITECH, Caritas Boliviana, September 1987, 249 p.
- This guide to improve infant health focuses on controlling diarrhea, reducing the incidence of dehydration, teaching and training mothers, and improving infant nutritional status.
- 2013 PRITECH. MANUAL DE MATERIALES 1 ETAPA PROMOTORAS DE SALUD. PRITECH, Bolivia, Caritas, 1987.
- This is a manual from the Bolivia Caritas Project, of materials for health care promoters which include extensive training materials for mothers whose infants have diarrhea.
- 1988 PRITECH. SISTEMAS DE INFORMACION GUIA DEL ENCUESTADOR NIVEL NACIONAL. Proyecto de Mejoramiento Infantil Caritas Boliviana, August 1987.
- This document contains manuals and worksheets for the Information Systems of the Bolivian Caritas Project. Manuals and worksheets are included on databases, registration, sample surveys, supervision, and follow-up.
- 1989 PRITECH. SISTEMAS DE INFORMACION GUIA DEL ENCUESTADOR NIVEL DIOCESANO (PROMOTORAS). Proyecto Mejoramiento Infantil Caritas Boliviana, August 1987.
- This document contains manuals and worksheets for the Information Systems of the Bolivian Caritas Project. The manuals and worksheets included are those on databases and follow-up.
- 1741 Prysor-Jones, S. LA LIAISON ENTRE LA FORMATION ET L'EXECUTION DE PROGRAMMES DE R.V.O. PRITECH, doc. prepared for ICORT II, December 1985, 7 p.
- This paper outlines the requirements for development and execution of national oral rehydration therapy programs. National programs require great sacrifices of time, energy and resources and at times, improvisation. They should be considered in a global context; program supervision is more important than formation.
- 1040 Puyet, J. RAPPORT DE MISSION EN HAITI SUR LE DEVELOPPEMENT DU PROGRAMME NATIONAL DE LUTTE CONTRE LA DESHYDRATACION DIARRHEIQUE DES ENFANTS EN BAS AGE. Pan American Health Organization, 1982, 8+ p.
- This is an overview of the child health situation and health care system in Haiti.

- 0557 Ramaboot, S. NCDDP - THAILAND. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 117-119.

Following the introduction of ORT there was a favorable change in the knowledge, attitudes and practices of the community related to management of diarrhea.

- 1461 Ramaboot, S. THAILAND: ATTAINABLE TARGETS. World Health, April 1986, 23 p.

The Thai National CDD Program began in 1980. The program includes training health workers and distributing ORS packets to villagers through village health committees or drug cooperatives.

- 1987 Rangel, J.C. LA PREVENCIÓN DE LA DESHIDRATACIÓN POR DIARREA. Instituto Mexicano del Seguro Social, May 1984?

This article provides an overview of the Mexican CDD National program, discusses the 1984 prevention strategies recommended by the Chief of Preventive Medical Services, and reviews the rehydration cases in the refugee camps of victims of the Chichonal Volcano explosion.

- 1563 Robertson, R.; Pualis, N.L. COSTS OF THE COMBATING CHILDHOOD COMMUNICABLE DISEASES (CCCD) PROJECT IN SWAZILAND, 1984-85; FINAL REPORT. USAID, September 1985.

Swaziland's CCCD project began in mid 1984 and focuses on out patient services of immunization, ORT, and antimalarial activity. This report presents the results of the first national study of CCCD costs; estimates are presented for the nation as a whole and for selected local sites of health care delivery.

- 1479 Rohde, J. FOLLOW-UP ORT PROMOTIONAL VISIT TO INDIA SEPTEMBER 12-20, 1984. PRITECH, DC 60, 12-20 September 1984.

This is a report of a series of consultations in India with USAID, MOH and State officials for diarrheal disease and measles control and family spacing methods programs.

- 0541 Roure, C. PLAN D'OPERATIONS: PROGRAMME DE LUTTE CONTRE LES MALADIES DIARRHEIQUES EN REPUBLIQUE POPULAIRE DU CONGO. UNICEF, January 1984, 33 p.

This report is an action plan for the national program for the Control of Diarrheal Diseases.

- 1024 Russel, J.; Hirschhorn, N. FOR WANT OF A NAIL: THE PROBLEMS OF IMPLEMENTATION, A NATIONAL ORAL REHYDRATION PROGRAM. May 1985, 7 p.
- This report lists some of the most common impediments to successful implementation of medically important and technically sound health programs in developing countries. Creative solutions are also suggested.
- 1016 Rwanda; CDC; USAID. COMBATTING CHILDHOOD COMMUNICABLE DISEASES PROJECT--COUNTRY ASSESSMENT, RWANDA. Combatting Childhood Communicable Diseases, October 1983, 82 p.
- An overall assessment of the CCCD project in Rwanda, this report has evaluations of the EPI, diarrheal disease control, malaria control, mother/child health, nutrition centers, and health education information programs.
- 1870 Salvador, V.; Salazar, M.; Franco, E. COMMUNICATIONS AND COMMUNITY PARTICIPATION IN THE CONTROL OF DIARRHEAL DISEASE IN ECUADOR. USAID, Office of Health and Office of Education, 1984, 26 p.
- This document describes how systematic health communications have been successfully applied to a CDD program in Ecuador. The fundamental element was village participation in the design, production, and processing of educational material.
- 1667 Santosham, M.; Silimperi, D.; Louis, T. MEASLES IMMUNIZATION AND ORAL REHYDRATION THERAPY IN MAHARASHTRA, GUJURAT, AND HIMACHAL PRADESH, INDIA. PRITECH Report, DC 81, May 1986, 115 p.
- The Integrated Rural Health and Population (IRHP) project has three primary focuses: ORT, measles immunization, and birth spacing. This report focuses on the first two areas, presenting all aspects of the project's immunization and diarrheal disease control activities. The social marketing components for both activities are also evaluated.
- 0526 Sao Tome and Principe, Ministry of Health. NATIONAL PROGRAM: PROJET DE PLAN NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES, REPUBLIQUE DEMOCRATIQUE DE SAO TOME ET PRINCIPE. Ministry of Health, Sao Tome and Principe, 1983, 21 p.
- This document outlines the national program for Sao Tome and Principe for the control of diarrheal diseases in 1983.

- 0527 Senegal, Ministry of Health. NATIONAL PROGRAM: LES MALADIES DIARRHEIQUES AU SENEGAL - PROJET DE PROGRAMME D'ACTION. Ministry of Health, Senegal, 1980, 22 p.
- This document outlines the action plan for the national program to combat diarrheal diseases in Senegal.
- 0528 Sierra Leone, Ministry of Health. NATIONAL PROGRAM: THE SIERRA LEONE NATIONAL DIARRHOEAL DISEASES CONTROL PROGRAMME. Ministry of Health, Sierra Leone, 1981, 17 p.
- This document gives an overview of the national diarrheal disease program for Sierra Leone.
- 0651 Sri Lanka, Ministry of Health. NATIONAL PROGRAMME FOR DIARRHOEAL DISEASES SERVICES AND RESEARCH. Sri Lanka, Ministry of Health, World Health Organization, 1982?, 30 p.
- This report describes the elements of the diarrheal diseases control program in Sri Lanka, including background information, a problem statement, justification for the program, objectives, activities, time schedule, administrative structure, and commitments.
- 0529 Swaziland, Ministry of Health. NATIONAL PROGRAM: NATIONAL PLAN FOR CONTROL OF ACUTE DIARRHOEAL DISEASES IN THE KINGDOM OF SWAZILAND. Ministry of Health, Swaziland, 1982, 23 p.
- This is an overview of the national program for diarrheal disease control in Swaziland for 1982.
- 1018 Togo, Ministry of Health; CDC; USAID. COMBATTING CHILDHOOD COMMUNICABLE DISEASES PROJECT--COUNTRY ASSESSMENT, TOGO. Combatting Childhood Communicable Diseases Project, July 1982, 87 p.
- The national health program of CCCD in Togo is evaluated in this report. The finances and managerial aspects of the EPI and malaria control components are also assessed.
- 0530 Togo, Ministry of Health. NATIONAL PROGRAM: PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. Ministry of Health, Togo, 14 p.
- This paper outlines the details of the program to fight diarrheal diseases in Togo.

- 1138 Tulloch, J. ASSIGNMENT REPORT: CONTROL OF DIARRHOEAL DISEASES IN THE SULTANATE OF OMAN, 10-22 FEBRUARY 1984. World Health Organization, WHO-EM/DIAR. DIS./33, July 1984.
- Diarrheal diseases account for 8.39% of all outpatient consultations and up to 25% of pediatric consultations during peak seasons. Progress to date towards the establishment of effective diarrheal disease control in Oman includes improvements in water and sanitation, implementation of ORT as appropriate management of dehydration in diarrhea, preliminary efforts at health education, and routine disease surveillance. This paper outlines a draft plan of operations for a national diarrheal disease control plan for Oman.
- 1465 Tulloch, J. CONSULTATION TO INSTITUTO DE NUTRICION DE CENTRO AMERICA Y PANAMA (INCAP) World Health Organization, WHO/CDD/Travel Report, June 1985, 18 p.
- Discussions were held on the evaluation of CDD activities in the Central American subregion and various plans developed. WHO recommends full support of INCAP's efforts in the subregion.
- 0532 Tunisia, Ministry of Health. NATIONAL PROGRAM: PROGRAMME DE LUTTE CONTRE LES MALADIES DIARRHEIQUES EN TUNISIE. MOH, Tunisia, 1979, 62 p.
- This is an overview of the national program to control diarrheal disease in Tunisia.
- 0531 Tunisia, Ministry of Health. NATIONAL PROGRAM: RAPPORT D'EVALUATION DU PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. Ministry of Health, Tunisia, 1982, 84 p.
- The key points of the national program against diarrheal disease in Tunisia are covered in this report.
- 1075 UNICEF. THE STATE OF THE WORLD'S CHILDREN 1985. UNICEF, New York, 1985, 57 p.
- This report summarizes research and writings on the Gobi-FF interventions. It lists current country economic and social statistics with particular reference to the children's well-being.
- 0652 Uprety, H.N. NATIONAL PROGRAM: PROGRESS REPORT ON NATIONAL CDD PROGRAMME - NEPAL. NCDDP, Nepal, World Health Health Organization, 1984, 4 p.
- This plan for Nepal's diarrheal disease control program includes training, description of the problem, plan for a survey, reporting system and plan for program implementation.

- 1045 USAID. EGYPT: CONTROL OF DIARRHEAL DISEASES. US Agency for International Development, Washington, August 1981, 110 p.

This report describes the CDD program in Egypt. It examines the project description, economic and financial plan, feasibility studies, environmental concerns, implementation plan, and evaluation plan.

- 1466 USAID. HEALTH TRAINING RESEARCH AND DEVELOPMENT PROJECT AMENDMENT FOR DIARRHEAL DISEASES COMPONENT. Agency for International Development/Indonesia, Office of Population and Health, May 1986, 68 p.

The purpose of this project is to assist the Government of Indonesia's Diarrheal Disease Program to be more effective and responsive in meeting the health needs of the poor, in terms of both coverage and quality. Support will be focused on strengthening public health planning, epidemiology, communications, and the social marketing of ORT and ORS.

- 0650 Wahdan, M.H. NATIONAL PROGRAM: REPORT ON A VISIT TO PAKISTAN WITH RESPECT TO THE PREPARATION OF A PLAN OF OPERATION FOR A NATIONAL PROGRAMME FOR THE CONTROL OF DIARRHOEAL DISEASES. World Health Organization, WHO/EMRO, 1982, 16 p.

This paper reports on a WHO visit to Pakistan to draft a plan for diarrheal disease control. The visit coincided with a government plan to launch 3 priority projects: accelerated immunization, training of birth attendants, and control of diarrheal diseases. It worked in conjunction with a task force set up for the purpose of establishing a CDD program.

- 1927 WHO. CDD PROGRAMME SUPERVISORY SKILLS MODULES. World Health Organization, Programme for Control of Diarrhoeal Diseases, 1987.

This course, consisting of seven modules, is designed for managers of national CDD programs. The modules cover national policy, national targets, planning and monitoring activities, prevention, and evaluation. A facilitator's guide is also provided.

- 1640 WHO. DIARRHOEAL DISEASE CONTROL PROGRAMME. Weekly Epidemiological Record, 12 September 1986, No. 37, 281-284.

On January 19-26 1986, a National Workshop on the Control of Diarrhoeal Diseases was conducted in Khartoum, Sudan. Discussions during the workshop centered around the importance of Diarrhoeal Disease control in Sudan and the need for involvement of all health workers and the community. Further discussions resulted in recommendations being made, which contributed to Sudan's revision of its overall CDD plan.

- 1751 WHO. GUIDELINES FOR CONDUCTING A COMPREHENSIVE REVIEW OF A DIARRHOEAL DISEASE CONTROL PROGRAMME, INCLUDING EXAMPLES OF DATA COLLECTION FORMS. World Health Organization, WHO/CDD/SER/86.3.
- This document provides extensive and detailed guidelines for conducting a comprehensive review of a national CDD program. It summarizes the steps involved in setting up such a review; however, its main purpose is to present a set of forms which can be used, with some modification, to record information collected during the review. Some guidance is also given on the compilation of this information and on the format for a final report of the review.
- 1039 WHO. GUIDELINES FOR THE PREPARATION OF DISTRICT-LEVEL MEDIUM-TERM PLANS OF ACTION FOR THE NATIONAL PROGRAM FOR CDD-HAITI, 1982-1986. World Health Organization, 20 p.
- Four major strategies that Haiti should base its national CDD program on are recommended: 1) use of ORT; 2) improved child care practices; 3) use of water sources and waste disposal facilities; and 4) epidemiological surveillance.
- 1684 WHO. MANUAL POUR LA PLANIFICATION ET L'EVALUATION DES PROGRAMMES NATIONAUX DE LUTTE CONTRE LES MALADIES DIARRHEIQUES. World Health Organization, WHO/CDD/SER/81.5 Rev. 1, 1984, 116 p.
- This manual describes WHO's fight against diarrheal disease in the developing world. The manual is divided into four chapters concerning a) a description of the problem and of previous efforts to fight diarrheal disease, b) the establishment of a plan of operations, c) an evaluation of the program, and d) implementing a complete examination of the WHO program.
- 0633 WHO. NATIONAL PROGRAM: BELIZE. World Health Organization, 9 p.
- This report outlines the diarrheal disease control program for Belize, including projections on the extent of diarrheal disease, training of PHC personnel, and budget projections.
- 0523 WHO. NATIONAL PROGRAM: NIGER - PROPOSED FIRST PROJECT. World Health Organization, 1983, 9 p.
- This paper outlines the national diarrheal diseases control program for Niger.

- 1037 WHO; UNICEF; MSH. MULTISECTORAL PROGRAMME FOR THE CONTROL OF DIARRHOEAL DISEASES, HAITI: 1982-1986. World Health Organization, UNICEF, Management Sciences for Health, 1982, 39 p.

Diarrheal diseases account for an estimated 65% of infant and 50% of childhood mortality. This paper discusses the implications of a multisectoral program for the control of diarrheal diseases.

- 0562 Winardi, B. DIARRHEAL DISEASES CONTROL PROGRAM (ORAL REHYDRATION ACTIVITIES) IN INDONESIA. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 95-100.

Current surveys show that although mothers (62.3%) bring their children to health facilities for treatment of diarrhea, most clinics like to give pills; only 22% give ORS.

- 1639 Wolfheim, C. THE GAMBIA NATIONAL PROGRAM FOR THE CONTROL OF DIARRHEAL DISEASES: AN ASSESSMENT OF CURRENT ORT EDUCATIONAL MATERIALS AND KAP OF VILLAGE HEALTH WORKERS. PRITECH, DC 202, 19 August - 19 September 1986, 17 p.

This study, which was conducted by PRITECH in collaboration with the Health Education Unit of the Department of Medical Services in The Gambia in 1986, was carried out as part of The Gambian National Program for the Control of Diarrheal Diseases. It had as its objectives: (1) to assess the level of knowledge and practices of the use of Sugar-Salt-Solution (SSS) by Village Health Workers (VHW) and Traditional Birth Attendants (TBA); (2) to evaluate the understanding and use of current educational materials as needed; (3) to investigate the problems associated with the availability and use of materials on ORT and diarrhea and how best to address these problems, and (4) to begin developing new materials as needed.

- 0524 Zaire, Ministry of Health. NATIONAL PROGRAM: PROGRAMME FOR THE CONTROL OF DIARRHOEAL DISEASES IN ZAIRE. Ministry of Health, Zaire, 1982, 13 p.

This is an outline of the 1982 national program for the control of diarrheal diseases in Zaire.

CDD Management

- 0390 DIARRHOEAL DISEASE CONTROL PROGRAMME, GLOBAL ACTIVITIES, 1983. Weekly Epidemiological Record, 10 August 1984, no. 32, 245-247.

This article briefly reviews the WHO CDD program for 1983. Eighteen new countries formulated plans for national CDD programs bringing the total to 72. CDD Managers' Training Courses, ORS production, health education and promotion, evaluation activities, and research projects are reviewed in the article.

- 0478 DIARRHOEAL DISEASE CONTROL PROGRAMME: TRAINING COURSE FOR PROGRAMME MANAGERS. Weekly Epidemiological Record, 23 January 1981, no. 3, 17-19.

This article describes a control program where 40 participants from 27 developing nations were taught a management course on CDD.

- 0185 DIARRHOEAL DISEASES CONTROL PROGRAMME: DIARRHOEA IN INFANTS AND YOUNG CHILDREN. Weekly Epidemiological Record, 5 October 1984, no. 40, 309-310.

A colloquium on diarrhea in young children and young animals was held in France to make the French-speaking community aware of three special aspects of diarrheal disease in the early stages of life: acute diarrhea is one of the diseases that greatly affect the nutritional state of children before weaning; the relationship between diarrhea and infectious agents; and diarrheal disease control strategies.

- 0493 FIVE YEARS ON: REVIEW OF THE WHO/CDD PROGRAMME STRENGTHENING NATIONAL OBJECTIVES. Diarrhoea Dialogue, August 1984, no. 18, 4-5.

This is a report on WHO's achievements in reducing childhood illness and death due to diarrhea.

- 1459 INTERVENCIONES PARA REDUCIR LA MORBILIDAD Y MORTALIDAD POR ENFERMEDADES DIARREICAS (EXCLUYENDO EL TRATAMIENTO DE CASOS). World Health Organization, WHO/CDD/TAG/85.7, 24 March 1986, 18 p.

This report analyzes interventions for controlling diarrheal diseases. Analyses for effectiveness, feasibility, and cost are described for several interventions in breastfeeding, immunization, water supply and sanitation, and hygiene.

- 0131 ORAL REDHYDRATION IN THE TREATMENT OF DIARRHEA: ISSUES IN THE IMPLEMENTATION OF DIARRHEA TREATMENT PROGRAMS. Bellagio Conference, 11-15 May 1981, Bellagio, Italy.
- This paper examines treatment of diarrheal disease, especially ORT, and explores issues involved in implementing treatment programs, such as accessibility of ORT, women's roles, infrastructure, mass communication, and income levels.
- 0149 STRATEGY AND PLAN OF ACTION TO COMBAT GASTROENTERITIS AND MALNUTRITION IN CHILDREN UNDER TWO. FIFTH CARIBBEAN HEALTH MINISTERS CONFERENCE, FEBRUARY 1973. Environmental Child Health, October 1974.
- This article outlines seven overall goals set for combatting childhood malnutrition and gastroenteritis. These include safe water supplies, MCH services, family planning, breastfeeding, treatment of gastroenteritis and malnutrition, and consumer education.
- 0586 Arroyo, J.; Townsend, J.; Deman, H. SUPERVISION AND EVALUATION IN IMPLEMENTATION OF ORT PROGRAMS: CONSTRAINTS AND SOLUTIONS. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 190-191.
- Lack of political support, poor information dissemination, low-level in-service training and motivation to promote new practices, and restricted human and financial resources are all major constraints in developing countries to the implementation of ORT programs.
- 0186 Baqui, A.; Yunus, M.; Zaman, K. COMMUNITY OPERATED TREATMENT CENTERS PREVENTED MANY CHOLERA DEATHS. Journal of Diarrhoeal Disease Research, June 1984, vol. 2, no. 2, 92-98.
- The effectiveness of community operated treatment centers in reducing mortality from cholera and other acute diarrheal diseases is discussed in this article.
- 1452 Borra, A. SEVENTH MEETING OF THE TECHNICAL ADVISORY GROUP ON THE CONTROL OF DIARRHOEAL DISEASES, ALEXANDRIA, 16-20 MARCH 1986: PROGRAM REPORT ON THE CONTROL OF DIARRHOEAL DISEASES PROGRAMME IN THE WESTERN PACIFIC REGION, APRIL 1985-MARCH 1986. World Health Organization, WHO/CDD/TAG/86.9, 1986, 42 p.
- This report overviews health services and research in the control of diarrheal diseases for the Western Pacific Region. Future activities are outlined, including planning, training, ORS production and distribution, evaluation, and collaboration with other WHO programs.

- 0059 Brody, J.E. UNICEF URGES FOUR STEPS TO SAVE CHILDREN'S LIVES. The New York Times, 17 December 1982.
- This article outlines the UNICEF GOBI (Growth monitoring, Oral rehydration therapy, Breast feeding, Immunization) intervention for improvement of child health worldwide.
- 1445 Cash, R. EVALUATION AND MONITORING ACTIVITIES FOR THE CONTROL OF COMMUNICABLE DISEASES. DC66, 17 December - 2 January 1985.
- This report reviews strategies for CDD in Thailand, including ORT, breastfeeding, handwashing, and reduction in measles incidence. Plans for monitoring the effect of these strategies are presented.
- 1113 Chang, J.; Wallace, N. CHILD SURVIVAL PROJECT, HEALTH INFORMATION SYSTEM, ADVENTIST DEVELOPMENT AND RELIEF AGENCY, MALAWI. Pritech, SS 147, 1986.
- A consultant team provided technical assistance to the Adventist Relief and Development Agency in Malawi: to (1) devise an information system for project monitoring and evaluation; and (2) assist in the design of and conduct the baseline survey. Appendices include USAID indicators, the baseline survey, tabulation forms and questions for interviewers.
- 1458 Cvjetanovic, B. SEVENTH TECHNICAL ADVISORY GROUP MEETING ON DIARRHOEAL DISEASES CONTROL, ALEXANDRIA, 16-20 MARCH 1986: PROGRAMME FOR THE CONTROL OF DIARRHOEAL DISEASES IN THE EUROPEAN REGION. World Health Organization, WHO/CDD/TAG/86.8, 1986, 10 p.
- The incidence of diarrheal diseases is high in southern Europe and low in central and northern Europe. It is mainly limited to the Mediterranean countries and Morocco and Turkey. National CDD programs are covering the total territories and populations of these two countries.
- 1122 De Greyndt, W.; Filerman, G.L.; et al. AUPHA MANAGEMENT PROBLEM - SOLVING (MAPS) MODULE MATERIALS AND FACILITIES MANAGEMENT. AUPHA, September 1981, 106 p.
- This is a user's guide on management models for solving logistical problems in International Health Materials and facilities.
- 0345 Englehardt, S. SAVING THE THIRD WORLD'S CHILDREN. Reader's Digest, October 1984, 136-142.
- This article tells how the intervention of immunization and ORT can dramatically decrease the childhood mortality rate in developing nations.

- 0039 Feachem, R.; Hogan, R.; Merson, M. DIARRHOEAL DISEASE CONTROL: REVIEWS OF POTENTIAL INTERVENTIONS. Bulletin of the World Health Organization, 1983, vol. 61, no.4, 637-640.

This is the introductory article to the series of articles by Feachem reviewing potential interventions for the control of diarrheal disease. Emphasis is placed on the need for an overall, primary health care and preventive package for any specific country or region.

- 0587 Foote, D. EVALUATION OF ORAL REHYDRATION THERAPY. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 188-189.

This is an evaluation of projects in Honduras and The Gambia that used integrated campaigns of radio, personal contact by health workers and print materials. After the first year the campaigns got broad exposure and a dramatic change in KAP resulted.

- 0576 Foster, S. SUPERVISION OF ORT. ICORT Conference Proceedings (Washington, D.C.), 7-10 June 1983, 186-188.

Lack of a standard message, poor training and inadequate supervision all contribute to many unsuccessful ORT programs.

- 1659 Freund, P.; Kalumba, K. INFORMATION FOR HEALTH DEVELOPMENT. World Health Forum, vol. 7, 1986, 185-190.

Many health information systems provide data of doubtful value. In Zambia, local committees and local health workers have been involved in the collection and use of data. This has stimulated community interest in health, forged closer relations among health workers, school and health centers, and has generated data of immediate usefulness in program planning and health education.

- 0151 LeSar, J. A SHORT DISCUSSION OF ORAL REHYDRATION THERAPY PROGRAM EXPERIENCES TO DATE. Management Sciences for Health, November 11, 1983.

This report outlines the elements of successful ORT programs and stresses the need for a comprehensive plan based on field research.

- 1561 Lesotho, Ministry Of Health. FIELD WORKER'S GUIDE FOR THE MANAGEMENT OF DIARRHOEA IN LESOTHO. Lesotho Ministry of Health, March 1985, 29 p.

This manual is intended to guide field workers in the management of diarrhea cases, focusing on children. It has 3 parts: (1) description of the problems and dangers of diarrhea; (2) action plans for the prevention of diarrhea; (3) action treatment plans to prevent dehydration. Illustrations are included.

- 0325 Nations, M.; McAuliffe, J.F.; De Sousa, M.A.; et al. PROJECT II: EVALUATION OF A THREE-TIERED COMMUNITY BASED ORAL REHYDRATION PROGRAM. University of Virginia project paper, 1983 (?), 41 p.

The participation of traditional healers in oral rehydration programs in Brazil is examined in this article. Tapping into the underused vehicle of the traditional medical system is supported.

- 0360 NCIH. INTEGRATING ORAL REHYDRATION INTO COMMUNITY ACTION PROGRAMS: WHAT ROLE FOR PRIVATE AND VOLUNTARY ORGANIZATIONS? Conference, 19-21 March 1980, Centre for Population Activities, NCIH, PAHO.

This is an overview of the conference, including schedule, objectives, and a list of participants.

- 1977 PAHO. CURSO SOBRE HABILIDADES DE SUPERVISION. Pan American Health Organization, July 1985, 8 modules.

These manuals on developing supervisory skills aim to improve planning, monitoring, empowerment and evaluation skills of the trainees. The manuals focus on community participation, goals, empowerment, treatment of diarrhea, monitoring implementation, and monitoring and evaluation of utilization of health services.

- 0340 Rohde, J. SELECTIVE PRIMARY HEALTH CARE: STRATEGIES FOR CONTROL OF DISEASE IN THE DEVELOPING WORLD. XV. ACUTE DIARRHEA. Review of Infectious Disease, November-December 1984, vol. 6, no. 6, 840-854.

This article asserts that ORT, accompanied by attention to early feedings and encouragement of breastfeeding, is the most effective and economical intervention currently available to treat diarrhea.

- 1453 Singh, K.B. SEVENTH TECHNICAL ADVISORY GROUP MEETING ON DIARRHOEAL DISEASES CONTROL, ALEXANDRIA, 16-20 MARCH 1986: REPORT ON THE CONTROL OF DIARRHOEAL DISEASES PROGRAMME IN SOUTHEAST ASIA REGION. World Health Organization, WHO/CDD/TAG/86.3, 26 p.

This paper reports on the status of the Control of Diarrheal Diseases programs in the Southeast Asia Region. Country program reviews are cited and recommendations for more effective programs are made.

- 0414 Smith, W.; Levine, M.; Black, R.; et al. MASS MEDIA AND HEALTH PRACTICES IMPLEMENTATION: PRINCIPAL HEALTH CONSIDERATIONS FOR A PUBLIC EDUCATIONAL CAMPAIGN ON PREVENTION AND TREATMENT OF INFANT DIARRHEA. Academy for Educational Development, 15 May 1980, 19 p.
- This report reviews factors contributing to diarrhea and experiences of diarrheal disease control programs. Factors contributing to reduced infant mortality are noted, including breastfeeding, appropriate weaning foods and practices, sanitation, and ORT. The controversy regarding the most appropriate form and distribution of ORT is discussed. It also points out what and how behavioral changes need to be generated.
- 0321 Tarantola, D. PROSPECTS FOR THE CONTROL OF DIARRHOEAL DISEASES. World Health Organization, Regional Office for the West Pacific, Manila, PHIL.
- The Expanded Programme on Immunization and ORT interventions which will be necessary to reduce morbidity and mortality are reviewed in this paper.
- 1603 Unda, R.F. REPORT ON THE ANALYSIS OF CURRENT INSTRUCTION OF DIARRHOEAL DISEASE MANAGEMENT WITHIN THE DIFFERENT MEDICAL PROGRAMS OF THE NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO (UNAM). PRITECH, DC 229, March 1987.
- This report describes the medical school curriculum at the National Autonomous University of Mexico, with emphasis on instruction of diarrheal disease management. The author points out the flaws in the current instruction and makes recommendations for improvement.
- 0020 UNICEF. UNICEF'S ASSISTANCE TO NATIONAL CDD PROGRAMS. UNICEF, 28 February 1980, New York, 4 p.
- This brief report issued by UNICEF outlines the various ways in which the organization assists national CDD programs, including health education.
- 1645 USAID. THE AID DIARRHOEAL DISEASE CONTROL STRATEGY (ORAL REHYDRATION THERAPY AND RELATED INTERVENTIONS). Agency for International Development, 13 January 1987, 26.
- The A.I.D. Diarrheal Disease Control Strategy Document provides detailed guidance for addressing diarrheal disease control, principally through ORT. It should be used as a tool for discussions with host governments and for program design, implementation, and evaluation.

- 0793 Whitesell, P. MANAGING TRAINING DECISIONS. ICORT Conference Proceedings (Washington, D.C.), 7-19 June 1983, 169-170.
- Important components of training are listed as recommended procedures, performance-based training, planning so that individuals are trained at appropriate time, and evaluation.
- 1478 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME, FIFTH PROGRAMME REPORT 1984-1985. World Health Organization, Alexandria, 16-20, March 1986, Technical Advisory Group, Seventh Meeting, 90 p.
- This is a review to date of CDD program activities worldwide in health services, disease research, information services, and financial status of the program.
- 0481 WHO. DIARRHOEAL DISEASE CONTROL PROGRAMME: REPORT ON GLOBAL ACTIVITIES 1978-79. World Health Organization, WHO/CDD/80.1, 1980, 9 p.
- This document summarizes the activities that have been undertaken by the CDD program globally from May 1978 to December 1979. The activities are presented according to the implementation component or the research component.
- 1637 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME TECHNICAL ADVISORY GROUP. Weekly Epidemiological Review, 22 August 1986, No.34, 258-260.
- At the seventh meeting of the WHO Technical Advisory Group of the CDD Programme, the Group reviewed the current status of the CDD Programme in general and the Eastern Mediterranean in particular. The TAG made specific recommendations in the area of planning and implementation of national programs, training, availability and use of ORT, communications, evaluation, and research.
- 1449 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: FIFTH PROGRAMME REPORT 1984-1985. World Health Organization, WHO/CDD/86.16, 1986, 130 p.
- This paper reviews the Diarrheal Disease Control Program during 1984-1985: collaborative activities with national CDD program continued to expand, biomedical and operational research were directed towards the development and testing of vaccines and improved ORS formulas, for the prevention and treatment of diarrhea. A summary of diarrheal diseases research, mortality, and treatment surveys is also included.
- 1456 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: REPORT OF THE SIXTH MEETING OF THE TECHNICAL ADVISORY GROUP (NEW DELHI, 11-15 MARCH 1985). World Health Organization, WHO/CDD/85.12, 1985, 29 p.
- The CDD technical advisory group makes recommendations for the health services component and research component for the CDD program in this report.

- 1455 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: REPORT OF THE SEVENTH MEETING OF THE TECHNICAL ADVISORY GROUP (ALEXANDRIA, 16-20 MARCH 1986). World Health Organization, WHO/CDD/86.15, 1986, 26 p.
- This meeting of the Diarrheal Diseases Control Program Technical Advisory Group (TAG) reviewed progress made since the last TAG meeting in increasing ORT use, and the reorganization of the CDD Program's research management structure.
- 1464 WHO. FACT SHEET. World Health Organization, WHO/CDD/83.1 Rev.2 (1985), 2 p.
- A good, general statement of the history, objectives, and structure of the WHO diarrheal disease control program, this paper stresses research and services and collaboration with other international health organizations.
- 0448 WHO. GLOBAL MEDIUM-TERM PROGRAMME: DIARRHOEAL DISEASES. World Health Organization, WHO/CDD/MTP/83.1, 1983, 15 p.
- This report outlines the global medium term program for the reduction of diarrheal disease mortality and morbidity during the period 1984-1989.
- 1460 WHO. INTERCOUNTRY MEETING FOR NATIONAL CDD PROGRAMME MANAGERS, TUNIS, 14-18 JULY 1985. World Health Organization, WHO-EM/DIAR.DIS/40, August 1985, 34 p.
- This document reports on the interactions and reviews of National CDD program managers. The group emphasized the fact that diarrheal diseases are still a major contributing factor to high infant and children mortality rates and that there is still a need to accelerate and consolidate their achievements to meet planned national targets.
- 0499 WHO. MANAGEMENT OF DIARRHOEA AND USE OF ORAL REHYDRATION THERAPY: A JOINT WHO UNICEF STATEMENT. World Health Organization, 1983, 25 p.
- This statement presents WHO and UNICEF's joint views on ORT and deals in particular with scientific, programmatic, and operational issues in relation to ORT, which are important in the development and strengthening of national diarrheal disease control programs.

- 0429 WHO. MANUAL FOR THE PLANNING AND EVALUATION OF NATIONAL DIARRHOEAL DISEASES CONTROL PROGRAMMES. World Health Organization, WHO/CDD/SER 81.5 Rev.1, 1984, Geneva, 118 p.

This manual is designed to assist health management staff in planning and evaluating national diarrhoeal disease control programs. It provides operational details (e.g. survey techniques), contains descriptions of some of the skills, knowledge, and processes emphasized in the WHO Training Course for National CDD Program Managers, and can be used by consultants employed by different countries.

- 1660 WHO. MONITORING PERFORMANCE. World Health Organization, CDD Programme.

This manual was prepared for supervisors of community health workers to teach them how to monitor the performance of CHWs in CDD programs. It includes exercises for supervisors to perform at the training sessions.

- 0431 WHO. PROGRAMME FOR CONTROL OF DIARRHOEAL DISEASES: THIRD PROGRAMME REPORT 1981-1982. World Health Organization, WHO/CDD/83.8, 1983, Geneva, 56 p.

The present report summarizes the activities undertaken globally from May 1981 to December 1982. The report documents rapid progress in national CDD programs and the support of health services and biomedical research projects designed to facilitate the application of available control strategies and to develop and test new tools for control.

- 0430 WHO. PROGRAMME FOR CONTROL OF DIARRHOEAL DISEASES: INTERIM PROGRAMME REPORT 1983. World Health Organization, WHO/CDD/84.10, 1984, Geneva, 29 p.

This report is the first in a series of interim (even-numbered years) reports on the progress in the main areas of activity during the previous calendar year for the CDD programme. Most information is presented in graph form with some important developments mentioned briefly.

- 1450 WHO. PROGRAMME FOR CONTROL OF DIARRHOEAL DISEASES: FOURTH PROGRAMME REPORT 1983-1984. World Health Organization, WHO/CDD/85.13, 1985, 101 p.

The activities undertaken by the Diarrheal Disease Control Programme in the 1983-1984 biennium are described in this report. During this period the Programme collaborated with more than 100 countries in the implementation of national diarrheal disease control and research activities.

- 0452 WHO. REPORT OF THE FOURTH MEETING OF THE TECHNICAL ADVISORY GROUP. World Health Organization, WHO/CDD/83.7, 14-18 March 1983, 28 p.
The progress of CDD to date (1983) is reviewed in this report.
- 447 WHO. REPORT OF THE SECOND MEETING OF THE TECHNICAL ADVISORY GROUP. World Health Organization, WHO/CDD/80.2, 28-31 January 1980, Geneva, 26 p.
This report examines CDD programs, program objectives, and regional activities.
- 0416 WHO. REPORT OF THE THIRD MEETING OF THE TECHNICAL ADVISORY GROUP (GENEVA, 29 JUNE - 3 JULY 1981). World Health Organization, WHO/CDD/81.4, Geneva.
This report evaluates, from a scientific and technical standpoint, the progress of the CDD Programme during 15 months, and the planned future activities.
- 0488 WHO. REVIEW OF NONGOVERNMENTAL ORGANIZATIONS IN OFFICIAL RELATIONS WITH WHO. World Health Organization, WHO/EB75/NGO/WP/1, 28 November 1984, 19 p.
The purpose of this document is to bring to the attention of the Executive Board current information with regard to the group of nongovernmental organizations in official relations with WHO.
- 1454 WHO. SEVENTH TECHNICAL ADVISORY GROUP MEETING ON DIARRHOEAL DISEASES CONTROL, ALEXANDRIA, 16-20 MARCH 1986: PROGRAMME FOR THE CONTROL OF DIARRHOEAL DISEASES IN THE AFRICAN REGION. World Health Organization, WHO/CDD/TAG/86.5, BRAZZAVILLE, FEBRUARY 1986, 17 p.
Diarrhea is among the three leading causes of deaths among children in the African Region. By the end of 1985, the total number of countries that had developed CDD plans was 33 out of 44 (75%).
- 1457 WHO. SEVENTH TECHNICAL ADVISORY GROUP MEETING ON DIARRHOEAL DISEASES CONTROL, ALEXANDRIA, 16-20 MARCH 1986: AMRO CDD ACTIVITIES DURING 1985. World Health Organization, WHO/CDD/TAG/86.7, 1986, 20 p.
The progress in WHO Latin American and Caribbean countries is described in this report with regard to plans for Control of Diarrheal Diseases. During 1985, the total number of countries with CDD plans in the region rose to 24 of 35, or 69%.

- 1451 WHO. SEVENTH TECHNICAL ADVISORY GROUP MEETING ON DIARRHOEAL DISEASE CONTROL, ALEXANDRIA, 16-20 MARCH 1986: DIARRHOEAL DISEASE CONTROL PROGRAMME STATUS AND PLANS FOR THE ACTIVITIES IN THE EASTERN MEDITERRANEAN REGION. World Health Organization, WHO/CDD/TAG/86.4, 1986, 26 p.

This report outlines Diarrhoeal Disease Control Programme statuses and plans for activities in the Eastern Mediterranean Region. Proposed plans for activities include integration and collaboration with other WHO programmes, further research, and information services.

- 0483 WHO. THE WHO DIARRHOEAL DISEASES CONTROL PROGRAMME: TREATMENT. World Health Organization, 3 May 1980, 3 p.

This brief description of a CDD Program was prepared specifically for the use of those preparing research proposals.

- 0661 Williams, J.E. MANAGEMENT PLAN FOR THE COMBATTING COMMUNICABLE CHILDHOOD DISEASES PROJECT. Combatting Childhood Communicable Diseases, US Agency for International Development, 46 p.

This report was submitted in response to a request from the Africa Bureau's Office of Regional Affairs, USAID, for an analysis of potential implementation problems in the Combatting Childhood Communicable Diseases regional project, and to develop a management plan to achieve the project's objectives.

- 0125 Yankauer, A. ORAL REHYDRATION AND SOCIAL CHANGE: THE CONTROL OF DIARRHEAL DISEASE IN THE THIRD WORLD. American J. Public Health, October 1982, vol. 72, no. 10, 1105-1106.

This article urges that public health services in the Third World be rearranged, and links public health movements to other social changes.

CDD Program Delivery

- 0512 Kielmann, A.; McCord, C. HOME TREATMENT OF CHILDHOOD DIARRHEA IN PUNJAB VILLAGES. *Environmental Child Health*, August 1977, 197-201.

Based on a study of children in 13 Indian villages, implementation problems with transferring ORT from institutions to homes are discussed. Suggestions are made for the reorientation of management to deal with the problems.

- 1725 Neuvians, D.; Mtango, F.D.E. NUTRITION INTERVENTION STRATEGY AND CONTROL OF DIARRHEAL DISEASES IN A PRIMARY HEALTH CARE SETTING IN RURAL TANZANIA. *Trop. Med. Parasiti.*, vol. 38, 1987, 87.

This article is a brief account of a project in Bagamoyo District, Tanzania, to reduce high mortality and morbidity due to diarrheal diseases.

- 0449 WHO. DEVELOPMENT OF A PROGRAMME FOR DIARRHOEAL DISEASE CONTROL. World Health Organization, WHO/DDC/78.1, 2-5 May 1978, Geneva, 28 p.

This document presents some of the strategies considered for the CDD program.

IV. Disease Research

- 1769 DIARRHEAL DISEASE RESEARCH: ABSTRACT. Mahidol University and Ministry of Public Health Workshop, May 23-25, 1984, Bangkok, 95 p.
- This report contains 64 abstracts of diarrheal disease studies in Thailand. The studies cover areas such as epidemiology, OET, cholera, etiology, and causes of diarrhea.
- 1952 SUGGESTIONS FOR NEW NIH FUNDING INITIATIVES IN THE AREA OF DIARRHEAL DISEASES. Digestive Diseases and Sciences, vol. 32, July 1987, 801-807.
- The authors suggest several areas for new NIH funding in the diarrheal disease field based on a May 1986 conference.
- 1993 Atabrosius-Diener, K.; Salazar-Florts, M.; Valencia-Mayoral, P. PATOLOGIA DE LAS INFECCIONES INTESTINALES POR ESCHERICHIA COLI ENTEROPATOGENA. Bol. Hosp. Infant Mex., vol. 44, no. 2, February 1987, 97-101.
- This article reviews cases of children with intestinal infection produced by different types of E. coli.
- 2020 Arbo, A.; Santos, J.I. DIARRHEAL DISEASES IN THE IMMUNOCOMPROMISED HOST. Pediatr. Infect. Dis. Journal, vol. 6, no. 10, 1987, 894-906.
- In this article, two doctors review the interrelationship between immunologic disorders and diarrheal disease.
- 0769 Artenstein, M.S. THE CURRENT STATUS OF BACTERIAL VACCINES. Hospital Practice, June 1973, 49-56.
- This article assesses the state of research on bacterial vaccines. Virulent strains resistant to multiple antibiotics have been identified in the last 10 years. It also reviews the history of the development of the existing vaccine.

- 1672 Bairagi, R.; Chowdhury, M.; et al. ALTERNATIVE ANTHROPOMETRIC INDICATORS OF MORTALITY. *American Journal of Clinical Nutrition*, vol. 42, August 1985, 296-306.

The ability of anthropometric indicators to discriminate mortality during a one-year period is examined for three time frames beginning in different seasons. The ability of weight and height velocity to discriminate short-term mortality is examined by comparing the mean velocity of the last two bimonthly intervals of the deceased children. Weight velocity is likely to be a good short-term mortality indicator.

- 1630 Beard, J.L.; Gomez, L.H.; Haas, J.D. FUNCTIONAL ANEMIA OF COMPLICATED PROTEIN-ENERGY MALNUTRITION AT HIGH ALTITUDE. *The American Institute of Clinical Nutrition*, August 1986, 181-187.

The effect of severe protein-energy malnutrition (PEM) on erythropoiesis in children living in the highlands of Bolivia, altitude 3700 m, was studied. Forty percent reduced hemoglobin concentration, significantly lower arterial oxygen tensions, and a right-shifted, oxygen-dissociation curve were observed compared to high altitude controls. Iron and folate deficiency contributed significantly to the poor red cell response. Results suggest that the anemia associated with severe PEM has a more significant impact on oxygen transport at high altitude than at sea level and requires an adaptive response in the oxygen-dissociation curve to satisfy tissue-oxygen demands.

- 1904 Briscoe, J. INTERVENTION STUDIES AND THE DEFINITION OF DOMINANT TRANSMISSION ROUTES. *American Journal of Epidemiology*, vol. 120, no. 3, 1984, 449-455.

A common approach to assessing the relative importance of different transmission routes is to eliminate transmission through one route and assume that the ratio number of cases eliminated to the number of residual cases measures the relative importance of the eliminated route vis-a-vis the residual transmission route. A quantitative model is used to generate synthetic data similar to those analyzed by epidemiologists.

- 1908 Butler, T.; Islam, M.; et al. CAUSES OF DEATH IN DIARRHEAL DISEASES AFTER REHYDRATION THERAPY: AN AUTOPSY STUDY OF 140 PATIENTS IN BANGLADESH. *Bulletin of the World Health Organization*, 65, 3, 1987, 317-323.

This article discusses autopsy results of 140 diarrheal patients who died in the hospital following rehydration. The conclusion is that, in susceptible children, diarrheal pathogens produce destructive inflammation in the intestine and cause death or contribute to it by provoking disease in other tissues, especially septicemia and fatty liver, or by combining these effects with antecedent or concomitant conditions, especially pneumonia and malnutrition.

- 0675 Capano, G.; Guandalini, S. ENTERIC INFECTIONS, COW'S MILK INTOLERANCE AND PARENTERAL INFECTIONS IN 18 CONSECUTIVE CASES OF ACUTE DIARRHOEA IN CHILDREN. *European Journal of Pediatrics*, 142, 1984, 281-285.
- 118 patients under 3 years of age were admitted to a Naples hospital for treatment of acute diarrhea. Ninety-two cases were diagnosed, and 55% of the patients were found to have infectious enteritis, 12% a parenteral infection, and 11% cow's milk intolerance.
- 1951 Chatkacomorakot, A.; Echeverria, P.; Taylor, D.N. HELA CELL ADHERENT ESCHERICHIA-COLI IN CHILDREN WITH DIARRHEA IN THAILAND. *Journal of Infectious Diseases*, vol. 156, October 1987, 669-672.
- The prevalence of EAF was determined EPEC and non-EPEC isolated from children with and without diarrhea in Bangkok.
- 1957 Colebunders, R.; Francis, H.; Mann, J. PERSISTENT DIARRHEA, STRONGLY ASSOCIATED WITH HIV INFECTION IN KINSHASA, ZAIRE. *American Journal Gastroenterology*, vol. 82, 1987, 859-864.
- This study explored the predictive value of persistent diarrhea for human immune deficiency virus infection. Persistent diarrhea in adults in central Africa was found to be strongly associated with HIV infection.
- 1647 Davidson, G.P. VIRAL DIARRHOEA. *Clinics in Gastroenterology*, January 1986, Vol. 15, No. 1, 39-53.
- Davidson provides a summary of recent advances in our understanding of viral diarrhea from the perspective of a practicing pediatric gastroenterologist. He discusses rotaviruses, Norwalk-like viruses and other viral agents in terms of clinical features, etiology, epidemiology, pathogenesis, immunity, diagnosis, and treatment and prevention. He concludes that although great progress has been made in defining the etiology of viral diarrhea, we have much to learn about the epidemiology of viral pathogens.
- 1981 De los Santos, C.E.; Pimentel, R.D. EFECTOS DE LA LACTANCIA MATERNA EN EL PRONOSTICO Y EVOLUCION DE LA ENFERMEDAD DIARREICA AGUDA DEL LACTANTE. *Archives Dominicanus de Pediatria*, vol. 19, no. 2, May/August 1983, 39-42.
- This case study on the effects of maternal breastfeeding on the prognosis and evolution of acute diarrheal disease on nursing infants compared two groups of infants with diarrhea, both being treated with ORT. The group which continued breastfeeding during the study improved faster, had less recurrence and fewer complications.

- 1239 Fondacaro, J.D. **INTESTINAL ION TRANSPORT AND DIARRHEAL DISEASE.** American Journal of Physiology, 1986, G1-G8.
- This review concentrates on three major areas: the physiology of intestinal electrolyte transport and its regulation; the patho-physiology of secretory diarrhea; and current thoughts and practices in the therapeutic approach to the disease.
- 1766 Fordtran, J.; Santa Ana, C.; Morawski, S. **PATHOPHYSIOLOGY OF CHRONIC DIARRHOEA: INSIGHTS DERIVED FROM INTESTINAL PERFUSION STUDIES IN 31 PATIENTS.** Clinics in Gastroenterology, vol. 15, no. 3, July 1986, 477-490.
- This paper reports fluid absorption rates using the technique of total gut perfusion, in 31 consecutively studied patients with chronic diarrhea. The results were correlated with the weight of stool while the patients ate normal food and while they fasted. In some instances segmental perfusion was also performed to assess absorption in the jejunum, ileum, and/or colon.
- 1786 Germain, Y.; Montaville, B.; Fauran, C. **SURVEY IN VANUATU ON ENTEROTOXIGENIC ESCHERICHIA COLI IN CHILDREN AND INFANTS WITH AND WITHOUT ACUTE DIARRHEA.** Journal of Clinical Microbiology, vol. 21, April 1985, 630-633.
- This study examined the incidence of enterotoxigenic E. coli strains isolated from infants with and without diarrheal diseases in Vanuatu and investigated the strains for heat-labile and heat-stable toxins.
- 0765 Gilman, R.; Hornick, R.; **DUODENAL ISOLATION OF SALMONELLA TYPHI BY STRING CAPSULE IN ACUTE TYPHOID FEVER.** Journal of Clinical Microbiology, 3, no. 4, April 1976, 456-457.
- This study tested the ability of a string capsule culture to isolate s. typhi in duodenal contents. This technique is a useful, simple method for culturing duodenal contents.
- 0764 Glass, R.; Becker, S.; et al. **ENDEMIC CHOLERA IN RURAL BANGLADESH, 1966-1980.** American Journal of Epidemiology, 116, no. 6, 1982, 959-970.
- From 1966-1980, v. cholerae was isolated from 7,000 patients. Risk factors for cholera were assessed. Whether cholera confers long-lasting immunity to subsequent disease was investigated. Epidemiologic information was gathered, but did not clarify whether the principal reservoir for cholerae is in man or in the environment.

- 1235 Goldman, H.; Proujansky, R. ALLERGIC PROCTITIS AND GASTROENTERITIS IN CHILDREN. American Journal of Surgical Pathology, 1986, vol. 10, no. 2, 75-86.

From a review of 53 cases of allergic disorders of the gastrointestinal tract in children, authors concluded that all cases of proctitis responded to a dietary change by cessation of symptoms without recurrences, whereas most of those with gastroenteritis had multiple relapses and required corticosteroid therapy.

- 1708 Gracey, M.; Burke, V. CHARACTERISTICS OF AEROMONAS SPECIES AND THEIR ASSOCIATION WITH HUMAN DIARRHOEAL DISEASE. Journal of Diarrhoeal Diseases Research, vol. 4, June 1986, 70-73.

This article discusses the classification and identification, clinical patterns, sources, virulence factors and biotypes of aeromonas species, which are members of the Vibrionaceae family.

- 0712 Graham, D.; Sackman, J.W.; et al. PATHOGENESIS OF ROTAVIRUS-INDUCED DIARRHEA: PRELIMINARY STUDIES IN MINIATURE SWINE PIGLET. Digestive Diseases and Sciences, 29, no. 11, November 1984, 1028-1035.

This article studies the pathogenesis of rotavirus induced diarrhea in mini-swine piglets. Implications are that since rotaviral diarrhea has a markedly different pathogenesis from other diarrheas, a different therapy and different ORS should be considered.

- 0472 Habte, D.; Sack, R.B. GUIDELINES FOR PREPARATION OF PROTOCOLS TO STUDY CLINICAL EFFECTS OF ANTIDIARRHEAL AGENTS. World Health Organization, WHO/CDD/RES/81.1, 1981, 3 p.

In order to facilitate controlled clinical studies of anti-diarrheal agents, WHO has drawn up this set of guidelines to assist clinical investigators in preparing protocols to define the efficacy of these agents.

- 1621 Haider, K.; Huq, M. I. A TRANSFERABLE RESISTANCE PLASMID IN VIBRIO CHOLERAEE AND ESCHERICHIA COLI ISOLATED FROM THE SAME PATIENT. Journal Diarrhoeal Diseases Research, June 1986, 4 (2), 91-93.

This study conducted in Bangladesh attempted to determine whether or not resistance plasmids present in vibrio cholerae and Escherichia coli isolated from the same patient with diarrhea were identical. Both species were resistant to ampicillin, banamycin, tetracycline and gentomicin and both species harbored conjugative plasmids of approximately 112 megadaltons belonging to incompatibility group C. The results showed that the resistance plasmids of both organisms appeared to be identical, which confirms that genetic material can be transferred in vivo between organisms of different families. The implications of such a transfer are discussed.

- 1643 Henry, M.C.; De Clereq, D.; Lokombe, B.; et al. PARASITOLOGICAL OBSERVATIONS OF CHRONIC DIARRHOEA IN SUSPECTED AIDS ADULT PATIENTS IN KINSHASA (ZAIRE). Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 80, 1986, 309-310.

Chronic diarrhea occurs in 89% of recently discovered AIDS patients in Zaire. This study was designed to determine the parasite species in adult patients with chronic diarrhea. No parasites were found in 27 of the 46 stool samples. The authors found 5 times more protozoa than helminths and yeasts in the 19 parasite-positive stools, they also found that the parasitological profile of chronic diarrhea in immunodeficient adults looked different from that found in the immunocompetent African patient.

- 1983 Herrera-Anaya, E.; Vega-Franco, L. ESTUDIOS DE BALANCE EN NINOS DES NUTRIDOS, CONVALECIENTES DE DIARREA, EMPLEANDO TRES FORMULAS DIETETICAS. Bol. Med. Hosp. Infant Mex., vol. 44, no. 4, April 1987, 207-213.

The article documents a nitrogen balance study conducted on undernourished children to determine the nutritional value of a chicken-based formula as a substitute for lactose in children with lactose intolerance.

- 0957 Hjelt, K.; Krasilnikoff, P.A.; et al. NOSOCOMIAL ACUTE GASTROENTERITIS IN A PAEDIATRIC DEPARTMENT WITH SPECIAL REFERENCE TO ROTAVIRUS INFECTIONS. Acta Paediatr. Scand., vol. 74, no. 1, January 1985, 89-101.

This article compares symptoms, manifestations, and treatment of gastroenteritis caused by rotavirus and nonrotavirus. It also describes a 12 month study of patients hospitalized for gastroenteritis.

- 1827 Hoffman, S.; Wistar, R.; et al. IMMUNITY TO MALARIA AND NATURALLY ACQUIRED ANTIBODIES TO THE CIRCUM SPOROZOITE PROTEIN OF PLASMODIUM. New England Journal of Medicine, vol. 315, no. 10, September 4, 1986, 601-606.

This article reports data from a test of serum samples from inhabitants of a hyperendemic malarious area of Indonesia for antibodies against R32 tet. The data support the hypotheses that antibodies to circumsporozoite protein are important in reducing the prevalence of malaria with increasing age among persons in areas in which malaria is endemic.

- 0745 Huq, M.I. INVESTIGATION OF AN OUTBREAK OF DYSENTERY DUE TO SHIGELLA SONNEI IN A SMALL COMMUNITY IN DACCA. ICDDR,B, Scientific Report No. 25, June 1979, 16 p.

Dysentery due to shigella sp. is widespread in most of the developing countries of the world and also causes a great deal of morbidity and mortality in Bangladesh. This paper reports the epidemiological, clinical and bacteriological aspects of the disease in that family.

- 1626 ICDDR, B. ANNOTATED BIBLIOGRAPHY ON CHRONIC DIARRHOEAL DISEASES. International Center for Diarrhoeal Disease Research, October 1986, No.11, 140 p.
- The Specialized Bibliography Series is a part of the larger effort to facilitate exchange of information and to establish an information network in the field of diarrheal diseases. The present issue, the eleventh of the series, includes citations of 368 papers (172 abstracted) on chronic diarrheal diseases.
- 1187 ICDDR, B. ANNOTATED BIBLIOGRAPHY ON CLASSICAL VIBRIO CHOLERAE. International Center for Diarrhoeal Disease Research, Bangladesh, June 1985, 72 p.
- This bibliography is intended to serve as a reference for scientists and researchers in the field of diarrheal disease. The book is divided into sections on analysis, classification, drug effects, enzymology, genetics, growth and development, immunology, isolation and purification, metabolism, pathogenicity, physiology, and ultrastructure. It also contains an author index.
- 1185 ICDDR, B. ANNOTATED BIBLIOGRAPHY ON ENTEROTOXIGENIC AEROMONAS. International Center for Diarrhoeal Disease Research, Bangladesh, January 1986, 59 p.
- The subjects covered in this bibliography include biotyping, cytotoxicity, drug resistance, enteropathogenicity, genetics, hemagglutination, hemolysis, immunology, isolation, medium, serology, and virulence. An author section follows the subject section.
- 1188 ICDDR, B. ANNOTATED BIBLIOGRAPHY ON PATHOGENESIS OF SHIGELLOSIS. International Center for Diarrhoeal Disease Research, Bangladesh, July 1985, 47 p.
- This annotated bibliography on Shigellosis is divided into sections on subjects including genetics, immunology, and virulence. An author index is also included.
- 1236 ICDDR, B. INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH- 1984 ANNUAL REPORT. International Center for Diarrhoeal Disease Research, Bangladesh, 1985, 60 p.
- The annual report of the International Centre for Diarrhoeal Disease Research, Bangladesh, provides an update on what the center is doing in the area of diarrheal disease control and discusses the scope of the diarrhea problem in the world.

- 1958 Islam, M. SINGLE DOSE TETRACYCLINE IN CHOLERA. *Gut*, vol. 28, 1987, 1029-1032.
- A randomized clinical trial was carried out at the ICDDR,B to explore the efficacy of single dose tetracycline therapy in cholera. Though multiple dose therapy remains the best choice, a single dose of 1 g. or 2 g. tetracycline appears to be a reasonable alternative for treatment of cholera.
- 1704 Jamal, F.; Yasin, M.S.M. SALMONELLA AGGLUTININS IN NORMAL ADULT SERA IN AN ENDEMIC AREA. *Journal of Diarrhoeal Diseases Research*, June 1986, 4, no. 2, 74-76.
- The prevalence of agglutinins towards somatic (O) and flagellar (H) antigens of *Salmonella typhi*, paratyphi A, B and C was determined in the sera of 447 blood bank donors (normal adult population) by the microagglutination method in regions where enteric fever was endemic. The prevalence of *Salmonella* agglutinins in a defined control population should be taken into consideration when interpreting the Widal test and assessing its diagnostic value in an area where enteric fever is endemic.
- 1783 Jertborn, M.; Svennerholm, A.M.; Holmgren, J. SALIVA, BREAST MILK, AND SERUM ANTIBODY RESPONSES AS INDIRECT MEASURES OF INTESTINAL IMMUNITY AFTER CHOLERA VACCINATION OR NATURAL DISEASE. *Journal of Clinical Microbiology*, vol. 25, August 1986, 203-209.
- The possibility that antibody responses in serum, saliva or breast milk samples to oral vaccines or enteric infections may reflect the intestinal immune response was evaluated in Bangladeshi volunteers orally immunized with a cholera B subunit-whole-cell vaccine and in patients convalescing from enterotoxin-induced diarrheal disease.
- 0778 Kapikian, A.Z.; Wyatt, R.; et al. ORAL ADMINISTRATION OF HUMAN ROTAVIRUS TO VOLUNTEERS: INDUCTION OF ILLNESS AND CORRELATES. *Journal of Infectious Diseases*, January 1983, 147, no. 1, 95-106.
- Rotavirus strain D was administered to 18 adults and the correlates of resistance were noted. Serum IF antibody to rotavirus and neutralizing antibodies to human WA + DS-1 rotaviruses were associated with resistance to diarrheal disease. The article concludes that a heterotypic human or animal rotavirus might be useful in immunizing humans against rotavirus.
- 0758 Kassanoff, I.; Nahmias, A.J.; Abrutyn, E. FATAL STAPHYLOCOCCAL SEPTICEMIA ASSOCIATED WITH USE OF JET INJECTOR FOR MEASLES VACCINATION. *Pediatrics*, 47, no. 1, January 1971, 135-137.
- This report describes a fatal case of staphylococcal sept. emia temporarily associated with measles vaccine administration via jet injector, and calls attention to a severe, albeit infrequent, complication of jet injection.

- 0747 Khan, M.; Shahidullah, M. EPIDEMIOLOGIC STUDY OF DYSENTERY CASES OF DACCA URBAN AREA. International Center for Diarrhoeal Disease Research, Bangladesh, Scientific Report no. 33, January 1980, 25 p.
- Shigellae dysenteriae type 1 was isolated in 47 families, shigellae flexneri was isolated in 11 families, and 23 control families have been studied in Dacca. All 3 groups had rates for mixed infections ranging from 4.6% to 6.4%. An extensive community based study is needed to explore the extent of disease and possible intervention measures.
- 1820 Klipstein, F. JEJUNAL BACTERIAL OVERGROWTH IN ACUTE AND PERSISTENT INFECTIOUS DIARRHEA. Journal of Pediatric Gastroenterol. Nutrition, vol. 5, no. 5, 1986, 683-687.
- Post-enteritis diarrhea is not related to the severity of an acute attack preceding it, but it does occur more frequently among poorly nourished children in developing countries. The problem is that the pathogenesis of jejunal bacterial overgrowth is unknown.
- 0969 Kuritsky, J.; Osterholm, M.; et al. A STATEWIDE ASSESSMENT OF THE ROLE OF NORWALK VIRUS IN OUTBREAKS OF FOOD-BORNE GASTROENTERITIS. Journal of Infectious Diseases, vol. 151, no. 3, March 1985, 568.
- Appeals are made in this article for research on Norwalk viruses as causes of diarrhea.
- 1945 Ladefoged, K.; Schaffalitzky de Muckadell, O.B.; Jarnum, S. FAECAL OSMOLITY AND ELECTROLYTE CONCENTRATIONS IN CHRONIC DIARRHEA. DO THEY PROVIDE DIAGNOSTIC CLUES? Scandinavian Journal of Gastroenterology, 1987, 813-820.
- The aim of this study was to ascertain whether measuring osmolity, pH and electrolyte concentrations in fecal fluid could provide valuable diagnostic information in patients with diarrhea.
- 1234 Lange, S.; Lonnroth, I. BILE AND MILK FROM CHOLERA TOXIN TREATED RATS CONTAIN A HORMONE-LIKE FACTOR WHICH INHIBITS DIARRHEA INDUCED BY THE TOXIN. International Archives of Allergy and Applied Immunology, 1986, vol. 79, 270-275.
- Data from a study of adult and suckling rats protected against intestinal secretion induced by cholera toxin show that the antisecretory activity is unrelated to immunoglobulins.

- 1995 Lazo de la Vega, S.; Osornio-Vargas, A.R.; Ruiz-Palacios, G.M. PRUEBA DE COAGLUTINACION PARA LA DETECCION DE ROTAVIRUS EN HECES FECALES. COMPARACION CON LA PRUEBA DE ELISA. Bol. Med. Hosp. Infant Mex., vol. 44, no. 7, July 1987, 373-379.
- The aim of the study is to find a quick and simple test to detect the presence of rotavirus in the feces of children with diarrhea. The diagnostic utility of COA was compared with the ELISA method and was found to be a reliable alternative suitable for small laboratories in the absence of the ELISA method.
- 1653 Lebenthal, E. ADVANCES IN PEDIATRIC GASTROENTEROLOGY AND NUTRITION. Mead Johnson Symposium Series, no. 1, 1983.
- This collection of 13 papers originally presented at symposia in Manila, Hong Kong, Bangkok, and Sydney in 1983, covers such topics as gastrointestinal development in infants, nutrient requirements in diarrhea, nutritional treatment of diarrhea, and home parenteral nutrition in infants.
- 0490 Levine, M. MYTH AND REALITY IN THE MANAGEMENT OF DIARRHEA. In *New Developments in Tropical Medicine II*, ed. by T.W. Simpson, G.T. Strickland, and M.A. Mercer, NCIH, 1983, 63-75.
- This document outlines the etiological and epidemiological factors about diarrhea and the necessary treatment.
- 0693 Levine, M.; Black, R.E.; et al. EVALUATION IN HUMANS OF ATTENUATED VIBRIO CHOLERAEL TOR STRAOM TEXAS STAR - SR AS A LIVE ORAL VACCINE. *Infection and Immunity*, 43, no. 2, February 1984, 515-522.
- This study explores the feasibility of immunoprophylaxis of cholera by use of an attenuated strain, Texas Star-SR, as a live oral vaccine.
- 0767 Levine, M.; Black, R.E.; et al. THE PATHOGENICITY OF NONENTEROTOXIGENIC VIBRIO CHOLERAEL SEROGROUP 01 BIOTYPE EL TOR ISOLATED FROM SEWAGE WATER IN BRAZIL. *Journal of Infectious Diseases*, 145, no. 3, March 1982, 296-299.
- Brazilian volunteers were fed strains of v. cholerae to assess clinical, bacterial and immunologic responses to the organism. The Brazilian strains did not become enterotoxigenic during passage in humans.
- 1817 Lior, H.; Barzyk, H.H. FALSE POSITIVE IDENTIFICATION OF ESCHERICHIA COLI 0157. *The Lancet*, February 7, 1987, 333.
- Based on false identification of E. coli in laboratory screening tests which use media such as MacConkey agar, this letter to the editor states that the cross reactives which exist may have serious implications in the serodiagnosis of E. coli 0157 and other infections.

- 0785 MacLennan, R.; Levine, L.; et al. THE EARLY PRIMARY IMMUNE RESPONSE ABSORBED TETANUS TOXOID IN MAN. Bulletin of the World Health Organization, 1973, 615-625.

This study analyzes the effect of toxoid concentration and aluminum salt concentration in the primary and secondary immune responses induced by tetanus toxoid. The primary immune response was found to be a function of the antigen and mineral concentrations. It is suggested that a single-dose toxoid might be developed to immunize populations that may be difficult to retrieve for multiple injections.

- 1694 Mata, L.; Simhon, A.; Padilla, R. DIARRHEA ASSOCIATED WITH ROTAVIRUSES, ENTEROTOXIGENIC ESCHERICHIA COLI, CAMPYLOBACTER, AND OTHER AGENTS IN COSTA RICAN CHILDREN, 1976-1981. American Journal of Tropical Medicine and Hygiene, vol. 32, 1983, 146-153.

This study investigated rotaviruses, enterotoxigenic E. coli, salmonella, shigella and parasites in outpatient diarrheic children and in hospitalized diarrheic and nondiarrheic children in Costa Rica.

- 0932 Miller, C.J.; Drasar, B.S.; Feachem, R. RESPONSE OF TOXIGENIC VIBRIO CHOLERAЕ 01 TO PHYSICO-CHEMICAL STRESSES IN AQUATIC ENVIRONMENT. Journal of Hygiene, vol. 93, 1984, 475-495.

In a lab study to test survival and growth of toxigenic v. cholerae in various water environments, the results suggest that v. cholerae is able to survive for extended periods in warm water without nutrients but with salinity of .25 - 3‰ and PH of 8. With added nutrients and under the same conditions, rapid growth is possible.

- 1237 Miller, C.J.; Drasar, B.S.; Feachem, R.; et al. THE IMPACT OF PHYSICO-CHEMICAL STRESS ON THE TOXIGENICITY OF VIBRIO CHOLERAЕ. Journal of Hygiene, vol. 96, 1986, 49-57.

This study investigates the effect of environmental stress on the toxigenicity of V. cholerae 01. The authors suggest that toxigenic V. cholerae 01 are unlikely to lose their toxigenicity when exposed to environmental stress and that V. cholerae toxin production is not a response to the stress included in this study.

- 1238 Murillo, A. LAS DIARREAS EN BOLIVIA. La Paz, Bolivia, August 1985, 8 p.

This study describes the status of infantile diarrhea in Bolivia and the incidence and number of cases reported each year in children six years and under. Mother's knowledge, attitudes and practices in relation to children's diarrhea is discussed.

- 0671 O'Brien, A.; Newland, J. SHIGA-LIKE TOXIN-CONVERTING PHAGES FROM ESCHERICHIA COLI STRAINS THAT CAUSE HEMMORRHAGIC COLITIS OR INFANTILE DIARRHEA. *Science*, 226, no. 4675, 9 November 1984, 694-696.

E. coli K-12 acquired the ability to produce a high titer of shiga-like toxin after lysogenization by either of two different bacterial phages isolated from a highly toxigenic *E. coli* 0157:H7 strain that causes hemorrhagic colitis.

- 0445 PAHO. GUIDELINES FOR MANAGEMENT OF PAHO/WHO REGIONAL DIARRHOEAL DISEASE RESEARCH. Pan American Health Organization/World Health Organization, 8 p.

This document presents a mechanism for managing the research component of WHO's overall CDD program in the Americas.

- 0746 Rabbani, G.H.; Gilman, R.; Islam, A. STRONGYLOIDES STARCORALIS LARVAE RECOVERED FROM PATIENTS WITH DIARRHOEA AND DYSENTERY. International Center for Diarrhoeal Disease Research, Bangladesh, Scientific Report no. 3, August 1979, 16 p.

Groups of patients with diarrhea or dysentery were compared with respect to *strongyloides starcoralis* (SS). SS larvae were found in 40% in both groups. Significantly higher rates were discovered in the dysentery group.

- 1624 Rahaman, M.; Greenough, W.; Novak, N.R. SHIGELLOSIS: A CONTINUING GLOBAL PROBLEM. PROCEEDINGS OF AN INTERNATIONAL CONFERENCE. International Center for Diarrhoeal Disease Research, Bangladesh, Special Publication no. 20, 1983.

In 1981, the International Center for Diarrhoeal Disease Research, Bangladesh, sponsored an international conference on shigellosis, one of the great neglected diseases. The 23 papers in this volume discuss the priority areas for research in shigellosis and offer recommendations for further research.

- 2015 Rahman, M.; Sack, D.; Mahmood, S.; et al. RAPID DIAGNOSIS OF CHOLERA BY COAGGLUTINATION TEST USING 4-II FECAL ENRICHMENT CULTURES. *Journal of Clinical Microbiology*, November 1987, 2204-2206.

This article describes a coagglutination test using enrichment broth culture of feces as a simple, rapid method which may be used to confirm a diagnosis of cholera.

- 0677 Rolston, D.; Kelly, M.; et al. ACETATE AND BICARBONATE ENHANCE CHOLERA TOXIN INDUCED SECRETION IN THE RAT PROXIMAL SMALL INTESTINE. *British Society Gastroenterology*, 25, no. 10, Oct. 1984, A1163.

Based on results from clinical trials with rats, the authors question the use of acetate and bicarbonate in ORS.

- 1233 Rothermel, T. UNDP PLAYS ITS PART. *World Health*, April 1986, 27-28.
- The UNDP, along with other donor agencies, supports research such as that which initially devised the ORS formula. Current disease control efforts involve comprehensive strategies to combat all the factors that contribute to diarrheal disease.
- 1243 Samadi, A.R.; Chowdhury, A.I.; Huq, M.I.; et al. RISK FACTORS FOR DEATH IN COMPLICATED DIARRHOEA OF CHILDREN. *British Medical Journal*, 1 June 1985 vol. 290, 1615-1617.
- This article describes a study of the risk of death by complication of diarrhea. The most significant complicating factors were found to be coma and serum sodium concentration; death was related directly to coma and inversely to serum sodium concentration.
- 1795 Saraswathi, K.; Deodhar, L.P. DIARRHOEA ASSOCIATED WITH AEROMONAS-HYDROPHILA. *Indian Journal of Medical Research*, vol. 84, December 1986, 571-573.
- Aeromonas hydrophila* has been isolated at a higher rate from the stool of patients with acute diarrhea than from symptomless persons. This article reports on the isolation of *A. hydrophila* from patients of acute diarrhea in an attempt to investigate its enteropathogenicity in an adult rabbit ileal model.
- 1835 Shiau, Y.; Feldman, G.; Resnick, M. STOOL ELECTROLYTE AND OSMOLALITY MEASUREMENTS IN THE EVALUATION OF DIARRHEAL DISORDERS. *Annals of Internal Medicine*, vol. 102, 1985, 773-775.
- In this study, stool osmolality and electrolyte measurements were obtained from 12 patients with diarrheal disorders. The data suggest that interpretation of stool osmolality must be based on reference values obtained from freshly collected diarrhea stool samples.
- 1888 Silverman, A. COMMON BACTERIAL CAUSES OF BLOODY DIARRHEA. *Pediatric Annals*, vol. 14, January 1985, 39-50.
- Up until 5-10 years ago, dysenteric symptoms were attributed to shigella, salmonella, or amebiasis. Now, the list of enteric pathogens responsible for dysenteric disease includes campylobacter, yersinia, clostridium difficile, enteroinvasive and enteropathogenic *E. coli*, and others. This report examines only the bacterial causes of bloody diarrhea.

- 1233 Rothermel, T. UNDP PLAYS ITS PART. *World Health*, April 1986, 27-28.
- The UNDP, along with other donor agencies, supports research such as that which initially devised the ORS formula. Current disease control efforts involve comprehensive strategies to combat all the factors that contribute to diarrheal disease.
- 1243 Samadi, A.R.; Chowdhury, A.I.; Huq, M.I.; et al. RISK FACTORS FOR DEATH IN COMPLICATED DIARRHOEA OF CHILDREN. *British Medical Journal*, 1 June 1985, vol. 290, 1615-1617.
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- 1795 Saraswathi, K.; Deodhar, L.P. DIARRHOEA ASSOCIATED WITH AEROMONAS-HYDROPHILA. *Indian Journal of Medical Research*, vol. 84, December 1986, 571-573.
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- 1835 Shiao, Y.; Feldman, G.; Resnick, M. STOOL ELECTROLYTE AND OSMOLALITY MEASUREMENTS IN THE EVALUATION OF DIARRHEAL DISORDERS. *Annals of Internal Medicine*, vol. 102, 1985, 773-775.
- In this study, stool osmolality and electrolyte measurements were obtained from 12 patients with diarrheal disorders. The data suggest that interpretation of stool osmolality must be based on reference values obtained from freshly collected diarrhea stool samples.
- 1888 Silverman, A. COMMON BACTERIAL CAUSES OF BLOODY DIARRHEA. *Pediatric Annals*, vol. 14, January 1985, 39-50.
- Up until 5-10 years ago, dysenteric symptoms were attributed to shigella, salmonella, or amebiasis. Now, the list of enteric pathogens responsible for dysenteric disease includes campylobacter, yersinia, clostridium difficile, enteroinvasive and enteropathogenic *E. coli*, and others. This report examines only the bacterial causes of bloody diarrhea.

- 0686 Wapnir, R.A.; Garcia-Aranda, J.A.; et al. ABSTRACT: DIFFERENTIAL ABSORPTION OF ZINC IN PROTEIN-ENERGY MALNUTRITION. *Journal of the American College of Nutrition*, 3, no. 3, 1984, 275.
- The difference in Zn absorption in the presence of four low molecular weight ligands in the jejunum, ileum, and colon of protein-energy malnourished juvenile rats and their controls is investigated, using an in vivo perfusion technique.
- 0474 WHO. CLINICAL MANAGEMENT OF ACUTE DIARRHOEA. World Health Organization, WHO/DDC/79.3, 30 October - 2 November 1978, New Delhi, 21 p.
- The objectives of the meeting were: 1) to review current knowledge on Oral Rehydration Therapy and other aspects of the clinical management of diarrhea, including drugs; 2) to establish priorities for further research in these areas; 3) to recommend an approach for further implementation of national CDD programs; 4) and to define training needs for these programs.
- 1240 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: LIST OF RESEARCH PROJECTS FUNDED SINCE 1980, BY SCIENTIFIC WORKING GROUP AND BROAD PRIORITY AREA. World Health Organization, WHO/CDD/85.14, 1985, 63 p.
- This document lists all research projects funded for the purpose of diarrheal disease control by the World Health Organization.
- 1230 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: SUPPORT OF BIOMEDICAL RESEARCH PROJECTS IN 1987. World Health Organization, WHO/CDD/RES/86.9, 1986, 1 p.
- This sheet lists the areas of biomedical research in which funding was available for 1987 through the World Health Organization.
- 0439 WHO. GUIDELINES FOR MANAGEMENT OF RESEARCH ACTIVITIES. World Health Organization, WHO/CDD/RES/81.3, 1981, Geneva, 8 p.
- This document presents guidelines for management of the research component of the CDD programme.
- 1633 WHO. IN POINT OF FACT. World Health Organization, 1987, No. 41, 12 p.
- This manual outlines the symptoms, causes of transmission, and rates of incidence of diseases such as Measles, Diphtheria, Pertussis; Tetanus; Poliomyelitis and Tuberculosis. In addition, it gives a brief etiology of those diseases listed and describes how and when immunization should be administered.

- 1231 WHO. LIST OF RESEARCH PROJECTS FUNDED SINCE 1980, BY SCIENTIFIC WORKING GROUP AND BROAD PRIORITY AREA. World Health Organization, WHO/CDD/85.14, 1985, 64 p.
- This document consists of a list of WHO-funded research projects throughout the world which have been funded since 1980.
- 1695 WHO. MANUAL FOR LABORATORY INVESTIGATIONS OF ACUTE ENTERIC INFECTIONS. World Health Organization, WHO/CDD/83.3 Rev. 1, 1987, 113 p.
- This manual contains information on primary stool analysis, identification of isolates, blood cultures for enteric bacterial pathogens, antimicrobial susceptibility testing, investigations of outbreaks of food-borne diseases, special analytical tests for pathogenicity of *E. coli*, enzyme-linked immunosorbent assay for rotavirus antigen, and basic requirements for the laboratory and possible sources.
- 0473 WHO. MANUAL FOR LABORATORY INVESTIGATIONS OF ACUTE ENTERIC INFECTIONS. World Health Organization, WHO/CDD/83.3, 1983, 95 p.
- The guidelines in this manual are designed to increase the capability of laboratories intending to isolate and identify the etiological agents of important enteric infections so that they may provide better support to such disease control and research activities.
- 0450 WHO. OPERATIONAL RESEARCH - STATUS AND FUTURE PLANS. World Health Organization, WHO/CDD/OPR/82.1, 20-21 April 1982, 10 p.
- This meeting reviewed the status of the CDD program and the status of the operational research segments.
- 1910 WHO. PERSISTENT DIARRHOEA IN CHILDREN--RESEARCH PRIORITIES. World Health Organization, CDD/DDM/85.1, 1985, 6 p.
- This paper provides background information regarding the problem of lack of information on the incidence, etiology (ies) and treatment of diarrhea in children in the developing world.
- 0440 WHO. PRIORITY AREAS FOR RESEARCH OF THE SCIENTIFIC WORKING GROUP ON BACTERIAL ENTERIC INFECTIONS. World Health Organization, WHO/CDD/BEI/82.2, 1982, Geneva, 8 p.
- The epidemiology of common bacterial enteric pathogens is presented in this report.

- 0443 WHO. REPORT OF THE SECOND MEETING OF THE SCIENTIFIC WORKING GROUP ON BACTERIAL ENTERIC INFECTIONS. World Health Organization, WHO/CDD/BEI/82.4, 30 August - 1 September 1982, Geneva, 24 p.
- This meeting concentrated on invasive diarrheas - Shigella, Campylobacter jejuni, and enteroinvasive E. coli. Particular attention was given to epidemiology, pathogenesis, clinical aspects, and prevention and control, including vaccination.
- 0451 WHO. REPORT OF THE THIRD MEETING OF THE SCIENTIFIC WORKING GROUP ON BACTERIAL ENTERIC INFECTIONS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY, AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/84.5, 12-14 September 1984, 17 p.
- This report documents the proceedings of the third meeting of the scientific working group on bacterial enteric infections.
- 0466 WHO. SCIENTIFIC WORKING GROUP ON BACTERIAL ENTERIC INFECTIONS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/BEI/80.2, 21-24 April 1980, Geneva, 17 p.
- This global scientific working group was convened to manage basic research on bacterial enteric infections.
- 0471 WHO. SCIENTIFIC WORKING GROUP REPORTS 1978-1980. World Health Organization, WHO/CDD/80.1, 1980, 193 p.
- The epidemiology and etiology of various diarrheal diseases are detailed in this report. Vaccine development, clinical management, child care practices, and environmental health aspects related to diarrheal diseases are also discussed.
- 0996 Widdus, R. DISEASE BURDEN CALCULATIONS FOR DIARRHEAL DISEASE. National Academy of Sciences, 1985, 9 p.
- This report estimates the number of diarrheal episodes per individual in various age groups for four major regions in lesser developed nations.
- 0991 Wolfson, J.S.; Richter, J.M.; et al. CRYPTOSPORIDIOSIS IN IMMUNOCOMPETENT PATIENTS. New England Journal of Medicine, vol. 312, no. 20, 16 May 1985, 1278-1282.
- Clinical observations confirm worldwide findings and suggest that cryptosporidium is a relatively common nonviral cause of self-limited diarrhea in immunocompetent persons in the northeastern U.S.

- 1839 Yolken, R. ELISA: ENZYME-LINKED IMMUNOSORBENT ASSAY. Hospital Practice, December 1978, 121-127.

This article discusses how ELISA works, how well it performs in situations other than infantile gastroenteritis, and what may be its future clinical uses.

- 1765 Yolken, R.; Eiden, J.; Leister, F. SELF-CONTAINED ENZYMIC MEMBRANE IMMUNOASSAY FOR DETECTION OF ROTAVIRUS ANTIGEN IN CLINICAL SAMPLES. The Lancet, 6 December 1986, 1305-1307.

This article describes the self-contained enzyme membrane immunoassay (SCEMIA) system, which was developed for the detection of viral antigens in clinical samples.

- 1796 Zaki, A.M.; DuPont, H.; El Alamy, M.A. THE DETECTION OF ENTEROPATHOGENS IN ACUTE DIARRHEA IN A FAMILY COHORT POPULATION IN RURAL EGYPT. American Journal of Tropical Medical Hygiene, vol. 35, no. 5, 1986, 1013-1022.

In eight rural Egyptian villages, a study of etiologic agents associated with diarrhea was carried out. The most commonly identified agents were *G. lamblia*, *E. coli*, rotavirus, shigella, and salmonella. A decrease in rotavirus, campylobacter and possibly EPEC illness was seen in infants less than 6 months old who were breastfed when compared to those who were not.

- 1837 Zaman, K.; Islam, M.; Baqui, A. HYPOKALEMIA IN CHILDREN WITH DIARRHOEA IN RURAL BANGLADESH. Indian Journal of Medical Research, vol. 81, February 1985, 169-174.

This study investigated the prevalence of hypokalemia among children admitted to a rural center in Bangladesh for diarrhea. The results suggest that hypokalemia is not a serious complication of diarrhea if appropriate therapy is initiated.

- 1990 Zamora-Chavez, A.; Galindo-Hernandez, E.; Meja-Albarran, M.E.; et al. INFECCION POR CAMPYLOBACTER JEJUNI EN NINOS. Bol. Med. Hosp. Infant Mex., vol. 44, no. 3, March 1987, 155-160.

This article documents the clinical findings of acute enteritis associated with campylobacter jejuni in children under three years of age.

Epidemiology

- 0255 Alvarado, T. FAECAL LEUCOCYTES IN PATIENTS WITH INFECTIOUS DIARRHOEA. Transactions Royal Society Tropical Medicine and Hygiene, 1983, vol. 77, no. 3, 316-20.
- This article explores the value of fecal leucocyte examination in screening bacterial diarrhea. 91% of diarrheal cases caused by shigella, campylobacter or salmonella were found to have fecal leucocytes whereas no viral or parasitic diarrhea did. The test is an inexpensive diagnostic procedure to detect invasive diarrheas.
- 1481 Araya, M.; Figueroa, G.; Espinoza, J.; et al. ACUTE DIARRHOEAL DISEASE IN CHILDREN UNDER 7 YEARS OF AGE IN A PERI-URBAN SLUM OF SANTIAGO, CHILE. Journal of Hygiene, 1985, vol. 95, 457-467.
- A group of 168 families in a peri-urban slum in Santiago were surveyed for nine months and cases of diarrhea were recorded and investigated. The etiology of each case of diarrhea was determined through laboratory analysis. In this study, adequate hygienic habits were not found to decrease the incidence of diarrhea.
- 0137 Aziz, K.; Hasan, K.Z.; Patwary, Y. A STUDY OF THE INTERPERSONAL SPREAD OF HUMAN FAECES IN RURAL TEKNAF OF BANGLADESH. ICDDR,B, 10 p.
- Through participant observation, the hand movements of 21 rural women were observed over a 12 hour period, particularly after defecation. Results shows mothers may be significant transmitters of shigella and other enteric pathogens.
- 1664 Bartlett, A. EPIDEMIOLOGY OF PERSISTENT AND CHRONIC DIARRHEA IN CHILDREN OF RURAL GUATEMALA. PRITECH Report, DC 175, June 1986.
- The purpose of this consultancy was to provide technical assistance to INCAP in the design of field procedures and data collection instruments required for implementation of the study.
- 1447 Berger, C. AID WRANGLE BRINGS CHOLERA TO SOMALIA. This Week, 1 p.
- Spring rains in Somalia aggravated the spread of cholera within an Ethiopian refugee camp and to the surrounding population. Somalis were drawn to the refugee camp from surrounding areas by the arrival of relief workers with rations for the refugees. The situation was exacerbated by a disagreement between the Somali Government and UNICEF over recognizing and aiding the refugees.

- 0241 Black, R. ASPECTOS EPIDEMIOLOGICOS DE LA DIARREA AGUDA. *Diagnostico*, 1982, vol. 9, no. 4, 180-188.
- This article focuses on etiology and epidemiology of acute diarrhea. Advances in three areas are discussed: 1) Identification of agents; 2) treatment of dehydration through ORT; and 3) development of effective vaccines against typhoid.
- 0269 Black, R.; Merson, M.; Brown, K.; et al. EPIDEMIOLOGIC STUDIES OF ACUTE GASTROENTERITIS IN BANGLADESH. U.S.-Japan Cooperative Medical Science Program, 13th Joint Conference on Viral Disease, 1979, 4 p.
- During a two year period at a rural diarrhea treatment center and a one year period at an urban center in Bangladesh, *Escherichia coli* (ETEC) were the most frequently identified pathogens in patients of all ages.
- 0388 Black, R.; Merson, M.; Brown, K. EPIDEMIOLOGICAL ASPECTS OF DIARRHEA ASSOCIATED WITH KNOWN ENTEROPATHOGENS IN RURAL BANGLADESH. Chen, L.; Scrimshaw, N., eds., *DIARRHEA AND MALNUTRITION*, Plenum Publishing Corp., 1983, 73-86.
- Prevalent diarrheal diseases are found to be major determinants of growth retardation and malnutrition. This study assesses the etiology, incidence, and severity of diarrhea in people living in a rural village in Bangladesh.
- 1277 Black, R.; Cisneros, L.; Levine, M.; et al. CASE-CONTROL STUDY TO IDENTIFY RISK FACTORS FOR PEDIATRIC ENDEMIC TYPHOID FEVER IN SANTIAGO, CHILE. *Bulletin of the World Health Organization*, vol. 63, no. 5, 1985, 899-904.
- The authors detail a case control study of risk factors for typhoid fever in Santiago, Chile. They conclude that risk factors are consistent with their hypotheses that pediatric endemic typhoid fever in Santiago is largely spread by consumption of food-stuffs prepared outside the individual's home which are shared with or sold to children.
- 0168 Black, R.; Merson, M.; Huq, I.; et al. EPIDEMIOLOGIC IMPORTANCE OF DIARRHEAL AGENTS IN RURAL BANGLADESH. T. Holme, J. Holmgren, M.H. Merson, et al, eds., *Infections in Children, New Prospects for Treatment and Prevention*, Elsevier/North-Holland Biomedical Press, 1981.
- Incidence of diarrhea associated with specific pathogens was calculated in a village survey. *E. coli* was identified as the most common enteropathogen. *Shigella* and rotavirus followed next.

- 1706 Brasseur, D.; Casimir, G.; Goyens, P. **CAMPYLOBACTER JEJUNI AND INFANTILE TRAVELLER'S DIARRHOEA.** *European Journal of Pediatrics*, no. 9, 1985, 517-518.
- This letter to the editor points out the role of migrant families in the epidemiology of infantile diarrhea in their guest country. The Moroccan and Turkish communities in Brussels, Belgium are cited as examples.
- 0207 Briscoe, J. **CHOLERA TRANSMISSION IN THE MEASLES WARD?** *Tropical Doctor*, July 1984, vol. 14, 140-41.
- Through a hypothetical case study of 2 African cities, the authors describe how: 1) in the absence of good laboratory facilities, the number of cholera cases will be greatly over-estimated; and 2) The high apparent attack rate of cholera in the measles wards is a result of the poor immune status of the children on the ward, the high carrier:case ratio for El Tor cholera, and the difficulty of making accurate diagnoses of a disease with which the medical personnel are not familiar.
- 1999 Camarlinga-Ponce, M.; Gamboa, M.; Barragan, J.J.; et al. **EPIDEMIOLOGICAL ASPECTS OF CLOSTRIDIUM DIFFICILE IN A PEDIATRIC HOSPITAL AND ITS ROLE IN DIARRHEAL DISEASE.** *Eur. J. Clin. Microbiol.*, October 1987, 542-546.
- The influence of antibiotics on the frequency of colonization by *Clostridium difficile* and the presence of its cytotoxin in infant and older children was examined to determine its role in diarrheal disease. Cytotoxin was more closely associated with cases of diarrhea than the micro organism, although not significantly.
- 1279 Cvjetanovic, B. **EPIDEMIOLOGICAL MODELS OF DIARRHOEAL DISEASES (EDITORIAL).** *J. Diarrhoeal Diseases Research*, vol. 3, no 2, June 1985, 63-64.
- The author argues that epidemiologic models enable better understanding of diarrheal disease dynamics in various populations. Models can contribute significantly to the formulation of appropriate and cost effective control strategies, while also helping to devise preventive and curative measures.
- 0193 Davidson, G.; Robb, T.; Kirubakaran, C.; et al. **BACTERIAL CONTAMINATION OF THE SMALL INTESTINE AS AN IMPORTANT CAUSE OF CHRONIC DIARRHEA AND ABDOMINAL PAIN: DIAGNOSIS BY BREATH HYDROGEN TEST.** *Pediatrics*, August 1984, vol. 74, no. 2, 229-235.
- Nine patients under 6 suffering from diarrhea and pain were tested for bacterial contamination of the small intestine. They were treated successfully with oral antibiotics.

- 1632 Deb, B.; Sircar, B. K.; Sengupta, P.; et. al. STUDIES ON INTERVENTION TO PREVENT ELTOR CHOLERA TRANSMISSION IN URBAN SLUMS. *Bulletin of the World Health Organization*, 1986, 64 (1), 127-131.
- Transmission of el tor cholera infection in endemic communities has continued to be rampant as a result of the absence of effective intervention measures. This study, which was conducted in the slums of the eastern part of Calcutta city, tested two methods which were aimed at preventing contamination of stored water and thus reducing the transmission of cholera. The two methods tested-chlorination of stored water and use of a narrow necked earthenware vessel (called a "sorai") for storing water-were found to be effective in reducing the transmission of infection among the family contact of cholera patients. The cholera carrier rates in the chlorination and "sorai" intervention groups were 7.3% and 4.4% respectively, compared with 17.3% in the control group. The "sorai" is cheap and was well accepted by the local communities; its narrow neck prevented the introduction of the hand and contamination of the stored water.
- 0972 Galil, A.; Autverg, R.; et al. INVOLVEMENT OF INFANTS, CHILDREN AND ADULTS IN A ROTAVIRUS GASTROENTERITIS OUTBREAK IN A KIBBUTZ IN SOUTHERN ISRAEL. *Israeli Journal of Medical Science*, vol. 21, no. 2, February 1985, 176.
- This article describes the outbreak of diarrhea caused by rotavirus in Israel.
- 0446 Gelfand, H. NOTES FOR INVESTIGATORS PLANNING TO UNDERTAKE EPIDEMIOLOGICAL RESEARCH IN DIARRHOEAL DISEASE CONTROL. *World Health Organization, WHO/CDD*, 23 June 1981, 18 p.
- These notes and comments were prepared to assist health workers who are planning to conduct community-based, risk-factor or cause-oriented research. They provide certain fundamental guideposts and point to pitfalls to be avoided.
- 0678 Glass, R.; Alim, A.; et al. CHOLERA IN INDONESIA: EPIDEMIOLOGIC STUDIES OF TRANSMISSION IN ACEH PROVINCE. *American Journal of Trop. Med. Hyg.*, 33, No. 5, 1984, 933-939.
- To determine modes of transmission of cholera in the regency of Pedie, Indonesia, and to consider strategies for its control, laboratories were set up to identify patients with *V. cholerae*. Between 12 July and 15 Aug. 1982, 63 of 138 suspected cholera causes were confirmed. However, no single, indisputable mode of transmission for cholera was identified. Several explanations were offered.
- 1959 Guba, D. DIARRHOEAL DISEASES IN 520 CASES ADMITTED TO JIJIGA HOSPITAL, EAST ETHIOPIA. *Ethiopian Medical Journal*, vol. 25, 1987, 199-202.
- This article describes a study of 520 cases of diarrhea admitted to a hospital in east Ethiopia. The cases were analyzed according to sex, source of water, family contact, age, habits of excreta disposal, and outcome of disease.

- 0136 Guerrant, R.; Kirchhoff, L. PROSPECTIVE STUDY OF DIARRHEAL ILLNESSES IN NORTHEASTERN BRAZIL: PATTERNS OF DISEASE, NUTRITIONAL IMPACT, ETIOLOGIES AND RISK FACTORS. *Journal of Infectious Diseases*, December 1983, vol. 48, no. 6, 986-997.
- In a study based on prospective village surveillance over 30 months, diarrhea was found to occur 7 times per/child year between 6-11 months among the poorest. During the weaning period, diarrhea increased 5-fold. *E. coli* accounted for 24% of diarrheal episodes; rotavirus for 19%. Diarrheal season is in January and February.
- 1724 Gyr, K.; Meier, R. ACUTE INFECTIOUS DIARRHEA. *Tropical Med. Parasit.*, vol. 28, 1987, 236-238.
- This review deals with the epidemiology of acute infectious diarrhea in Third World countries. It also reports on advances in modern case management, oral rehydration, antibiotic therapy and problems of host resistance and transmission.
- 1136 Hassouna, W.A. INCIDENCE OF DIARRHEAL-ASSOCIATED ILLNESS IN CHILDREN AGED TWO YEARS AND UNDER IN EIGHT EGYPTIAN GOVERNORATES: FINAL REPORT - FIRST CYCLE, 1985 CENSUS OF CHILDREN. Egypt, Ministry of Health, 2 May 1985.
- This study was conducted to obtain needed baseline data on childhood morbidity and mortality from diarrhea in Egypt.
- 0750 Hughes, J.M.; Boyce, J.M.; et al. WATER AND THE TRANSMISSION OF EL TOR CHOLERA IN RURAL BANGLADESH. ICDDR,B, Working Paper no. 2, December 1977, 26 p.
- During the 1973-74 cholera season an investigation was conducted in the Matlab Field trial area to determine the appropriate cholera case finding techniques for the 1974 toxoid field trial, and to elucidate the role of water in cholera transmission. Observations suggest that water may be important in the transmission of cholera in the Matlab field surveillance area.
- 0003 Hughes, S. ACUTE SECRETORY DIARRHOEAS. CURRENT CONCEPTS IN PATHOGENESIS AND TREATMENT. *Drugs*, 1983, vol. 26, 80-90.
- This is a general description of the problem of diarrheal disease, pathogenesis and treatment. The importance of ORT is highlighted, along with nutritional considerations.

- 1190 Huppertz, H.I. AN EPIDEMIC OF BACILLARY DYSENTERY IN WESTERN RWANDA 1981-1982. *The Central African Journal of Medicine*, vol. 32, no. 3, March 1986, 79-82.

An epidemic due to *Shigella dysenteriae* 1 resistant to various drugs occurred in the Cyangugu province of Rwanda from 1981-1982. Duration of illness was about one week without proper chemotherapy. This article discusses the details of the epidemic, including environmental circumstances. Five percent of the Rwandan population was affected by the epidemic.

- 0679 Khan, M.V.; Khan, M.R.; et al. ALUM POTASH IN WATER TO PREVENT CHOLERA. *The Lancet*, 3 November 1984, 1032.

This letter suggests the use of alum potash for water purification in the prevention of cholera transmissions and outbreaks.

- 0055 King, M.; King, F.; Martodipoero, S. DIARRHOEA. *Primary Health Care: A Manual for Health Workers*, Oxford University Press, 110-120.

This chapter presents an overview of the causes, symptoms, and prevention of diarrhea. It discusses the epidemiological aspects of diarrhea and health education of ORT.

- 00196 Korzeniowski, O.; Dantas, W.; Trabulsi, L.; et al. A CONTROLLED STUDY OF ENDEMIC SPORADIC DIARRHOEA AMONG ADULT RESIDENTS OF SOUTHERN BRAZIL. *Transactions Royal Society Tropical Medicine & Hygiene*, 1984, vol. 78, 363-69.

Potential pathogens were identified in 43 adult patients suffering from summer diarrhea and in 17 members of a control group. The study shows that LT-producing *E.coli* are often carried asymptotically by adults living in endemic areas.

- 1650 Lanata, C.; Black, R.; Gilman, R.; et al. EPIDEMIOLOGY OF PROLONGED DIARRHEA IN LIMA, PERU: ANNUAL REPORT 1985. *World Health Organization*, 1985.

This study was conducted in Lima, Peru, and attempted to 1) evaluate possible definitions of prolonged diarrhea based on outcomes, such as growth faltering, using prospectively collected data, 2) describe and quantify the problem of prolonged diarrhea, 3) identify important risk factors for prolonged diarrhea, and 4) refer appropriate patients for more intensive study of the mechanisms of prolonged diarrhea.

- 0709 Lemp, G.F.; Woodward, W.E.; et al. THE RELATIONSHIP OF STAFF TO THE INCIDENCE OF DIARRHEA IN DAY-CARE CENTERS. *American Journal of Epidemiology*, 120, no. 5, 1984, 150-158.
- A survey of 60 day-care centers in Houston, Texas revealed 986 cases of diarrhea in a period of 8 months. The higher rates of diarrhea were observed in centers where daily duties of meal preparation, food service and diapering were combined. The results suggest that staff members may play a role in transmission through daily duties.
- 1509 Levine, M. INFANTILE DIARRHEA: ETIOLOGIES AND NEWER TREATMENT. *Pediatric Annals*, January 1985, vol. 14, no. 1, 15-18.
- This article reviews the history of pediatric gastroenterology, the introduction of ORT, and the etiologies of infantile diarrhea.
- 0094 Levine, M.; Edelman, R. ACUTE DIARRHEAL INFECTIONS IN INFANTS I. EPIDEMIOLOGY, TREATMENT, AND PROSPECTS FOR IMMUNOPROPHYLAXIS. *Hospital Practice*, December 1979, 89-100.
- Epidemiologic differences that appear to be geographic or climactic actually relate more closely to socioeconomics and sanitation. Regardless of etiology, the major management problems are those of dehydration and its sequelae. Progress toward development of antibacterial and antiviral vaccines is discussed.
- 0176 Levine, M.; Black, R.; Lanata, C.; et al. PRECISE ESTIMATION OF THE NUMBERS OF CHRONIC CARRIERS OF SALMONELLA TYPHI IN SANTIAGO, CHILE, AND ENDEMIC AREA. *Journal of Infectious Disease*, December 1982, vol. 146, no. 6, 724-726.
- In 1980 Chile experienced a crude prevalence of 694 carriers per 100,000 population. Thus the recommendation was made for a typhoid control program which includes the identification of carriers followed by health education and therapeutic interventions.
- 1623 Macaden, R.; Bhat, P. CHANGING PATTERN OF SHIGELLA SEROTYPES IN A SOUTHERN INDIAN POPULATION. *Journal of Diarrhoeal Disease*, June 1986, 4(2), 77-80.
- A hospital-based study of acute diarrheal diseases in children under 12 in Bangalore, India, identified shigellosis as the predominant illness. The study region was found endemic for shigellosis caused by shigella Flexneri. They showed resistance to antibiotics. The changing pattern in the prevalent Shigella with altered antimicrobial resistance stresses the need for continuous surveillance.

- 1961 Mbwatte, T.S. CHOLERA OUTBREAKS IN TANZANIA. *Journal of the Royal Society of Health*, vol. 4, 1987, 134-136.
- The epidemiological history of cholera in Tanzania is reviewed in this article, including transmission, Government attempts to curb epidemics, and their effectiveness.
- 0933 Miller, C.J.; Feachem, R.; Drasar, B.S. CHOLERA EPIDEMIOLOGY IN DEVELOPED AND DEVELOPING COUNTRIES: NEW THOUGHTS ON TRANSMISSION, SEASONALITY AND CONTROL. *The Lancet*, Feb. 2, 1985, pp. 261-263.
- Four mechanisms of cholera transmission are discussed in this article, and one - cholera transmission in an.
- 1278 Monsur, K.A. EPIDEMIOLOGY OF ESCHERICHIA COLI-AN IMPORTANT BUT NEGLECTED FIELD (EDITORIAL). *Journal Diarrhoeal Diseases Research*, vol. 3, no. 3, September 1985, 128-30.
- This article supports the continued experiments and studies of E. coli and explains why these continued efforts are necessary.
- 1280 Monsur, K.A.; Miah, A.L.; Huq, M.I.; et al. USE OF BACTERIOPHAGE AS A MARKER FOR IDENTIFICATION OF FRESHLY-ISOLATED INDIVIDUAL ESCHERICHIA COLI STRAINS. *J. Diarrhoeal Diseases Research*, vol. 3, no. 3, September 1985, 131-137.
- This article describes the practicality of using phage patterns for studying the dynamics of E. coli population. The practicality of using phage patterns is demonstrated by its ability to detect changes in the E. coli population in a single patient.
- 0951 Morris, J.; Black, R. CHOLERA AND OTHER VIBRIOSES IN THE UNITED STATES. *New England Journal of Medicine*, vol. 312, no. 6, 7 Feb. 1985, 343-350.
- The clinical aspects of cholera in the US and its similarities of cholera with other nations are discussed in this article.
- 1282 Mutanda, L.N.; Kangethe, S.K.; Juma, R.; et al. AETIOLOGY OF DIARRHOEA IN MALNOURISHED CHILDREN AT KENYATTA NATIONAL HOSPITAL. *East African Medical J.*, December 1985, 835-841.
- The incidence of enteric pathogens was studied in children who had diarrhea alone and children who had diarrhea and kwashiorkor or diarrhea and marasmus. Mixed infections, especially those of enteropathogenic E. coli and rotavirus, occurred more often in children who were malnourished than in the normal ones.

- 1283 Nelson, J.D. ETIOLOGY AND EPIDEMIOLOGY OF DIARRHEAL DISEASES IN THE UNITED STATES. *American J. Medicine*, 28 June 1985, vol. 78, suppl. 6b, 76-80.

The article traces the incidence of and diagnostic techniques for many diarrhea agents in the United States. The various studies cited show widely different patterns of etiology and epidemiology of diarrheas in the United States. Generalization is difficult because of variance in environmental and host factors.

- 1092 Nobano, D. THE PATTERN OF CHILDHOOD DEATHS IN EASTERN NEPAL: REPORT OF A RETROSPECTIVE STUDY. *Nepal Journal*, vol. 2, 1983, 74-91.

Information about deaths in childhood was collected retrospectively from parents in 100 households sampled in East Nepal. Of 634 children who were reported to have died aged less than 10 years, 26% had diarrhea as a symptom at the time of death.

- 1964 Ratnaike, R.N.; Collings, M.; Dorward, S.K. DIARRHOEAL DISEASE IN AN ABORIGINAL COMMUNITY. *European Journal of Epidemiology*, vol. 3, September 1987, 312-315.

A study was undertaken in an Aboriginal community in Australia which investigated the incidence and prevalence of diarrhea and the extent to which the community regarded diarrhea as a problem.

- 0733 Rohde, J.; Northrup, R. MICROORGANISMS IN CHILDHOOD DIARRHEA. *Epidemiological Bulletin, PAHO*, 3, no. 2, 1982, 9-10.

In addition to the well-known microbial causes of human diarrhea, rotavirus, *Campylobacter* and *Yersinia* are now recognized and knowledge of the mechanisms involved in *E. coli* diarrhea has grown. Epidemiological studies have highlighted the world-wide importance of rotavirus and *E. coli* diarrhea, and this review concentrates on these organisms.

- 0540 Roure, C. ENQUETES DE MORBIDITE/MORTALITE PAR MALADIES DIARRHEIQUES CHEZ LES ENFANTS DE MOINS DE 5 ANS EN REPUBLIQUE UNIE DU CAMEROUN, EN REPUBLIQUE CENTRAFRICAINE, EN REPUBLIQUE TCHAD. World Health Organization, 9/29/83 - 12/16/83, 42 p.

This is a survey of morbidity and mortality caused by diarrhea in children under 5.

- 0041 Roy, S.; Chowdhury, A.; Ranaman, M. EXCESS MORTALITY AMONG CHILDREN DISCHARGED FROM HOSPITAL AFTER TREATMENT FOR DIARRHOEA IN RURAL BANGLADESH. *British Medical J.*, 15 October 1983, vol. 237, 1097-99.

Five hundred fifty-five children under 3 were followed for 1 year after treatment for diarrhea at ICDDR,B. Severely malnourished children suffered a mortality rate 14 times higher than well-nourished children. The highest risk period was shown to be first 3 months following discharge. It is concluded that a priority need is nutritional rehabilitation for malnourished children who contract diarrhea.

- 1936 Salmonsson, S.; Freund, P.; Banda, M. ZAMBIA, CDD/EPI BASELINE SURVEY REPORT. Zambia, Ministry of Health, 1987, 99 p.

This report provides findings from a WHO/UNICEF/PRITECH survey concerning childhood diarrheal disease and immunization levels throughout Zambia. The survey covered the whole country on a sample basis and included data from 8,417 households.

- 1127 Santana, S.; Solimano, G.; Gutierrez-Muniz, J. A STUDY OF POSTNEONATAL DIARRHEAL MORTALITY IN CUBA, 1969-1978: CONCEPTUAL FRAMEWORK AND METHODOLOGY. Center for Population and Family Health, New York, Sept. 1984, Working Paper no. 10, 23 p.

The objective of this study is to determine the contribution of specific medical and nonmedical interventions to the decline in postneonatal diarrheal mortality in Cuba over a 10-year period. As a result of this analysis, models will be developed to explain the specific mechanism responsible for the decrease in infant mortality due to diarrheal disease in Cuba.

- 1709 Sen, D.; Sengupta, P.; Bhattacharya, S.K. EPIDEMIC SHIGA BACILLUS DYSENTERY IN PORT BLAIR, ANDAMAN AND NICOBAR ISLANDS, INDIA. *Journal of Diarrhoeal Disease Research*, September 1986, vol. 4, no. 3, 161-162.

Andaman and Nicobar Islands, a Union Territory of India, experienced 3057 cases of acute diarrhea and 28 deaths since January 1986. The total population of the affected area was 91,359. These figures far exceeded the dysentery admissions recorded during the corresponding period in previous years.

- 1137 Sinai Consultation Group. INCIDENCE OF DIARRHEA-ASSOCIATED ILLNESS IN CHILDREN AGED TWO YEARS AND UNDER IN EIGHT EGYPTIAN GOVERNORATES: FINAL REPORT, 1986 SECOND-ROUND CENSUS OF CHILDREN. Egypt, Ministry of Health, April 1986.

This study was conducted to obtain needed baseline information on childhood morbidity and mortality from diarrhea in Egypt. It is the final report of the second-year, double-round survey.

- 0158 Snyder, J.; Merson, M.; MAGNITUDE OF THE GLOBAL PROBLEM OF ACUTE DIARRHOEAL DISEASE. A REVIEW OF ACTIVE SURVEILLANCE DATA. Bulletin of the World Health Organization, 1982, vol. 60, no. 4, 605-613.
- Data from 24 published studies were analyzed in order to estimate the annual morbidity and mortality from acute diarrheal disease in the developing world. For children under 5 years old, the median incidence of diarrhea was 2.2 episodes per child per year for all studies.
- 0965 Soave, R.; Ma, P. CRYPTOSPORIDIOSIS: TRAVELER'S DIARRHEA IN TWO FAMILIES Arch Inter Med, vol. 145, no. 1, January 1985, 70-72.
- This article recommends that cryptosporidiosis be included in the differential diagnosis of traveler's diarrhea. This conclusion is derived from a study of five Americans in two unrelated families who were diagnosed with cryptosporidiosis after returning from Africa.
- 0134 Stevens, W.K. DIARRHEA PERSISTS AS SCOURGE OF THE THIRD WORLD. New York Times, 3 May 1983, C2.
- The etiology and epidemiology of diarrheal diseases in the Third World are described in this article.
- 0198 Sullivan, P.; Woodward, W.; Pickering, L.; et al. LONGITUDINAL STUDY OF OCCURRENCE OF DIARRHEAL DISEASE IN DAY CARE CENTERS. American J. Public Health, 1984, vol. 74, no. 9, 987-91.
- Sixty day care centers in Texas were surveyed for the incidence of diarrhea over 2 years. The overall incidence was .44 episodes per child per year. Incidence was associated with characteristics of the day care centers. It was estimated that the average head of household lost 4.7 work days a year because of diarrhea in a day care center child.
- 1932 Troncoso, M.H.; Bustos, M.E.M.; Soto, V.G.; et al. CARACTERACION DE ESCHERICHIA COLI ENTEROINVASORA EN LACTANTES CON DIARRHEA AGUDA. Revista Medical de Chile 114, 1986, 195-198.
- This article looks at the role of EIEC in diarrheal disease in children under 2 years old. The study found that for children under two the isolation rate of EIEC is comparable to that of Salmonella.
- 0353 Walsh, J. ESTIMATING THE BURDEN OF ILLNESS IN THE TROPICS. McGraw-Hill, New York, 1984, 1073-1085, Tropical and Geographical Medicine.
- Methods for measurement of morbidity and mortality data in tropical nations are discussed in this chapter. Improved health in developing countries will require priority goals of improvements in immunization, hygiene, nutrition, housing, water supply and socioeconomic status.

- 1965 Wanke, C.A.; Lima, A.A.; Guerrant, R. INFECTIOUS DIARRHOEA IN TROPICAL AND SUBTROPICAL REGIONS. *Bailliere's Clinical Gastroenterology*, vol. 1, no. 2, April 1987, 325-359.

Diarrheal diseases are among the most important health problems in the world today, being the most common cause of death in young children in the developing world. This chapter discusses the epidemiology, pathogenic mechanisms and clinical presentation of the common bacterial and viral pathogens.

- 0432 WHO. GUIDELINES FOR A SAMPLE SURVEY OF DIARRHOEAL DISEASE MORBIDITY AND MORTALITY AND TREATMENT RATES. World Health Organization, WHO/CDD/SER/84.6, 1984, 29 p.

This document outlines a simplified survey methodology for the measurement of diarrhea morbidity, mortality and treatment rates. It replaces the guidelines in a previous document, *Manual for the Planning and Evaluation of National Diarrheal Disease Control Programmes* (WHO/CDD/SER/81.5).

- 1900 WHO. REPORT OF THE FIRST MEETING OF THE SCIENTIFIC WORKING GROUP ON EPIDEMIOLOGY AND DISEASE PREVENTION. World Health Organization, WHO/CDD/EDP/86.1, February 1986, 5 p.

The first meeting of the Scientific Working Group on Epidemiology on Disease prevention of the Diarrheal Disease Control Program was held in Geneva from 5-7 February 1986. This report recounts the meeting and lists the participants.

- 1899 WHO. REPORT OF THE SECOND MEETING OF THE SCIENTIFIC WORKING GROUP ON EPIDEMIOLOGY AND DISEASE PREVENTION. World Health Organization, WHO/CDD/EDP/86.2, 1986, 6 p.

The second meeting of the Scientific Working Group on Epidemiology and Disease Prevention of the Diarrheal Disease Control Program was held in Geneva from 17-19 September 1986. This report recounts that meeting and lists the participants.

- 1673 WHO. WORLD MALARIA SITUATION, 1984 OVERVIEW. *Weekly Epidemiological Record*, no. 18, 2 May 1986, 5 p.

This is a summary of a report published in *World Health Statistics Quarterly*, vol. 36, no. 2, 1986. It assesses the global state of malaria in 1984 in Africa, the Americas, Asia and Europe.

0809 Widdus, R. ESTIMATION OF THE DISEASE BURDEN RESULTING FROM
VARIOUS DIARRHOEAL PATHOGENS. National Academy of Sciences, letter, 8
March 1985.

Few, if any publications provide the data necessary for estimating the global morbidity and mortality burdens that arise from specific pathogens that cause diarrhea.

Diarrhea Agents

- 0315 DRUG RESISTANCE IN SALMONELLA. *The Lancet*, 19 June 1982, 1391-1392.

Drug resistance in salmonella has reached a critical level. We are now faced with the possibility that drug use has contributed to this resistance, providing selective pressure which assists in the disease dissemination.

- 0230 GIARDIASIS AND WATER. *The Lancet*, 31 May 1980, 1176.

Giardia lamblia is now firmly established as an intestinal pathogen in both children and adults. It is the most frequent intestinal parasite in Britain and the U.S.A. Giardiasis is acquired by the ingestion of viable cysts contained in fecally contaminated drink or food or by hand contact. During the past decade there have been many reports throughout the world of common-source outbreaks in which water has been implicated as the vehicle.

- 0127 MUTANT V. CHOLERAЕ STRAINS FOUND TO CAUSE DISEASE. *Glimpse*, May 1983, vol. 5, no. 3, 1-3.

Scientists at ICDDR,B have isolated a new, potent cholera toxin by testing 12 marine related mutants for virulence. The article calls for further study of gene deficient *V. cholerae* organisms.

- 0503 Ackers, J.; Owen, R.L.; Knight, R.; et al. GIARDIASIS. *Transaction Royal Society Tropical Medicine and Hygiene*, 1980, vol. 74, no. 4, 427-48.

This collection of articles covers the topics of: 1) Parasitology; 2) Ultrastructural basis; 3) Epidemiology and transmission; 4) Malabsorption; 5) Immunodeficiency; 6) Immune Response; and 7) Intestinal Abnormalities.

- 1134 Addy, P.; Aikins-Bekoe, P. CRYPTOSPORIDIOSIS IN DIARRHOEAL CHILDREN IN KUMASI, GHANA. *The Lancet*, March 29, 1986, 735.

The data presented in this article by the authors suggest that cryptosporidiosis should be considered an important childhood diarrheal disease in Ghana. Because the clinical symptoms are not easily differentiated from diarrheas of other etiologies, laboratory investigation is encouraged.

- 1489 Aggarwal, P.; Singh, S.M.; Bhattacharya, M.M. AN OUTBREAK OF FOOD POISONING IN A FAMILY DUE TO SALMONELLA WELTEVREDEN AT DELHI. *J. Diarrhoeal Disease Research*, December 1985, vol. 3, no. 4, 224-25.

This letter reports an outbreak of the uncommon *Salmonella Weltevreden* which seemed to be caused by the consumption of stale rye, rather than milk or cross infection in a hospital as reported in two previous studies.

- 1538 Albert, M.J. SIGNIFICANCE OF CRYPTOSPORIDIUM AND OTHER ENTERIC PATHOGENS IN DEVELOPING COUNTRIES. *Lancet*, 19 April 1986, 921.
- This letter notes that other pathogens besides cryptosporidium have been isolated from a high proportion of normal individuals without diarrhea in developing countries. More thorough studies are needed to determine if pathogens in symptomless carriers are virulent; and if antibodies to the suspected pathogens are produced following acute diarrheal episodes. The pathogenesis of mixed microbial infections needs to be further examined in quantitative studies.
- 1160 Amin, N.M. CAMPYLOBACTER-CAUSED DIARRHEA: WHO IS AT RISK? WHAT TO WATCH FOR. *Postgraduate Medicine*, vol. 75, April 1984, 89-97.
- Campylobacter jejuni* is now recognized as one of the most common causes of human infectious diarrhea. This article reviews pathology, epidemiology, diagnosis, treatment and prevention measures.
- 1705 Anh, D.T.; Chan, N.V. PRELIMINARY STUDY ON ROTAVIRUS DIARRHOEA IN HOSPITALIZED CHILDREN AT HANOI. *Journal of Diarrhoeal Disease Research*, June 1986, vol. 4, no. 2, 81-82.
- The aim of this study was to investigate the role of rotavirus in the etiology of acute diarrhea in urban Vietnamese children.
- 1531 Aung, M.H.; Khin-Maung, U.; Thein H.L.; et al. EPIDEMIOLOGICAL MODEL OF ACUTE BACTERIAL AND VIRAL DIARRHOEAL DISEASES. *Journal of Diarrhoeal Diseases Research*, June 1985, vol. 3, no. 2, 65-72.
- The authors constructed an epidemiological model on the dynamics of acute diarrheal diseases that appears to be a useful tool for planning and evaluating control programs. Further validation and refinement of the model are needed to accommodate age structuring, seasonality and adaptation to specific infections.
- 0407 Aziz, K.; Rahaman, M. THE EMERGENCE AND THE DECLINE OF EPIDEMICS DUE TO SHIGELLA DYSENTERIAE TYPE 1 AND S. FLEXNERI IN BANGLADESH BETWEEN 1971 AND 1978: SOME NEW LESSONS LEARNED. ICDDR,B, 6 p.
- Fluctuations in the incidence of *Shigella* in Bangladesh since 1970 are reviewed in this chapter. Cycles of very virulent, multiresistant strains of *S. dysenteriae* occurred following the war in Bangladesh (1971).

- 1519 Barakamfitye, D.; Barua, D.; Buriot, D. CHOLERA CONTROL. World Health, April 1986, 21-22.

Cholera can best be controlled through measures implemented between outbreaks. The same sanitation and hygiene measures for diarrheal disease control are the best control strategies for cholera. Treatment with ORS and antibiotics are the most effective, and when close to the site of outbreak can avoid spread and reduce fatalities to 1%.

- 1508 Bartlett, J.G. ANTIMICROBIAL AGENTS IMPLICATED IN CLOSTRIDIUM DIFFICILE TOXIN-ASSOCIATED DIARRHEA OR COLITIS. Johns Hopkins Medical J., 1981, vol. 149, 6-9.

The report summarizes the effects of antimicrobials implicated in diarrheal complications associated with *C. difficile*. In toxin-associated diarrhea occurring after receiving antibiotics, *C. difficile* usually appears to be the responsible toxin.

- 1503 Bender, B.S.; Laughon, B.E.; Gaydos, C.; et al. IS CLOSTRIDIUM DIFFICILE ENDEMIC IN CHRONIC CARE FACILITIES? The Lancet, 5 July 1986, 11-13.

An outbreak of clostridium difficile in a chronic care diarrheal facility led to a seven-month investigation of the source of the infection and attempts to eradicate it. New cases were both nosocomially contracted or introduced from outside the facility. *C. difficile* occurs in the presence of antibiotic use, increasing in frequency with advancing age, and was fatal in 34% of cases studied. *C. difficile* may be endemic in many long term care facilities for the elderly.

- 0246 Black, R. THE PROPHYLAXIS AND THERAPY OF SECRETORY DIARRHEA. Medical Clinics North America, May 1982, vol. 66, no. 3, 611-21.

The clinical and epidemiological features of diarrhea caused by *E. coli* and cholera are examined in this article. Discusses prevention and treatment of dehydration.

- 0380 Black, R.; Merson, M.; Rahman, M.; et al. A TWO YEAR STUDY OF BACTERIAL, VIRAL AND PARASITIC AGENTS ASSOCIATED WITH DIARRHEA IN RURAL BANGLADESH. Journal of Infectious Disease, November 1980, vol. 142, no. 5, 660-664.

This article describes a two-year study of enteric pathogens associated with diarrhea. General trends indicated that ETEC were active agents during the hot dry months and hot wet months and affected all ages. Rotavirus peaked during the cool dry months and 50% of the 2 year old or younger patients were identified as carrying rotavirus.

- 0100 Black, R.; Merson, M.; Rowe, B.; et al. ENTEROTOXIGENIC ESCHERICHIA COLI DIARRHOEA: ACQUIRED IMMUNITY AND TRANSMISSION IN AN ENDEMIC AREA. *Bulletin of the World Health Organization*, 1981, vol. 52, no. 2, 263-268.
- Studies made in an endemic area of Bangladesh, of patients with *E. coli* associated diarrhea, revealed that both the rate of infection and the proportion of infected persons with diarrhea decreased with increasing age. Acquired immunity is thus suggested.
- 0240 Black, R.; Dykes, A.; Sinclair, S.; et al. GIARDIASIS IN DAY-CARE CENTERS: EVIDENCE OF PERSON-TO-PERSON TRANSMISSION. *Pediatrics*, October 1977, vol. 60, no. 4, 486-91.
- This article examines the cause of diarrheal outbreak and prevalence in 3 day-care centers. 29-54% of children between 6 months and 3 and 1/2 years old had *G. lamblia* infection. Transmission by direct child-to-child contact is suggested.
- 0110 Black, R.; Levine, M.; Young, C. IMMUNOGENICITY OF TY21A ATTENUATED SALMONELLA TYPHII SODIUM BICARBONATE OR IN ENTERIC-COATED CAPSULES. *Developmental Biology Standard*, 1983, vol. 53, 9-14.
- The efficacy of an oral vaccine, Ty21a, as a method of typhoid immunization is discussed in this article.
- 0249 Black, R.; Jackson, R.J.; Tsai, T.; et al. EPIDEMIC YERSINIA ENTEROCOLITICA INFECTION DUE TO CONTAMINATED CHOCOLATE MILK. *New England Journal of Medicine*, January 1978, 298.
- This article reviews the causes of contamination resulting in outbreaks of illness due to *Yersinia enterocolitica*. Bacterium were found to be introduced at the dairy. Of 36 children hospitalized because of the outbreak, 16 had appendectomies.
- 0967 Brandt, C.D.; Rodriguez, W.L.; et al. ADENOVIRUSES AND PEDIATRIC GASTROENTERITIS. *Journal of Infectious Diseases*, vol. 151, no. 3, March 1985, 437-443.
- Adenoviruses were found in 8.6% of 900 pediatric inpatients with diarrhea. From the one year study, authors conclude that enteral adenoviruses are endemic in the D.C. area.

- 1507 Branski, D. SPECIFIC ETIOLOGIES OF CHRONIC DIARRHEA IN INFANCY. In Chronic Diarrhea in Children, New York, Raven, Nestle Nutritional Workshop Series, no. 6. 1984, 107-145.
- This is a good series on the etiology and pathogenic mechanisms of chronic diarrhea. Even in the absence of an exact diagnosis, symptomatic treatment can enable infants to grow and overcome the effects of malabsorption. The author also summarizes approaches to therapy for diarrheas of different etiologies.
- 1524 Broor, S.; Singh, V.; Gautam, S.; et al. ROTAVIRUS DIARRHEA IN CHILDREN IN CHANDIGARH, INDIA. Journal of Diarrhoeal Diseases Research, vol. 3, no. 3, September 1985, 158-61.
- This study assesses the relative frequency, seasonal variation, and clinical picture of diarrhea in Punjab, India, and analyzes the factors affecting the severity of rotavirus diarrhea.
- 0697 Butler, T.; Islam, M.; et al. ISOLATION OF YERSINIA ENTEROCOLITICA AND Y. INTERMEDIA FROM FATAL CASES OF DIARRHOEAL ILLNESS IN BANGLADESH. Transactions of the Royal Society of Tropical Medicine Hygiene, 78, 1984, 449-450.
- Detection of the uncommon Yersinia species in 3 fatal cases of diarrhea in Bangladesh suggests that Yersinia could be an important and serious pathogen of severe tropical diarrhea.
- 1549 Butler, T.; Bennish, M.; Schachter, J.; et al. SEROLOGICAL EVIDENCE FOR CHLAMYDIAL INFECTION IN PATIENTS WITH ACUTE DIARRHOEA. Transactions Royal Society Tropical Medicine and Hygiene, 1985, vol. 79, 42-43.
- This article discusses a preliminary study to test for the presence of chlamydia trachomatis in patients with diarrhea in Bangladesh. Positive results indicate a possible causal relationship between chlamydial infection and diarrhea in Bangladesh.
- 0087 Cassuto, J.; Jodal, M.; Lundgren, O. THE ENTEROCHROMAFFIN CELLS, THE ENTERIC NERVOUS SYSTEM AND CHOLERA SECRETION. Upsala Journal of Medical Sciences, Supplement, 1983, 59-62.
- This article discusses the nervous and hormonal systems in the pathophysiology of cholera secretion.

- 0299 Clemens, J.; Ahmed, M.; Butler, T.; et al. ROTAVIRUS DIARRHOEA; AN EXPANDING CLINICAL SPECTRUM. *J. Tropical Medicine and Hygiene*, 1983, vol. 83, 117-122.
- The clinical spectrum of rotavirus infections may include an invasive diarrheal syndrome that differs in several respects from the more widely appreciated watery diarrheal syndrome.
- 0235 Clements, M.; Levine, M.L.; Ristaino, P.; et al. EXOGENOUS LACTOBACILLI FED TO MAN - THEIR FATE AND ABILITY TO PREVENT DIARRHEAL DISEASE. *Progress in Food and Nutrition Science*, 1983, vol. 7, 29-37.
- Clinical and microbiological studies evaluated the ability of lactobacilli to prevent *E. coli* diarrhea and to reduce diarrhea.
- 0098 Clements, M.; Levine, M.; Black, R. LACTOBACILLUS PROPHYLAXIS FOR DIARRHEA DUE TO ENTEROTOXIGENIC ESCHERICHIA COLI. *Antimicrobial Agents & Chemotherapy*, July 1981, vol. 20, no. 1, 104-8.
- This study presents data that suggest lactobacilli (in the form of lactinex yogurt, buttermilk, etc.) do not prevent or alter the course of ETEC diarrhea in adults.
- 1530 Coiro, J.R.R.; Nete, A.J.; De Almeida Heuser, M.C.F.; et al. ACUTE ENTERITIS ASSOCIATED WITH ROTAVIRUS PRESENCE IN BRAZILIAN CHILDREN: EVALUATIONS ON PREVALENCE, THERAPY, AND AGE GROUP. *Journal Diarrheal Diseases Research*, June 1985, vol. 3, no. 2, 78-83.
- Thirty-eight percent of 236 under-five children examined in Brazilian state capitals were positive for rotavirus. 37.89% of the rotavirus-positive cases were treated by rehydration alone. Rotavirus was detected most frequently in children up to age one.
- 0128 Coiro, J.R.R.; Bendati, M.M. de H.; De Almeida, A.J.; et al. ROTAVIRUS INFECTION IN BRAZILIAN CHILDREN WITH ACUTE ENTERITIS: A SEASONAL VARIATION STUDY. *American Journal Tropical Medicine*, 1983, vol. 32, no. 5, 1186-1188.
- Enzyme immunoassay and electron microscopy were used to investigate the presence of rotavirus in feces of 388 children with acute enteritis. There was a dramatic increase in incidence during January (78% of all cases).
- 1506 Cook, I.F. MALARIA PREVENTION. *The Lancet*, 26 July 1986, 229.
- The efficacy of the proguanil/chloroquine combination in the context of chloroquine-resistant plasmodium falciparum Malaria has not been demonstrated in properly conducted field trials. Although this combination does not appear to be associated with severe adverse reactions, its use should not be promoted until such efficacy data are available.

- 1984 Cravioto, A.; Reyes, R.E.; Ortega, R.; et al. INCIDENCIA Y ETIOLOGIA DE LA DIARREA AGUDA DURANTE LOS PRIMEROS DOS ANOS DE VIDA DE UNA COHORTE DE NINOS RURALES. *Bol. Med. Hosp. Infant Mex.*, vol. 44, no. 6, June 1987, 316-321.
- The incidence and etiology of acute diarrhea were studied in rural infants during their first two years of life, and the results are reported in this article.
- 1550 Davis, A.; Pawlowski, Z.S.; AMOEBIASIS AND ITS CONTROL: A WHO MEETING. *Bulletin of the World Health Organization*, 1985, vol. 63, no. 3, 417-426.
- Amoebiasis infection by *Entamoeba histolytica* is a major health problem in China, Mexico, eastern S. America, parts of Africa and SE Asia. Its incidence is closely related to sanitation and socioeconomic status. More research is needed into methods of diagnosis, treatment and prevention of amoebiasis.
- 1514 Deb, B.; Sircar, B.K.; Sengupta, P.; et al. STUDIES ON INTERVENTIONS TO PREVENT ELTOR CHOLERA TRANSMISSION IN URBAN SLUMS. *Bulletin of the World Health Organization*, 1986, vol. 64, no. 1, 127-131.
- Transmission of eltor cholera infection in endemic communities continues without diminishing because of the absence of effective intervention measures. Two methods for reducing contamination are recommended; (1) chlorination of stored water; and (2) use of a narrow-necked earthenware vessel (called a sorai) for storing water.
- 1654 Delmee, M.; Michaux, J.; Williams, M. PREVENTION OF CLOSTRIDIUM DIFFICILE OUTBREAKS IN HOSPITALS. *The Lancet*, 9 August 1986, 350.
- Two studies on the prevention of *Clostridium difficile* in a long term hospital ward were conducted. The first study concluded that *C. difficile* could be controlled by systematic examination of stools and by eradication with vancomycin. The other study concluded that caution has to be used in interpreting *C. difficile* in stool specimens, and that control measures should be adopted if a true outbreak appears likely.
- 1501 De Mol, P.; Zissis, G.; Butzier, J.P.; et al. FAILURE OF LIVE, ATTENUATED ORAL ROTAVIRUS VACCINE. *The Lancet*, 12 July 1986, 108.
- During an epidemic of rotavirus diarrhea, the vaccine borine rotavirus RIT was administered to 12 infants aged 3 to 8 months. The vaccine was administered orally immediately after breastfeeding. There was no significant difference in incidence or duration of diarrhea between subject and control groups. It was concluded that the vaccine did not provide protection and that local factors such as breastfeeding may have interfered with the "take" of the vaccine.

- 0031 Dube, S.D.; Bhagwat, A.G. NON-TYPHOIDAL SALMONELLA INFECTION IN ZAMBIAN INFANTS. *Transactions Royal Society Tropical Medicine & Hygiene*, 1983, vol. 77, no. 3, 336-37.
- In this study, 45 strains of various non-typhoidal salmonella species were isolated from 2990 samples of stool, blood and C.S.F. at the University Teaching Hospital in Lusaka, Zambia.
- 0082 DuPont, H. ROTAVIRAL GASTROENTERITIS - SOME RECENT DEVELOPMENTS. *J. Infectious Diseases*, May 1984, vol. 149, 663-66.
- The following three important developments are highlighted in this article: 1) human rotaviruses have been shown to be adaptable to tissue-culture propagation; 2) methods of typing rotavirus have been described that should allow the specific characterization of human strains by biochemical or antigenic analyses; and 3) attenuated rotaviruses have been discovered or derived.
- 0205 Echeverria, P.; Seriwatana, J.; Chityothin, O.; et al. DETECTION OF ENTEROTOXIGENIC ESCHERICHIA COLI IN WATER BY FILTER HYBRIDIZATION WITH 3 ENTEROTOXIN GENE PROBES. *J. Clinical Microbiology*, December 1982, vol. 16, no. 6, 1086-90.
- DNA hybridization assay for genes encoding *E. coli* enterotoxins was used to examine water specimens in Thailand. This is a much more sensitive means of detecting organisms carrying such genes than other methods.
- 1529 Echeverria, P.; Harrison, B.A.; Tirapat, C.; et al. FLIES AS A SOURCE OF ENTERIC PATHOGENS IN A RURAL VILLAGE IN THAILAND. *Applied and Environmental Microbiology*, July 1983, vol. 46, no. 1, 32-36.
- The village of Ban Pong in northeastern Thailand was studied from January through December 1981 to determine the importance of flies as a source of enteric pathogens. Flies often carry and presumably disseminate enteric pathogens in rural Thailand.
- 0141 Edelman, R.; Levine, M. SUMMARY OF A WORKSHOP ON ENTEROPATHOGENIC ESCHERICHIA COLI. *J. Infectious Diseases* June 1983, vol. 147, no. 6, 1108-1118.
- This article describes the proceedings of NIH's workshop on EPEC and identifies future research possibilities.
- 0027 Ellis-Pegler, R.B.; Higgs, R.; Lambert, H.P. GASTROENTERITIS IN LONDON AND JAMAICA: A CLINICAL AND BACTERIOLOGICAL STUDY. *J. Hygiene*, 1979, vol. 82, 101-14.
- A comparison of stools from London children suffering from gastroenteritis and those of malnourished Jamaican children also suffering from gastroenteritis, revealed a much higher disease impact where malnutrition is common.

- 0316 Entis, P.; Brodsky, M.; Sharpe, A.; et al. **RAPID DETECTION OF SALMONELLA SPP. IN FOOD BY USE OF THE ISO-GRID HYDROPHOBIC GRID MEMBRANE FILTER.** *Applied Environmental Microbiology*, February 1982, vol. 43, no. 2, 261-268.
- A grid membrane filter appears to be more effective in the detection of salmonella than the previous Health Protection Branch culturing.
- 0209 Fernandez, H.; Toledo, M.; Trabulsi, U. **AISLAMIENTO DE CAMPYLOBACTER JEJUNI EN NINOS CON DIARRREA AGUDA Y CONTROLES SANOS.** *Revista Medica de Chile*, 1984, vol. 112, 238-41.
- The presence of campylobacter jejuni was investigated in 266 children in Sao Paulo. The bacterium was isolated in 6% of the children with acute diarrhea and 9% of the normal children. The study concludes that further research on virulence of strains and epidemiological factors is called for.
- 0081 Ferreccio, C.; Levine, M.; Mantecola, A.; et al. **BENIGN BACTERIA CAUSED BY SALMONELLA TYPHI AND PARATYPHI IN CHILDREN YOUNGER THAN 2 YEARS.** *J. Pediatrics*, June 1984, vol. 104, no. 6, 899-901.
- To determine whether the low reported incidence of typhoid fever in young children represents a lack of consumption of the vehicles that transmit *Salmonella typhi* to older children or whether infection occurs but the infant host manifests an atypical response, blood cultures were performed in children younger than two years with fever.
- 1510 Figueroa, G.; Araya, M.; Ibanez, S.; et al. **ENTEROPATHOGENS ASSOCIATED WITH ACUTE DIARRHEA IN HOSPITALIZED INFANTS.** *J. Pediatric Gastroenterology Nutrition*, 1986, vol. 5, 226-31.
- Thirty-five infants of low socioeconomic status who were living in urban Santiago, and were hospitalized for acute diarrhea were prospectively evaluated for the presence of enteropathogens associated with this episode. Rotavirus, *E. coli*, *Shigella*, *Salmonella*, and *Campylobacter jejuni* were isolated. *Campylobacter* should be included in routine studies of diarrhea episodes.
- 1504 Figura, N.; Marri, L.; Verdiani, S.; et al. **PREVALENCE, SPECIES DIFFERENTIATION, AND TOXIGENICITY OF AEROMONAS STRAINS IN CASES OF CHILDHOOD GASTROENTERITIS AND IN CONTROLS.** *J. Clinical Microbiology*, vol. 23, no. 3, March 1986, 595-99.
- This article describes a one-year study of aeromonas strains isolated from feces of 21 of 561 children with gastroenteritis and 12 of 576 children without intestinal disturbances. It is concluded that in the geographical region of Siena, Italy, there is no evidence that aeromonas species are primary intestinal pathogens in children.

- 0097 Follett, E.A.C.; Sanders, R.C.; Beards, G.M.; et al. MOLECULAR EPIDEMIOLOGY OF HUMAN ROTAVIRUSES. *J. Hygiene*, 1984, vol. 92, 209-22.

The molecular epidemiology of rotavirus infections in Glasgow and the west of Scotland during 1981-82 and 1982-83 was investigated by electron microscopy. In 1981-82, rotaviruses of both the long and the short electropherotype (in different variants) co-circulated from the onset throughout the winter peak of the outbreak and approximately 80% of the children were infected during the first year of life. In 1982-83 the isolated rotaviruses were almost exclusively of the long electropherotype and 36% of the children were infected beyond the first year of life.

- 1542 Fule, R.P.; Kaundinya, D.V. ISOLATION OF SALMONELLAE FROM ACUTE DIARRHOEA PATIENTS IN AMBAJOGAI RURAL AREA. *Indian J. Medical Research*, October 1985, vol. 82, 276-280.

A survey of 468 patients with acute diarrhea was conducted to identify the prevalence of diarrhea-producing salmonella. The most prevalent serotype isolated, *S. typhimurium*, was highly resistant to drugs commonly used in treating acute diarrhea.

- 1382 Furnell, J.R.G.; Speirs, A.L.; Dutton, P.V. CHRONIC NON-SPECIFIC DIARRHOEA. *Archives Disease Childhood*, October 1985, vol. 60, no. 10, 994.

The authors had conducted a study linking non-specific diarrhea to environmental factors, including a personal or familiar stress. A similar assertion is made in the article referred to in this letter, but without confirming evidence.

- 1875 Garbarg-Chenon, A. LES VIRUS DES GASTROENTERITES INFANTILES. *Ann. Pediatr., Paris*, vol. 34, September 1987, 503-507.

This article reviews what is currently known about viruses associated with gastroenteritis, particularly rotavirus, adenoviruses, and Norwalk virus.

- 0250 Gary, G.W.; Jierholzer, J.C.; Black, R. CHARACTERISTICS OF NONCULTIVABLE ADENOVIRUSES ASSOCIATED WITH DIARRHEA IN INFANTS: A NEW SUBGROUP OF HUMAN ADENOVIRUSES. *Journal of Clinical Microbiology*, July 1979, vol. 10, no. 1, 96-102.

This study describes an investigation as to why adenoviral particles could not be cultivated in conventional cell cultures. Specimens from 192 infants having gastroenteritis were examined, and four hypotheses explaining the failure of culturability were investigated. The article suggests that noncultivable viruses are distinct from other human AV groups. The evidence for a causal relationship with gastroenteritis remains inconclusive.

- 1483 George, W.L.; Nakata, M.M.; Thompson, J.; et al. AEROMONAS-RELATED DIARRHEA IN ADULTS. Archives Internal Medicine, December 1985, vol. 145, 2207-11.
- Data from a hospital study in the U.S. indicate that Aeromonas is relatively common in the feces of adults with diarrhea. The study states the need for prospective, controlled clinical and bacteriological studies to determine whether or not Aeromonas is an important enteric pathogen in adults.
- 0238 Gilman, R.; Terminel, M.; Levine, M.; et al. COMPARISON OF TRIMETHOPRIM-SULFAMETHOXAZOLE AND AMOXICILLIN IN THERAPY OF CHLORAMPHENICOL-RESISTANT AND CHLORAMPHENICOL-SENSITIVE TYPHOID FEVER. J. Infectious Disease, December 1975, vol. 132, no. 6, 630-36.
- The efficacy of orally administered trimethoprim-sulfa methoxazole was compared with oral amoxicillin in therapy of typhoid fever. Both were effective. Sixty-four patients with typhoid were treated.
- 0385 Gilman, R.; Davis, C.; Gan, E.; et al. SEROEPIDEMIOLOGY OF AMEBIASIS IN THE ORANG ASLI (WESTERN MALAYSIA ABORIGINE) AND OTHER MALAYSIANS. American J. Tropical Medicine, September 1976, vol. 25, no. 5, 663-666.
- Eighty-seven percent of Orang Asli adults and 79% of their children with acute amebic dysentery were found seropositive in an indirect hemagglutination test. A study was performed to determine the prevalence of the antibody to E. histolytica in Orang Asli patients.
- 1526 Glass, R.; Alim, A.; Eusof, A.; et al. CHOLERA SURVEILLANCE AND TRANSMISSION IN DAERAH ISTIMEWA ACEH, JULY 7-AUGUST 24, 1982. ICDDR,B, Final Report, 1982, 68 p.
- Epidemiologic studies in D.I. Aceh, Indonesia, are described which (1) traced the spread of cholera, (2) ascertained existing cholera surveillance data, (3) established laboratory capability to work with cholera, and (4) surveyed the community for diarrheal disease incidence and the use of ORT for its treatment.
- 1546 Glass, R.I.; Hoimgren, J.; Haley, C.E.; et al. PREDISPOSITION FOR CHOLERA OF INDIVIDUALS WITH O BLOOD GROUP: POSSIBLE EVOLUTIONARY SIGNIFICANCE. American J. Epidemiology, 1985, vol. 121, no. 6, 791-796.
- Blood groups of patients admitted to the Matlab Hospital of ICDDR, B were examined for diarrheal disease between Jan. and Sept. 1979. A significant association was found only for cholera which demonstrates the clearest and strongest ABO blood group relationship of any major infectious disease. This could account for the fact that people living in the Ganges delta have a very low prevalence of gene O and a high prevalence of gene B.

- 1505 Goka, J.A.K.; Mathan, V.I.; Rolston, D.; et al. DIAGNOSIS OF GIARDIASIS BY SPECIFIC IGM ANTIBODY ENZYME-LINKED IMMUNOSORBENT ASSAY. *The Lancet*, 26 July 1986, 184-186.
- To develop a more simple, accurate procedure for identifying Giardia, the authors have done an ELISA to detect serum anti-Giardia IgM. This test is 96% sensitive and specific and is less time-consuming and elaborate than other diagnostic tools.
- 1532 Graham, D.; Estes, M. ROTAVIRUS-LIKE AGENT, RATS, AND MAN. *The Lancet*, 19 October 1985, 886-87.
- The article questions conclusions from a report (Eiden et al. *Lancet*, 6 July, p.8.) that a non-group-A rotavirus first detected in infant rats can cause gastroenteritis in man. The author suggests that the infection was spread from the vivarium to man. They also note that except under highly controlled circumstances, there is no proven instance of a group-A rotavirus strain naturally crossing species boundaries and causing disease.
- 0243 Greenberg, H.; Walt, R.; Kalica, A.; et al. NEW INSIGHTS IN VIRAL GASTROENTERITIS. Alan R. Liss, Inc., 1981, 163-87.
- This document discusses recent studies on rotaviral and Norwalk virus and related diarrhea.
- 0751 Greenough, W.B. VIBRIA CHOLERAEE. International Center for Diarrhoeal Disease Research, Bangladesh, Scientific Report no. 22, April 1979, 40 p.
- Review of current data on *V. cholerae*. Diagnostic methods, current approaches to treatment and preventive measures are examined.
- 1518 Gross, R.J.; Rowe, B.; ESCHERICHA COLI DIARRHEA. *Journal of Hygiene*, vol. 95, 1985, 531-50.
- This article discusses knowledge and studies done on EPEC, ETEC, and EIEC. It explains the different characteristics of each and concludes that administering vaccines for ETEC diarrhea to infants in developing countries presents considerable problems.
- 1943 Guerrant, R.; Wanke, C.A.; Barrett, L.J. A COST EFFECTIVE AND EFFECTIVE APPROACH TO THE DIAGNOSIS AND MANAGEMENT OF ACUTE INFECTIOUS DIARRHEA. *Bulletin of the New York Academy of Medicine*, vol. 63, July-August 1987, 484-499.
- Approaches to definitive etiologic diagnosis and appropriate treatment of infectious diarrhea are discussed, including specific diagnostic tests, vaccines, and ORT.

- 1528 Guerrant, R.; Shields, D.S ; Thorson, S.M.; et al. EVALUATION AND DIAGNOSIS OF ACUTE INFECTIOUS DIARRHEA. *American Journal Medicine*, 28 June 1985, vol. 78, suppl. 6B, 91-98.

Despite widely variant etiologies, the vast majority of acute diarrheal illnesses are most appropriately treated with glucose- electrolyte ORS. Diagnostic tests, such as routine stool cultures, are not only expensive, but are also often ineffective since widely variant pathogens require specialized identification and detection techniques. Diagnostic and management approaches to acute diarrhea should be significantly enhanced by an improved understanding of the pathophysiology of secretory and inflammatory diarrheal illnesses.

- 1488 Haider, K.; Huq, M.I.; Hossain, A.; et al. ELECTROPHEROTYPES OF DS-RNA OF ROTAVIRUS IN INFANTS AND YOUNG CHILDREN WITH GASTROENTERITIS IN BANGLADESH. *J. Diarrheal Diseases Research*, December 1985, vol. 3, no. 4, 219-22.

In this study the authors looked at the occurrence of human rotavirus electropherotypes among patients at the hospital at ICDDR,B. The results provide new information concerning the number of different electropherotypes of human rotavirus in their community.

- 1091 Harari, M.D.; West, B.; Dwyer, B. CRYPTOSPORIDIUM AS CAUSE OF LARYNGOTRACHEITIS IN AN INFANT. *The Lancet*, May 24, 1986, 1207.

This instance of cryptosporidium caused laryngotracheitis is unusual because it occurred in an immunocompetent infant. This case prompts the authors to look further for evidence of cryptosporidium as a respiratory pathogen in children.

- 0944 Hart, C.A.; Baxby, D.; Blundell, N. GASTRO-ENTERITIS DUE TO CRYPTOSPORIDIUM: A PROSPECTIVE SURVEY IN A CHILDREN'S HOSPITAL. *Journal of Infection*, vol. 9, 1984, p. 264-270.

During a 10 month survey of children with gastroenteritis, 27 cases of cryptosporidiosis (1.4% of those tested) were found. Clinical features observed were anorexia, vomiting and abdominal pain. Diarrhea persisted on average for 13 days and resulted in dehydration of patients.

- 1485 Hjelt, K.; Grauballe, P.C.; Andersen, L.; et al. ANTIBODY RESPONSE IN SERUM AND INTESTINE IN CHILDREN UP TO SIX MONTHS AFTER A NATURALLY ACQUIRED ROTAVIRUS GASTROENTERITIS. *Journal of Pediatric Gastroenterology and Nutrition*, 1986, vol. 5, no. 1, 74-80.

This study investigated local and systemic antibody response and their relationship following rotavirus gastroenteritis.

- 1492 Hjelt, K.; Grauballe, P.C.; Schiotz, P.O.; et al. INTESTINAL AND SERUM IMMUNE RESPONSE TO A NATURALLY ACQUIRED ROTAVIRUS GASTROENTERITIS IN CHILDREN. *J. Pediatric Gastroenterology and Nutrition*, 1985, vol. 4, no. 1, 60-66.

A study of 17 children hospitalized for acute gastroenteritis found that thirteen had a rotavirus infection. The patients were tested up to 6 months after the infection and the majority still had the virus in sera and intestinal fluids in patterns identical to those in the acute phase of the disease. These findings could be useful in future evaluations of vaccines and immunity against rotavirus infections.

- 1523 Holley, Jr., H.P.; Dover, C. CRYPTOSPORIDIUM: A COMMON CAUSE OF PARASITIC DIARRHEA IN OTHERWISE HEALTHY INDIVIDUALS. *J Infectious Diseases*, vol 153, no.2, February 1986, 365-68.

This report summarizes 12 months of prospective evaluation of stool specimens submitted for parasitological examination at the Medical University of South Carolina Hospital and clinics. During 1984, cryptosporidium was the most common parasite identified in this laboratory.

- 1544 Holmgren, J.; Lindblad, M.; Fredman, P.; et al. COMPARISON OF RECEPTORS FOR CHOLERA AND ESCERICHIA COLI ENTEROTOXINS IN HUMAN INTESTINE. *Gastroenterology*, 1985, vol. 89, 27-35.

This is a detailed study of the binding sites of cholera and *E. coli* in the human small intestine. The results show almost equal binding titers for *E. coli* LT and cholera toxin. Some variation was observed in test results from different individuals, perhaps linked to ABO blood group, but the sample is too small to test this variable.

- 0008 Holmgren, J.; Svennerholm, A.M. PATHOGENIC MECHANISMS & NEW PERSPECTIVES IN THE TREATMENT & PREVENTION OF ENTERIC INFECTIONS. *Scandinavian J Gastroenteritis*, 1982, Suppl. no. 77, 47-59.

The pathogenesis of diarrheal diseases caused by bacterial and viral enterotoxins and parasites is reviewed in this article, along with recent developments in vaccines against typhoid, shigella, cholera, and rotavirus. Other methods of receptor blockade as a preventive treatment, antisecretory drugs, and ORS are covered as well.

- 0354 Hopkins, D.; Gaspard, G.; Williams, Jr., F.; et al. A COMMUNITY WATERBORNE GASTROENTERITIS OUTBREAK: EVIDENCE FOR ROTAVIRUS AS THE AGENT. *American J. Public Health*, March 1984, vol. 74, no. 3, 263-65.
- Based on a study of a 1981 Colorado community outbreak of gastroenteritis, the authors claim that rotavirus should be viewed as a cause of waterborne outbreaks.
- 0680 Hyams, J.S.; Feder, H.; et al. OCCURRENCE OF CLOSTRIDIUM DIFFICILE TOXIN-ASSOCIATED GASTROENTERITIS FOLLOWING ANTIBIOTIC THERAPY FOR OTIS MEDIA IN YOUNG CHILDREN. *Pediatric Infectious Diseases*, 3, no. 5, 1984, 433-436.
- A prospective study evaluating the incidence of diarrhea and clostridium difficile toxin in 115 outpatients ages 6 months to 6 years was done. Although diarrhea is a common complication of antibiotic therapy for otitis media (middle ear infection) in young children, its pathogenesis remains unknown.
- 0394 Khan, M.; Rahaman, M.; Aziz, K. EPIDEMIOLOGIC INVESTIGATION OF AN OUTBREAK OF SHIGGA BACILLUS DYSENTERY IN AN ISLAND POPULATION. *Southeast Asian J. Tropical Medicine and Public Health*, June 1975, vol. 6, no. 2, 251-256.
- A shigella dysentery epidemic in St. Martin Island is reviewed in this article. Water contamination could have been the source of infection.
- 1517 Kidd, A.H.; Rosenblatt, A.; Besselaar, T.G.; et al. CHARACTERIZATION OF ROTAVIRUSES AND SUBGROUP-F ADENOVIRUSES FROM ACUTE SUMMER GASTROENTERITIS IN SOUTH-AFRICA. *J. Medical Virology*, vol. 18, 1986, 159-68.
- Six-hundred and sixteen specimens were collected from black children hospitalized with acute gastroenteritis during the summer and autumn of 1982-83. The highest monthly prevalences of shedding adenoviruses coincided with a peak in admissions in midsummer, whereas the highest monthly prevalence of shedding rotaviruses coincided with a peak in admissions in autumn.
- 0111 Lanata, C.; Ristori, C.; Jimenez, L. VI SEROLOGY IN DETECTION OF CHRONIC SALMONELLA TYPHI CARRIERS IN AN ENDEMIC AREA. *The Lancet*, 20 August 1983, 441-443.
- Discusses the usefulness of Vi serology in the detection of chronic *S. typhi* carriers.

- 1181 Lebenthal, E. PROLONGED SMALL INTESTINAL MUCOSAL INJURY AS A PRIMARY CAUSE OF INTRACTABLE DIARRHEA OF INFANCY. *Chronic Diarrhea in Children*, E. Lebenthal, ed., Nestle, Vevey/Raven Press, 1984, 5-29.
- Small intestinal mucosal injury is cited as a primary cause of intractable diarrhea in infancy (IDI). Epithelial cell kinetics, protein energy malnutrition, bacterial overgrowth and infection, and malabsorption secondary to bacterial infection are discussed in relation to IDI. The article concludes that therapy aimed at pathogenic changes in digestion and absorption will have an impact on resolving the effects of IDI.
- 1179 Lebenthal, E.; Rossi, T. INTRACTABLE DIARRHEA OF INFANCY. *Postgraduate Medicine*, August 1983, vol. 74, no. 2, 153-159.
- Intractable diarrhea of infancy is described as a life threatening problem which occurs most often in infants less than three months of age. Conventional therapy calls for use of clear liquids and gradual reintroduction of cow's milk or formula. An alternative method of treatment is suggested here; because diarrhea is often exacerbated by conventional treatment, the use of oral elemental diets in most infants and total parenteral nutrition in some infants is recommended.
- 0103 Levine, M. CHOLERA. *Current Therapy*, 11th Edition, Gellis, S.; Kagan, G. (eds.). W.B. Saunders, Philadelphia, 1984, 609-11.
- This chapter provides a general description about cholera, including information about its symptoms and treatment.
- 0063 Levine, M. SHIGELLA AND SALMONELLA DIARRHOEAL DISEASE. *Tropical Doctor*, January 1979, vol. 9, 4-9.
- This article compares the pathogens, epidemiology, clinical features, laboratory studies, and therapy of shigella and salmonella diarrheal agents.
- 0239 Levine, M.; Hornick, R. CH. 11: IMMUNOLOGY OF ENTERIC PATHOGENS: SALMONELLA, SHIGELLA, AND ESCHERICHIA COLI. Nahmias, A.; O'Reilly, R., eds., *IMMUNOLOGY OF HUMAN INFECTION*, Plenum Publishing Corporation, 1981, 249-290.
- This chapter discusses the virulence and pathogenetic mechanisms of E. coli, shigella and salmonella. It reviews the efficacy of various vaccines.
- 0236 Levine, M.; Black, R.; Clements, M. CHAPTER 7. PATHOGENESIS OF ENTERIC INFECTIONS CAUSED BY VIBRIO. Colwell, R., ed., *VIBRIOS IN THE ENVIRONMENT*, John Wiley & Sons, Inc., 1984, 109-122.
- This chapter reviews the pathogenesis of cholera infections.

- 0102 Levine, M.; Caplan, E.; Cash, R.; et al. DIARRHEA CAUSED BY E.COLI THAT PRODUCE ONLY HEAT-STABLE ENTEROTOXINS. *Infection & Immunity*, July 1977, vol. 17, no. 1, 78-82.

This study sought to determine whether E. coli that produce only heat-stable enterotoxins are capable of causing diarrhea in adult volunteers.

- 0289 Levine, M.; Ristaino, P.; Marley, G.; et al. E. COLI SURFACE ANTIGENS 1 AND 3 OF COLONIZATION FACTOR ANTIGEN II - POSITIVE ENTEROTOXIGENIC ESCHERICHIA COLI: MORPHOLOGY, PURIFICATION AND IMMUNE RESPONSE IN HUMANS. *Infection and Immunity*, May 1984, vol. 44, no. 2, 409-420.

ETEC of serotype 06:H16, biotype A, possesses two distinct coli surface antigens, CS1 and CS3, whereas CFA/II-positive ETEC of serotype 08:H9 manifests only CS3. Both antigens, elaborated in vivo, play a role in pathogenesis, and stimulate an immune response.

- 0101 Levine, M.; Nalin, D.; Hornick, R.; et al. ESCHERICHIA COLI STRAINS THAT CAUSE DIARRHOEA BUT DO NOT PRODUCE HEAT-LABILE OR HEAT-STABLE ENTEROTOXINS AND ARE NON-INVASIVE. *The Lancet*, 27 May 1978, 1119-22.

Three enteropathogenic Escherichia coli strains isolated from outbreaks of infantile diarrhea and one strain from the normal colonic flora of a healthy adult were fed in various doses, organisms in NaHCO₃ to adult volunteers. Two strains caused diarrhea. Heat-labile or heat-stable enterotoxins were not found in E.coli stool isolated from individuals with diarrhea.

- 0105 Levine, M.; Nalin, D.; Rennels, M.; et al. GENETIC SUSCEPTIBILITY TO CHOLERA. *Annals Human Biology*, 1979, vol. 6, no. 4, 369-74.

This article describes an investigation of the relationship between genetics and susceptibility to cholera. The results indicate that blood group O is found more frequently in patients with severe cholera than in the normal population.

- 0109 Levine, M.; DuPont, H.; Khedabandelou, M.; et al. LONG-TERM SHIGELLA-CARRIER STATE. *New England J. Medicine*, 31 May 1973, vol. 288, 1169-1171.

It is evident that a long-term carrier state does exist with shigellosis, and that virulent organisms are excreted, thus potentially perpetuating endemic shigellosis.

- 0044 Levine, M.; Dupont, H.; Formal, S.; et al. PATHOGENESIS OF SHIGELLA DYSENTERIAE 1 (SHIGA) DYSENTERY. *J. Infectious Diseases*, March 1973, vol. 127, no. 3, 261-70.
- This article describes an investigation of the relative importance of enterotoxin and epithelial invasion in shiga disease. A model of shiga dysentery was developed to test the efficacy of potential vaccines in volunteers.
- 0143 Levine, M. BACILLARY DYSENTERY - MECHANISMS AND TREATMENT. *Medical Clinics North America*, May 1982, vol. 66, no. 3, 623-638.
- This article analyzes the clinical aspects of shigella infections and recommends treatment measures.
- 1548 Levine, M.; Young, C.R.; Black, R.; et al. ENZYME-LINKED IMMUNOSORBENT ASSAY TO MEASURE ANTIBODIES TO PURIFIED HEAT-LABILE ENTEROTOXINS FROM HUMAN AND PORCINE STRAINS OF ESCHERICHIA COLI AND TO CHOLERA TOXIN: APPLICATION IN SERODIAGNOSIS AND SEROEPIDEMIOLOGY. *J. Clinical Microbiology*, February 1985, vol. 21, no. 2, 174-179.
- A study to develop a simplified ELISA for heat-labile enterotoxins of *E. coli* and cholera toxins that could be used for serodiagnosis, seroepidemiology and immune response measurement is described in this article. This test will help differentiate between the two anti-toxins in cholera-endemic areas.
- 1909 Lo, C.; Walker, W. CHRONIC PROTRACTED DIARRHEA OF INFANCY: A NUTRITIONAL DISEASE. *Pediatrics*, vol. 72, no. 6, December 1983, 786-800.
- Diarrhea is a common cause of morbidity in infancy, and can lead to a vicious cycle of malabsorption, malnutrition, and failure to thrive. Although many mechanisms may contribute to diarrhea, a similar pathophysiologic syndrome of mucosal atrophy, inflammation, and malabsorption results. Nutritional rehabilitation should be focused on during treatment.
- 0034 Lockman, H.; Kaper, J.B. NUCLEOTIDE SEQUENCE ANALYSIS OF THE A2 AND B SUBUNITS OF VIBRIO CHOLERAEE ENTEROTOXIN. *J. Biological Chemistry*, 25 November 1983, vol. 258, no. 22, 13722-13726.
- The authors describe the genetic (DNA sequence) coding of vibrio cholerae enterotoxin.
- 1778 Lombange, C.K. AETIOLOGY OF DIARRHOEAL DISEASES AND PROBLEMS OF ROTAVIRUS. *Papua New Guinea Medical Journal*, vol. 31, 1988, 5-7.
- The etiology of diarrheal diseases, particularly rotavirus, in Papua New Guinea is the subject of this article.

- 0705 Loosli, J.; Gyr, K.; et al. ETIOLOGY OF ACUTE INFECTIOUS DIARRHEA IN A HIGHLY INDUSTRIALIZED AREA OF SWITZERLAND. *Gastroenterology*, 88, no. 1, part 1, 1985, 75-79.

A study on the cause and epidemiology of acute diarrhea in adults in a highly industrialized area of Switzerland focused on newly identified gastrointestinal pathologies. Rotavirus and *E. coli* were rarely found, if found at all. Rather, salmonella and campylobacter jejuni were the leading agents.

- 1646 Mamel, J.; Goldschmid, S.; Browarsky, I.; et al. A MALIGNANT DIARRHEA FROM THE THIRD WORLD. *Hospital Practice*, 30 May 1986, 132-136.

The authors present the case of an Afghan admitted to a Florida hospital with chronic diarrhea of one year's duration. Exploring laparotomy revealed the presence of several tumors, which were successfully treated with chemotherapy. The WHO has suggested the term immunoproliferative small intestinal disease to describe this syndrome. The authors warn that temporary remissions in patients receiving antibiotic therapy can be misleading; exploratory laparotomy with mesenteric lymph node biopsy may be necessary to uncover lymphoma. This disorder should be suspected in any patient who has malabsorption, abnormal serum proteins, and lymphoplasmacytic infiltration on small-bowel biopsy.

- 1537 Mathan, M.M.; Benkatesan, S.; Renu, G.; et al. CRYPTOSPORIDIUM AND DIARRHOEA IN SOUTHERN INDIAN CHILDREN. *The Lancet*, 23 November 1985, 1172-1175.

Compared to reports from other developed and developing countries, cryptosporidium was found quite frequently in this study from rural southern India. There did not appear, however, to be a clear association between the presence of cryptosporidium and acute diarrhea since it is rarely the only pathogen detected and there were no clearly defined clinical features.

- 0968 Mathews, J.; Johnson, P.; et al. A NEWLY RECOGNIZED CAUSE OF TRAVELER'S DIARRHEA: ENTEROADHERENT *E. COLI*. *Journal of Infectious Diseases*, vol. 151, no. 3, March 1985 pp. 471-475.

Enteroadherent *E. coli* was prevalent in 14.9% of 188 travellers with diarrhea returning from Mexico. The effect of antibiotics on the prevention and treatment of diarrhea may be explained by this fact.

- 1490 McAllister, T.A.; Marshall, A.; Roud, J.A.; et al. OUTBREAK OF SALMONELLA EIMSBUETTEL IN NEWBORN INFANTS SPREAD BY RECTAL THERMOMETERS. *The Lancet*, 31 May 1986, 1262-64.
- An outbreak of salmonella eimsbuettel infections in newborn infants, mothers and staff in a modern maternity hospital was spread by rectal thermometer. Recommendations include the replacement of rectal thermometry with auxiliary measurement.
- 0244 Mendoza, H.R.; Levine, M.; Kapikian, A.Z.; et al. FACTORES ETIOLOGICOS DE LA DIARREA AGUDA DEL LACTANTE IN LA REPUBLICA DOMINICANA. *Archivos Dominicanos de Pediatria*, Enero-Abril 1981, vol. 17, no. 1, 43-51.
- In a group of 70 children suffering from acute diarrhea, 14.4% had *E. coli*, 9% had rotavirus, and 3% had shigella microorganisms. Rotavirus is found only in the cool months.
- 0248 Merson, M.; Black, R.; Kahn, M.; et al. EPIDEMIOLOGY OF CHOLERA AND ENTEROTOXIGENIC ESCHERICHIA COLI DIARRHEA. CHOLERA AND RELATED DIARRHEAS. Karger, Basel, 1980, 34-45.
- This paper reviews basic epidemiological characteristics of cholera and *E. coli*. In classical cholera, about 25% of cases are severe and 60% of infections are inapparent. Incidence fluctuates seasonally and annually. Persons with certain characteristics have a greater risk of infection.
- 0113 Mhala, F.S.; Mtango, F.D.E.; Msengi, A.E. HOSPITAL OUTBREAKS OF CHOLERA TRANSMITTED THROUGH CLOSE PERSON-TO-PERSON CONTACT. *The Lancet*, 14 July 1984, 82-84.
- Outbreaks in a Tanzanian hospital of antibiotic resistant El Tor *V. cholerae* were facilitated by overcrowded conditions and low standards of hospital hygiene.
- 1494 Michel, R. MALARIA. International Children's Center, 1985, 6 p.
- This document discusses the control of malaria spread, combatting the spread of drug resistance to anti-malarials, and the imperative need to protect children from becoming infected.
- 0135 Miller, J. 'OUCH!' CHILDREN YELP AT SHOTS AS EGYPT FIGHTS CHOLERA. *New York Times*, 10 July 1983, 12.
- This article notes the measures that Egypt has taken recently to combat the spread of cholera.

- 1541 Miotti, P.G.; Eiden, J.; Yolken, R. COMPARATIVE EFFICIENCY OF COMMERCIAL IMMUNOASSAYS FOR THE DIAGNOSIS OF ROTAVIRUS GASTROENTERITIS DURING THE COURSE OF INFECTION. *J. Clinical Microbiology*, November 1985, vol. 22, no. 5, 693-698.

The performance of three commercial products for the detection of rotavirus antigens from infants with rotavirus gastroenteritis is evaluated in this article. Results show that all three immunoassays are capable of detecting rotavirus antigen accurately provided stool samples are collected soon after the onset of the illness.

- 1707 Mizanur Rahman, A.S.M.; Munshi, M.; Latif Miah, A. ISOLATION OF CAMPYLOBACTER JEJUNI FROM DIARRHEA PATIENTS IN EASTERN PROVINCE OF SAUDI ARABIA. *Journal of Diarrhoeal Disease Research*, vol. 4, June 1986, 87-90.

This article documents the incidence of campylobacter jejuni and some other bacterial enteric pathogens in the stool specimens of 607 patients at a clinic in Saudi Arabia.

- 1791 Mohandas, V.; Unni, J.; Mathew, M. AETIOLOGY AND CLINICAL FEATURES OF ACUTE CHILDHOOD DIARRHOEA IN AN OUTPATIENT CLINIC IN VELLORE, INDIA. *Annals of Tropical Paediatrics*, vol. 7, 1987, 167-172.

This study investigated the etiology of acute diarrhea in 245 children less than 3 years old in an outpatient clinic in Southern India.

- 0042 Mol, P.; Brasseur, D.; Hemelhof, W. ENTEROPATHOGENIC AGENTS IN CHILDREN WITH DIARRHOEA IN RURAL ZAIRE. *The Lancet*, 5 March 1983, 516-18.

This study examined enteropathogenic agents in stools of 355 patients suffering from diarrhea and in some instances, complicated by malnutrition. Three hundred and twenty other patients were used as a control group. Campylobacter jejuni accounted for the largest proportion of diarrheal cases, followed by ETEC, *v. cholerae*, rotavirus, EPEC and giardia. The need to treat diarrhea with an overall strategy, whatever the causative agent may be, was confirmed.

- 0011 Morris, J.; Picardi, J.; Lieb, S.; et al. ISOLATION OF NONTOXIGENIC VIBRIO CHOLERAE O GROUP 1 FROM A PATIENT WITH SEVERE GASTROENTERITIS DISEASE. *J. Clinical Microbiology*, February 1984, vol. 19, no. 2, 296-297.

V. cholerae strains identical to strains found in Texas and Louisiana were located in sewage systems in Florida, possibly indicating a relationship among multiple human infections along the US Gulf Coast.

- 00197 Moseley, S.; Echeverria, P.; Seriwatana, J.; et al. IDENTIFICATION OF ENTEROTOXIGENIC ESCHERICHIA COLI BY COLONY HYBRIDIZATION USING 3 ENTEROTOXIN GENE PROBES. *J. Infectious Diseases*, June 1982, vol. 145, no. 6, 863-69.

The applicability of examining a clinical specimen with a DNA hybridization technique for genes encoding enterotoxins is examined using *E. coli*. It is concluded that DNA hybridization assay is useful for characterizing and identifying environmental sources of ETEC.

- 1535 Moyennudin, M.; Rahman, K.M. ENTEROPATHOGENIC ESCHERICHIA COLI DIARRHEA IN HOSPITALIZED CHILDREN. *J. Clinical Microbiology*, Nov. 1985, vol. 22, no. 5, 838-840.

The role of enteropathogenic *Escherichia coli* (EPEC) was evaluated in a group of children with endemic diarrhea admitted to Ohaka Shishu Hospital in Dacca, Bangladesh. This study supports the concept that EPEC may be an important cause of endemic diarrhea in Bangladesh.

- 0061 Nalin, D.; Levine, M.; Bergguist, E.; et al. CHOLERA, NON-VIBRIO CHOLERA, AND STOMACH ACID. *The Lancet*, 21 October 1978, 856-59.

This study revealed that cholera does not cause hypochlorhydria; however, for those individuals with low basal acid before contracting vibrio diarrhea, there was evidence of more acute diarrhea after ingestion of the vibrios. It is conjectured that hypochlorhydria may be a key link between malnutrition and enteric disease prevalence.

- 0106 Nalin, D.; Levine, M.; Hornick, R.; et al. THE PROBLEM OF EMESIS DURING ORAL GLUCOSE-ELECTROLYTE THERAPY GIVEN FROM THE ONSET OF SEVERE CHOLERA. *Transactions Royal Society Tropical Medicine Hygiene*, 1979, vol. 73, no. 1, 10-14.

In severe cholera cases, emesis precludes effective early oral therapy and thus hinders the elimination of cholera mortality. This necessitates rural treatment centers using ORT to have on hand limited amounts of IV fluids. The study emphasizes the need for research on the control of emesis, which could ensure survival of severe diarrhea treated with ORT alone.

- 0262 Naylor, G. INCUBATION PERIOD AND OTHER FEATURES OF FOOD-BORNE AND WATER-BORNE OUTBREAKS OF TYPHOID FEVER IN RELATION TO PATHOGENESIS AND GENETICS OF RESISTANCE. *The Lancet*, 16 April 1983, 864-866.

This article examines the incubation period of typhoid fever and the attack rate and spread via food-borne and water-borne outbreaks. Different patterns of onset suggest differences in genetic resistance within the population.

- 1500 Neeguaye, J.; Coene, J.; Greenberg, A.; et al. IN VIVO CHLOROQUINE-RESISTANT FALCIPARUM MALARIA IN WESTERN AFRICA. *The Lancet*, 18 January 1986, 153-154.

These three letters each document a case of chloroquine resistant malaria contracted in areas of Africa where it had not been documented. It is noted that in-vitro drug resistance may not always predict the in-vivo response, so clinical and parasitological observations should be used to assess anti-malarial drug resistance.

- 0030 Nelson, J.D.; Kusmiesz, H.; Jackson, L.H.; et al. TREATMENT OF SALMONELLA GASTROENTERITIS WITH AMPICILLIN, AMOXICILLIN OR PLACEBO. *Pediatrics*, June 1980, vol. 65, no. 6, 1125-30.

Ampicillin or amoxicillin therapy provides no benefits to patients with uncomplicated salmonella gastroenteritis and substantially increases the risk of bacteriologic and symptomatic relapse.

- 0010 O'Brien, A.; Chen, M.E.; Homes, R.K. ENVIRONMENTAL AND HUMAN ISOLATES OF VIBRIO CHOLERAЕ AND VIBRIO PARAHAEMOLYTICUS PRODUCE A SHIGELLA DYSENTERIAE 1 (SHIGA)-LIKE CYTOTOXIN. *The Lancet*, 14 January 1984, 77-78.

Several strains of vibrio were tested to see whether isolates make a shiga-like toxin. Several make a shiga-like cytotoxin antigenically cross reactive with shiga toxin.

- 1497 Obaseiki-Ebor, E.E.; Abiodun, P.O.; Emina, P.A. ANTIBIOTIC SUSCEPTIBILITY OF FECAL BACTERIAL ISOLATES FROM CHILDREN WITH ACUTE DIARRHOEA IN NIGERIA. *Journal Diarrhoeal Diseases Research*, vol. 3, no. 3, September 1985, 154-57.

This study determined the antibiotic susceptibility of intestinal bacterial flora isolated from stools of children. Antibiotic resistance was detected in 74 isolates obtained from 53 children. Resistance was detected to high concentrations of ampicillin, tetracycline, streptomycin, neomycin, karamycin, and trimethoprim. Most of the isolates were resistant to more than 5 antibiotics.

- 1498 Omer, E.; Ibrahim, E.M. ENTEROINVASIVE ESCHERICHIA COLI INFECTION IN SUDAN. *Journal of Diarrhoeal Diseases Research*, vol. 3, no. 3, September 1985, 138-140.

Two hundred twenty-three hospitalized patients in Sudan (with and without diarrhea) were screened for enteroinvasive *E. coli*. EIEC strains were found in 3.5% of diarrhea patients and in 2.49% of non-diarrhea patients. A similar pattern of EIEC prevalence was seen among adults (2.89%) and children (2.5%).

- 1493 Osterholm, M.T.; MacDonald, K.L.; White, K.E.; et al. AN OUTBREAK OF BRAINERDIASIS. A NEWLY RECOGNIZED CHRONIC DIARRHEA SYNDROME. *Gastroenterology*, vol. 88, no. 5 part 2, 1526.
- An outbreak of diarrheal syndrome in Brainerd, Minnesota was investigated. Consumption of raw milk from a single dairy was associated with the illness.
- 1521 Pal, S.C.; BACILLARY DYSENTERY. *World Health*, April 1986, 14-15.
- Recent epidemics in many countries of Latin America and Asia indicated that bacillary dysentery is still a major health threat. To control the disease in endemic areas and prevent its spread, clean water and sanitation practices must be taught. More research is needed on mode of transmission, mechanisms of pathogenicity and exact cause of death. Some strains of *Shigella* are resistant to most common antibiotics.
- 1540 Parker, R.; Scott, C.D.B.; Jeboult, J.W. CRYPTOSPORIDIAL DIARRHOEA. *Medical J. Australia*, 28 October 1985, vol. 143, 426.
- Results of hospital tests of patients found cryptosporidium in the stool of seven of 140 patients. Since this organism can cause life-threatening diarrhea in patients with AIDS, a simple laboratory test can be used to detect this diarrhea agent.
- 1482 Patel, J.R.; Daniel, J.; Mathan, V.I. AN EPIDEMIC OF ACUTE DIARRHOEA IN RURAL SOUTHERN INDIA ASSOCIATED WITH ECHOVIRUS TYPE 11 INFECTION. *J. Hygiene, Cambridge*, 1985, vol. 45, 483-92.
- An epidemic outbreak of diarrhea in an Indian village between December 1982 and October 1983 is reported. Two distinct waves of the epidemic were identified. The first was associated with an echovirus type 11 infection which was not present during the second wave of the epidemic.
- 0698 Pignata, C.; Guandalini, S.; et al. CHRONIC DIARRHEA AND FAILURE TO THRIVE IN AN INFANT WITH *CAMPYLOBACTER JEJUNI*. *Journal of Pediatric Gastroenterology and Nutrition*, 3, no. 5, 1984, 812-814.
- This article discusses a case study of a child with campylobacter jejuni-induced chronic diarrhea. It describes clinical features and use of Erythromycin for treatment. This report alerts others to the possibility that campylobacter might be associated with chronic diarrhea.

- 1525 Poland, G.A.; Navin, T.R.; Sarosi, G.A. OUTBREAK OF PARASITIC GASTROENTERITIS AMONG TRAVELERS RETURNING FROM AFRICA. *Archives Internal Medicine*, December 1985, vol. 145, 2220-21.
- This article describes an outbreak of gastroenteritis due to a parasite tentatively identified as an Echinostoma, that infected 18 to 20 American tourists who traveled to Kenya and Tanzania. The type of parasitic egg has not been previously reported in North Americans or Africans.
- 0160 Rahaman, M.; Khan, M.M.; Aziz, K.; et al. AN OUTBREAK OF DYSENTERY CAUSED BY SHIGELLA DYSENTERIAE TYPE 1 ON A CORAL ISLAND IN THE BAY OF BENGAL. *J. Infectious Diseases*, July 1975, vol. 132, 15-19.
- Dysentery became more prevalent in Bangladesh with the 1971 war. This report discusses an epidemiological study of a Shigella epidemic on St. Martin Island in the Bay of Bengal in 1973.
- 1502 Rahaman, M.; Morshed, M.G.; Aziz, K.; et al. IMPROVED MEDIUM FOR ISOLATING SHIGELLA. *The Lancet*, 1 February 1986, 271-2.
- This article describes a new growth medium for the isolation of Shigella from patients with invasive diarrhea. The Teknaf Enteric Agar (TEA) gave 42% additional isolates, more than MacConkey's medium, SS medium, or MacConkey's and SS in combination.
- 1527 Rajan, D.P.; Mathan, V.I. PREVALENCE OF CAMPYLOBACTER FETUS SUBSP. JEJUNI IN HEALTHY POPULATIONS IN SOUTHERN INDIA. *J. Clinical Microbiology*, May 1982, vol. 15, no. 5, 749-51.
- The rate of isolation of campylobacter fetus subsp. jejuni was highest in preschool children in India. The study emphasizes the need to identify markers of pathogenicity.
- 0033 Remmers, E.F.; Colwell, R.B.; Goldsby, R.A. PRODUCTION AND CHARACTERIZATION OF MONOCLONAL ANTIBODIES TO CHOLERA TOXIN. *Infection & Immunity*, July 1982, vol. 37, no. 2, 70-76.
- This article describes the production of monoclonal antibodies against cholera toxin and clinical results with experimental mice.
- 1547 Rettig, P.J.; Altshuler, G.P. FATAL GASTROENTERITIS ASSOCIATED WITH CORONAVIRUS-LIKE PARTICLES. *American J. Diseases Childhood*, March 1985, vol. 139, 245-248.
- A case study in which coronavirus was isolated during a post mortem exam of a 15 month old infant suggests a causative role for this agent in gastroenteritis.

- 1863 Robins-Browne, R. TRADITIONAL ENTEROPATHOGENIC ESCHERICHIA COLI OF INFANTILE DIARRHEA. *Reviews of Infectious Diseases*, vol. 9, January-February 1987, 28-53.

The author reviews developments in pediatric diarrhea throughout history, focusing on recent discoveries about the relationship of *E. coli* to diarrhea.

- 1838 Saha, M.; Sen, D.; Datta, P. ROLE OF ROTAVIRUS AS THE CAUSE OF ACUTE PAEDIATRIC DIARRHOEA IN CALCUTTA. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, vol. 78, 1984, 818-820.

The results of this study revealed that rotavirus is one of the major etiological agents of sporadic acute diarrhea among children in hospitals in Calcutta.

- 1533 Sen, D.; Saha, M.R.; Nair, G.; et al. ETIOLOGICAL SPECTRUM OF ACUTE DIARRHOEA IN HOSPITALISED PATIENTS IN CALCUTTA. *Indian J. Medical Research*, October 1985, vol. 82, 286-291.

Fecal specimens collected from 331 patients admitted to 2 hospitals in Calcutta from January 1982 through April 1983 were analyzed for etiologic agents. The etiologic spectrum of these cases of acute diarrhea varied among the different age groups.

- 1499 Sethabutr, O.; Echeverria, P.; Hanchalay, S.; et al. A NON-RADIOACTIVE DNA PROBE TO IDENTIFY SHIGELLA AND ENTEROINVASIVE ESCHERICHIA COLI IN STOOLS OF CHILDREN WITH DIARRHOEA. *The Lancet*, 16 November 1986, 1096-97.

The procedure for isolating and detecting EIEC and Shigella is described in this article. Biotinylated DNA probes have been proven to be as sensitive as radiolabelled probes, but have the advantage of a longer shelf-life and greater availability.

- 1794 Shukry, S.; Zaki, A.M.; DuPont, H. DETECTION OF ENTEROPATHOGENS IN FATAL AND POTENTIALLY FATAL DIARRHEA IN CAIRO, EGYPT. *Journal of Clinical Microbiology*, Dec. 1986, pp. 959-962.

A one-year study of the etiology of acute diarrhea complicated by severe dehydration, bleeding, shock and cardiovascular collapse, pneumonia, acute renal failure or seizures in infants under 18 months of age was conducted in Cairo. Fatal and potentially fatal cases differed from control cases in that the onset of diarrhea was more sudden, vomiting occurred more frequently, and oliguria was more common.

- 1712 Shukry, S.; Zaki, A.M.; DuPont, H. DETECTION OF ENTEROPATHOGENS IN FATAL AND POTENTIALLY FATAL DIARRHEA IN CAIRO, EGYPT. *Journal of Clinical Microbiology*, vol. 24, Dec. 1986, 959-962.
- Reports on a study of the etiology of acute diarrhea complicated by severe dehydration, active bleeding, shock and cardiovascular collapse, pneumonia, acute renal failure, or seizures in infants in Cairo, Egypt.
- 0981 Silverman, A. COMMON BACTERIAL CAUSES OF BLOODY DIARRHEA. *Pediatric Annals*, vol. 14, no. 1, January 1985, 39-50.
- This article discusses the causes of dysenteric disease.
- 1888 Silverman, A. COMMON BACTERIAL CAUSES OF BLOODY DIARRHEA. *Pediatric Annals*, vol. 14, January 1985, 39-50.
- Up until 5-10 years ago, dysenteric symptoms were attributed to shigella, salmonella, or amebiasis. Now, the list of enteric pathogens responsible for dysenteric disease includes campylobacter, yersinia, clostridium difficile, enteroinvasive and enteropathogenic E. coli, and others. This report examines only the bacterial causes of bloody diarrhea.
- 1539 Smith, G.S.; Warhurst, G.; Tonge, A. et al. PROSTAGLANDINS ARE NOT MEDIATORS OF THE INTESTINAL RESPONSE TO CHOLERA TOXIN. *Gut*, 1985, vol. 26, 680-682.
- This study investigates the possibility that cholera toxin may stimulate intestinal secretion by activating local production of prostaglandins. The observation that non-steroidal anti-inflammatory drugs which inhibit prostaglandin production inhibit cholera toxin induced secretion supports this. The results suggest that cholera toxin-reduced secretion is not mediated by topical prostaglandin production in the mucosa.
- 1522 Sterling, C.R.; Seegar, K.; Sinclair, N.A. CRYPTOSPORIDIUM AS A CAUSATIVE AGENT OF TRAVELER'S DIARRHEA. *J. Infectious Diseases*, February 1986, vol. 153, no.2, 380-31.
- This report indicates that cryptosporidium should be included in the differential diagnosis of traveler's diarrhea. Findings suggest that cryptosporidium may be acquired through consumption of contaminated food or water.

- 0231 Stevens, D.P. GIARDIASIS: CLINICAL PRESENTATION, DIAGNOSIS AND TREATMENT. *Practical Gastroenterology*, May 1980 vol. 4, no. 5, 5 p.
- Giardia lamblia is the most frequent identifiable cause of water-borne diarrhea in the United States today. While giardiasis is a frequent aftermath of travel to Leningrad, the Rocky Mountains, and certain parts of Asia, it may occur readily in the absence of a typical travel history. Therapy is accomplished inconsistently with the drug of choice.
- 0215 Tao, H.; Changan, W.; Zhaoying, F.; et al. WATERBORNE OUTBREAK OF ROTAVIRUS DIARRHOEA IN ADULTS IN CHINA CAUSED BY A NOVEL ROTAVIRUS. *The Lancet*, 26 May 1984, 1139-43.
- This paper describes a new rotavirus found in adults suffering from acute gastroenteritis which occurred in 2 epidemics in 1982 and 1983.
- 0948 Tayek, J.A.; Bistran, B.R.; Blackburn, G.L. FECAL NITROGEN LOSS IN ADULTS WITH CLOSTRIDIUM DIFFICILE DIARRHEA. *Clinical Research*, vol. 33, no. 1, 1985, 40 A.
- Fecal nitrogen loss in *C. difficile* diarrhea can be an important source of nitrogen loss and needs to be included in nitrogen balance studies in such patients.
- 0956 Taylor, D.; Blaser, M.J.; Blacklow, N. POLYMICROBIAL AETIOLOGY OF TRAVELLERS DIARRHOEA. *The Lancet*, vol. 1, no. 8425, 16 February 1985, 381-383.
- This article examines enteric infections of diarrhea in 35 US Peace Corps volunteers in Thailand.
- 1520 Taylor, D.N.; Echeverria, P. WHEN DOES CRYPTOSPORIDIUM CAUSE DIARRHOEA? *The Lancet*, 8 February 1986, 320.
- Cryptosporidium was detected in conjunction with other pathogens in many cases of diarrhea in Vellore, India. It was also found associated with other enteropathogens in Bangkok. Although not the sole diarrhea agent isolated, cryptosporidium cannot be dismissed as an important pathogen.
- 0199 Thomas, L.; Rowe, B. THE OCCURRENCE OF COLONISATION FACTORS IN ENTEROTOXIGENIC E. COLI FROM VARIOUS COUNTRIES IN SOUTHEAST ASIA. *Medical Microbiology & Immunology*, 1982, vol. 171, no. 2, 85-90.
- Four hundred fifty-eight enterotoxigenic strains of *E. coli* were examined for the presence of colonization factor antigens using an immunodiffusive technique with specific antisera. The ETEC strain was isolated in Thailand and Bangladesh. Further research is needed in adhesive mechanisms used by ETEC strains.

- 0297 Thompson, M.; Brandwein, H.; LaBine-Rack, M.; et al. SIMPLE AND RELIABLE ENZYME-LINKED IMMUNOSORBENT ASSAY WITH MONOCLONAL ANTIBODIES FOR DETECTION OF ESCHERICHIA COLI HEAT-STABLE ENTEROTOXIN. *J. Clinical Microbiology*, July 1984, vol. 20, no. 1, 59-64.
- A sensitive and specific ELISA has been developed for detection of E. coli. A 100% correlation of toxin production was found by comparing the ELISA with previously established radioimmunoassay and with suckling mouse activity.
- 1491 Torres-Medina, A.; Schlafer, D.H.; Mebur, C.A. VIRUSES AS ETIOLOGIC AGENTS OF NEONATAL CALF DIARRHEA. *Veterinary Clinics of North America: Food Animal Practice*, November 1985, vol. 1, no. 3, 471-493.
- This article presents different viruses that cause diarrhea in calves and discusses their morphology, transmission and clinical symptoms of the diseases they cause. Implications for viral diarrhea diagnosis and treatment are discussed.
- 1513 Uhnoo, I.; Svensson, L. CLINICAL AND EPIDEMIOLOGICAL FEATURES OF ACUTE INFANTILE GASTROENTERITIS ASSOCIATED WITH HUMAN ROTAVIRUS SUBGROUPS 1 AND 2. *J. Clinical Microbiology*, March 1986, vol. 23, no. 3, 551-55.
- During a prospective 1-year study rotavirus isolates from 169 children with gastroenteritis were investigated by polyacrylamide gel electrophoresis. The clinical picture may indicate that this rotavirus electropherotype has higher virulence.
- 0684 Uhnoo, I.; Wadell, G. et al. IMPORTANCE OF ENTERIC ADENOVIRUSES 40 AND 41 IN ACUTE GASTROENTERITIS IN INFANTS AND YOUNG CHILDREN. *Journal of Clinical Microbiology*, 20, no. 3, September 1984, 365-372.
- This article concludes from a one-year prospective study of acute infantile gastroenteritis that enteric adenoviruses are the main cause, second only to rotaviruses.
- 0515 USAID. INTERIM REPORT OF TASK FORCE ON CHOLERA: A STUDY OF A MULTI-NATION DISEASE PROBLEM RESULTING FROM ENVIRONMENTAL POLLUTION FROM HUMAN WASTES. USAID, 17 June 1971, 174 p.
- An AID Cholera Task Force was established in 1970 in response to the (continuing) 7th recorded pandemic, started in Celebea, Indonesia in 1961. The interim report issued by AID concerns complications and diversity of approaches to be considered before a comprehensive project development is undertaken.

- 1495 Vadivela, J.; Drasar, B.S.; Cox, N.P.; et al. MEMBRANE FILTER ASSAY FOR DETECTION OF ENTEROTOXIGENIC ESCHERICHIA COLI IN EPIDEMIOLOGICAL STUDIES. *The Lancet*, 3 May 1986, 1007-08.
- A new assay for the detection of heat-labile toxin producing *E. coli* is described. This membrane filter assay isolates bacteria on to a cellulose-acetate membrane filter, which is then incubated overnight on an agar medium containing anti-cholera toxin.
- 0202 Vaisanen-Rhen, V.; Elo, J.; Vaisanen, E. P-FIMBRIATED CLONES AMONG UROPATHOGENIC ESCHERICHIA COLI STRAINS. *Infection & Immunity*, 1984, vol. 43, no. 1, 149-55.
- Two hundred thirty-seven *E. coli* strains were isolated from patients with urinary tract infections and 50 from feces of healthy children. Two properties clearly correlated with virulence of strains: possession of P-fimbriae and production of hemolysin. The concept of clonality in pathogenic *E. coli* strains helps simplify the search for virulence factors.
- 1516 Waiyaki, P.G.; Sang, F.C.; Ngugi, J.M. ENTEROTOXIGENIC ESCHERICHIA COLI INFECTION IN CHILDHOOD DIARRHOEA IN MOMBASA, KENYA. *East African Medical J*, January 1986, 29-35.
- This study investigates ETEC infection in Kenyan children with active diarrhea. Data on infection rates with other enteropathogens, age and sex distribution in positive cases are also presented.
- 1534 Walker-Smith, J.A. VIRUSES AND DIARRHOEA. *Current Opinion Gastroenterology*, 1985, vol 1, no. 1, 119-125.
- Major advances and developments in rotavirus gastroenteritis are reviewed--detection techniques, immunological methods, epidemiology and clinical manifestation, all of which have led to a considerable increase in the knowledge of rotavirus.
- 1545 Weikel, C.S.; Johnston, L.I.; De Sousa, M.A.; et al. CRYPTOSPORIDIOSIS IN NORTHEASTERN BRAZIL: ASSOCIATION WITH SPORADIC DIARRHEA. *Infectious Diseases*, May 1985, vol. 151, no. 5, 963-965.
- A two and one half year investigation for occurrence of *Cryptosporidium* in diarrhea cases in NE Brazil is described in this article. The data suggest the need for studies to examine the modes of transmission, distribution, and severity, and the relationship of cryptosporidial infection to malnutrition in small children.

- 1774 WHO. CHOLERA TODAY: A NEW LOOK AT AN OLD DISEASE. WHO Features, no. 107, May 1987, 1-3.
- The seventh pandemic of cholera and ways of controlling cholera is discussed in this article.
- 1515 WHO. DIARRHOEAL DISEASES CONTROL PROGRAMME: REPORT OF THE THIRD MEETING OF THE SCIENTIFIC WORKING GROUP ON VIRAL DIARRHOEAS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/VID, 84.4, 1984, 19 p.
- This report reviews the current status of the program of the scientific working group on viral diarrheas. A scientific review on active and passive immunity to viral diarrheas is provided and recommendations are made.
- 0459 WHO. ENTERIC INFECTIONS DUE TO CAMPYLOBACTER, YERSINIA, SALMONELLA, SHIGELLA. World Health Organization, WHO/DDC/EPE/80.4, 14-16 November 1979, 22 p.
- This is a report of a sub-group of the Scientific Working Group on Epidemiology and Etiology. The purpose of the present sub-group is to consider enteric infections due to Campylobacter, Yersinia, Salmonella, and Shigella.
- 0486 WHO. ESCHERICHIA COLI DIARRHOEA. REPORT OF A SUB-GROUP OF A SCIENTIFIC WORKING GROUP ON EPIDEMIOLOGY AND ETIOLOGY. World Health Organization, WHO/DDC/EPE/79.1, 15-16 January 1979, 18 p.
- The purpose of this meeting was to review the available information about the epidemiology, clinical features, and laboratory characteristics of three groups of E. coli, and to determine the research priorities in these fields.
- 0514 WHO. GUIDELINES FOR THE CONTROL OF CHOLERA. World Health Organization, WHO/CDD/SER/80.4, 19 p.
- The introduction of cholera into any country cannot be prevented, but in general, cholera causes problems only in areas where other acute enteric infections are endemic, and its spread within a country can be contained by appropriate control measures.
- 0112 WHO. INFORMAL MEETING ON STRATEGIES FOR CONTROL OF AMOEBIASIS. World Health Organization, WHO/CDD/PAR/84.2; WHO/PDP/84.5, 6-8 February 1984, 14 p.
- The pathogenesis, treatment and prevention of amoebiasis are discussed, as well as possible control strategies and research priorities.

- 1871 WHO. MANUAL FOR LABORATORY INVESTIGATIONS OF ACUTE ENTERIC INFECTIONS. World Health Organization, WHO/CDD/83.3 REV.1 (1987), 112 p.

The guidelines in this manual were designed to increase the capability of laboratories intending to isolate and identify the etiologic agents of acute enteric infections.

- 0460 WHO. PARASITE-RELATED DIARRHOEAS. World Health Organization, WHO/CDD/PAR/80.1, 26-28 March 1980, 15 p.

This is a report of a Sub-Group of the Scientific Working Group on Epidemiology and Etiology. The purpose of the subgroup was to review available knowledge and recommend research priorities in the epidemiology and etiology of parasite-related diarrheas.

- 1496 WHO. RECENT ADVANCES IN CHOLERA RESEARCH: MEMORANDUM FROM A WHO MEETING. Bulletin of the World Health Organization, 1985, vol. 6, no. 5, 841-849.

Vibrio cholerae 01 is an important cause of diarrheal disease in large parts of Asia and Africa. Recent research has considerably increased the understanding of how cholera is transmitted, the mechanism by which *v. cholerae* 01 produces disease, and the functioning of the local intestinal immune response by which individuals can be protected from infection. One result of these advances has been the development of an experimental cholera vaccine derived from non-living and attenuated live strain, which promise to become a new tool for the control of cholera.

- 0476 WHO. REPORT OF THE FIRST MEETING OF THE STEERING COMMITTEE OF THE SCIENTIFIC WORKING GROUP ON VIRAL DIARRHOEAS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY, AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/VID/80.1, 3-4 July 1980, 5 p.

The steering committee reviewed 21 enquiries that had been received since September 1978, taking into consideration the research priorities and general recommendations of the SWG. The decisions are included in this report.

- 0442 WHO. REPORT OF THE SECOND MEETING OF THE SCIENTIFIC WORKING GROUP ON VIRAL DIARRHOEAS. World Health Organization, WHO/CDD/VID/82.3, 1-3 February 1982, 20 p.

This meeting of the Scientific Working Group on Viral Diarrhoeas focused on recent advances in knowledge of rotavirus diarrhea. It covers epidemiology, clinical features, environmental aspects, antigenic characteristics, diagnostic methods, immunity, and vaccine development.

- 0457 WHO. ROTAVIRUS AND OTHER VIRAL DIARRHOEAS. World Health Organization, WHO/CDD/EPE/79.2, 27-28 March 1979, 21 p.
- It was the task of the sub-group to discuss and recommend priorities for research in respect to the rotaviruses, Norwalk and Norwalk-like agents, and other viral agents.
- 0272 WHO. ROTAVIRUS DIARRHOEA. Weekly Epidemiological Record, 3 June 1983.
- Rotavirus has emerged as the single most important cause of diarrhea in infants and young children admitted to hospitals for the treatment of gastroenteritis. The availability of new techniques for the direct isolation of rotavirus from clinical material has stimulated research relating to the antigenic structure, classification, and diagnosis of rotavirus. Specific areas requiring further attention are also discussed.
- 1543 WHO. SCIENTIFIC ACTIVITIES, WHO: ROTAVIRUS DIARRHOEA. Bulletin of the World Health Organization, 1985, vol. 63, no. 2, 233-235.
- This is a review of areas of further research needed for rotavirus as identified by the Scientific Working Group on Viral Diarrheas in February 1984. These include the epidemiology, immunology, and vaccine development of rotavirus.
- 0467 WHO. SCIENTIFIC WORKING GROUP ON VIRAL DIARRHOEAS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY, AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/VID/80.2, 20 June-2 July, 1980, 11 p.
- The group developed a five year work plan for research to be supported by the Scientific Working Group.
- 0468 WHO. SCIENTIFIC WORKING GROUP ON VIRAL DIARRHOEAS: MICROBIOLOGY, EPIDEMIOLOGY, IMMUNOLOGY, AND VACCINE DEVELOPMENT. World Health Organization, WHO/CDD/VID/82.3, 1-3 February 1982, 20 p.
- This meeting of the SWG reviewed recent advances in knowledge of rotavirus diarrhea. The Group considered epidemiology and incidence of the disease, clinical features, environmental aspects, antigenic characteristics, diagnostic methods, immunity and vaccine development.

- 0254 Wyatt, R.; Yolken, R.; Urrutia, J.; et al. DIARRHEA ASSOCIATED WITH ROTAVIRUS IN RURAL GUATEMALA: A LONGITUDINAL STUDY OF 24 INFANTS AND YOUNG CHILDREN. *American J. Tropical Medicine Hygiene*, 1979, vol. 28, no. 2, 325-28.

One hundred eighty-three diarrheal episodes among 24 infants and young children over a three year period were studied. Although rotavirus accounted for only 14.2% of these, it accounted for 50% of the dehydrating diarrheal illness.

- 1281 Yakubu, A.M.; Sathiakumar, N. CHRONIC DIARRHOEA IN NIGERIAN CHILDREN. *Journal of Diarrhoeal Diseases Research*, vol. 3, no. 3, September 1985, 145-148.

This study was designed to determine the etiologies of chronic childhood diarrhea among 142 Nigerian children. Giardiasis was detected in 41% of the cases, and amebiasis in 23%. In children, chronic diarrhea was associated with lactose intolerance. Early detection and treatment of amebiasis and giardiasis is thus a useful approach to treating chronic diarrhea cases among children.

- 2015 Yam, W.C.; Lung, M.L.; Yeung, C.Y.; et al. ESCHERICHIA COLI ASSOCIATED WITH CHILDHOOD DIARRHEAS. *Journal of Clinical Microbiology*, Nov. 1987, p. 2145-2149.

In a study of 2246 episodes of childhood diarrhea in Hong Kong (patients 5 years old or younger), the pattern of diarrheal disease was shown to be similar to that of other urban centers, with rotavirus being the most important pathogen. *E. coli* was also shown to be associated with a large proportion of diarrheal episodes in Hong Kong.

- 1829 Young, G. ANTIBIOTIC-ASSOCIATED DIARRHOEA AND COLITIS DUE TO CLOSTRIDIUM DIFFICILE. *Saudi Medical Journal*, vol. 8, 1987, 445-455.

This article discusses antibiotic-associated diarrhea and colitis due to *C. difficile* and its proper treatment.

Diarrhea Related

- 1215 DOES MALNUTRITION PREDISPOSE CHILDREN TO DIARRHEA? *Nutrition Reviews*, May 1985, vol. 43, no. 5, 144-145.
- This is a survey of studies into the relationship between nutritional status and incidence and severity of diarrhea episodes. Poor nutritional status appears to be linked to longer episodes of diarrhea, but not to number of episodes in a given child.
- 0029 LACTOSE MALABSORPTION AND LACTOSE INTOLERANCE. *The Lancet*, 20 October 1979, 831-32.
- The difference between lactose malabsorption and lactose is explained, emphasizing the fact that malabsorption does not always lead to lactose intolerance.
- 1223 NUTRITION AND DIARRHEAL DISEASE CONTROL. REPORT OF AN INTERNATIONAL CONFERENCE HELD AT THE WEST DEAN CONFERENCE CENTER, UNITED KINGDOM AUGUST 12-16, 1985. International Nutrition Planners Forum United Kingdom, 1985, 34 p.
- This publication summarizes working group discussions, including Policy and Planning, Implementation, and Research. Also included are summaries of keynote papers.
- 1207 VITAMIN A: PREVENTING BLINDING MALNUTRITION. *Dialogue on Diarrhoea*, June 1985, no. 21, p. 6.
- There is no real scarcity of vitamin A in many African and Asian Countries. Problems arise when fruit and vegetables containing vitamin A cannot be conserved, or when it is not culturally acceptable for or is difficult to get children to eat vegetables.
- 1209 Abbar, K.A.; Reddy, S.K. ASSIGNMENT REPORT: APPRAISAL OF VITAMIN A DEFICIENCY, SULTANATE OF OMAN 23 JANUARY-5 FEBRUARY 1981. World Health Organization, WHO/EM/NUT/92, July 1981, 23 p.
- The authors conducted a field survey of young children in Oman to determine the rate of xerophthalmia. They concluded that vitamin A deficiency was not a widespread condition; many Vitamin-A rich foods are part of the Omani diet. Protein-Energy Malnutrition was found to be the most severe nutritional disorder.

- 1973 Akhtar, S.Q. ISOLATION OF CLOSTRIDIUM DIFFICILE FROM DIARRHOEA PATIENTS IN BANGLADESH. *Journal of Tropical Medicine and Hygiene*, 1987, vol. 90, 189-192.

This article reports on a study which attempted to detect *c. difficile* and its toxin from stools of 20 patients with antibiotic-associated diarrhea (AAD), 35 with colitis, six with chronic diarrhea and 300 with watery diarrhea. The researchers concluded that *c. difficile* might be a cause of AAD in Bangladesh.

- 1210 Arora, N.K.; Bhan, M.; Dhamija, N.K.: et al. ABSORPTION TESTS IN CHILDREN WITH DIFFERENT STATES OF MALNUTRITION. *J. Diarrhoeal Diseases Research*, December 1985, vol. 3, no. 4, 209-14.

Gastrointestinal absorption tests were carried out in 98 children without diarrhea with varying levels of nutrition. The number of abnormal tests of absorption was similar in children with mild to moderate malnutrition and those normally nourished, but sharply rose among those with severe malnutrition.

- 1201 Ashworth, A. PROTEIN AND 'MALNUTRITION' (EDITORIAL). *J. Tropical Pediatrics*, December 1985, vol. 31, 288-89.

The failure to recognize all components of malnutrition has led many health workers to pursue inappropriate preventive measures and to prescribe inappropriate dietary regimens during rehabilitation. In order to maximize catch-up growth, the author emphasizes the need for a doubling of the energy intake, and not just the prescription of protein supplements.

- 0494 Barua, D.; Kaferstein, F. THE ROLE OF FOOD IN THE EPIDEMIOLOGY OF ACUTE ENTERIC INFECTIONS AND INTOXICATIONS. *World Health Organization, WHO/EFP/FOS/83.48 Rev.1, 1983, 9 p.*

This paper reviews the reporting of food borne diseases in developed countries and discusses the incidence of food borne disease and factors contributing to the spread of disease through food.

- 0365 Black, R.; Brown, K.; Becker, S. EFFECTS OF DIARRHEA ASSOCIATED WITH SPECIFIC ENTEROPATHOGENS ON THE GROWTH OF CHILDREN IN RURAL BANGLADESH. *Pediatrics*, June 1984, vol. 73, no. 6, 799-805.

A village-based study in Bangladesh concluded that diarrhea accounted for 20% of the difference in linear growth between the study children and the international reference population during the first five years of life. The authors assert that control of diarrhea due to enterotoxigenic *E. coli* and *Shigella* would substantially reduce diarrheal morbidity and improve the growth of children.

- 0379 Black, R.; Brown, K.; Becker, S. MALNUTRITION IS A DETERMINING FACTOR IN DIARRHEAL DURATION BUT NOT INCIDENCE AMONG YOUNG CHILDREN IN A LONGITUDINAL STUDY IN RURAL BANGLADESH. *American J. Clinical Nutrition*, January 1984, vol. 37, 87-94.

A community based study in Bangladesh examined the reciprocal relationship between diarrhoea and malnutrition in young children. The authors suggest that nutritional interventions do not decrease diarrheal incidence. However, improvement in nutrition may affect the duration of diarrhea and its nutritional consequences.

- 0326 Black, R.; Merson, M.; Eusof, A.; et al. NUTRITIONAL STATUS, BODY SIZE, AND SEVERITY OF DIARRHOEA - ASSOCIATED WITH ROTAVIRUS OR ENTEROTOXIGENIC ESCHERICHIA COLL. *J. Tropical Medicine and Hygiene*, 1984, vol. 87, 83-89.

This study suggests that a child's body size is a significant predictor of his rate of stool output. Thus, children who are small because of young age and/or malnutrition appear to lose a greater proportion of their total fluid volume during diarrhea and might be expected to have a higher frequency of severe dehydration and death, if untreated.

- 0164 Black, R.; Brown, K.; Becker, S.; et al. INFLUENCE OF ACUTE DIARRHEA ON THE GROWTH PARAMETERS OF CHILDREN. *J.A. Bellanti, ed., Acute Diarrhea: Its Nutritional Consequences in Children*, New York, Raven Press, 1983.

This study uses a village-based surveillance system to determine the incidence, prevalence, and severity of malnutrition and a variety of diseases, including diarrhea associated with specific etiologic agents.

- 0165 Black, R.; Brown, K.; Becker, S.; et al. LONGITUDINAL STUDIES OF INFECTIOUS DISEASES AND PHYSICAL GROWTH OF CHILDREN IN RURAL BANGLADESH. I. PATTERNS OF MORBIDITY. *American Journal of Epidemiology*, March 1982, vol. 115, no. 3, no. 3, 305-314.

The incidence and severity of malnutrition and other diseases among 177 children under 4 were studied. Respiratory and diarrheal diseases were found to be the most prevalent illnesses.

- 0234 Brown, K.; Black, R.; Becker, S.; et al. PATTERNS OF PHYSICAL GROWTH IN A LONGITUDINAL STUDY OF YOUNG CHILDREN IN RURAL BANGLADESH. *American Journal of Clinical Nutrition*, August 1982, vol. 36, 294-302.
- A longitudinal study of physical growth of 197 rural children, aged 6-60 months was conducted. Ninety percent weighed less than the National Center for Health Statistics fifth percentile by 8-15 months of age. Internal village standards for growth were created since growth patterns differed from those in Europe and N. America. The poorest nutritional status was found in children from 0-2 years of age.
- 0163 Brown, K.; Black, R.; Becker, S.; et al. CONSUMPTION OF FOODS AND NUTRIENTS BY WEANLINGS IN RURAL BANGLADESH. *American Journal of Clinical Nutrition*, November 1982, vol. 36, 878-889
- Food consumption by 70 children 5-30 months old in villages was studied. Between 5-12 months, all children were breastfed. From 24-30 months, 85% were still breastfed. The study concludes that the weaning diet is very deficient in nutrients and calories.
- 0032 Brown, K.; Black, R.; Parry, L. THE EFFECT OF DIARRHEA ON INCIDENCE OF LACTOSE MALABSORPTION AMONG BANGLADESHI CHILDREN. *American Journal of Clinical Nutrition*, 1980, vol. 33, 2226-27.
- The authors of this letter question the test methods and results which state that 30-50% of a group of Bangladeshi children malabsorbed sugar after acute diarrhea. They recommend that lactose malabsorption tests use diagnostic techniques other than lactose-breath hydrogen tests.
- 1204 Butzner, J.D.; Butler, D.G.; Miniats, O.P.; et al. IMPACT OF CHRONIC PROTEIN-CALORIE MALNUTRITION ON SMALL INTESTINAL REPAIR AFTER ACUTE VIRAL ENTERITIS: A STUDY IN GNOTOBIOTIC PIGLETS. *Pediatric Research*, 1985, vol. 19, no. 5, 476-481.
- This study investigates the relationship between enteric infection and protein-calorie malnutrition by infecting normally nourished and protein-calorie deprived gnotobiotic piglets. In this animal model of a major cause of infantile diarrhea, a reciprocal relationship between enteric infections and malnutrition emerges. Acute viral injury to the small intestinal mucosa delayed epithelial repair in malnourished hosts, and led to further reduction in weight gain.
- 1146 CDC. MEASLES SURVEILLANCE REPORT NO. 11, 1977-1981. Centers for Disease Control, Atlanta, Georgia, 1982, 43 p.
- This report summarizes trends in measles outbreaks in the U.S. The current status of live measles vaccines and immunization requirements of different institutions are discussed.

- 0363 Chen, L.; Chowdhury, A.; Huffman, S. ANTHROPOMETRIC ASSESSMENT OF ENERGY-PROTEIN MALNUTRITION AND SUBSEQUENT RISK OF MORTALITY AMONG PRESCHOOL AGED CHILDREN. *American J. Clinical Nutrition*, August 1980, vol. 33, 1836-45.
- This article examines the usefulness of various anthropometric classification systems of nutritional status in determining the risk of mortality among 209 children aged 13 to 23 months in rural Bangladesh. Severely malnourished children experience high mortality risk while normal, mild, and moderately malnourished experience the same risk.
- 0152 Cohen, N.; Mitra, M.; De Regt, E.L.; et al. DIARRHOEAL DISEASES: COMBATTING THE LONG-TERM EFFECTS- TREATING THE WHOLE CHILD. *Dialogue on Diarrhoea*, June 1985, no. 21, 4-5.
- This report discusses the link between diarrhea and nutritional blindness. Vitamin A deficiencies increase the risk of diarrheal, respiratory, and related infections. A study in Bangladesh showed that at least one-half of the children who had serious xerophthalmia had suffered from diarrhea in the previous month.
- 1974 Coremans, G; Janssens, J.; Vantrappen, G.; et al. MIGRATING ACTION POTENTIAL COMPLEXES IN A PATIENT WITH SECRETORY DIARRHEA. *Digestive Diseases and Sciences*, vol. 32, no. 10, October 1987, 1201-1206.
- The growing evidence that disorders of intestinal motility have an important role in the pathogenesis of diarrhea led to the classification of small intestinal motor disorders based upon abnormalities in slow wave activity or in well-established motility patterns. Many motor disorders were associated with diarrhea. A technique of recording small intestinal myoelectrical activity in man was developed and applied in a patient with secretory diarrhea in order to study diarrhea-associated small intestinal motility patterns.
- 1200 Cowtan, E. MALNUTRITION AND DEHYDRATION IN THE THIRD WORLD: PRACTICAL TREATMENT. *Canadian Family Physician*, November 1985, vol. 31, 2109-2112.
- This article reviews current supplementary feeding regimens and oral rehydration techniques employed in sub-Saharan Africa, primarily in refugee camps. The author discusses techniques for identifying levels of malnutrition and the therapeutic feeding programs for each.
- 0341 Deb, B.; Sirkar, B.; Sengupta, P.; et al. LONG-TERM IMPACT OF ORAL REHYDRATION IN DIARRHOEA ON NUTRITION OF CHILDREN IN CALCUTTA SLUMS. *Indian Journal of Medical Research*, December 1983, 808-813.
- A three-year observation of 383 children below 5 years of age in two typical Calcutta slums was conducted to determine the impact of diarrhea on overall nutritional progress. Malnourished children suffered from a higher incidence of diarrhea, as compared to nutritionally normal children.

- 0364 Delgado, H.; Valverde, V.; Belizan, J.; et al. DIARRHEAL DISEASES, NUTRITIONAL STATUS AND HEALTH CARE: ANALYSES OF THEIR INTERRELATIONSHIPS. *Ecology of Food and Nutrition*, 1983, vol. 12, 229-34.
- A prospective study of Guatemalan Indian children was conducted to understand the relationship between diarrhea, nutrition, and health care. Data revealed that malnutrition directly affects the incidence and duration of gastrointestinal disorders.
- 0224 Edelman, R. NUTRITION AND IMMUNITY AS EFFECTING RESISTANCE OF THE GASTROINTESTINAL TRACT TO INFECTION. NIH, 1978, 7 p.
- The clinical consequences of the synergistic interrelationship between malnutrition and enteropathic agents are most often diarrhea and malabsorption that cause diarrhea. This paper discusses these interrelationships.
- 1512 El Behairy, F.; Hablas, R.; El Diwany, K; et al. CLINICO-BACTERIOLOGICAL STUDY OF DIARRHEA COMPLICATING MEASLES. *Journal of Tropical Pediatrics*, February 1986, vol. 32, 44-46.
- This article argues that diarrhea is one of the most dreadful complications in measles. Diarrhea accompanying measles is of an infective nature and is mostly due to bacterial invasion.
- 0200 Elomaa, E. NEONATAL INTESTINAL ENTEROTOXINAEMIA AND THE DEVELOPING BRAIN. *The Lancet*, 2 May 1981, 999.
- It is suggested that pathogens that produce diarrheal disease are also able to produce enterotoxins with hormone-like actions which may cause permanent damage (i.e. mental retardation and epilepsy) to the immature brain.
- 1716 Excler, J.L.; Standaert, B.; Ngendanumwe, E. MALNUTRITION ET INFECTION A HIV CHEZ L'ENFANT AU MILIEU HOSPITALIER AU BURUNDI. *Pediatric*, vol. 42, 1987, 715-718.
- This study examined the relationship of malnutrition and HIV-infection in hospitalized children in Burundi. The results suggest a high rate of vertical transmission from mother to child for HIV infection and a frequent association of malnutrition and HIV infection.

- 0357 Faridi, M.; Ansari, Z.; Bhargava, S. IMPRINTS OF PROTEIN ENERGY MALNUTRITION ON THE SKELETON OF CHILDREN. *J. Tropical Pediatrics*, June 1984, vol. 30, 150-153.
- This article observes the effects of PEM on the growing skeleton of young children. One hundred-ten malnourished children were examined for bone retardation as a result of PEM. Results in 75.4% of these cases exhibited some degree of osteoporosis.
- 0023 Faulk, W.P.; Demaeyer, E.;M. Davies, A.J.S. SOME EFFECTS OF MALNUTRITION ON THE IMMUNE RESPONSE IN MAN. *American Journal of Clinical Nutrition*, June 1974, vol. 27, 638-646.
- The cyclic relationship between malnourished persons and infections is examined in this article. The authors suggest that the interdependence of these two phenomena may be explained by studying host factors of resistance to infection that are altered by changes in nutritional status. Implications for public health practices are discussed regarding the infection-malnutrition syndrome.
- 1143 Foegen, W.H. BANISHING MEASLES FROM THE WORLD. *World Health Forum*, vol. 5, 1984, 63-64.
- This article discusses the feasibility and likelihood of eradicating measles worldwide.
- 2024 Gracey, M. BACTERIA AND VIRUSES IN CHILDHOOD GASTROENTERITIS. *Papua New Guinea Medical Journal*, vol. 30, no. 2, June 1987, 151-157.
- Viruses, enterotoxigenic bacteria, and other bacteria such as *Aeromonas*, *Campylobacter* and *Yersinia* have recently been recognized as causes of acute gastroenteritis. Development of rapid, simple methods for identification of microorganisms which cause diarrhea in children will help in understanding these illnesses and lead to improved prevention and treatment methods.
- 0980 Gryboski, J. THE ROLE OF ALLERGY IN DIARRHEA: COW'S MILK PROTEIN ALLERGY. *Pediatric Annals*, vol. 14, no. 1, January 1985, 31-36.
- The reciprocal relationship of diarrhea and allergy are examined in this article. Etiology, pathogenesis, and treatment are discussed.
- 1211 Gutierrez, C.; Guiraldes, E. ENTERIC DISEASE AND MALNUTRITION: A PLEA FOR A MORE COMPREHENSIVE VIEW OF A COMPLEX INTERACTION. *Journal of Pediatric Gastroenterology and Nutrition*, 1985, vol. 4, no. 1, 56.
- The authors suggest that damage to the small intestine seen in children from developing nations can be either the consequence of inadequate dietary protein or may be caused by specific intolerance to dietary proteins. They stress that one should look at the interaction between enteric disease and malnutrition in childhood from a wider point of view than is often taken.

- 0021 Heyman, M.; Boudraa, G.; Sarrut, S.; et al. MACROMOLECULAR TRANSPORT IN JEJUNAL MUCOSA OF CHILDREN WITH SEVERE MALNUTRITION: A QUANTITATIVE STUDY. *Journal of Pediatric Gastroenterology and Nutrition*, 1984, vol. 3, 357-363.
- This study revealed an increased intestinal permeability to macromolecules in the event of diarrhea coupled with malnutrition.
- 1807 Honda, S.I.; Goto, I.; Minematsu, I. GASTROENTERITIS DUE TO KANAGAWA NEGATIVE VIBRIO PARAHAEMOLYTICUS. *The Lancet*, February 7, 1987, 331.
- The Kanagawa phenomenon - haemolysis due to thermostable direct haemolysin produced by vibrio parahaemolyticus on Wagatsuma agar medium - has been closely associated with the enteropathogenicity of the organism Kanagawa negative as well as positive. *V. parahaemolyticus* and can cause gastroenteritis.
- 0237 Hossain, M.; Glass, R.; Black, R. PREVALENCE OF ASCAR'S, HOOKWORM, AND TRICHIURIS IN PATIENTS ATTENDING A RURAL DIARRHEA TREATMENT CENTER IN BANGLADESH. *Southeast Asian J. Tropical Medicine and Public Health*, December 1981, vol. 12, no. 4, 539-43.
- Stool samples from 4,555 attending a diarrhea treatment center were examined for the presence of intestinal helminths. One or more helminths were detected in 39%, and up to 78% among 4 year olds.
- 0745 Huq, M.I. INVESTIGATION OF AN OUTBREAK OF DYSENTERY DUE TO SHIGELLA SONNEI IN A SMALL COMMUNITY IN DACCA. ICDDR,B, Scientific Report No. 25, June 1979, 16 p.
- Dysentery due to shigella sp. is widespread in most of the developing countries of the world and also causes a great deal of morbidity and mortality in Bangladesh. This paper reports the epidemiological, clinical and bacteriological aspects of the disease in that family.
- 1206 Hussain, M.A.; Nwaki, C.N.; Omololu, A. EFFECT OF EARLY MALNUTRITION ON SUBSEQUENT GROWTH IN A GROUP OF NIGERIAN VILLAGE CHILDREN. *Nutrition Reports Int'l.*, October 1985. vol. 32, no. 4, 885-91.
- Results from this study indicate that compared to U.S. reference, adolescent weight and height spurt was delayed by about 2-3 years in malnourished Nigerian children. Undernourishment in early life subsequently delays the adolescent growth spurt as well as limiting body size.

- 0516 ICDDR,B. ANNOTATED BIBLIOGRAPHY ON NUTRIENT ABSORPTION AND DIARRHOEA-MALNUTRITION CYCLE. ICDDR,B, 1984, 53 p.
- This annotated bibliography summarizes and lists the important works on nutrient absorption.
- 1208 Jonas, A.; Diver-Haber, A.; Avigad, S. WELL-COMPENSATED PRIMARY BILE ACID MALABSORPTION PRESENTING AS CHRONIC NONSPECIFIC DIARRHEA. *Journal of Pediatric Gastroenterology & Nutrition*, 1986, vol. 5, no. 1, 143-146.
- This study presents the case of an 8 year old boy with continuous diarrhea since the neonatal period. The patient had bile acid malabsorption, which resembled the chronic non-specific diarrhea syndrome of children.
- 1205 Kaplowitz, P.; Isely, R.; MARASMIC-KWASHIORKOR IN AN 8-WEEK OLD INFANT TREATED WITH PROLONGED CLEAR LIQUIDS FOR DIARRHEA (A CASE REPORT). *Clinical Pediatrics*, September 1979, vol. 18, no. 9, 575-76.
- This case study emphasizes the need for increased awareness of potential risk in unsupervised, prolonged clear liquid therapy, and early recognition of severe malnutrition.
- 0191 Khan, M.U.; Haque, E.; Khan, M.R. NUTRITIONAL OCULAR DISEASES AND THEIR ASSOCIATION WITH DIARRHOEA IN MATLAB, BANGLADESH. *British Journal of Nutrition*, 1984, vol. 52, 1-9.
- Visual defects in 149 villages were examined to document the role of diarrhea in developing xerophthalmia. In all 1,195 patients examined, the overall association of acute and long-standing xerophthalmia with diarrhea was 85.6% in males and 86.6% in females.
- 1220 Lebenthal, E.; Tucker, N. CARBOHYDRATE DIGESTION: DEVELOPMENT IN EARLY INFANCY. *Clinics in Perinatology*, March 1986, vol. 13, no. 1, 37-55.
- The development in the infant of the ability to digest carbohydrates is discussed in this article. Premature infants have a developmental lactose deficiency, and the author presents alternative carbohydrates for feeding.
- 1218 Lebenthal, E.; Siegel, M. MALABSORPTION SYNDROMES AND CHRONIC DIARRHEA. *Current Pediatric Therapy*, 11. Gellis & Kagan eds., Philadelphia, Saunders, 1984, 221-35.
- This is a review of the causes and specific manifestations of intestinal malabsorption in infancy. It discusses the assessments that can help determine the appropriate nutritional rehabilitation.

- 1212 Lebenthal, E.; Young, C. MALNUTRITION. *Current Pediatric Therapy*, Gellis, S.S.; Kagan, B.M., eds, Philadelphia, W.B. Saunders Co., 1986, 1-4.
- This chapter presents an overview of different kinds of malnutrition. Definitions and diagnosis of various nutritional disorders and treatment, including enteral and parenteral feeding, are discussed.
- 1219 Lifschitz, C.H.; Bautista, A.; Gopalakrishna, G.S.; et al. ABSORPTION AND TOLERANCE OF LACTOSE IN INFANTS RECOVERING FROM SEVERE DIARRHEA. *Journal of Pediatric Gastroenterology and Nutrition*, 1985, vol. 4, 942-948.
- Breath hydrogen tests were used to evaluate lactose absorption and tolerance in 19 North American infants during their convalescence from severe diarrhea. Results from the study corroborate reports from other studies that breath H₂ concentration after a lactose-containing meal is a poor prediction of tolerance or intolerance.
- 0268 Lifshitz, F.; Coello-Ramirez, P.; Gutierrez-Topete, G.; et al. CARBOHYDRATE INTOLERANCE IN INFANTS WITH DIARRHEA. *Journal of Pediatrics*, November 1971, 760-767.
- This study measured lactose intolerance in infants hospitalized with severe diarrhea. Seventy-seven percent had lactose intolerance as measured in the study. Lactose intolerance was positively correlated with increasing severity of malnutrition, but not with previous episodes of gastroenteritis, the presence of enteropathogens, or associated infections. Antibiotic therapy increased the stool pH toward alkaline but did not modify the excretion of carbohydrates.
- 1203 Lindtjorn, B. MEASURING ACUTE MALNUTRITION: A NEED TO REDEFINE CUT-OFF POINTS FOR ARM CIRCUMFERENCE? *The Lancet*, 30 November 1985, 1229.
- In this study, the author found that the customarily used arm circumference indicators--moderate acute malnutrition registered between 12.5 and 13.5 cm with severe acute malnutrition below 12.5--exaggerated the prevalence rates of acute malnutrition. They therefore proposed new AC cut-off points of 11 and 13 cm to reduce false positive rates, and tested them for sensitivity and specificity by comparison with the standard weight-for-height. The new cut off points maintained a high sensitivity while increasing the specificity of the test.
- 0714 Long-Krug, S.A.; Weikel, C.S.; et al. DOES ENTEROPATHOGENIC ESCHERICHIA COLI PRODUCE HEAT-LABILE ENTEROTOXIN, HEAT-STABLE ENTEROTOXINS A OR B, OR CHOLERA TOXIN A SUBUNITS? *Infection and Immunity*, 46, no. 2, November 1984, 612-614.
- This study concludes that heat-stable or heat-labile enterotoxins or cholera toxin A subunits are not produced by EPEC. It appears, however, that EPEC probably causes diarrhea by yet other mechanisms besides the classically recognized enterotoxins and invasiveness.

- 0022 Mann, M.D.; Hill, I.D.; Peat, G.M.; et al. PROTEIN AND FAT ABSORPTION IN PROLONGED DIARRHOEA IN INFANCY. *Archives Disease in Childhood*, 1982, vol. 57, 268-73.

Protein and fat absorption were measured in 22 infants who had severe diarrhea for 7 days. Stool losses of nitrogen and fat were large; the supply of nitrogen and energy might have been a limiting factor in tissue repair if stool weight exceeded 30 g/kg body weight a day.

- 0964 Martin, D.L.; Johnston, J.M.; et al. CLINICAL AND LABORATORY FEATURES OF AN OUTBREAK OF VIBRIO-CHOLERAE 01 INFECTIONS IN U.S. *Diagn. Micro. Inf. Dis.*, vol. 3, no. 2, March 1985, 159-165.

This article describes a study of an outbreak of cholera in 16 crew members in the Gulf Coast. Laboratories should test for cholera by using thiosulfate-citrate-bile salts sucrose agar in addition to routine enteric media.

- 1477 Mata, L. SCIENTIFIC BASIS FOR THE INTEGRATION OF NUTRITION AND DIARRHEAL DISEASE CONTROL. Brighton, England, Int'l. Conference on Nutrition and Diarrheal Disease Control, Int'l. Planners Forum, 12-16 August 1985, 60 p.

This report discusses the scientific basis which justifies the integration of nutrition and diarrheal disease control within primary health care. Infectious diseases, particularly diarrhea, are themselves a primary or secondary cause of malnutrition and growth retardation, and malnutrition enhances clinical response to infection.

- 1202 Mathur, R.; Reddy, V.; Naidu, A.N.; et al. NUTRITIONAL STATUS AND DIARRHOEAL MORBIDITY: A LONGITUDINAL STUDY IN RURAL INDIAN PRESCHOOL CHILDREN. *Human Nutrition: Clinical Nutrition*, 1985, vol. 39c, 447-454.

This study was conducted among rural Indian preschool children to determine whether malnutrition influences the prevalence of diarrhea caused by specific pathogens. Enteric pathogens were identified in only 44% of the stool samples obtained; in those cases where no pathogens were detected, the authors speculate that patients were suffering from diarrhea of non-infective etiology.

- 0026 McMurray, D.N.; Watson, R.R.; Reyes, M.A. EFFECT OF RENUTRITION ON HUMORAL AND CELL-MEDIATED IMMUNITY IN SEVERELY MALNOURISHED CHILDREN. *American Journal of Clinical Nutrition*, October 1981, vol. 34, 2117-2126.
- The intervention study of forty-three malnourished Columbian children who were hospitalized and given a protein-high calorie diet for 4-5 weeks is outlined in this article. Improved clinical and nutritional status was noted and results indicate that short-term nutritional rehabilitation has a differential effect on the long-term restoration of various aspects of immunity.
- 1213 Mitchell, M. INFORMATION PAPER ON VITAMIN A. *Management Sciences for Health*, April 1986, 7 p.
- This a brief review of literature and evidence on the role of Vitamin A deficiency in the child mortality relationship of Vitamin A deficiency and diarrheal disease. A discussion of program implementation is also presented.
- 0206 Nager, D. EFFECT OF DIARRHEAL DISEASES ON THE ABSORPTION AND UTILIZATION OF VITAMIN A: AN ANNOTATED BIBLIOGRAPHY. Helen Keller International, Inc., New York, September 1979, 6 p.
- This bibliography provides fairly detailed annotations of 8 articles since 1970 related to vitamin A deficiency and diarrhea, nutritional malabsorption, and xerophthalmia.
- 0157 Nalin, D.; Russell, R.; Greenberg, H.; et al. REDUCED VITAMIN A ABSORPTION AFTER ENTERIC INFECTIONS. *Current Chemotherapy and Infectious Disease*, 1980, 9:47-9:48.
- The impact that enteric infections have on the absorption of vitamin A is examined in this article.
- 1703 Olarte, J. PATHOGENESIS OF INFECTIOUS ACUTE GASTROENTERITIS (IN HUMANS). *Hospital Infantil de Mexico*, 9 p.
- During the past 15 years outstanding progress has been made with the discovery of new organisms of primary importance throughout the world such as the rotavirus, enterotoxigenic ETEC and *Campylobacter jejuni*. Remarkable advances have been made in understanding the pathogenesis involved in the process of bacterial gastroenteritis.

- 1217 Palmer, D.L.; Koster, F.; Alam, A.K.M.J.; et al. NUTRITIONAL STATUS: A DETERMINANT OF SEVERITY OF DIARRHEA IN PATIENTS WITH CHOLERA. *Journal of Infectious Diseases*, July 1976, vol. 134, no. 1, 8-14.
- Ninety-five percent of 97 patients hospitalized for cholera in Dacca were below median weight. In both adults and children duration of diarrhea, but not stool volume, was prolonged in those malnourished patients. It is suggested that cholera toxin irreversibly bound to the intestinal mucosal cells hard to reverse under conditions of poor nutrition, would effect prolonged diarrhea.
- 2000 Ram, S.; Khurana, S.; Vadehra, D.V.; et al. BIOECOLOGICAL FACTORS & SALMONELLA DIARRHOEA. *Indian Journal of Medical Research*, October 1987, 441-450.
- This article describes a study which analyzed biocological effects on salmonella. High temperature proved more conducive to occurrence, relative humidity did not show any significant influence, and the infectivity rate was higher in males than females. Infants comprised the most susceptible group.
- 1222 Rohde, J.; Northrup, R. DIARRHEA IS A NUTRITIONAL DISEASE. ICORT II Conference Presentation, December 1985, 24 p.
- This paper discusses the difficulty of managing diarrhea in the malnourished child, who often has severe dehydration, complex electrolyte disorders and is commonly intolerant to food or even to oral rehydration solutions. Diarrhea is a nutritional disease and can be managed properly with appropriate feeding.
- 1216 Sarker, S.; Rahaaran, M.; Ali, A.; et al. PROLONGED DEPRESSION OF SERUM ZINC CONCENTRATIONS IN CHILDREN FOLLOWING POST-MEASLES DIARRHOEA. *Human Nutrition: Clinical Nutrition*, 1985, vol. 39c, 411-417.
- Diarrhea has been found to lower serum zinc levels in infants and children. This study examined the relationship of decreased zinc levels to measles and diarrhea during the acute and recovery phases. In two groups of children with and without measles infection, zinc levels were related to plasma protein as well as measles, but were not related to age, duration of diarrhea, or shigellosis. Low serum zinc levels may be due to poor nutritional intake, dietary restrictions, intestinal malabsorption and increased gastrointestinal losses.
- 0691 Sommer, A.; Katz, J.; et al. INCREASED RISK OF RESPIRATORY DISEASE AND DIARRHEA IN CHILDREN WITH PRE-EXISTING MILD VITAMIN A DEFICIENCY. *American Journal of Clinical Nutrition*, 40, November 1984, 1090-1095.
- Preschool-aged rural Indonesian children were re-examined every 3 months for 18 months. The risk of respiratory disease and diarrhea was more closely associated with vitamin A status than with general nutritional status.

- 1214 Sutton, G.; Kanan, S.J. THE DIAGNOSIS OF MALNUTRITION: NUTRITIONAL PARAMETERS. *Current Opinion Gastroenterology*, 1985, vol. 1, 281-287.

A review of twenty articles that discuss the current methods employed or being researched to define and diagnose malnutrition in hospital patients. The aim of the authors is to identify patients in whom nutritional supplements during their hospital stay might decrease morbidity and mortality.

- 0201 Tomkins, A.; Patel, H.; Bloom, S. GUT HORMONES IN MALNOURISHED CHILDREN WITH PROTRACTED DIARRHOEA. *Proceedings of Nutrition Society*, June 1984, vol. 43, 83A.

Levels of gut hormones were measured in plasma samples from 25 malnourished Gambian children and in 11 well nourished children. Raised gastric levels suggest that a gastric mucosal lesion is common among malnourished children.

- 1147 Walsh, J. SELECTIVE PRIMARY HEALTH CARE: STRATEGIES FOR CONTROL OF DISEASE IN THE DEVELOPING WORLD: IV. MEASLES. *Reviews of Infectious Diseases*, vol. 5, Mar/Apr. 1983, 330-40.

The fatality rate from measles in developing countries is hundreds of times greater than that in the developed world. These deaths could be prevented if measles vaccines were readily available to all children before they experience the natural disease.

- 1551 Wapnir, R.A.; Beckman, J.A. WATER AND ELECTROLYTE ABSORPTION IN MALNUTRITION: EFFECT OF LACTOSE AND REVERSAL BY GLUCOSE. *Gastroenterology and Nutrition*, 235A.

This study investigated the effect of unhydrolyzed lactose (Lac) with and without added glucose on the jejunal absorption of H₂O, Na and K in mal- and well-nourished rats. The net H₂O flux was the same in both groups for the Lac without glucose, but greater in malnourished rats for Lac with glucose added. The data suggest that in PEM a more significant improvement over the negative effects of unhydrolyzed Lac on H₂O and electrolyte transport can be achieved by the addition of a moderate amount of glucose to feeding formula.

V. Infectious Diseases

- 0072 MEASLES, MORTALITY AND MALNUTRITION. *The Lancet*, 17 September 1983, 661.

This article suggests that children under 6 months may be susceptible to measles in developing countries despite persistence of maternal antibodies. The need for protection of the very young is stressed, especially in high-density regions. A correlation between measles mortality and PEM in early months of life is drawn.

- 1334 PLASMODIUM FALCIPARUM: A MAJOR HEALTH HAZARD TO AFRICANS AND ASIANS RETURNING HOME (EDITORIAL). *The Lancet*, 19 October 1985, 871-72.

Ethnic groups arrive in the United Kingdom with considerable inherent immunity derived from repeated past infection. However, upon returning to their homeland, that immunization is substantially diminished.

- 1332 PROGRAMA DE CONTROL DE LAS INFECCIONES RESPIRATORIAS AGUDAS EN LOS NIÑOS. (I SEMINARIO REGIONAL SOBRE INFECCIONES RESPIRATORIAS AGUDAS EN NIÑOS Y SUPERVIVENCIA INFANTIL.) PAHO/HIPM-TRI, 1986.

These basic documents were prepared for the first Regional Seminar on the control of diarrheal disease and acute infectious diseases, Quito, May 1986. Six topics include the magnitude of acute respiratory infections (ARI), basic principles for the control of ARI, treatment, community participation in the diagnosis and breakout of ARI, status of activities in control of ARI in the Americas.

- 0088 Aaby, P.; Bukh, J.; Lisse, I.; et al. DETERMINANTS OF MEASLES MORTALITY IN A RURAL AREA OF GUINEA-BISSAU: CROWDING, AGE AND MALNUTRITION. *J. Tropical Pediatrics*, June 1984, vol. 30, 164-68.

Malnutrition has been considered the major determinant of high measles mortality. Data from a rural area of Guinea-Bissau suggest that overcrowding and age may be more important as determinants than nutritional status. Measles vaccinations may contribute to increased survival rates by limiting the number of infections, raising the mean age of attack, and by impeding clustering of cases.

- 1907 Berman, S. PATHOGENESIS OF ACUTE RESPIRATORY INFECTIONS IN THE DEVELOPING WORLLE. BOSTID Developments, vol. 7, no. 2, Summer 1987, 1.

This article is based on a conference held in December 1986 by the Board on Science and Technology for International Development. It summarizes current knowledge of pathogenesis and presents recommendations for future research.

- 1322 Bjorge, S.S. REPORT ON THE STATUS OF MALARIA AND ANTI-MALARIA PROGRAMS: BANGLADESH, BURMA, INDIA, INDONESIA, NEPAL, PAKISTAN, PHILIPPINES, SRI LANKA, THAILAND. Prepared for USAID/ASIA/TR, February 1985.

This report reviews the status of malaria and anti-malaria programs in nine countries of Asia. The report is useful as background information for subsequent assessment of donors' options in health assistance.

- 1331 Brooks, R. GUIDELINES FOR THE LABORATORY DIAGNOSIS OF DIPHTHERIA. World Health Organization, WHO/LAB/81.7, 1981, 27 p.

This paper presents detailed instructions and procedures for collecting specimens, culturing and identifying *C. diptheriae*. The proper diagnosis of diphtheria is stressed, with the need also to test contacts of identified diphtheria cases.

- 1335 De Quadros, C.A.; Morris, L.; Da Costa, E.A.; et al. EPIDEMIOLOGY OF VARIOLA MINOR IN BRAZIL BASED ON A STUDY OF 33 OUTBREAKS. Bulletin of the World Health Organization, 1972, vol. 46, 165-71.

Surveillance-containment units were established in 1969 in four states of Brazil as part of the national smallpox eradication program. Their responsibilities included both the investigation of reported cases and the control of outbreaks, and the further extension and development of the reporting networks. Altogether, 33 outbreaks of smallpox were investigated in detail, all in endemic areas not yet reached by the attack phase of the eradication program.

- 1325 Dutta, P.; Pinto, J.; Rivlin, R. ANTIMALARIAL EFFECTS OF RIBOFLAVIN DEFICIENCY. *The Lancet*, 9 November 1985, 1040.
- This article discusses the apparent relationship between riboflavin deficiency and susceptibility to malarial infection. The hypothesis is that drugs and hormonal disorders which interfere with riboflavin metabolism should also provide protection against malaria, and that the therapeutic effects of antimalarial agents with structural similarities to riboflavin may be related to the inhibition of riboflavin metabolism. This relationship may provide a research opportunity for investigation of new antimalarial drugs in the face of increasing resistance to existing drugs.
- 1662 Fry, S. PLAN D'ACTION D'EDUCATION POUR LA SANTE DANS LE PROJET DE LUTTE CONTRE LES MALADIES TRANSMISSIBLES DE L'ENFANCE EN REPUBLIQUE POPULAIRE DU CONGO. PRITECH Report, SS96, February 1986, 34 p.
- This consultancy report provides a workplan for Congo's national CCCD program.
- 1663 Fry, S. RAPPORT DE MISSION EN EDUCATION POUR LA SANTE REPUBLIQUE POPULAIRE DE CONGO. PRITECH Report, SS 96, February 1986, 22 p.
- The purpose of this consultancy was to assist in the development of an education component for the CCCD project in the Congo.
- 0318 Garfield, R.; Vermund, S. CHANGES IN MALARIA INCIDENCE AFTER MASS DRUG ADMINISTRATION IN NICARAGUA. *The Lancet*, 27 August 1983, 500-504.
- Mass drug administration in 1981 reduced the incidence rates in both *Plasmodium vivax* and *P. falciparum* infection in Nicaragua, but with limited effects. Other positive results were improvement in case-finding, training of 7000 volunteers and participation of 70% of the population in anti-malarial activities.
- 1323 Gascon, J.; Soldevila, M.; Merlos, A.; et al. CHLOROQUINE AND AMODIAQUINE RESISTANT FALCIPARUM MALARIA IN RWANDA. *The Lancet*, 9 November 1985, 1072.
- This evaluation of Amodiaquine for treating chloroquine resistant falciparum concludes that since resistance is found to both amodiaquine and chloroquine, amodiaquine cannot be substituted for chloroquine, and that an effective alternative is quinine plus fansidar.

- 1326 Hoffman, S.; Dimpudus, A.J.; Campbell, J.R.; et al. RII AND RIII TYPE RESISTANCE OF PLASMODIUM FALCIPARUM TO COMBINATION OF MEFLOQUINE AND SULFADOXINE/PYRIMETHAMINE IN INDONESIA. *The Lancet*, 9 November 1985, 1039-1040.
- Respective resistance of falciparum to a mixture of mefloquine and sulfadoxine/pyrimethamine (MSP) and to sulfadoxine/pyrimethamine (SP) alone was tested. Resistance was found to (MSP) although mefloquine had never been used there. Little resistance to SP had been reported. Further study is necessary before a more widespread introduction of MSP to treat and prevent malaria.
- 1324 Le Bras, J.; Coulaud, J.P.; Bricaire, F.; et al. CHLOROQUINE-RESISTANT FALCIPARUM MALARIA IN THE CONGO. *The Lancet*, 9 November 1985, 1071.
- Evidence of the emergence of chloroquine-resistant falciparum malaria in the Congo is presented. Similar evidence from Cameroon suggests that falciparum drug resistance may be increasing.
- 1319 LeSar, J.; Elkins, H.; Northrup, R. MONITORING AND EVALUATION OF THE CHILD SURVIVAL ACTION PROGRAM. Working document approved by AID, 15 May 1985, 27 p.
- This working document describes the AID Child Survival Monitoring and Evaluation System (CSMES). The CSMES will rely on standard indicators for each intervention and for each of three evaluation tiers. The document defines and establishes indicators, describes the methodology and ultimate cost-benefit analysis.
- 0175 Loening, W.E.K.; Coovadia, H.M. MEASLES RATES IN URBAN AND RURAL ENVIRONMENTS. *The Lancet*, 25 February 1984, 455-456.
- This article defends research procedures for deriving measles rates in developing countries.
- 1318 Malek, E.A. EVALUATION OF SCHISTOSOMIASIS ACTIVITIES IN THE HASHEMITE KINGDOM OF JORDAN. PRITECH Report, SS G3, April 1985.
- The report reviews the current schistosomiasis research and control programs in Jordan, and makes recommendations for further AID support to these activities.

- 1329 Mexico, Ministry of Health. PROGRAMA DIAS NACIONALES DE VACUNACION ANTIPOLIOMIELITICA, MEXICO 1986. Mexico, Ministry of Health, 1985, 24 p.
- This document describes the national program of vaccination to control poliomyelitis in Mexico as of 1986.
- 1330 S.; Leeuwenburg, J. PERTUSSIS-EPIDEMIOLOGY AND CONTROL. World Health Organization, WHO/EPI/GEN/85/5, 1985, 24 p.
- This paper presents diagnostic laboratory and clinical techniques for identifying pertussis. The incidence of pertussis and success of immunization in controlling the disease are also discussed and the difficulty in obtaining accurate reports of incidence of morbidity and mortality.
- 1916 Niger, Ministere de la Sante Publique et des Affaires Sociales. SITUATION EPIDEMIOLOGIQUE 1986. Cellule de Planification projet Tulane, projet FEWS, August 1987, 18 p.
- This report describes the epidemiological surveillance system which has been established in Niger by the Ministry of Public Health and Social Affairs. Twenty-one contagious diseases are identified, and each health department reports weekly to Niamey on the number of cases and number of deaths occurring under each disease in their area.
- 1333 Schwalbach, J.; Schapira, A.; Suleimanor, G. CHLOROQUINE-RESISTANT MALARIA IN MOZAMBIQUE. The Lancet, 19 October 1985, 897-98.
- A description of chloroquine resistance in Mozambique is provided in this article. Data is presented, and methods for attacking the problem are indicated.
- 0144 Snyder, J.; Black, R.; Baqui, A.; et al. PREVALENCE OF RESIDUAL PARALYSIS FROM PARALYTIC POLIOMYELITIS IN A RURAL POPULATION OF BANGLADESH. American J. Tropical Medicine Hygiene, 1981, vol. 30, no. 2, 426-430.
- This article estimates the prevalence of residual paralysis from poliomyelitis in children from a region of Bangladesh by means of a survey of 25,000 children. Results indicate the prevalence rate to be 0.84/1000 children and the paralysis rate is 1.05/1000 children in this age group.

- 0319 Spencer, H.; Kaseye, D.; Koech, D. KENYAN SARADI COMMUNITY MALARIA PROJECT: RESPONSE OF PLASMODIUM FALCIPARUM ISOLATES TO CHLOROQUINE IN 1981 AND 82. *Transactions Royal Society Tropical Medicine Hygiene*, 1983, vol. 77, no. 5, 689-92.

The results of this study suggest a changing response pattern to chloroquine. It still remains the drug of choice, but continued in vivo and in vitro monitoring to chloroquine is warranted.

- 1327 Stanfield, J.P.; Galazka, A. NEONATAL TETANUS IN THE WORLD TODAY. *Bulletin of the World Health Organization*, vol. 62, no. 4, 1984, 647-669.

Neonatal tetanus mortality is avoidable by the immunization of women of child-bearing age and increasing the number of births attended by trained persons. The article reviews the worldwide incidence of neonatal tetanus and available preventative measures.

- 1328 Stansfield, S. ACUTE RESPIRATORY INFECTION IN THE DEVELOPING WORLD: PRIORITIES FOR PREVENTION, TREATMENT AND CONTROL. USAID, Office of Health, 3 April 1986, 49 p.

This draft discusses the recently increased recognition of acute respiratory infections as an important cause of morbidity and mortality among children in developing countries. The author suggests ways to escalate and improve existing programs for preventing and treating these infections.

- 0229 Thacker, S.; Keewhan, C.; Brachman, P. SURVEILLANCE OF INFECTIOUS DISEASES. *J. American Medical Association*, 4 March 1983, vol. 249, no. 9, 1181-85.

This article describes the clinician's critical role in disease reporting and outlines the benefits of surveillance to clinical practice. It analyzes the relative strengths and limitations of each of these systems and present current efforts to evaluate and improve surveillance activities.

- 1697 WHO. UNICEF. PRINCIPIOS BASICOS PARA EL CONTROL DE LAS INFECCIONES RESPIRATORIAS AGUDAS EN LOS NINOS EN LOS PAISES EN DESARROLLO. World Health Organization, WHO/UNICEF, 20 p.

This WHO document on the control of acute respiratory infections in developing countries outlines the magnitude of the problem, etiological agents, technologies, and program implementation.

0320 Wyler, D. MALARIA-RESURGENCE, RESISTANCE AND RESEARCH, PARTS I AND II. New England J. Medicine, 14 April 1983, vol. 308, no. 14, 875-78; and 21 April 1983, vol. 308, no. 16, 934-40.

Lessons learned in recent years about malaria transmission are humbling. Worldwide resurgence dictates the need for redoubling efforts to prevent malaria and its complications.

EPI General

- 0995 EVALUATION OF THE EXPANDED PROGRAM ON IMMUNIZATION OF BELIZE. PAHO, 26 March - 13 April 1984, EPI/84/003, 54 p.

This report evaluates the overall progress of the EPI program in Belize. It examines management, implementation, and participation components in the EPI program. MCI clinics and mobile clinics have experienced great success while measles vaccines have lagged.

- 0775 Creese, A.; Sriyabhaya, N.; et al. COST-EFFECTIVENESS APPRAISAL OF IMMUNIZATION PROGRAMMES. Bulletin of the World Health Organization, 60, no. 4, 1982, 621-632.

This paper describes a cost-effectiveness analysis of the immunization programs of Indonesia, the Philippines, and Thailand, using the program costing guidelines developed for the WHO EPI. The principal organizational features of each program are outlined, and total costs and costs per fully immunized infant are assessed at a small sample of health centres in each country.

- 0826 Creese, A.L. COST ANALYSIS: EXPANDED PROGRAMME ON IMMUNIZATION - INDONESIA. ASSIGNMENT REPORT (28 JUNE - 25 JULY 1980). World Health Organization, WHO/EPI/GEN/81/4, 1981, 17 p.

EPI immunization costs are assessed at 6 health centers in Indonesia in this report. Costs per fully immunized infant for 1979/1980 range from US \$1.25 - 3.29, and costs per fully immunized woman from US \$1.43 - 2.60.

- 0827 Creese, A.L. COST ANALYSIS: EXPANDED PROGRAMME ON IMMUNIZATION - THAILAND ASSIGNMENT REPORT (23 MARCH - 16 APRIL 1980). World Health Organization, WHO/EPI/GEN/80/6.

This paper assesses the cost factors and estimates costs for the Bangkok metropolis for 1979.

- 0787 Cvjetanovic, B.; Grab, B.; Dixon, H. EPIDEMIOLOGICAL MODELS OF POLIOMYELITIS AND MEASLES AND THEIR APPLICATION IN THE PLANNING OF IMMUNIZATION PROGRAMMES. Bulletin of the World Health Organization, 60, no. 3, 1982, 405-422.

This report describes construction and application of epidemiological models of measles and poliomyelitis for purposes of immunization programs.

- 1813 Dabis, F.; Waldman, R.J.; Sow, A. MEASLES CONTROL IN AFRICA. *The Lancet*, July 19, 1986, 162-163.
- This letter to the editor gives data supporting the belief that the EPI immunization program is far more cost-effective in controlling measles than are other direct cost care programs.
- 0818 De Quadros, C.A. APPROPRIATE TECHNOLOGY IN THE EXTENSION OF IMMUNIZATION. *World Health Forum*, 2, no. 4, 1981, 548-550.
- Countries should not be locked into the vaccination technologies developed by others to meet particular needs and problems; rather, they should devise and apply innovations that do not reduce safety and effectiveness yet are better suited to their own situation.
- 0774 De Quadros, C.A. MORE EFFECTIVE IMMUNIZATION. *Proceedings R.S. Lond.*, 1980, 111-117.
- This article reviews the factors limiting the development of immunization services in the developing countries, such as inadequate health personnel, vaccine costs and quality, and transportation. Three ways to reduce the number of necessary contacts between health service and target populations include simultaneous administration of several antigens, reduction in the number of recommended injections, and combining inactivated vaccines in one preparation. EPI programs in Latin America are also reviewed.
- 1713 Galazka, A.; Stroh, G. GUIDELINES ON THE COMMUNITY-BASED SURVEY ON NEONATAL TETANUS MORTALITY. World Health Organization, WHO/EPI/GEN/86/8, 1986, 45 p.
- The extent and magnitude of the neonatal tetanus problem is described. Also covered are the clinical characteristics of neonatal tetanus, epidemiological aspects of neonatal tetanus, and the methodology of the field survey on tetanus mortality.
- 1611 Gunawan, S. EXPANDED PROGRAMME ON IMMUNIZATION: SITUATION IN INDONESIA. World Health Organization, WHO/GAG/86/WP.6.3, 1986, 26 p.
- This overview of the EPI Program in Indonesia includes an analysis of the program's implementation, vaccines used and their distribution, coverage, designation of targeted diseases, training of health workers, costs and funding, and research activities.

- 0727 Halsey, N.; Galazka, A. THE EFFICACY OF DPT AND ORAL POLIOMYELITIS IMMUNIZATION SCHEDULES INITIATED FROM BIRTH TO 12 WEEKS OF AGE. World Health Organization, WHO/EPI/GEN/84.8 REV. 1, October 1984, 21-25.

The WHO EPI recommends beginning DPT and trivalent oral polio vaccine (TOPV) schedules at 6 weeks of age. This paper supports WHO recommendations and reviews available literature on the efficacy of early immunization with these vaccines.

- 0724 Henderson, R. IMMUNIZATION UPDATE: RECENT RECOMMENDATIONS FROM THE WHO EXPANDED PROGRAMME ON IMMUNIZATION. Contact, 82, December 1984, WHO/EPI/MISC/85/1, 5 p.

Some of the developments in recent years which will make the tasks of health workers providing immunizations easier include such categories such as ages for immunization, ill or malnourished children, priority groups for immunization, vaccine combinations, booster doses, and vaccine stability.

- 1089 Heymann, D.; Godfrey, H. CDC REPORTS FOR THE PLANNING OF AN EPI FIVE-YEAR PLAN, REPUBLIC OF NIGER. Centers for Disease Control, Rural Health Improvement Project, USAID/Niger, 1982, 57 p.

This report discusses the resources presently available to EPI in Niger, additional resources needed, personnel, facilities, services, and equipment and supplies necessary for effective execution of EPI.

- 0815 Hinman, A.; Jordan, W. PROGRESS TOWARDS ACHIEVING THE 1990 IMMUNIZATION OBJECTIVES. Public Health Reports, 96, no. 5, Sept.-Oct. 1983, 436-443.

Models have not yet been developed for selective use vaccines and new vaccines. As a consequence, although it seems likely that the childhood immunization objectives will be achieved by 1990, the ability to achieve objectives for selective use and new vaccines is in doubt.

- 0821 Honduras, Ministry of Health. 1ra EVALUACION DEL PROGRAMA AMPLIADO DE INMUNIZACIONES (PAI). PAHO, 18-29 October 1982.

This is an in-depth look at the Expanded Programme on Immunization for Honduras, including plan of operations, development of vaccine delivery, and materials to be used for administration of the program.

- 1302 Honduras, Ministry of Health. INFORME DE LA EVALUACION OPERATIVA DEL PROGRAMA AMPLIADO DE INMUNIZACIONES (PAL) Y DE TERAPIA DE REHIDRATAACION ORAL (TRO) EN EL AREA DE SALUD DE SANTA BARBARA, REGION NO. 3. Ministerio de Salud Publica, Santa Barbara, November 1985, 18 p.
- This report presents the methodology and findings of an evaluative survey of the EPI and ORT programs in a region of Honduras. The goal of the evaluation is to set up an information system that will be able to monitor, accurately and rapidly, the effectiveness of the EPI and ORT campaigns.
- 0078 Hopkins, D.; Koplan, J.P.; Hinman, A.; et al. THE CASE FOR GLOBAL MEASLES ERADICATION. *The Lancet*, 19 June 1982, 1396-98.
- This article alleges that the global eradication of measles is realistic, feasible, and relatively inexpensive. Based on the smallpox eradication experience, the elimination and interruption of measles transmission appears to be within reach administratively and financially.
- 0722 Khis, M.S. A VACCINE ARRIVAL SAGA. World Health Organization, WHO/EPI/MISC/85/2, 1985, 1 p.
- This description of the difficulties involved in the reception of vaccine shipments in developing countries cites one case in particular in Sudan.
- 0755 Kok, P.W.; Kenya, P.R.; Ensering, H. MEASLES IMMUNIZATION WITH FURTHER ATTENUATED HEAT-STABLE MEASLES VACCINE USING FIVE DIFFERENT METHODS OF ADMINISTRATION. *Trans R S Trop Med Hyg.*, 77, NO. 2, 1983, 171-176.
- One hundred-nine children were administered attenuated heat stable measles vaccines using 5 different methods. The vaccine was shown to be less stable under field conditions than was suggested by previous reports.
- 1099 Lesotho, Ministry of Health. COUNTRY ASSESSMENT - CCCD, KINGDOM OF LESOTHO. Lesotho MOH, USAID/Lesotho, CDC, 1983, 60 p.
- This report evaluates the CCCD project in Lesotho. It assesses government commitment and the present EPI program.
- 0934 Morocco, Ministry of Health. BULLETIN DE LA SANTE PUBLIQUE. Morocco, Ministry of Health/WHO, 1981.
- The findings of a MOH commission set up in 1978 to study and evaluate Morocco's vaccination coverage and overall EPI program include: simplifying vaccine scheduling, identifying target populations, and integrating with the WHO/UNICEF global EPI program.

- 0819 PAHO. EVALUATION OF EPI PROGRAM IN THE DOMINICAN REPUBLIC. Pan American Health Organization, PAI/82/003, 1982, 72 p.
This document evaluates the Expanded Programme on Immunization in the Dominican Republic in 1982.
- 0820 PAHO. PROGRAMA AMPLIADO DE INMUNIZACION (PAI). SEGUNDA REUNION REGIONAL. Pan American Health Organization, 1984.
This is the final report from the second regional meeting for the Expanded Programme on Immunization in Lima, Peru. The meeting took place from 5-9 March, 1984, and covered such topics as objectives, education, community participation, and program evaluation.
- 0813 PAHO/EPI. IMMUNIZATION AND PRIMARY HEALTH CARE: PROBLEMS AND SOLUTIONS. Pan American Health Organization, Scientific Publication No. 417, 1981.
This publication discusses and lays out the role of EPI within the PHC program as integrated into maternal and child health.
- 0720 Strassburg, M.A. GUIDELINES FOR THE INVESTIGATION AND CONTROL OF OUTBREAKS OF EPI TARGET DISEASES. World Health Organization, WHO/EPI/GEN/84/7/REV.1, 1984, 80 p.
These guidelines attempt to help EPI program managers decide on the priority of outbreak investigation and control measures and, if action is decided upon, to suggest which specific actions might be most appropriate.
- 0627 WHO. AN ANNOTATED COLD CHAIN BIBLIOGRAPHY. 7TH REVISION - JULY 1984. World Health Organization, EPI.CCIS/84.2, Ju. 1984, 16 p.
This is an annotated bibliography on cold chain.
- 0828 WHO. EPI COST PROJECTIONS - 1990. World Health Organization, WHO/EPI, draft, 11 Feb. 1983, 16 p.
This report attempts to estimate the cost of external investments required in 1990 to support national programs of immunization. This external support cost has been broken down by major cost category and also has been calculated separately for the least developed countries.
- 0825 WHO. EPI COSTING STUDIES. World Health Organization, WHO/EPI, 1983.
Collection and cost projections for various country EPI programs (Kenya, Ivory Coast, Indonesia, Philippines, Thailand) are documented in this report.

- 0812 WHO. EPI IN THE AMERICAS BENEFITS FROM REVOLVING FUND. World Health Organization Chronicle, 37, no. 3, 1983, 81-85.
- One challenge facing many of the developing countries is to ensure that their Expanded Programme on Immunization (EPI) can rely on a continuous supply of good quality low-cost vaccine. To this end the Pan American Health Organization (PAHO) has established the EPI Revolving Fund for the procurement of vaccines.
- 1291 WHO. EXPANDED PROGRAM ON IMMUNIZATION IN THE AMERICAS. World Health Organization, PAHO/WHO/CD31/7, 30 July 1985.
- This progress report, presented at the 95th Executive Committee Meeting, describes progress since 1977 and the overall improvement of vaccination coverages and program organization at country level. Adopting the goal of eradicating indigenous poliomyelitis in the Americas by 1990 is proposed.
- 0725 WHO. EXPANDED PROGRAMME ON IMMUNIZATION. DISEASES COVERED BY THE EPI. World Health Statistics Annual, 1984, 13 p.
- This article describes the EPI program and the goals included in the workplan for the period 1984-1989.
- 0726 WHO. EXPANDED PROGRAMME ON IMMUNIZATION: GLOBAL ADVISORY GROUP. Weekly Epidemiological Record, 3, January 1984, 13-16.
- This article summarizes the conclusions and recommendations made by the Global Advisory group at the 7th EPI Global Advisory Meeting.
- 0626 WHO. NEW COLD CHAIN MONITOR TO BE INTRODUCED ON 1 JAN 1985. World Health Organization, EOLCCIS/84.6, 1984, 1 p.
- A new cold chain monitor available in Arabic, English, French and Portuguese is described, with new features including a new strip indicator for temperatures above 10 degrees C., a simplified interpretation guide, and instructions on the back of the card along with a table of technical data that gives information on detailed time and temperature characteristics of this monitor.
- 1696 REPORT OF THE EXPANDED PROGRAMME ON IMMUNIZATION, GLOBAL ADVISORY GROUP MEETING, 13-17 OCTOBER 1986, NEW DELHI. World Health Organization, WHO/EPI/GEN/87/1, 1986, 61 p.
- Actions proposed in 1985 to accelerate EPI progress are re-affirmed. Some of these include promoting the achievement of the 1990 immunization goal at national/international levels through collaboration among ministries, organizations and individuals, providing immunization at every contact point, improving immunization services to the disadvantaged in urban areas, and increasing priority for the control of poliomyelitis, measles and neonatal tetanus.

- 1182 WHO. REPORT OF THE EXPANDED PROGRAMME ON IMMUNIZATION GLOBAL ADVISORY GROUP MEETING, 18-22 OCTOBER 1982, BRAZZAVILLE. World Health Organization, October 1982, EPI/GEN/82/6, 39 p.

This report focuses on the Expanded Program on Immunization (EPI). Regional and global programs are summarized, including specific discussion of neonatal tetanus, control of measles and poliomyelitis, and health education/community participation. The global advisory group also makes proposals for the year 1983.

- 0728 WHO. REPORT OF THE EXPANDED PROGRAMME ON IMMUNIZATION GLOBAL ADVISORY GROUP MEETING, 21-25 OCTOBER 1984, ALEXANDRIA. World Health Organization, WHO/EPI/GEN/85/1, 21-25 October 1984, 51 p.

The meeting began with a brief review of EPI progress at the global and regional levels, then reviewed the EPI in the Eastern Mediterranean Region and concluded with a discussion of selected technical issues of global reliance.

- 1610 WHO. REVIEW OF THE EXPANDED PROGRAMME ON IMMUNIZATION AND SELECTED PRIMARY HEALTH CARE ACTIVITIES IN THE REPUBLIC OF INDONESIA. Report of the Joint Government/WHO/UNICEF/USAID/Review Team/WHO/SEA/EPI/42, January 1983, 63 p.

This is an extensive analysis of the Indonesia EPI Program and Primary Health Care System. The study found that the EPI Program has programs set up in 60% of the country, has an effective vaccine distribution system and cold chain, and has an institutionalized self-evaluation system. Problems of the program include a low rate of immunization coverage of 8%-33%, and that rates are leveling off instead of improving. Other problems include a lack of information on the importance of immunization, inadequate collaboration with other parts of the MOH, lack of tapping local resources for program support, and the limited number of vaccines currently administered.

- 0721 WHO. STATUS OF COLD BOX TESTING AND BUYERS' GUIDE - UPDATE, DECEMBER 1984. World Health Organization, WHO/EPI/CCIS/84.4, 1984, 17 p.

Results of tests conducted and test methods, observations, guidelines for choosing a Cold Box, and a summary table of equipment tested are all included in this report.

EPI Management

- 0142 Black, R. COMMENTS ON THE POSSIBILITY OF ESTABLISHING A VACCINE TESTING FACILITY IN THAILAND. *Developmental Biology Standard*, 1983, vol. 53, 97-103.
- The technical, administrative, and ethical issues associated with founding and operating a vaccine testing facility in Thailand are evaluated in this article.
- 1299 Blum, D.; Phillips, M. AN ASSESSMENT OF THE EXPANDED PROGRAMME ON IMMUNIZATION IN NIGERIA. UNICEF, 1 November 1985, 60 p.
- This draft evaluates the achievements, costs, and lessons learned in the Nigerian EPI. Nigeria has adhered to a policy of phased implementation yielding many advantages: ensuring credibility, consolidating technical operations, limiting the initial demand for financial and other resources and allowing time to prepare budgets and train manpower.
- 1301 CDC. INDICATORS FOR MANAGING CCCD. Centers for Disease Control, R & D Feedback, June 1985, 9 p.
- Local use of indicators has the potential to provide information for program improvement at the delivery level. This memo lists factors and management techniques that can ensure adequate services during a national immunization campaign.
- 0119 Creese, A.; Henderson, R.H. COST-BENEFIT ANALYSIS AND IMMUNIZATION PROGRAMMES IN DEVELOPING COUNTRIES. *Bulletin of the World Health Organization*, 1980, vol. 58, no. 3, 491-497.
- Cost-benefit analysis of health programs shows whether a particular investment is economically justified. Existing studies of immunization indicate high rates of return, suggesting that the World Health Organization's EPI makes a real contribution to economic development.
- 0118 Davis, R. MEASLES IN THE TROPICS AND PUBLIC HEALTH PRACTICE. *Transactions Royal Society Tropical Medicine Hygiene*, 1982, vol. 76, no. 2, 268-275.
- The knowledge about measles transmission in urban, rural, and insular areas in LDCs is reviewed in this article. Different epidemiological patterns in these areas require different operational plans.

- 0408 Henderson, D.A. GLOBAL MEASLES ERADICATION. The Lancet, 24 July 1982, 208.

This article argues that the measles eradication goal by WHO is unrealistic. Not until industrialized nations have eradicated measles will worldwide eradication become attainable.

- 0384 Knebel, P.; Parker, R. MANAGEMENT OF IMMUNIZATION PROGRAMS IN FIXED HEALTH CENTERS OF LESS DEVELOPED COUNTRIES. USAID/Bamako, 79 p.

This manual describes the whole range of inputs and procedures that are required for appropriate management of immunization services integrated with other health care services at the health center level.

- 0420 WHO. BCG VACCINATION POLICIES: REPORT OF WHO STUDY GROUP. World Health Organization, Technical Report Series 652, 1980, 32 p.

A WHO Study Group on BCG Vaccination Policies met in Geneva from 24 to 27 June 1980. The purpose of the meeting was to consider whether modifications need to be made in current BCG vaccination policies in light of present knowledge.

- 1613 WHO. EVALUATION AND MONITORING OF NATIONAL IMMUNIZATION PROGRAMMES. World Health Organization, WHO/EPI/GEN/86/4, REV. 1, 1986, 31 p.

Many immunization programs in developing countries are undergoing a period of rapid acceleration. There is a strong demand to know what is working and what is not. This paper, prepared in collaboration with the Task Force on Child Survival, reviews some general principles of program evaluation and provides some suggestions concerning specific issues relating to the evaluation of national immunization programs. Table I contains a summary of evaluation instruments.

- 1612 WHO. IMMUNIZATION POLICY. World Health Organization, WHO/EPI/GEN/87/7, REV. 1, 1987, 23 p.

This document reviews WHO/EPI immunization policy, stressing immunizations in infants under one year of age. It includes an immunization schedule for national consideration.

EPI Delivery System

- 1286 KENYA'S SYSTEM FOR SUPPLY OF DRUGS TO RURAL AREAS. *The Lancet*, 21/28 December 1985, 1417.
- Kenya has adopted the WHO recommendation to identify essential drugs and to establish a standard distribution system to eliminate shortages in rural areas. Since the start of the program health workers have been trained and over-prescriptions have decreased. Shortages are now rare, costs are lower because there is less waste, and more people have easy access to appropriate treatments.
- 1296 Orenstein, W.A.; Bernier, R.H.; Dondoro, T.J.; et al. FIELD EVALUATION OF VACCINE EFFICACY. *Bulletin of the World Health Organization*, 1985, vol. 63, no. 6, 1055-1068.
- This paper describes the epidemiological techniques available for measuring vaccine efficacy and recommends a practical approach for their use.
- 0463 PATH. PATH TIME-TEMPERATURE FOR MEASLES VACCINE. *Program for Appropriate Technology in Health*, 1 p.
- This one page information sheet outlines the PATH methodology for determining the potency of the measles vaccine.
- 1298 PATH. PATHWATCH COLD CHAIN MONITOR. *Product Development Bulletin Update*, March 1985, 1 p.
- The Program for Appropriate Technology in Health (PATH) is developing a color-coded label called PATHwatch that indicates the heat exposure history of vaccines. Originally designed for use with the measles vaccine, the PATH indicator is being redesigned for broader applications as a general cold chain.
- 1284 Pelle, Y. EL SALVADOR IMMUNIZATION CAMPAIGN, FEBRUARY-APRIL 1985: ACHIEVING SUCCESS IN AN ADVERSE ENVIRONMENT. UNICEF, July 1985, 34 p.
- This document records and analyzes the main phases and features of El Salvador's successful EPI campaign and how structural change and sustained government efforts will ensure that immunization coverage remains high.

- 1292 WHO. EXPANDED PROGRAM ON IMMUNIZATION. Weekly Epidemiological Record, August 1985, no. 34, 261-263.
- This is a status report of worldwide coverage of children under one year old. Tables provide specific data of coverage by each EPI vaccine by country, by WHO region, and for the least developed countries.
- 1295 WHO. GUIDELINES FOR THE RETESTING OF EPI VACCINES. World Health Organization, WHO/EPI/GEN/85/4, April 1985, 2 p.
- This report specifies the contents of a telex requesting retest and minimum number of doses justifying a request for retesting, conditions of transport, and amount of time to allow before response.
- 1294 WHO. GUIDELINES ON THE INTERNATIONAL PACKAGING AND SHIPPING OF VACCINES. World Health Organization, WHO/EPI/CCIS/81.4/REV.1, 1985, 2A.
- Packaging standards, storage volume standards, labelling, and shipping procedures are specified in this article, including cold chain requirements for the shipment of vaccines to countries implementing the EPI.
- 1287 WHO. PROTOCOL FOR A COLD CHAIN REVIEW USING VACCINE COLD CHAIN MONITORS. World Health Organization, WHO/EPI/CCIS/85.2, 1985, 8 p.
- This protocol gives a method for using vaccine cold chain monitors to make periodic reviews of a national cold chain. It is based on experiences gained from 31 countries and from cold chain reviews in India and Tunisia.
- 1285 WHO. REPORT OF THE EXPANDED PROGRAMME ON IMMUNIZATION GLOBAL ADVISORY GROUP MEETING, 4-8 NOVEMBER 1985, COPENHAGEN. World Health Organization, WHO/EPI/GEN/86/2, 1986, 50 p.
- This report summarizes the global and regional programs of EPI and recommends four specific actions: (1) providing immunization at every contact point; (2) reducing drop out rates between first and last immunizations; (3) improving services to disadvantaged urban areas; and (4) increasing priority for the control of measles, poliomyelitis, and neonatal tetanus.
- 1293 WHO. SOLAR POWERED REFRIGERATORS FOR VACCINE STORAGE AND ICEPACK FREEZING. World Health Organization, WHO/EPI/CCIS/85.4, 1985, 27 p.
- Tests and trials of photovoltaic powered refrigerator systems designed to store and transport vaccine are discussed, and methods of testing, lab and field trial results, cost, installation, and maintenance are also covered.

- 1288 WHO. VACCINE COLD CHAIN MONITOR. World Health Organization, WHO/EPI/CCIS/85.1, 1985, 9 p.

This document describes the new and simplified version of the Vaccine Cold Chain Monitor Card which is being packed by vaccine manufacturers with vaccines supplied by WHO and UNICEF. Each cold chain monitor has 2 indicators which turn blue if the temperature rises. The card therefore serves as an effective monitor of the cold chain during shipment and gives health workers some guidance on whether or not to use the vaccines they receive.

- 1290 WHO; UNICEF. PLANNING PRINCIPLES FOR ACCELERATED IMMUNIZATION ACTIVITIES. World Health Organization, WHO/UNICEF, 1985, 24 p.

To meet the target of universal immunization by the year 2000, EPI programs worldwide may need to implement accelerated programs. This booklet highlights some broad principles concerning program acceleration.

VI. PHC (Primary Health Care)

- 0317 MALARIA CONTROL AND PRIMARY HEALTH CARE. *The Lancet*, 30 April 1983, 963-964.
- The decade of the seventies has seen a resurgence of malaria in Asia and South America. APHA and the Africa Bureau of USAID have formulated a new approach in the manual on malaria control in primary health care in Africa using tactical variants: 1) reduction and prevention of malaria mortality, and 2) reduction of malaria morbidity in the most vulnerable age groups.
- 2004 Abbat, F.R. ENSEÑAR A APRENDER MEJOR: GUIA PARA INSTRUCTORES DE PERSONAL DE ATENCION PRIMARIA EN SALUD. PAHO, 1985, 170 p.
- The manual is a guide for personnel instructors in PHC to enable them to teach better.
- 1412 AED. PERFILES DE PROYECTOS. Academy for Educational Development, Clearinghouse on Development Communication, 123 p.
- This is a Spanish version of 72 Project Profiles in Agriculture, Nutrition, Population and Health projects throughout the world.
- 0925 APHA. DEFINING ADEQUATE GROWTH, CHAPTER THREE. American Public Health Association Issues Paper, 13-18.
- Because children will continue to grow, even if only slightly, unless they are extremely ill, it is easy to mistake some growth for adequate growth unless the child's measurement is compared to a reference population.
- 1132 APHA. MALARIA CONTROL IN PRIMARY HEALTH CARE IN AFRICA. American Public Health Association, December 1982, 111 p. + annexes.
- This manual describes the malaria situation in Africa and necessary control interventions in the PHC field.
- 0889 APHA. TRAINING COMMUNITY HEALTH WORKERS. American Public Health Association, Information for Action Issue Action Paper, July 1983, 104 p.
- This report is a series on issues that must be faced and resolved. For some issues there are specific recommendations, but for others there are only pro and con arguments.

- 1418 Biddle, S.C ; Danforth, N.; O'Connor, R. MANAGEMENT REVIEW FOR PROJECT CONCERN INTERNATIONAL. PRITECH, Washington, D.C., 20 January to 15 March, 1986, SS112, 46 p.

The purpose of this review is to analyze and review the management and organizational structure of PCI headquarters to assess PCI's capacity to handle a rapidly expanding field program, with particular attention to be paid to the organization and management concepts and practices being used in managing its field projects.

- 0830 Bloem, K.; Joseph, S.; Wallace, N. PROCEEDINGS OF THE WORKING CONFERENCE ON APPROPRIATE TECHNOLOGY IN HEALTH IN DEVELOPING COUNTRIES. NCIH, Washington, D.C., 16-17 December 1976, 115 p.

Conference participants stressed that appropriate technology initiatives can only take place in an appropriate social context. An appropriate context would be one in which a genuine concern for distributional equity of the benefits of technology is combined with a genuine participation of communities.

- 1421 Bloom, A.L. PROSPECTS FOR PRIMARY HEALTH CARE IN AFRICA: ANOTHER LOOK AT THE SINE SALOUM RURAL HEALTH PROJECT IN SENEGAL. USAID, Evaluation Special Study no. 20, April 1984, 40 p.

This Senegalese case study exemplifies a primary health care program that is both financially sound and community self-reliant.

- 1902 Briscoe, J. A ROLE FOR WATER SUPPLY AND SANITATION IN THE CHILD SURVIVAL REVOLUTION. Pan American Health Organization Bulletin, 21, 2, 1987, 93-105.

The view of several international organizations has been that water supply and sanitation interventions may occasionally be appropriate at advanced stages of the development process, but are not cost-effective at the earlier stages where other interventions are believed more sensible. This paper states that this is incorrect.

- 0551 Briscoe, J. WATER SUPPLY AND HEALTH IN DEVELOPING COUNTRIES: SELECTIVE PRIMARY HEALTH CARE REVISITED. ICORT Conference Proceedings, Washington, D.C., 7-10 June, 1983, 141-150.

Selective primary health care is not a practical modification of the PHC concept, but rather a negation of much that was positive in the approach formulated in Alma Ata.

- 0885 Carefoot, N.; Gibson, H. HUMAN RESOURCES DEVELOPMENT HANDBOOK: GUIDELINES FOR MINISTRIES AND AGENCIES RESPONSIBLE FOR WATER SUPPLY AND SANITATION. World Health Organization, WHO/CWS/ETS/84.3, September 1984, 228 p.
- This handbook is intended principally as a working document for use by practitioners in the field of human resources development in developing countries.
- 1941 Carrin, G. SELF-FINANCING OF DRUGS IN DEVELOPING COUNTRIES: THE CASE OF THE PUBLIC PHARMACY IN FIANGA (CHAD). Takemi Program in International Health, Harvard School of Public Health, June 1986, 60 p.
- This paper focuses on a governmental pilot project, i.e., a public pharmacy that aims at autofinancing of low-cost drugs. The project is located in the town of Fianga, Chad, in the province of Mayo-Kebbi. The stimulus for initiating the project was to determine whether self-financing of a major part of primary health care costs, namely the cost of drugs, would be feasible in a low-income country such as Chad.
- 1940 Carrin, G. THE ECONOMICS OF DRUG FINANCING IN SUB-SAHARAN AFRICA: THE COMMUNITY FINANCING APPROACH. Takemi Program in International Health, Harvard School of Public Health, June 1986, 49 p.
- This paper advocates community financing as the most appropriate method for financing primary health care at the local level in Chad. In particular, this paper focuses on community financing of drugs. This analysis was initiated for countries such as Chad that want to allocate more national resources for health purposes.
- 0796 Cher, L.; Chakraborty, J., et al. ESTIMATING AND PARTITIONING THE MORTALITY IMPACT OF SEVERAL MODERN MEDICAL TECHNOLOGIES IN BASIC HEALTH SERVICES. International Union for Scientific Study of Population, 1981, 113-140.
- The most important health problems of poor people in less developed countries are the infectious diseases and malnutrition. These health problems are responsible for a large proportion of mortality, and mortality has been the most commonly employed indicator of the health status of the community. Mortality can be readily identified, easily counted, and constitutes the ultimate negative consequence of ill health.
- 1872 Cumper, G. HEALTH SECTOR FINANCING: ESTIMATING HEALTH EXPENDITURE IN DEVELOPING COUNTRIES, A DISCUSSION PAPER. EPC Publications no. 9, Spring 1986, 73 p.
- This report reviews ways in which estimates of health expenditure can be used for planning and management in the health sector, and explains problems and solutions in using such estimates. It also examines one approach to the problems using data for Jamaica for 1980.

- 1415 Curlin, G. BUILDING FOR A HEALTHY TOMORROW: A BASIC PACKAGE OF PROVEN, COST-EFFECTIVE TECHNOLOGIES DELIVERED BY PRIMARY HEALTH CARE PROGRAMS IS THE HEART OF AID'S HEALTH STRATEGY. *Horizons*, Spring 1984, 16-22.

AID's health program focuses on the major killers of children and it promotes the use of existing technologies known to be effective in developing countries. ORT, immunization, family planning, simple nutrition practices such as breastfeeding, improved weaning foods, and monitoring the nutrition of babies, offer effective, immediately available means to reduce the death rate of infants and children.

- 1158 Delgado, H.L.; Valverde, V.; Klein, R.E. ANALISIS CRITICO DE LA VALIDEZ DEL PERIMETRO DEL BRAZO COMO INDICADOR DEL ESTADO NUTRITICIONAL PROTEINICO-ENERGETICO EN NINOS PREESCOLARES. *Archivos Latino Americanos de Nutricion*, vol. 23, March 1983, 171-187.

This article recommends that possible limitations of arm circumference be kept in mind when used in public health programs.

- 1939 El Tom, A.; Farah, A.A.; Lauro, D. COMMUNITY AND INDIVIDUAL ACCEPTANCE: FAMILY PLANNING SERVICES IN THE SUDAN. Columbia University, Center for Population and Family Health, 1985, 35 p.

This is an evaluation of the Sudan Community-Based Family Health Project undertaken by the University of Khartoum and the Ministry of Health. The purpose of the project was to test the proposition that midwives could provide maternal-child health services, including ORT, to their communities.

- 1416 El Tom, A.; Mubarak, N.; Wesley, S.; et al. TRAINING COMMUNITY MIDWIVES: THE SUDAN COMMUNITY-BASED FAMILY HEALTH PROJECT. New York, NY, Center for Population, Family Health, February 1983, Working Paper #2, 15 p.

This paper describes the development and implementation of a training program in the Sudan Community-Based Family Health Project. The following topics were included in the curriculum development: infant diarrhea, oral rehydration, birth spacing, nutrition, immunization, and health education techniques. Community members were selected, trained and supervised in order to provide limited, basic health services at the local level.

- 0930 Evans, J.K.; Hall, K.L.; Warford, J. HEALTH CARE IN THE DEVELOPING WORLD: PROBLEMS OF SCARCITY AND CHOICE - SHATTUCK LECTURE. *New England Journal of Medicine*, vol. 305, no. 19, 5 November 1981, 117-127.
- The difficulties of implementing PHC campaigns to achieve Health for All by the year 2000 are described, and the possibilities for the very limited health budgets of most developing countries are listed. Health for All can be accelerated if more external assistance can be provided and if the technological resources are made available.
- 1129 Maxwell, A.E. ANTI-MALARIA SUPPORT STRATEGY STUDY: AFRICA WORKSHOP PROCEEDINGS. American Public Health Association and USAID, Dec. 1979, 69 p. + annexes.
- The workshop proceedings for U.S. support for anti-malaria activities in sub-Saharan Africa are summarized in this report.
- 1408 Feeney, F. DOSSIER: BUREAU FOR LATIN AMERICA AND THE CARIBBEAN: HEALTH STATISTICS. USAID, Bureau for Latin America and the Caribbean, doc. 0471z, 22 May 1986, 4 p.
- These charts list recent health statistics of USAID-assisted countries in Latin America and the Caribbean. Data include population, mortality rates, vaccination coverage in children under one year of age, % ORT access rate, % ORT use rate, annual number of births/infant and child deaths, GNP per capita and LACDA health resources committed.
- 2012 FEPAFEM. LA ENFERMERIA EN LATINOAMERICA ESTRATEGIAS PARA SU DESARROLLO. Federacion Pan Americana de Asociaciones de Facultades de Medicina, 1986, 47 p.
- This booklet is a review of a seminar for Latin American nurses which focused on nursing and Primary Health Care in developing countries.
- 0881 Foote, D.; Kendall, C.; et al. EVALUATING THE IMPACT OF HEALTH EDUCATION SYSTEMS. Paper presented at the NCIH Conference, June 1983, 8 p.
- This paper presented the evaluation plan and some of the early findings of the evaluation of the Mass Media and Health Practices Projects in Honduras and The Gambia.

- 0879 Foote, D.; Snyder, L.; Spain, P. EXECUTIVE SUMMARY OF FINDINGS FROM FIRST YEAR OF EVALUATION OF MMHP PROJECT IN THE GAMBIA. Stanford University, December 1983, 6 p.
- The overall portrait of the campaign is one of an intense level of activity that has become highly salient for rural Gambians and has produced impressively high levels of awareness and behavioral change. The second year of the campaign will investigate the permanence of these changes and any possible impact of the changes on the health status of Gambian children.
- 1130 Gerberg, E.J.; Weidhaas, D.E.; Farwell, A.E. AID MALARIA STRATEGY WORKSHOP. Report prepared by Insect Control & Research for USAID, 1983, 107 p.
- This report analyzes AID's malaria policy as it affects developing nations. It also examines the role of PHC and community participation in malaria control.
- 0835 Golladay, F. HEALTH SECTOR POLICY PAPER (2ND EDITION). World Bank, February 1980, 85 p.
- This is a position paper on the health situation in developing countries and a statement of the World Bank's health program.
- 1081 Government of the Philippines. PRIMARY HEALTH CARE FINANCING PROJECT PAPER. Government of Philippines, July 1983, 146 p.
- The financial aspects of a project proposal by the government of the Philippines to expand primary health care throughout the nation is detailed in this paper.
- 1128 Graham, B.J. MALARIA ERADICATION/CONTROL PROGRAMS IN SUB-SAHARAN AFRICA. Report prepared for USAID/Office of Health, August 1979, 270 p.
- Malaria control and eradication projects in sub-Saharan Africa are described in this report. Also examined are factors which influence the effectiveness of malaria control programs.
- 1413 Grant, J. MARKETING CHILD SURVIVAL. Assignment Children, UNICEF, 1984, vol. 65/68, 3-9.
- Growth-projecting technologies such as growth monitoring charts, ORS packets, and vaccines must be communicated to parents in low-income segments of the world in order to improve the health and subsequent development of their children. This child survival and development revolution promotes technology and information exchange similar to the Green Revolution, which concentrates on agricultural development.

- 0567 Grant, J. ORT OPPORTUNITY: PUTTING CHILDREN AT THE FOREFRONT OF ACCELERATED PRIMARY HEALTH CARE. ICORT Conference Proceedings, Washington, D.C., 7-10 June 1983, 8-13.

This presentation appeals to national health leaders to use innovative and cost effective actions to heal the tragic wounds of underdevelopment and poverty. The use of ORT will particularly enhance the current perilous position of children in the Third World.

- 0729 Grant, J. THE STATE OF THE WORLD'S CHILDREN 1984. UNICEF, Oxford University Press, 1983, 126 p.

This report covers the status of the health of the world's children, including statistics, school enrollment, energy expenditure, population, and disease control.

- 1775 Haiti Dept. de la Sante Publique et de la Population. MODULES DE FORMATION DES AGENTS DE SANTE. Haiti, Dept. de la Sante Publique et de la Population, Port au Prince, 1981, 196 p.

This book consists of ten training modules for health workers and a guide for visiting households. It includes information on such subjects as diarrhea, nutrition, hygiene, family planning, and malaria.

- 1657 Harrison, P., Overholt, C.; Huff, M. EVALUATION DE PROJETS: SANTE URBAINE ET DEVELOPPEMENT COMMUNITAIRE II, PROGRAMME ELARGI DE SANTE COMMUNITAIRE ET DE PLANNING FAMILIAL, PROGRAMME DECENTRALISE DE SANTE COMMUNITAIRE. PRITECH Report, SS 133, April 1986.

This report evaluates three projects in Haiti in the primary health care area.

- 1411 Helen Keller International. INDONESIA: NUTRITIONAL BLINDNESS PREVENTION PROJECT - CHARACTERIZATION OF VITAMIN A DEFICIENCIES AND XEROPHTHALMIA AND DESIGN OF EFFECTIVE INTERVENTION PROGRAM. Helen Keller Int'l., Inc., July 1980, 189 p.

This report evaluates the efficacy, cost, and efficiency of the Indonesian Nutrition Blindness Prevention Project. Expanding and intensifying the vitamin A deficiency intervention program to the at-risk population and implementing education campaigns to increase consumption of foods rich in vitamin A are recommended.

- 1395 Hill, A.G.; Macrae, S. MONITORING THE CHILD SURVIVAL AND DEVELOPMENT REVOLUTION. MEASURING CHILDHOOD MORTALITY LEVELS: A NEW APPROACH. UNICEF, Social Statistics Bulletin, 1985, vol. 8, no. 2, 14 p.

Various techniques are reviewed for estimating childhood mortality when registrative data are deficient. The new clinic-based method of measuring mortality before age 2 is simple and appears to be practical. Emphasis is placed on sharing experiences in the collection and analysis of data from different communities, made to develop and improve techniques for measuring childhood mortality.

- 1419 Hutchings, J.; Saunders, L. ASSESSING THE CHARACTERISTICS AND COST-EFFECTIVENESS OF CONTRACEPTIVE METHODS (PIACT PAPER 10). PIACT/PATH, August 1985, 66 p.

This report suggests a way of evaluating the cost-effectiveness and potential demographic impact of various contraceptive methods within several delivery systems. It discusses contraceptive method characteristics, costs, and use-effectiveness, and provides analytical guidelines to help determine practical allocation of methods and resources.

- 1401 Isely, R. A UNICEF WORKSHOP ON HEALTH EDUCATION IN WATER SUPPLY AND SANITATION PROGRAMS: OBSERVATIONS OF A WASH PARTICIPANT. WASH, May 1985, Activity No. 148.

The workshop outlines a draft which sets guidelines for incorporating health education into UNICEF water supply and sanitation programs. The five subject areas addressed were: research studies, monitoring, and evaluation; community involvement, including women's participation; training; social marketing; communication and information.

- 0800 Keaty, C.; Keaty, G.; Evans, G. STUDY OF HEALTH RELATED PRIVATE VOLUNTARY ORGANIZATIONS (HPVOs) IN GUATEMALA. Ministry of Public Health and Social Assistance, Guatemala, August 1977, 90 p.

This study indicates that, excluding the cost incurred for disaster relief, the HPVOs expend approximately \$4.8 million annually in the provision of direct medical services. This amount exceeds the most liberal earlier estimates and makes it important that these organizations be considered in Guatemalan national health planning.

- 1399 Kelly, J.; Klassen, L.; Totino, T.; et al. MANAGEMENT ASSESSMENT OF THE HEALTH SYSTEMS VITALIZATION PROJECT USAID/EL SALVADOR. PRITECH, May 1986, SS130, 38 p.

This report assesses the VISISA Project's efforts to restore the flow of pharmaceuticals, medical supplies and equipment through El Salvador's health care system. The report also makes recommendations for the management of the project in AID.

- 1405 Kelly, P. SERVICE NATIONAL DES ENDEMIES MAJEURS EVALUATION DU RESEAU DES COLLABORATEURS VOLONTAIRES EN VUE DE SON RENFORCEMENT, EXTENSION ET DIVERSIFICATION EN HAITI. PRITECH, Washington, D.C., November 1985, SS98, 32 p.
- This survey assesses voluntary collaborators (health workers) in Haiti and the level of coverage they currently provide. The goal of the survey is to plan further training and expansion of the CV network for primary health care in rural Haiti.
- 0773 King, M. THE CHILD AND THE CHAIN, OR 3 + 3 = 9. TWENTY-FIVE UNEXPECTED SIMILARITIES BETWEEN TWO SUPERFICIALLY DISSIMILAR PROJECTS AND THE IMPLICATIONS THIS HAS FOR THE SYSTEMATIC DEVELOPMENT OF APPROPRIATE TECHNOLOGY FOR PERSONAL HEALTH CARE IN THE DEVELOPING WORLD. *American Journal of Clinical Nutrition*, 31, December 1978, 2269-2273.
- This article compares cold chain vaccine delivery programs and the author's microplan for primary child care in Indonesia. Both are reviewed in terms of application of appropriate technology.
- 0999 Kingma, S. HEALTH RESOURCE MOBILIZATION (HRM0), THE HEALTH RESOURCES GROUP (HRG), AND COUNTRY HEALTH RESOURCE UTILIZATION REVIEWS. WHO/USAID meeting, July 1984, 2 p.
- The problem of inadequate health resources in developing countries is discussed. Necessary steps in mobilizing and maximizing available resources are outlined.
- 1852 Knebel, P. MANUEL DE TRAITEMENT ET FORMULAIRE THERAPEUTIQUE. Report prepared for USAID/Bamako and the Comite Permanent Inter-Etats de Lutte Contre la Secheresse dans le Sahel, March 1984, 47 p.
- This manual was prepared for the Sahel Development Planning Regional Office of AID for physicians, nurses, midwives, pharmacists, and medical students in the Sahel. It explains how to treat common diseases, including diarrhea, malaria, ARI, and others.
- 1394 Krishnan, T.N. INFANT MORTALITY IN KERALA STATE, INDIA: A PRELIMINARY ANALYSIS. *Assignment Children, UNICEF*, 1984, VOL. 65/68, 292-308.
- Kerala State in India has achieved exemplary results in reducing infant mortality despite low income levels. This impressive performance may be attributed to a heightened social welfare conscience, a high rate of female literacy, and a well-developed infrastructure. This paper examines the historical trend of infant mortality decline in Kerala, patterns of infant morbidity, and the utilization of health services.

- 0754 Lepage, P.; De Mol, P.; Hennart, P. MEASLES MORTALITY AND MALNUTRITION IN RWANDA. *The Lancet*, 22 October 1983, 965.
- In Rwanda, measles carries a case-fatality rate of about 20% in hospital cases. Children who are malnourished prior to measles have a higher risk of fatality than those children with better nutritional status.
- 1396 Loevinsohn, B.P.; Loevinsohn, M.E. IMPROVEMENT IN COVERAGE OF PRIMARY HEALTH CARE IN A DEVELOPING COUNTRY THROUGH USE OF FOOD INCENTIVES. *The Lancet*, 7 June 1986, 1314-1316.
- To increase attendance at mobile clinics in the Santa Rosa region of Nicaragua, food incentives were offered to villagers in the form of supplemental food for the price of handling and transportation. Results indicate that availability of food increased attendance to nearly 100% and did not appear to act as a disincentive for participation in other health programs that did not offer food.
- 1403 Macfarlane, S.B.J. SOME OPPORTUNITIES FOR BIOMETRY IN PROMOTING CHILD HEALTH IN THE THIRD WORLD. *Biometrics*, vol. 40, no. 2, June 1984, 525-33.
- This paper reviews some of the major areas of concern in the field of child health in the Third World--infant mortality, low birth weight, infant feeding practices, disease and malnutrition--and illustrates the problem of measurement and indicates some opportunities for biometricians to contribute to the research and planning which are required.
- 0425 Mach, E.; Abel-Smith, R. PLANNING THE FINANCES OF THE HEALTH SECTOR: A MANUAL FOR DEVELOPING COUNTRIES. World Health Organization, 1983, 124 p.
- This manual sets out a methodology for a detailed analysis of the financing of health services, and suggests ways of collecting and organizing data on expenditures and sources of finance and how this information might be utilized in policy formation. Particular attention is paid to primary health care in view of its high priority in current health policies.
- 0798 Martin, P.A. COMMUNITY PARTICIPATION IN PRIMARY HEALTH CARE. American Public Health Association, PHC Issues Series 1, no. 5, January 1983, 71 p.
- This report highlights major issues, presents strategies for achieving participation, reports on different ways communities participate, and draws conclusions about what has or has not worked and why.

- 1402 Maxwell, R.J. LEARNING FROM THE THIRD WORLD. *The Lancet*, 25 January 1986, 222-3.

The author advocates adopting some principles of Third World urban health care in developed countries to provide primary health care to the urban poor. The principles are priority to proven low-cost basic remedies, collaboration with other agencies, strong referral networks, and health workers who are members of the communities they serve.

- 1420 Meyer, J.D. HOUSEHOLD SURVEY OF HEALTH EXPENDITURES IN MALI. Bamako, Mali, USAID, 19 August 1985, 15 p.

Thirty villages in East Central Mali were surveyed for health expenditures in an attempt to investigate financing alternatives for primary health care. This report argues that governments can deliver health care at prices affordable to both individuals and the government.

- 1398 Mitchell, M.; Sencer, D. CHILD SURVIVAL STRATEGIES FOR PAKISTAN POST-1987. PRITECH, 4-24 May 1986, SS132, 23 p.

The report outlines the successes of the Pakistani EPI program and proposes a strategy for ORT implementation that builds on these successes.

- 0877 Correlas, G.; et al. METHODOLOGY TRANSFER: FROM TECHNICAL ASSISTANCE TO INSTITUTIONALIZATION. Paper for presentation at NCIH conference, May 1983, 6 p.

A major objective of the Mass Media and Health Practices Project has been to develop the planning and implementation skills required for this kind of public health education approach within the Ministries. The project has been in large part an attempt to develop and institutionalize a methodology.

- 1915 Niger, Ministere de la Sante Publique et des Affaires Sociales. NOTE D'INFORMATION. Ministere de la Sante Publique et des Affaires Sociales, Niger, June 1987, 20 p.

This document reports on the public health situation in Niger. Included are a fact sheet on the country, an analysis of the health situation, a description of the organization of the Ministry of Public Health and Social Affairs, and discussion of future directions and perspectives.

- 1782 Northrup, R.S. DECISION MAKING FOR HEALTH CARE IN DEVELOPING COUNTRIES. Consequences of Mortality Trends and Differentials, the U.N., ST/ESA/SER. A195, 1986.

This article describes the mortality and morbidity patterns and the sickness-care systems of developing countries, and discusses deficiencies and disadvantages of mortality and morbidity data as a basis for planning a health-oriented care system. It then offers a set of health statistics that might provide a better basis for such a health-care system.

- 1406 O'Brien, H.; Mays, H.; Reynolds, J. END OF PROJECT EVALUATION: PRIMARY HEALTH CARE I, AID/BURMA. USAID/Burma, February 1985, 80 p.

The evaluation team concluded that this project, begun in 1980, was effective: it increased coverage, and the expanded training of VHW and CHW was favorable.

- 1428 Oot, D.; Baker, T.; Fairbank, A.; et al. A REVIEW OF AID'S HEALTH SECTOR STRATEGY IN BURMA. US Agency for International Development/Burma, March 1985, 55 p.

A team of external consultants reviewed AID-supported activities in the health sector and determined if current AID goals and strategies were appropriate. The team concluded that AID's goal of reducing infant, child, and maternal mortality was valid. With regard to AID's health sector strategy, the recommendation is made for AID to focus more on qualitative improvements and assist selected PHC services and support functions.

- 1400 Overholt, C.; Cross, P. COSTA RICA HEALTH SECTOR OVERVIEW. PRITECH, SS110, December 1985, 62 p.

This report summarizes the trends in conventional health status indicators, provides an overview of the structure and organization of the Costa Rican health sector and identifies the barriers to efficient, effective delivery of services by public institutions.

- 1407 Pelly, M. ROUND THE WORLD: ETHIOPIA. The Lancet, 17 May 1986, 1144-46.

This article describes a small specialized feeding center at Bulbulo refugee camp in Ethiopia. The children were divided into 3 nutritional groups and administered different feeding regimens. The major diseases in order of frequency and/or severity were malnutrition, diarrhea, pneumonia, worms, scabies, measles, and eye diseases. Preventive measures were taken to control diarrhea. Control measures included oral rehydration in conjunction with IV for the most severely dehydrated patients.

- 1971 Reynolds, J.; Petrich, E. END OF PROJECT EVALUATION PRIMARY HEALTH CARE II, BURMA. PRITECH report 9S 195, August 1987.
- This summary focuses on qualitative issues of priority interest: village health worker performance training, health education, supervision and management, information systems, research and evaluation, participant training, technical assistance and Quality for Child Care Survival.
- 0801 Rifkin, S. THE HUMAN FACTOR: READINGS IN HEALTH DEVELOPMENT AND COMMUNITY PARTICIPATION. CONTACT special series no. 3, January 1980, Christian Medical Commission, Geneva, 124 p.
- This collection of readings on health development and community participation seeks to abstract, delineate, clarify and classify some of the basic questions about planning a community-based health program.
- 1681 Robertson, R. COST OF THE COMBATTING CHILDHOOD COMMUNICABLE DISEASES (CCCD) PROJECT IN MALAWI, 1984-85. University Research Corporation, September 1985, 61 p.
- This document reports on the results of the second complete national study of costs of CCCD in Malawi. The study period was July 1984-March 1985. Estimates concerning the total and average costs of all three major components of CCCD (EPI, ORT, and anti-malarial activity) are presented for both the nation as a whole and for selected local sites of health care delivery. Recommendations for future research on CCCD are made.
- 1832 Rohde, J. GROWTH MONITORING, THE BASIC TOOL OF PRIMARY HEALTH CARE. Management Sciences for Health/Haiti, 1984, 9 p.
- This report describes growth monitoring and its uses and how it differs from nutritional surveillance.
- 1620 Rohde, J.; Northrup, R.S.; FEEDING, FEEDBACK AND SUSTENANCE OF PRIMARY HEALTH CARE. International Union of Nutrition Scientists, Brighton, England, 1985.
- Nutrition remains the most neglected aspect of primary health care. The authors explore the reasons for this neglect and the reasons that nutrition interventions are so ineffective. They then describe some successful nutrition education programs, particularly in the area of growth monitoring.

- 1397 Ross, D.A.; Berry, A.M.; Taylor, N. MEASURING MALNUTRITION IN FAMINES. *The Lancet*, 18 January 1986, 151.
- On the basis of the author's experience with nutrition indicators used in the Sudan in early 1985, there has been no convincing evidence that screening with weight for height is superior to arm circumference measurement as a mortality predictor among children during famines. Therefore, it is inadvisable to make general recommendations on cut-off points.
- 1414 Rossi-Espagnet, A. ASSIGNMENT REPORT: PRIMARY HEALTH CARE IN THE SULTANATE OF OMAN. ISSUES FOR THE PREPARATION OF AN ACTION PLAN, 10-24 APRIL 1984. World Health Organization, WHO-EM/PHC/25, September 1984, 33 p.
- The problems and constraints of the existing health infrastructure in Oman are described. Recommendations are made for improving the management information system and encouraging greater community involvement. A tentative action plan for recruiting personnel at national and district levels is outlined.
- 1131 Rousset, J. A CAUTIOUS OPTIMISM: SEARCH INTENSIFIES FOR MALARIA VACCINES. *International Health Magazine*, no. 6, Sept/Oct. 1983, 21-24.
- This article discusses new drugs that are being developed and used for malaria cases. Though there is optimism with all new developments, the author emphasizes the fact that parasites eventually develop resistance to any drug or drug combination.
- 1424 Rutstein, S.O. COMPARATIVE STUDIES: CROSS-NATIONAL SUMMARIES. INFANTS AND CHILD MORTALITY: LEVELS, TRENDS AND DEMOGRAPHIC DIFFERENTIALS. The Netherlands, Int'l. Statistical Institute, World Fertility Survey, December 1984, no. 45, 78 p.
- These cross-national summaries present basic results from World Fertility Surveys (WFS) in developing countries. The level of infant mortality is important not only as a demographic measure, but also as an indicator of a society's health and living standards. This study seeks to provide reliable comparative information on current levels and trends of infant and child mortality for developing countries. Data from 41 countries are included in this cross-national summary.
- 1771 Save the Children Federation. PROGRAM MANAGEMENT INFORMATION SYSTEM: RECENT DOCUMENTATION, 11 NOVEMBER 1986. Save the Children Federation, November 1986.
- Save the Children's Program Management Information System can be used to plan, implement and monitor community development projects. This booklet includes a report on the status of the system and the manual currently used to operate the system in Bangladesh.

- 1658 Shepard, D. GUIDELINES FOR PROJECTING COSTS AND DEVELOPING BUDGETS FOR SELECTED PRIMARY HEALTH CARE ACTIVITIES. Report prepared for the PRITECH Finance Advisory Group meeting, Washington, DC, December 1983.

These guidelines were prepared to project costs of selected primary health care interventions for which technical assistance is sought, particularly ORT and childhood immunizations.

- 1133 Simpson, T.W.; Strickland, G.T.; Mercer, M.A. NEW DEVELOPMENTS IN TROPICAL MEDICINE II. National Council for International Health, Washington, D.C., 1983, 125 p.

This is a compilation of articles on tropical public health and PHC issues.

- 0804 Society for International Development. NINETEEN NINETY REVOLUTION. Society for International Development, Development: Seeds of Change, 1, 1983, 96 p.

This complete issue is devoted to The 1990 Revolution. It states that we can prevent 20,000 small children from dying everyday if the proper efforts are put forth.

- 1780 State University of New York, Stony Brook; Group Health Association of America, Inc.; International Resources Group, Ltd. HEALTH CARE FINANCING IN LATIN AMERICA AND THE CARIBBEAN. Report prepared for AID/LAC, January 1988, 2 p.

The progress made to date in health care financing of public health services in Latin America and the Caribbean is reviewed in this report.

- 1860 Stinson, W. COMMUNITY FINANCING OF PRIMARY HEALTH CARE. American Public Health Association, 1982, 90 p.

This report reviews ways in which communities have contributed labor, cash, and other resources to support primary health care, including service fees, drug sales, donations, community labor, and personal prepayment.

- 0799 Stinson, W. INFORMATION SYSTEMS IN PRIMARY HEALTH CARE. APHA, PHC Issues Series 1, no. 6, January 1983, 76 p.

This report addresses the broad and essential topic of health information systems in PHC. Properly utilized, health information systems report on what has happened in a health program and how material and human resources have been deployed and provide corrective feedback for more effective resource allocation.

1125 Sweeney, W.D. USING RADIO. APHA Washington, D.C., September 1982, 56 p.

This paper briefly describes the use of radio in primary care and health education. Several country program examples are also included.

0872 Tandon, R.; Litsios, S.; et al. ADULT EDUCATION AND PRIMARY HEALTH CARE. Convergence XV, no. 2, 1982, 96 p.

This complete issue is devoted to adult education and primary health care, including articles on training, mobilization, literacy, women in health care, and participation.

1669 Task Force for Child Survival. PROTECTING THE WORLD'S CHILDREN: BELLAGIO II AT CARTAGENA, COLOMBIA, OCTOBER 1985. Task Force for Child Survival, Conference Report, October 1985, 230 p.

This conference was a follow-up to a conference on child survival in Bellagio, Italy in 1984. This volume contains only the papers and presentations listed on the formal agenda of the conference.

0883 UNDP. HUMAN RESOURCE DEVELOPMENT FOR PRIMARY HEALTH CARE. United Nations Development Programme, Evaluation Study no. 9, December 1983, 46 p.

This is an analysis and discussion of many of the problems that affect staffing, structures, and services of many Primary Health Care systems operating in developing countries.

0884 UNDP. PRIMARY HEALTH CARE, WITH SPECIAL REFERENCE TO HUMAN RESOURCE DEVELOPMENT. United Nations Development Programme, Bureau for Program Policy and Evaluation, Technical Advisory Division, October 1983, 20 p.

This booklet is issued for the orientation of UNDP field offices and other program staff on the practical issues and problems involved in designing and implementing PHC schemes, and as a guide to project preparation, monitoring and appraisal in this area.

0882 US Dept. of Health and Human Services. PHYSICIAN EXCHANGE VISITOR PROGRAMS - REPORT TO CONGRESS. US Dept. of Health and Human Services, May 1983, 36 p.

This report evaluates the effectiveness and value to foreign nations and to the United States of exchange programs for the graduate medical education or training of aliens who are graduates of foreign medical schools.

- 1426 USAID. A.I.D. POLICY PAPER: DOMESTIC WATER AND SANITATION. USAID, Bureau for Program and Policy Coordination, May 1982, 16 p.

The criteria listed here guides AID's investments in water and sanitation projects. Guidelines for more cost-effective use of US development funds are suggested.

- 1425 USAID. A.I.D. POLICY PAPER: HEALTH ASSISTANCE. US Agency for International Development, Bureau for Program and Policy Coordination, December 1982, 11 p.

The purpose of this paper is to analyze the role that health plays in the context of overall development. Policy directions for health programs funded by USAID are presented. The focus is on improving management and cost-effectiveness of PHC programs.

- 1109 USAID. HEALTH, NUTRITION, AND POPULATION OFFICERS CONTINUING EDUCATION PROGRAM ON PHC IN AFRICA. US Agency for International Development/Africa Bureau, S&T/H, November 1981, 87 p.

One week's activities in continuing education for PHC workers in Africa is summarized in this report.

- 0428 Walsh, J.; Warren, K. SELECTIVE PRIMARY HEALTH CARE: AN INTERIM STRATEGY FOR DISEASE CONTROL IN DEVELOPING COUNTRIES. *New England Journal of Medicine*, 1979, vol. 301, no. 18, 967-74.

A program of selective primary health care is compared with other approaches and suggested as the most cost-effective form of medical intervention in less developed countries. Research is posed as an inexpensive approach for disease control where current measures are inadequate.

- 1422 Weber, R.F.; Kerr, G.B.; Smith, H.B.; et al. SENEGAL: THE SINE SALOUM RURAL HEALTH CARE PROJECT. US Agency for International Development, Project Impact Evaluation no. 9, October 1980.

This evaluation discusses the slow but steady progress of the Sine Saloum Rural Health Care Project begun in 1977 in Senegal. By 1980, basic health services were more accessible to people using newly built health huts. In order for the project to survive, the huts must be financially viable, the government must deliver adequate support and supervision, and an efficient medicine resupply system must be organized.

- 1797 WHO, Regional Office for Africa. AFRICAN VILLAGE WOMEN AS HEALTH CARE PROVIDERS. World Health Organization, Regional Office for Africa, Brazzaville, Congo, 1982.
- This paper describes the role of women as observed in 16 African villages participating in the Women in Health Development program and the relationship of this role to primary health care.
- 0834 WHO. APPROPRIATE TECHNOLOGY FOR HEALTH (ATH): A DIRECTORY OF ORGANIZATIONS, INSTITUTIONS, GROUPS AND INDIVIDUALS. World Health Organization, WHO/ATH/80.2, 1980, 199 p.
- This is the third edition of the ATH directory of organizations, institutions, groups and individuals concerned and involved in the development of health and health-related appropriate technology.
- 0454 DISCUSSION PAPER - SELECTED PRIMARY HEALTH CARE INTERVENTIONS. World Health Organization, WHO/JD/EPI/80/1, 1980, 23 p.
- WHO has endorsed the approach of primary health care as the means to achieve the organizational goal of Health for All by the Year 2000. A priority objective for PHC in most countries is to reduce morbidity and mortality in under fives. In addition, WHO should also make a concerted short term effort to promote selected PHC interventions which promise to have the highest health impact under currently existing conditions.
- 0836 WHO. PRIMARY HEALTH CARE, ALMA-ATA, 1978. World Health Organization, 1978. 79 p.
- This report covers the conference on primary health care in Alma-Ata, USSR, 1978.
- 1417 Zschoc's, D.K. HEALTH CARE FINANCING IN DEVELOPING COUNTRIES. American Public Health Association, Monograph Series, No. 1, 1982, 82 p.
- This comprehensive overview of health care financing includes: 1) determinants of health care financing - defining health care expenditures and the demand for health care; 2) sources of health care financing - analytical models and evaluation criteria; and 3) systemic studies and case studies of existing health care programs.

MCH (Maternal and Child Health)

- 1340 ESTIMATION OF CHILD MORTALITY USING DATA CLASSIFIED BY DURATION OF MARRIAGE. U.N. Population Studies, 1983, vol. 81, Manual X, 81-85.

The article details the statistical calculations that can be used to estimate childhood mortality in a given population using data gathered on the mother's length of marriage and the number of children dead classified by sex.

- 1337 GOING TO SCALE FOR CHILD SURVIVAL AND DEVELOPMENT. Assignment Children, 1984, vol. 65/68, 48-54.

This is a series of statements and resolutions to improve infant and child health worldwide by the American Academy of Pediatrics, Int'l. Pediatric Assoc., League of Red Cross and Red Crescent Societies and the Int'l. Confederation of Midwives.

- 1344 GROWTH MONITORING. The Lancet, 18 January 1986, 152-153.

This series of letters to the editor propose introducing and testing the TALC weighing scale and chart to increase the accuracy of growth monitoring, and question the present approach to immunization coverage as part of the GOBI package.

- 1341 GROWTH MONITORING: INTERMEDIATE TECHNOLOGY OR EXPENSIVE LUXURY? The Lancet, 14 December 1985, 1337-8.

This article advocates community supportive rural health plans which would involve mothers more closely in growth monitoring. The second most important aspect of a successful growth-monitoring system is the careful selection, training and supervision of the health workers in the field.

- 1342 WHY MONITOR GROWTH? DESIGNING A GROWTH MONITORING CARD TO MEET THE NEEDS OF THE COMMUNITY. Salubritas, October-December 1985, vol. 8, no. 4, 3-6.

This article presents the reasons for growth monitoring and explains how it can detect early stages of poor nutritional status. It also discusses how to design growth monitoring cards that are understood by mothers and that will be an important tool to involve mothers in primary health care.

- 1815 Agre, F. THE RELATIONSHIP OF MODE OF INFANT FEEDING AND LOCATION OF CARE TO FREQUENCY OF INFECTION. *AJDC*, vol. 139, no. 8, August 1985.
- During a year-long study of 200 healthy, full-born infants followed up for frequency of infection, infants fed in day care or sitter locations had 35% more frequent infection than infants fed in the home. The mode of feeding had no bearing on the frequency of infection.
- 0983 Angelides, A.G.; Davidson, M. LACTOSE INTOLERANCE AND DIARRHEA: ARE THEY RELATED? *Pediatric Annals*, vol. 14 no. 1, January 1985, 62-75.
- This article clarifies the confusion via a brief review of some developmental aspects of lactose metabolism, analysis of varying clinical manifestations which follow disordered metabolism after lactose ingestion, relationship of diarrhea to other symptoms, and description of the methods of diagnosis and management of patients with lactose intolerance.
- 1145 APHA. GOVERNMENT LEGISLATION AND POLICIES TO SUPPORT BREASTFEEDING, IMPROVE MATERNAL AND INFANT NUTRITION, AND IMPLEMENT A CODE OF MARKETING OF BREASTMILK SUBSTITUTES. American Public Health Association, Report no. 4, May 1986, 120 p.
- This report, with data on 115 countries, has 3 sections: 1) provisions to support mothers in the workplace; 2) policies to promote breastfeeding and support maternal and child nutrition; and 3) steps taken nationally to legislate a code of marketing of breastmilk substitutes.
- 1600 APHA. GOVERNMENT LEGISLATION AND POLICIES TO SUPPORT BREASTFEEDING, IMPROVE MATERNAL AND INFANT NUTRITION, AND IMPLEMENT A CODE OF MARKETING OF BREAST-MILK SUBSTITUTES. American Public Health Association, Clearinghouse on Infant Feeding and Maternal Nutrition, May 1986, 120 p.
- This report presents data on 115 countries' legislation enacted to protect mothers and children. Updated annually, it contains three sections--support of mothers in the work force, promotion of breastfeeding and maternal and child nutrition, and national codes for marketing breastmilk substitutes.
- 0939 Ashworth, A.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: PREVENTION OF LOW BIRTH WEIGHT. *Bulletin of the World Health Organization*, vol. 63, no. 1, 1985, 165-184.
- The fifth article in a series of articles on potential anti-diarrhea intervention, it analyzes the effect of low birth weight on diarrhea morbidity and mortality. Interventions to increase birthweight are also reviewed.

- 1336 Ashworth, A.; Feachem, R. INTERVENTIONS FOR THE CONTROL OF DIARRHOEAL DISEASES AMONG YOUNG CHILDREN: WEANING EDUCATION. Bulletin of the World Health Organization, 1985, vol. 63, no. 6, 1115-1127.
- A review of data from 12 developing countries suggests that it is possible, even in poor communities, to improve substantially the nutritional status of infants and young children by weaning education. It is assumed that improved nutritional status would, as has been shown elsewhere, reduce the severity of diarrheal illness.
- 0906 Baumslag, N.; Sabin, E. PERSPECTIVES IN MATERNAL-INFANT NUTRITION. HEW, Office of International Health, September 1978, 24 p.
- The focus of this paper addresses the problems and nutritional needs of infants, children, and pregnant and lactating mothers.
- 1347 Berggren, G.G.; Herbert, J.R.; Waternaux, C.M. COMPARISON OF HAITIAN CHILDREN IN A NUTRITION INTERVENTION PROGRAMME WITH CHILDREN IN THE NATIONAL NUTRITION SURVEY. Bulletin of the World Health Organization, 1985, vol. 63, no. 6, 1141-1150.
- This study compared weight-for-height and height-for-age data from two groups of Haitian children, one group enrolled in a community health and nutrition program, and children measured in a nutritional survey of Haitian children in 1978. Considerably less stunting was found in the intervention groups, but it is possible that these children also benefited from concurrent immunization and early addition to the nutrition education aspect of their program.
- 1164 Bertrand, W.E.; Walmus, B.F. MATERNAL KNOWLEDGE, ATTITUDES AND PRACTICE AS PREDICTORS OF DIARRHOEAL DISEASE IN YOUNG CHILDREN. International Journal of Epidemiology, vol. 12, 1983, 205-210.
- This study examined 583 women with children 0-4 years of age using data from an experimental outreach health delivery program in Cali, Colombia. Mother's perception of malnutrition, age of mother, home appearance, birthplace of mother and mother's knowledge about diarrhea were the most significant variables in predicting incidence of diarrhea.
- 1874 Bhan, M.; Ghosh, S.; Arora, N. SUCCESSFUL GROWTH MONITORING: SOME LESSONS FROM INDIA. UNICEF, Regional Office for South Central Asia, 1986, 105 p.
- This report consists of case studies of three rural primary health care programs and one urban program, of which growth monitoring was an integral part.

- 0984 Booth, B.; Parja, R. UNA METODOLOGIA DEL USO INTEGRADO DE LOS MEDIOS DE COMUNICACION PARA LA EDUCACION EN SALUD: SU ESTRUCTURA, SU DINAMICA. Proyecto de Comunicacion Masiva Aplicada a la Salud Infantil Implementado, Academy for Educational Development, May 1983, 95 p.
- This is a project description of a social marketing campaign for children's health in Honduras.
- 1599 Canahuati, J. BOLIVIA: RECOMMENDATION FOR A BOLIVIAN BREASTFEEDING PROMOTION PROGRAM. Education Development Center, Inc., Int'l. Nutrition Communication Service, 19-31 August 1985, 51 p.
- This report presents findings from a consultancy to assist the Bolivian Pediatric Society develop recommendations for a program to promote breastfeeding within the country. The proposed strategy concentrates on training, hospital-based interventions, and community education efforts.
- 0895 Coward, W.A.; Paul, A.A.; Prentice, A.M. THE IMPACT OF MALNUTRITION ON HUMAN LACTATION: OBSERVATIONS FROM COMMUNITY STUDIES. Federation Proceedings, vol. 43, no. 9, June 1984, 6 p.
- Studies indicate that the impact of variations in nutrient intake on lactational performance is limited; over the ranges normally found in developed and developing countries, milk output does not vary in relation to energy intake, and effects of nutrient intake on milk quality are restricted to increases in vitamin content after appropriate supplementation.
- 1968 Cross, P.; Brown, R.; Coburn, C.C.; et al. FIRST EVALUATION: ORAL REHYDRATION THERAPY, GROWTH MONITORING AND EDUCATION PROJECT INCAP/ROCAP. PRITECH report DC 236, November 1986, 76+ p.
- This report is an evaluation of the INCAP Child Survival project which relates mainly to Oral Rehydration Therapy, Growth Monitoring, and Feeding/Nutrition programs. The conclusions of the report indicate that INCAP should be more focused in all of its efforts with regard to Child Survival. Improvement of their management and taking a more coordinated approach are also recommended.
- 0702 Davidson, G.A.; Goodwin, D.; Robb, T. INCIDENCE AND DURATION OF LACTOSE MALABSORPTION IN CHILDREN HOSPITALIZED WITH ACUTE ENTERITIS: STUDY IN A WELL-NOURISHED URBAN POPULATION. Journal of Pediatrics, 105, No. 4, October 1984, 587-590.
- Breath hydrogen tests (BATs) were performed after oral doses of lactose to determine prevalence and duration of lactose malabsorption in children hospitalized with acute enteritis. The incidence and duration of clinically evident lactose intolerance in these children were also assessed.

- 1353 De Hais, P.A. ECUADOR: REVISION DE MATERIAL EDUCATIVO Y DISEÑO DE LA CAPACITACION PARA AGENTES EDUCATIVOS. Education Development Center, Inc., Int'l. Nutrition Communication Service, Consultant Report Series, May 1985, 66 p.
- This report evaluates educational materials for health workers which are used to inform mothers in Ecuador about growth monitoring.
- 0894 Deseniss, U. PROMOTION OF BREASTFEEDING AND PROPER WEANING PRACTICES IN THE IVORY COAST. Project Support Communications Newsletter, UNICEF, vol. 8, no. 1, April 1984, 3 p.
- This article describes a campaign launched in the Ivory Coast from April to December 1983 concerning breastfeeding and weaning practices. The first part of the campaign was devoted to breastfeeding, the second to weaning.
- 0985 El Tom, A.; Mubarak, N.; et al. DEVELOPING THE SKILLS OF ILLITERATE HEALTH WORKERS. World Health Forum, vol. 5, no. 3, 1984, 216-220.
- This article describes how illiterate midwives in Sudan have been taught to deal with a wider range of maternal and child health problems.
- 1350 Favin, M.; Stinson, W.; Bradford, B.; et al. FAMILY PLANNING FOR MATERNAL AND CHILD HEALTH: AN ANNOTATED BIBLIOGRAPHY AND RESOURCE DIRECTORY. American Public Health Association, February 1986, 40 p.
- The topics covered in this bibliography include birthspacing, cultural practices, fertility, family planning methods, and family planning programs. Organizations, journals and other resources that deal with family planning are reviewed.
- 0807 Favin, M.; Bradford, V.; Cebula, D. IMPROVING MATERNAL HEALTH IN DEVELOPING COUNTRIES. WFPHA, Information for Action issue paper, August 1984, 60 p.
- This publication is designed to help program planners and managers make informed decisions in planning, developing, and evaluating maternal health activities in primary health care.
- 1597 Gadagbe, E.Z. CONSEILS DE SANTE A LA FAMILLE AFRICAINE Peace Corps, reprint R-21, 1981.
- This manual, prepared for Peace Corps personnel, provides advice to pregnant women and mothers on prenatal care, health and nutrition. It also provides illustrations that graphically portray the advice given.

- 1346 Galler, J.; Ramsey, F.; Solimano, G. A FOLLOW-UP STUDY OF THE EFFECTS OF EARLY MALNUTRITION ON SUBSEQUENT DEVELOPMENT. I. PHYSICAL GROWTH AND SEXUAL MATURATION DURING ADOLESCENCE. *Pediatric Research*, 1985, vol. 19, no. 6, 518-523.

A study of children aged 9-15 with malnutrition during the first year of life (but not subsequently) showed lower height and weight and delayed puberty in girls, with a smaller significant difference in boys when compared to children of the same ages with no history of malnutrition.

- 1345 Galler, J.R.; Ramsey, F.; Solimano, G. A FOLLOW-UP STUDY OF THE EFFECTS OF EARLY MALNUTRITION ON SUBSEQUENT DEVELOPMENT, II: FINE MOTOR SKILLS IN ADOLESCENCE. *Pediatric Research*, 1985, vol. 19, no. 6, 524-527.

Children with a documented history of malnutrition in the first year of life were tested between ages 8 and 15 for five motor skills compared to a control group. The data suggest that the effects of early malnutrition on test performance are largely mediated by deficits in IQ. This implies that impaired brain function is associated with early malnutrition and is expressed as reduced IQ.

- 0805 Gibbons, G.; Griffiths, M. PROGRAM ACTIVITIES FOR IMPROVING WEANING ACTIVITIES. WFP/IA, Information for Action: issue paper, July 1984, 54 p.

Weaning is the time when a child's diet changes from breastmilk to family foods. During weaning, the child is at high risk of infection, particularly diarrheal diseases, and of malnutrition. Because of the high mortality rate of these children, improving weaning practices is a critical objective of child health care.

- 1348 Griffiths, M. GROWTH MONITORING (ISSUE PAPER). World Federation of Public Health Association, Washington, DC, September 1985, 78 p.

This paper discusses definitions of adequate growth, various methods of measuring growth, the place of growth monitoring within PHC programs, organization and family education, and training of PHC workers.

- 1349 Griffiths, M. GROWTH MONITORING. UNICEF SOCIAL STATISTICS BULLETIN, 1983, vol. 6, no. 1, 14 p.

This document reviews growth monitoring procedures, including a discussion of various classification systems, indicators, and defining adequate growth in reference populations.

- 0912 Hamilton, S.; Popkin, B.; Spicer, D. WOMEN AND NUTRITION IN THIRD WORLD COUNTRIES. Praeger Special Studies, Bergin and Garvey Publishers, Inc., 1984, 147 p.
- This study attempts to document the current state of nutrition research and practice concerning women during the reproductive years (15-45) in developing countries, and to identify areas for future research and policy and program development.
- 1352 Huffman, S.L. PROMOTION OF BREASTFEEDING: CAN IT REALLY DECREASE FERTILITY? American Public Health Association, Clearinghouse on Infant Feeding and Maternal Nutrition, 1 February 1986, 29 p.
- Numerous studies show that exclusive breastfeeding delays the return of ovulation and thus increases birth intervals. Exclusive breastfeeding and long duration of breastfeeding can be encouraged by changes in hospital routines, training health workers and mass media campaigns.
- 1351 India, Ministry of Health and Family Welfare. SEMINAR ON INFANT AND CHILD MORTALITY, JANUARY 28-FEBRUARY 2, 1985. Ministry of Health and Family Welfare, India. USAID, 1985, 28 p.
- The overall objective of this series of seminars was the exchange of data analysis and data collection methodology, the emphasis of a good management information system based on collection and analysis of mortality data, the discussion of international procedures for assigning underlying causes of mortality, and the incorporation of these procedures into Indian training and service programs.
- 1595 Jamaica, Ministry of Health. EDUCATIONAL MATERIALS FOR THE DIARRHOEAL DISEASES CONTROL PROGRAMME IN JAMAICA. Jamaica, Ministry of Health, 1982.
- This manual, prepared for community health workers, provides background information on diarrheal disease control to accompany two booklets, HOW TO KEEP YOUR BABIES HEALTHY, and WHAT TO DO IF YOUR BABY HAS DIARRHOEA. It suggests demonstrations and additional materials that can be used to underline the information in the booklets.
- 1031 Kass, E. MATERNAL INFECTION AND FETAL GROWTH RETARDATION. May 1985, 8 p.
- Women who develop infections during pregnancy have a high risk of developing low birth weight infants.

- 1759 Khan, S.; Jalil, F.; Karlberg, J. A LONGITUDINAL STUDY OF INFANTS LIVING IN FOUR AREAS IN AND AROUND LAHORE: (1984-1991) FIRST SIX MONTHS FINDINGS. K.E. Medical College, Lahore, Depts. of Pediatrics and Preventive Pediatrics, 1985, 15 p.
- This report concerns the Lahore longitudinal study and the analyses performed on infants born between October 1984 and September 1985 and followed for 1-6 months. Information on mortality rates, growth, seasonal influences, and living environment are included. One of the primary aims of the study is to include different parts of the Pakistani society in respect to socio-economic factors and child health status.
- 1338 Lesotho, Ministry of Health. THIRD CCCD ANNUAL MEETING, BRAZZAVILLE (25 MARCH 1986): HEALTHY CHILDREN IN LESOTHO THROUGH GOOD NUTRITION AND FULL IMMUNIZATION: FIELD WORKER'S GUIDE. Maseru, Lesotho, Ministry of Health, March 1985, 16 p.
- This manual targeted to field workers focuses on how to offer children good nutrition and protection from Tuberculosis, measles, whooping cough, polio and other immunizable diseases.
- 1858 Maglaças, A.; Simons, J. THE POTENTIAL OF THE TRADITIONAL BIRTH ATTENDANT. World Health Organization, 1986, 105 p.
- This book considers the extent to which training programs can be utilized to improve midwifery practice and reduce the risks surrounding childbirth in rural populations. Emphasis is placed on the need to uncover and respect the beliefs and customs held by traditional birth attendants.
- 0955 Maung, K.; Nyunt, N.; et al. EFFECT ON CLINICAL OUTCOME OF BREASTFEEDING DURING ACUTE DIARRHOEA. British Medical Journal, vol. 290, no. 6468, 23 February 1985, 587-589.
- The effects of ORT alone and of ORT supplemented by breastfeeding were assessed in two groups of 26 children under two years. Children who were breastfed during ORT treatment passed fewer and smaller stool volumes.
- 1339 McCormick, M.C. THE CONTRIBUTION OF LOW BIRTH WEIGHT TO INFANT MORTALITY AND CHILDHOOD MORBIDITY. New England J. Medicine, 10 Jan 1985, vol. 312, no.2, 82-90.
- This is a historical overview of infant mortality rates in the U.S. followed by a discussion of mortality and morbidity of infants in various birth weight groups over the past two decades. Low birth weight is the strongest factor influencing infant mortality, though less clearly shown to be linked with infant morbidity.

- 0748 Molla, A.M. THE GUT AS AN IMMUNE ORGAN. ICDDR,B, Scientific Report No. 34, February 1980, 48 p.
- At birth, the human being leaves a sterile environment for a potentially pathogenic environment; an immune system protects the child from disease. Immunoglobulins secreted by the gut are uniquely adept at protecting the newborn because they are able to cross the placenta.
- 0998 NIPCCD. INTERNATIONAL SEMINAR ON CHILD HEALTH AND MASS MEDIA. National Institute of Public Cooperation and Child Development, 1984, 12 p.
- This summary report of an international seminar on child health and mass media discusses the role of mass media in improving child health practices.
- 2003 PAHO. METODOLOGIA PARA PREPARAR UNA ENCUESTA PARA MEDIR EL PROBLEMA DE LAS ENFERMEDADES DIARREICAS EN UN PAIS: PROGRAMA DE SALUD MATERNOINFANTIL. Pan American Health Organization, WHO/CDD/SER/81.5 REV. 1, 1984.
- This paper provides a methodology to prepare a survey to measure the extent of diarrheal diseases in a country.
- 0896 Paredes, V.; Rohde, J. MOTHER'S MILK ALWAYS THE BEST. Philippines Daily Express, 11 Nov. 1983, 3.
- These Philippines newspaper articles outline the benefits of breastfeeding. Breast-fed babies face less risk of death because mother's milk has anti-infective effects, and minerals such as iron, zinc and calcium can be absorbed better.
- 2019 Pebley, A.R.; Millman, S. BIRTHSPACING AND CHILD SURVIVAL. International Family Planning Perspectives, vol. 12, no. 3, September 1986, 71-79.
- Children throughout the developing world are much more likely to die if they were born less than two years after their mother's previous birth than they are if the birth interval was longer. This article documents the relationship between birth spacing and mortality.
- 1343 Pinto, A.; Scheer, P.; Tuga, S.; et al. PERSPECTIVE ON PRIMARY HEALTH CARE: DOES HEALTH INTERVENTION AMELIORATE THE EFFECTS OF POVERTY RELATED DISEASES? II, THE ROLE OF FEMALE LITERACY. Journal of Tropical Pediatrics, October 1985, vol. 31, 257-262.
- In a study of women attending adult literacy classes compared to women living in the villages but not attending classes, and women living in villages where literacy classes were not available, the health of children under five was better and recourse to health workers was sought over that of traditional healers in homes where the mothers had some literacy training.

- 1570 Quiggin, P.; Singarimbun, I.; CHILD SURVIVAL BIBLIOGRAPHY PROJECT: AUSTRALIAN MANUAL. Australian National University, Dept. of Demography, Canberra, Australia, 1986.
- This bibliography lists Australian institutions that offer training to child survival workers, experts on child survival, library resources in Australia, and computer search services. It also contains a short listing of materials on Australian child survival.
- 1571 Quiggin, P.; Singarimbun, I. CHILD SURVIVAL BIBLIOGRAPHY PROJECT: CORE. Australian National University, Dept. of Demography, 1986, 34 p.
- This bibliography contains a brief listing of books and articles on child survival, a list of bibliographic databases in the field, and an exhaustive list of serials published worldwide on child survival.
- 1572 Quiggin, P.; Singarimbun, I. CHILD SURVIVAL BIBLIOGRAPHY PROJECT: MAIN BIBLIOGRAPHY. Australian National University, Dept. of Demography, 1986.
- This is a comprehensive bibliography on child survival arranged by subject. It includes English language materials only. Subjects include breastfeeding, infant feeding, diarrhea and ORT health services, mortality, statistics, immunization, and birth intervals.
- 1779 Raleigh, V.S. COMPREHENSIVE HEALTH AND DEVELOPMENT PROJECT AT PACHOD. The Ford Foundation, New Delhi, 1987, 31 p.
- This report evaluates the Comprehensive Health and Development Project in Pachod, Maharashtra, a maternal and child health project. The project aimed to improve the health status of women and children through the use of local village women trained to assist as health animators.
- 0739 Rohde, J. WHY THE OTHER HALF DIES: THE SCIENCE AND POLITICS OF CHILD MORTALITY IN THE THIRD WORLD. Management Sciences for Health, 1982, 21 p.
- This paper was presented at the Leonard Parsons Lecture at the University of Birmingham, Birmingham, England on 15 March 1982. It addresses the science and politics of child mortality in the Third World.

- 1444 Shah, K. GAMBIA: DESIGN OF NUTRITIONAL MONITORING SYSTEM AND COMMUNICATION STRATEGIES FOR COLLABORATIVE MATERNAL NUTRITION EDUCATION PROJECT IN THE GAMBIA. Educational Development Center, Inc., Int'l. Nutrition Communication Service, 24 Sept-11 October 1985, 45 p.

This report presents the results of the first technical assistance mission carried out by INCS in The Gambia. The purpose of their maternal education project launched in 1985 was to improve maternal nutrition during pregnancy among low-income Gambian mothers; reduce the incidence of low birth weight babies; and change attitudes regarding the importance of dietary supplementation to pregnancy outcome.

- 1701 Singano, B.J.; Juma, G. MATERNAL RISK FACTORS ASSOCIATED WITH DIARRHOEAL DISEASES IN CHILDREN UNDER FIVE YEARS OLD IN NAKURU PRINCIPALITY. World Health Organization, 1986?, 12 p.

The results of a case study carried out in two urban health centers of Nakuru Municipality to elicit maternal risk factors in childhood diarrheas are reported. Children whose mothers have low or no formal education are considered at higher risk, as are children of landless or unemployed mothers.

- 1588 Singarimbun, I.; Quiggin, P. CHILD SURVIVAL BIBLIOGRAPHY PROJECT: INDONESIAN MANUAL. Australian National University, 1986, 119 p.

This bibliography includes the latest articles, books and papers on child survival in Indonesia, arranged by subject. It does not feature annotations or an author index.

- 1754 USAID. CHILD SURVIVAL ACTION PLAN. US Agency for International Development, Africa Bureau, Office of Technical Resources, February 1987, 36 p.

This document articulates AID's strategy for child survival activities in Africa for the period FY1987-1990. The strategy stresses two key technologies (ORT and immunization) to break the cycle of disease, malnutrition, and death among children in many developing country environments.

- 2006 Victora, C.G.; Vaughan, J.P.; Barros, F.E. ESTACIONALIDAD DE DEFUNCIONES INFANTILES POR ENFERMEDADES DIARREICAS Y RESPIRATORIAS EN EL SUR DE BRASIL, 1974-1978. Bol. of Sanit. Panam 99 (2), 1985, 99-112.

This article analyzes the seasonality of infant deaths due to diarrheal and respiratory diseases in Southern Brazil between 1974 and 1978.

- 0927 Waterlow, J.C.; Nabarro, D.N. A NOTE ON THE IDENTIFICATION OF CUT-OFF POINTS FOR THE ANTHROPOMETRIC ASSESSMENT OF CHILD GROWTH. American Public Health Association, Clearinghouse on Infant Feeding and Maternal Nutrition, 2 p.

To facilitate comparison of childrens' growth at different ages, the measurements need to be expressed with respect to reference values. In practice, a variety of different sets of international and national reference values are available.

- 0898 WHO. BREASTFEEDING. World Health Organization, 1979, 40 p.

This brochure deals with the natural course of breastfeeding, preparation for breastfeeding, nutrition of the mother, weaning, child spacing, and how the health worker can help the mother. A ready reference rather than a scientific document, it is intended for the health worker.

- 0926 WHO. HOW TO INTERPRET THE GROWTH LINE. World Health Organization, Offset Publication no. 59, 5 p.

Guidelines on measuring growth rates in children are covered in this report.

- 1851 WHO. SAFE MOTHERHOOD: AN INFORMATION KIT. World Health Organization, 1987.

This information kit contains two documents on safe motherhood: the proceedings of the Safe Motherhood Conference in Nairobi in February 1987, and a WHO report on Essential Obstetric Functions at First Referral Level, 1986.

- 1596 WHO. WOMEN AND BREAST-FEEDING. WHO, 31 p.

This booklet is intended to raise awareness about women's issues related to breastfeeding. It also makes suggestions for actions that women's organizations can take to promote breastfeeding.

- 1855 WHO/Figo Task Force. TRADITIONAL BIRTH ATTENDANTS: A RESOURCE FOR THE HEALTH OF WOMEN. International Journal of Gynecology and Obstetrics, vol. 23, 1985, 247-303.

This collection of articles explores the role of traditional birth attendants in improving the health of mothers and babies. It includes a chart on the status of TBAs in selected WHO countries.

- 1750 WHO; PAHO. INFORME DE LA REUNION DE PROGRAMACION DEL PROYECTO REGIONAL DE APOYO AL DESARROLLO DE LA SALUD MATERNO INFANTIL. World Health Organization/PAHO, August 1985, 117 p.

This report covers the meeting of the regional Maternal Child Health project in Rio de Janeiro from May 20-24, 1985. Among the subjects discussed were Maternal Child Health in Latin America and the Caribbean, strategies, technological innovations, and history of perinatal clinics. Recommendations are made for groups of countries and subregions, and a perinatal clinic model is presented in one annex.

- 1642 Williamson, N.E. AN ATTEMPT TO REDUCE INFANT AND CHILD MORTALITY IN BOHOL, PHILIPPINES. Studies in Family Planning, April 1982, Vol. 13, No.4, 106-117.

This paper describes the experience of one local area (Bohol, Philippines) that, despite an active maternal and child health/family planning (MCH/FP) program, failed to experience a decline in child and infant mortality during the project period (1975-1979). It explores a number of plausible explanations for why there was no clear decline in overall infant and child mortality. It ends by discussing future health strategies.

- 1627 Woodruff, A.W.; El Sumi, A.; Kaku, M. CHILDREN IN JUBA, SOUTHERN SUDAN: THE SECOND AND THIRD YEARS OF LIFE. The Lancet, 13 September 1986, 615-618.

A study of child health in Juba, Southern Sudan, was continued until the children were 36 months old. The research team established that the mortality rate in the second year was highest and was attributed to chronic undernutrition complicated and usually caused by repeated infections, often leading to marasmus.

- 1598 Zeldin, L. EVALUATION REPORT OF THE BREASTFEEDING SUPPORT PROJECT PROALMA (PROYECTO DE APOYO A LA LACTANCIA MATERNA). Education Development Center, INCS consultant report series, 1985.

The PROALMA project was established to develop and adopt institutional procedures in support of breastfeeding, to train health workers in the MCH area, and to develop and implement norms for maternal/infant nutrition in urban Honduras. This report evaluates the project and makes recommendations for improvement.

Bibliography Author Index

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