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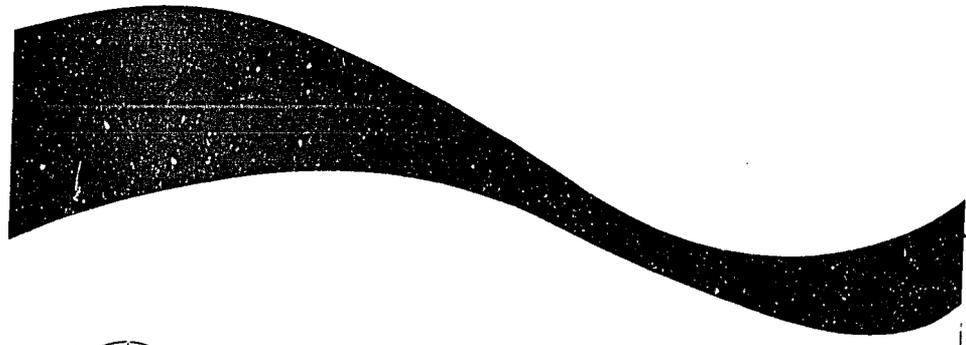
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Communication methodologies

Health communication for ORT in Honduras

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The case study below presents two striking features. First, on the basis of comprehensive research, the use of the mass media to promote oral rehydration therapy (ORT) and to teach its use, in an integrated strategy of radio/print/face-to-face communication. Social marketing techniques were used to plan comprehensively around consumer needs and attitudes. The campaign was divided into five sequential phases, coinciding with seasonal variation, each emphasizing slightly different content matter. Each communication channel selected was assigned specific roles based upon clear assumptions about its strengths in Honduras, with their integration being seen as essential to the campaign's success. A three-tiered training schedule was developed of medical professionals training community health workers who in turn trained rural mothers. Messages and products were carefully pre-tested and all inputs monitored through repeated evaluations of selected outputs.

Secondly, this project, which benefited from "technical assistance overdrive", has now been integrated into the Ministry of Health's activities. Its expansion has not only been in terms of coverage as its methodology has now been adopted to address other health priorities, such as immunization and malaria control.

Programme objectives

On 30 September 1978, the Academy for Educational Development (AED) was contracted by the Offices of Education and Health of the Bureau for Science and Technology of the United States Agency for International Development (AID) to implement a project for the prevention and treatment of acute infant diarrhoea in the rural areas of two developing countries, Honduras and The Gambia. The programme was called Mass Media and Health Practices (MM&HP). Simultaneously, Stanford University was contracted by AID to evaluate the project. A Project Agreement was signed in September 1979 with the government of Honduras defining the terms of collaboration between project personnel and the Ministry of Health. The programme constituted a priority activity of the Ministry of Health, with the Divisions of Epidemiology, Health Education and Training sharing responsibility for its implementation. The programme benefited significantly from PAHO support to the Ministry of Health prior to and during programme implementation. PAHO staff provided considerable technical guidance on the medical issues addressed. AED acted as technical adviser to these units, but all formal decision making was the function of Ministry of Health personnel. The dual goals of the project were emphasized:

- 1) to strengthen the health education capacity of Honduras through the systematic application of mass communications;
- 2) to contribute significantly towards the prevention and treatment of acute infant diarrhoea in isolated rural areas of the country.

In 1977, 1030 infants in Honduras were reported to have died from diarrhoeal dehydration. This accounted for 24% of all infant deaths and represented the single greatest cause of infant mortality in the country. The most commonly available treatment for diarrhoeal dehydration was intravenous therapy (IV). IV therapy is expensive, requires trained medical personnel and a relatively sterile environment, and was available only in fixed health facilities which served a small portion of the country's rural population. The government was determined to promote the widespread use of oral rehydration salts (ORS) in the home as a potential means of preventing moderate to severe dehydration. It was decided that Honduras would produce a WHO formula packet locally through the National Pharmaceutical Laboratory.

One of the first tasks of the MM&HP Project was to help develop a logo and name for the locally produced salts. Field trials and consumer research resulted in LITROSOL as the chosen name: LITRO emphasizing the correct volume of water required for the mixture, and SOL alluding to both solutions and, in Spanish, sunlight/health/goodness.

The government would distribute LITROSOL free of charge through government clinics. However, further research indicated that additional distribution outlets would have to be established.

Pre-programme research

Stage one of the MM&HP Project in Honduras consisted of a large-scale nine-month pre-programme developmental investigation designed to answer fundamental questions needed to prepare an effective programme:

- 1) who in the total population should be selected as the principal audience?
- 2) what mix of communication channels is most appropriate for these people?
- 3) what specific behaviours should be advocated?
- 4) what resources are needed to conduct the programme?

The final programme plan, including budget and resource requirements, was based upon the results of this investigation.

An analysis of the medical problem (infant diarrhoea) and the communication and instructional requirements of the media to be used, led to the selection of specific investigation topics as follows:

- a)* rural understanding of and response to diarrhoeal episodes in children under 5;
- b)* general rural and child care practices;
- c)* infant feeding patterns with special emphasis on breast-feeding;
- d)* home-based mixing trials of WHO oral therapy solution;
- e)* potential sources of bacterial contamination in rural homes;
- f)* existing distribution systems for commercial medicines;
- g)* health system outreach;
- h)* rural media habits and preferences;
- i)* rural opinion leadership.

Methodology

During the nine-month investigation, six research methods to collect information on each of these topics were utilized:

- 1)* the collection and analysis of existing information (statistical, anthropological, and anecdotal);
- 2)* individual interviews with 175 rural people;
- 3)* 62 focus group interviews with approximately 402 rural individuals;
- 4)* direct observation in 24 rural homes;
- 5)* observation visits to five rural clinics;
- 6)* interviews with pharmacy and rural store owners as well as leading physicians and nurses.

Segmentation of the audience: seven target groups

In the pre-programme research, seven audience groups were identified:

- Primary target audience (category A):
 - 1) mothers/grandmothers of families with children less than 5 years old;
 - 2) *guardianes* (primary health care workers), or trained midwives in communities with no *guardianes*.
- Secondary target audience (category B):
 - 3) fathers of families with children less than 5 years old;
 - 4) auxiliary nurses;
 - 5) physicians;
 - 6) rural school teachers and rural primary school children;
 - 7) health promoters.

The existing perceptions of the two principal audiences

Results of the investigation were often contradictory and sometimes confusing, but they provided a basis from which to postulate hypotheses for testing. Key findings included information on two principal audience groups:

- 1) *Rural women with children under 5 years*
 - felt diarrhoea was a very common occurrence;
 - widely resorted to purging;
 - wanted a remedy for diarrhoea, and had no understanding of dehydration;
 - thought loss of appetite in the child was a critical sign of severity;
 - favoured a “sophisticated” modern medicine over a home remedy;
 - preferred not to go to a health clinic because of the distance and relatively poor waiting conditions;
 - listened regularly to the radio and showed modest literacy levels.
- 2) *The professional medical community*
 - were sceptical about the effectiveness of ORT;
 - knew of ORT, but did not widely practise it;

- saw ORT as additional work;
- resisted a role for mothers in diarrhoeal treatment;
- generally had insufficient teaching skills;
- often perceived ORT as second-class medicine.

A two-year communication campaign in five phases

The overall communication campaign was divided into five sequential phases of approximately six months each. Each phase emphasized slightly different content matter and was structured to coincide with seasonal variations associated with diarrhoeal peaks. Phased development also permitted systematic incorporation of monitoring information and the efficient distribution of production resources over the total course of the campaign. Some messages were repeated in slightly modified forms over the entire two-year campaign, while other messages were disseminated intensively during only one or two phases of the campaign. This permitted early conclusions to be drawn regarding the relative merits of time and repetition as factors affecting message adoption in Honduras.

Phases based upon four factors

The design of the phases was based upon four factors:

1) First, timing should depend upon seasonal changes in the diarrhoeal cycle. A review of epidemiological data from the previous five years had clearly shown a diarrhoeal peak occurring during the rainy months from May to July, with a secondary peak occurring in November and December. The second peak was somewhat lower, and it was theorized that this peak might have been caused by viral rather than bacterial agents. The larger, possibly bacterial peak, was selected as a critical treatment period because it appeared to be more susceptible to prevention measures. The project phases were structured so

that heavy prevention messages immediately preceded these peak periods, and that treatment messages dominated the peak periods themselves.

2) A second factor taken into consideration was obtaining full support for the programme from the medical community. The pre-programme research had shown that most rural Hondurans, even though they retained traditional remedies and beliefs, were heavily influenced by the professional medical community. Without their support, ORT would not have been accepted by rural people. For our purposes, the professional community included private physicians practising in Tegucigalpa and in the semi-urban areas of Danli and El Paraiso, as well as those attached to the Ministry of Health's fixed health facilities (CHES - regional hospitals, CESAMOS - rural health centres with student doctors, and CESARES - rural health centres), nurses, auxiliary nurses, and *guardianes*. Many of these individuals had never heard of ORT, others knew of it but had strong reservations about its value, and a few leaders of the paediatric community were dedicated converts. Full conversion of the Health Region I medical community to ORT represented a significant challenge to project success, one requiring special attention early in the campaign.

3) The third factor used to determine phase design was the emphasis on treatment over prevention. Because ORT had been established as a priority over the promotion of purely preventive measures, one additional cycle was assigned for treatment messages. No cycle was dedicated solely to treatment or prevention messages, but proportional levels of effort were established for each. This gave treatment special attention, without neglecting reinforcing messages designed to sustain compliance with selected prevention behaviours.

4) Finally, the level of project staff resources was used as an important consideration in selecting a sequenced campaign development. It was clear that the team's financial and human resources required a gradual development of messages, spreading these functions over time rather than concentrating them in one or two production cycles. The five-phase configuration not only allowed a phased development of materials,

but also permitted systematic monitoring and provided a longer lead time for needed adjustments.

Message strategy

The analysis of the pre-programme investigation led to a message strategy which stressed the use of LITROSOL. LITROSOL was made available through personnel at existing health facilities, *guardianes*, *alcaldes* (local mayors), and auxiliary mayors. Each of the distribution points was identified by a "red heart flag" with the word LITROSOL boldly printed on it. One role of radio was to help popularize and associate the red heart with diarrhoeal care. Two basic messages: administer LITROSOL correctly when your child becomes mildly ill, and seek help if the child gets worse, were the central themes of the communication campaign. These themes were supplemented by prevention behaviours including continued breast-feeding, use of colostrum, home hygiene, and food preparation for children.

LITROSOL was portrayed as the latest advance in science, rather than a simple home remedy. It was marketed as an aid to restore appetite and activity and not as a cure for diarrhoea. The concept of dehydration and the relationship between water loss, activity loss, and dryness were explained. "Because LITROSOL restores liquids, it restores your child's health." This approach was the result of field data which showed that mothers were most concerned about appetite loss and inactivity associated with diarrhoea, and that they were unwilling to accept a "remedy for diarrhoea" which did not stop the diarrhoea.

Rural women learned:

- to properly prepare and administer LITROSOL to infants (of less than 1 year) as soon as they get diarrhoea, and to toddlers (of over 1 year) as soon as they lose their appetite or become listless;
- to seek outside assistance if the child does not improve after administering the above regimen;

- a cluster of behaviours associated with breast-feeding, infant food preparation, and personal hygiene.

The five phases of the campaign

The overall design provided long-term emphasis on a few prevention messages, short-term intensive emphasis on treatment messages during two critical seasonal periods, and distribution of mediated and face-to-face instruction over the entire two-year campaign.

Phase I of the campaign focused upon critical enabling messages identified during the pre-programme investigation as important prerequisites to adoption of both treatment and prevention behaviours. The essential goal was to implant ORT as a standard procedure among health professionals in Region I of Honduras, comprising 400 000 inhabitants, located in the central east region of the country. A complementary goal was to rely on radio and printed media to promote enabling concepts such as the significance of dehydration among the general rural population, with special emphasis given to rural mothers with children under 5.

Phase II shifted from a face-to-face approach to a heavily mediated campaign directed principally at rural communities. The central message here was oral therapy. This phase coincided with the first diarrhoeal peak and represented a period during which treatment information was most critical. Supplementary prevention behaviours were promoted, but primary emphasis was on treatment messages.

Phase III focused on the evaluation of the campaign with some treatment and prevention messages. The major goal of this phase was to evaluate what had been accomplished during the first two phases and to decide how the next treatment phase could be improved.

Phase IV, which coincided with the second diarrhoeal peak during the life of the project, re-emphasized proper ORT treatment, specifically correcting problems of preparation and administration identified in phase I by the formative evaluations. It also emphasized that mothers should seek help if a

child showed signs of dehydration. Radio was especially emphasized during this phase, with graphics and face-to-face training supporting the messages transmitted by radio. Institutionalization of the programme, particularly the distribution of materials and packets, was also heavily emphasized.

Phase V. Because of the importance of treatment messages, all of which presented totally new concepts to the rural mother, prevention messages did not play as large a role in the campaign as originally envisaged. The fifth phase, which coincided with the 1982-1983 dry season, featured prevention messages and focused on a major prevention behaviour—exclusive breast-feeding for the first four months of a child's life and breast-feeding plus supplementary feeding thereafter. This focus was selected because breast-feeding and other feeding advice seemed to be the most critical element for effectively interdicting the cycle of diarrhoea, fasting, malnutrition, and diarrhoea.

Other preventive messages concerning personal hygiene and food preparation were stressed through face-to-face training. The message of water boiling was emphasized through a comic book developed by a separate Water and Sanitation (W&S) Component of the MM&HP Project and distributed to school-children within Region I.

Complementarity of radio, printed and face-to-face messages

Three primary communication channels were selected as the most likely to reach a large number of people and as having the greatest potential for mutually supporting each other. As indicated in Figure 1, each channel was assigned specific roles based upon clear assumptions about its strengths in Honduras. These roles, if completed, were to produce the outcomes illustrated.

Radio was used to provide widespread coverage of key new skills and as a regular reminder of critical mixing, administration, and feeding advice.

Printed materials were used to carry more detailed instructions and be available in a timely way—when the mother

needed to know how to mix LITROSOL, how to give LITROSOL, and how to monitor her child's progress.

Interpersonal channels, physicians, health workers, and community volunteers provided overall credibility for the new health technology and constituted the primary distribution vehicle for LITROSOL packets in Honduras.

Each of these channels played an important role. But it was the integration of broadcast, printed, and face-to-face support which was essential to the campaign's success. A woman listening to health messages on the radio also heard the same advice from a health worker, received printed information from her child's school, participated in a community health fair, and saw related posters.

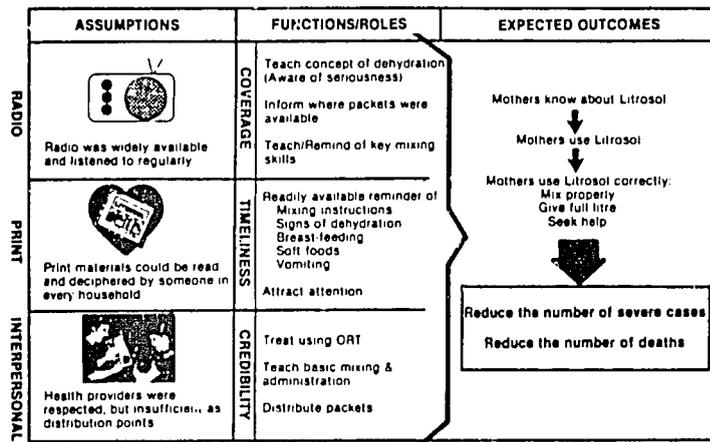


Fig. 1: Diffusion model

1. Face-to-face communication

The first step towards an effective training programme for providers was an agreement on an ORT administration regimen suited to different Honduran settings. A summary of existing

clinical and field studies was prepared and presented to a national commission composed of representatives of the National Children's Hospital and the Divisions of Health Education and Epidemiology of the Ministry of Health, as well as representatives of the Pan American Health Organization's (PAHO) local office. The commission's suggestions and recommendations were then structured into a series of national norms, which were subsequently approved by the Ministry of Health.

If the training was to be completed by the time the radio promotion of LITROSOL was to begin, more than 1200 professional and paraprofessional health providers would have to be trained in less than three months. This training schedule was far beyond the ability of project staff to accomplish alone. Reliance was placed on the hierarchical nature of the existing health system. Project staff trained the upper-level health professionals not only to perform the new behaviour adequately, but also to teach those behaviours to the community workers they supervised.

Three tiered levels of training

Training of interpersonal support personnel was divided into three tiered sequences. The first provided direct training of medical professionals (doctors, nurses, and auxiliary nurses) through structured seminars; the second provided training by these medical professionals of *guardianes* and midwives who distributed the ORS packets; and the third provided training by the *guardianes* and midwives of rural mothers who used the packets.

Emphasizing teaching skills

It was recognized from the outset that significant deterioration in performance levels was likely between primary and secondary training groups. Most health professionals had little experience as teachers, and their own training was to be limited to just two days. To compensate for these difficulties, the training skills for the secondary group were simplified to emphasize actual practice in diagnosis, solution mixing, monitoring, and teaching skills. Additionally, a set of specially designed printed materials was developed to help the health

professionals in their role as teachers and, at the same time, to remind the community health trainees of key points being taught.

This training design for professionals was scaled down and adapted to the training needs of the paraprofessional community health workers and *alcaldes*. As the community health workers had only four to five hours to learn the basic mixing and administration skills and to practise using the instructional flyer, the early theoretical sessions were discarded and emphasis was placed on individual practice in mixing and administering the oral salts in a home setting. Pouring the salts with minimal spillage into small-necked bottles required several practice trials for example. Questions from community-based trainees centred on how many packets to mix per litre and whether all the salts should be added at one time. After the practice sessions, the instructional envelope was distributed to all trainees and a role-play demonstrated how it should be used.

2. Several radio programme formats

Radio was an important aspect of the MM&HP Project because it reached more people, more quickly and more often than any other medium used. It had four special roles:

- 1) convincing rural people that diarrhoea is a serious problem;
- 2) teaching and reminding them how to mix LITROSOL;
- 3) answering common questions identified during village visits;
- 4) leading people to sources of additional help.

Radio ownership included about 77% of the rural families; 94% of these radios were functioning, but pre-programme investigation had shown that most rural homes did not listen to radio all day. The cost of batteries and involvement in other activities limited radio as a "constant companion". Early mornings seemed to be popular listening times; regular news broadcasts were reported as the most popular radio programmes. Attention to radio during listening times was high, yet many people did not seem to comprehend fully programmes that they listened to for the first time.

Broadcasting stations were selected based on the pre-programme investigation and included those which rural mothers reported as being the most popular. Two national stations were selected along with four regional stations. One regional station was dropped in the second year because the evaluation showed no mention of this station by mothers.

Various programme formats were developed throughout the two years of the campaign:

- radio spots (30 and 60-second spots);
- *La Voz de la Salud*—a weekly 15-minute programme;
- news broadcasts;
- live interview shows;
- sports programmes;
- radio game *Concurso de los Gigantes*;
- radio course *Ama...más*.

Radio spots

By far the most prevalent and powerful of these were the short spot announcements repeated over and over. More technical information was conveyed in 60-second spots, saving the 30-second format as a focus on LITROSOL or dehydration recognition. The LITROSOL jingle was used at the beginning of each product spot ("LITROSOL, the salvation from dehydration"). Two songs, one on dehydration and one on breastfeeding, were broadcast, followed by different treatment messages. In *Consulta para Todos* (Advice for Everybody), a 60-second spot, rural mothers asked questions of Dr Salustiano (a fictitious doctor popularized by the programmes) about treatment behaviours. The use of mothers' voices proved to be very effective. The evaluations showed that rural women had a high recall of these spots.

A programme for health workers

La Voz de la Salud (The Voice of Health) was a weekly 15-minute programme begun in May 1982. It was initially broadcast on one national radio station and two local radio stations. The goals of the programme were to stimulate and support community health workers, *guardianes* and midwives

who distributed LITROSOL, as well as to reinforce technical training in both treatment and prevention messages. The formative evaluations indicated that one of the principal complaints and problems of these health workers was that they felt that the Ministry of Health was not supporting them and that frequently the community did not take them seriously. The programme was consequently designed to alter this image and provide some continuing support on the air.

Sponsorship of sports programmes

A sports programme also became popular. *Radio El Paraiso* requested collaboration from the project to promote LITROSOL during weekly soccer matches because these matches were very popular in the rural areas and were generally held between villages where LITROSOL was distributed. LITROSOL became one of the sponsors of the live broadcasts.

A radio game with prizes

Radio El Paraiso also initiated a radio game called *Concurso de los Gigantes* (The Competition of the Giants) in which listeners won prizes by answering questions asked over the air, usually by telephoning the radio station. Listeners won LITROSOL key-rings, T-shirts, and two trips to Tegucigalpa by answering technical questions about the treatment of diarrhoea with LITROSOL. Once a week a question was asked which could only be answered through the mail by listeners outside El Paraiso to try to encourage village participants as well.

Radio course on breast-feeding

A radio course also proved to be an effective way of transmitting complicated information not appropriate to short spot broadcasts. During the fifth phase of the programme, this radio course, *Ama...más* (Love more), was chosen as the central component of a mini-campaign on breast-feeding. The course targeted a special group of active, articulate rural women who were intended to serve as opinion leaders and provide face-to-face support to other women in their community. The programme was broadcast over a period of ten weeks on three national radio stations and six local stations so that mothers had several opportunities to hear the same programme

during a single week. It featured an auxiliary nurse giving the course to a group of rural mothers.

The radio component of the mini-campaign also included a series of 30-second spots designed to support the longer radio course. The overall *Ama...más* mini-campaign was divided into two phases of three months each. The goal of the first phase was to set the stage by promoting breast-feeding and the radio course. The second phase of the campaign focused on broadcasting the radio course as well as a series of spots which supported the technical information provided in the course.

Competition for radio announcers

In October 1981, the project held a one-day seminar with the announcers of three regional radio stations during which the importance of LITROSOL was discussed. The project also offered a prize every four months to the individual announcers and radio station owners who aired the most spots at the correct time. Getting radio stations to broadcast programmes, particularly spots, during contracted times, was a continuing problem. This issue is discussed later in the section on monitoring.

3. Printed materials

The materials used by the project to illustrate the health messages were simple and clear. They reinforced the radio messages and those conveyed by health workers to teach the important skills of mixing and administering ORS at the village level.

Printed materials were divided into three categories:

- 1) materials to be mass distributed to rural communities (flyers, posters);
- 2) materials to be used in training courses and health centres (posters, guides, flipcharts);
- 3) special materials such as technical articles, news items, and flyers to be sent by mail to key members of the medical community.

Some of these materials are briefly described below.

An instructional flyer (hoja-paquete)

A one-page two-colour flyer, folded in such a way as to form an envelope containing two ORS packets, was designed to serve as an instructional wrapper. This was the principal substantive guide and regular reminder for both health worker and rural mother. The envelope summarized the basic mixing, administration, and feeding instructions, and illustrated the conditions a rural mother should monitor to determine if the sick child needed professional care. A gummed label was attached to each packet which explained the basic mixing steps for the oral salts. The evaluations showed that the flyer was a key element in the educational programme and that many mothers kept the flyer for later reference.

Posters

Several different posters were developed, such as:

- a LITROSOL poster;
- a poster on the signs of dehydration (the same graphic as that printed on the instructional flyer);
- a poster that was a large version of the inside face of the instructional flyer and which outlined procedures for mixing and administering LITROSOL, as well as for feeding during diarrhoeal attacks;
- a multicolour poster produced exclusively for trained health professionals was the most elaborate graphic material designed. It summarized the principal diagnostic and treatment steps at four levels of dehydration severity—mild, moderate, severe, and severe with shock. It also provided information on three controversial subjects within the medical community in Honduras: the use of antibiotics; breast-feeding during bouts of diarrhoea; and continued feeding of soft foods during episodes. The second function of the chart was to portray ORT as a modern and sophisticated remedy worthy of professional attention. The design was deliberately complex, and the vocabulary was carefully selected to appeal to physicians;
- a breast-feeding poster.

LITROSOL red heart flag

The flag, silk-screened on canvas, was an important visual symbol enabling mothers to identify those houses in each village, as well as health centres and hospitals, that had LITROSOL distributors.

Flipchart

When the Regional staff and auxiliary nurses were asked during the developmental investigation about which educational materials would be most useful to them in their work, their overwhelming response was a flipchart. The flipchart consisted of 17 pages and was serigraphed on cloth similar to that of the LITROSOL flag, so that the pages were durable and washable. Additionally, the flipchart could be rolled up and put in a saddlebag to be carried on horseback to even the most isolated community. It was divided into three educational sections:

- 1) the concepts of diarrhoea, dehydration, and rehydration;
- 2) instructions on mixing and administering LITROSOL, including correct feeding behaviours;
- 3) instructions on certain prevention behaviours, including breast-feeding.

Primary health care manual

An illustrated primary health care manual was developed with the staff of the Diarrhoea Disease Control Programme (DDC Programme) and distributed to the *guardianes* in the various regions. The 19-page manual basically followed the same steps as the flipchart.

Fotonovela

An educational *fotonovela*, *¡Salvaste a tu hermanita!* (You saved your little sister!), was produced for children of reading age in the rural schools of Region I. It contained a dramatic story in which a 10-year old boy detects dehydration in his 9-month old sister. He advises his mother to take the child to the health centre in time to save the child's life. On the last page, he tells the other children that they can save their

brothers' and sisters' lives by learning the signs of dehydration and by advising their mothers if they see any signs when their brothers and sisters have diarrhoea. The *fotonovela* also included a self-contained teachers' guide that outlined various activities that the teacher could undertake with the children.

Calendars

Calendars containing key mixing and breast-feeding messages were also distributed to rural homes. The evaluations showed that mothers appreciated the calendar format as a vehicle for educational messages.

Guide to Ama...más

The radio course on breast-feeding, *Ama...más*, was complemented by a 20-page graphic booklet that explained through pictures the "nine golden rules of breast-feeding". The booklet was chosen and designed after formative and summative evaluations showed a much higher level of literacy (56.8%) in the rural female population than previously assumed. It was designed to include a single concept on each page, with simple pictures and common vocabulary.

Pre-testing of materials

The importance of pre-testing was emphasized in a paper presented at the International Conference on Oral Rehydration Therapy held in Washington, D.C., in 1983:

"Careful pre-testing of campaign materials before their actual production corrected what could have become critical mistakes.

Probably the most dramatic example was a radio spot which was designed to teach mothers to mix the entire packet of salts in a litre of water rather than only part of a packet in part of a litre as some mothers were doing. We believed the spot to be perfectly clear and believed that rural mothers would have no problems understanding it. Pre-testing showed, however, that many mothers understood the spot to be saying that they should mix TWO packets of ORS in a litre of water. If we had

aired the spot without pre-testing, we would have created much confusion in a very critical message.

In another example, we wanted to show graphically that the breast-feeding mother is someone special. We designed a poster showing a breast-feeding mother with a crown of laurel leaves and a rose in her hand—obviously an atypical image. Several of us believed that mothers would not understand these symbols. Pre-testing showed that mothers not only understood them, but liked the poster because of them. The poster, which was almost not produced because of designers' opinions, proved to be the favourite graphic of the campaign.

Originally the team felt that soap operas would be an effective format for radio spots. Many rural women in fact listened to commercial radio soap operas. Pre-testing showed, however, that soap opera formats were too long and cumbersome for a targeted instructional message. Mothers simply did not understand what they were being asked to do unless it was stated explicitly; it was not clear when submerged in a dramatic story.

The original packet label showed four mixing steps in a cross-hatch pattern—two boxes above and two boxes below. Pre-testing showed that even when these boxes were numbered, rural mothers could not understand the correct order. Graphic instructions for this audience were therefore presented by means of boxes in a simple horizontal line. This important visual concept was used in the design of other materials, saving time and expense in the development of new materials.

In a final example, radio materials incorporated as much rural vocabulary as possible. Pre-testing showed that sometimes, however, rural audiences felt local vocabulary was not appropriate for the radio. For example, the common phrase *pura papada* was shown to be too strong for use on the radio, even though most rural people use it daily. If the spot had been used, many people would have been offended and the image of the campaign downgraded."¹

Careful pre-testing was not always possible, but special emphasis was given to controversial themes, new approaches, or particularly critical information. The most important factor beyond pre-testing itself was to get producers to accept the

results of pre-tests and to make needed changes. When this happened, the programme was greatly improved.

Production and distribution systems

Production

Production of broadcast and printed materials was contracted to private commercial firms in Honduras. Radio production was done at local studios under the direction of project staff.

Graphic materials were printed in the commercial sector, relying on Ministry of Health facilities when they were available.

All work was coordinated by the project staff and local Ministry of Health counterparts. The production teams participated in pre-testing phases to assure that programme producers experienced rural audience reactions to their work at first hand.

Distribution

The three basic components of the distribution system were the distribution of ORS packets, the distribution of printed materials, and the radio broadcast plan. Direct intervention of the programme was necessary to ensure that the system was actually working. Distribution of medicines and materials remained one of the most difficult problems facing the Ministry of Health, however, and one of the principal obstacles to continued effectiveness of the programme.

The goal was to institutionalize the distribution of LITROSOL so that after the project finished, the Region would continue to be able to make LITROSOL available in the rural areas. After its incorporation into the national DDC Programme, the project coordinated distribution with the system structured by the national programme. To the extent possible, all ORS packets were distributed through the existing government system.

In compliance with the policy outlined by the government, the auxiliary nurses would request the numbers of packets they needed for the health centre and the community health

personnel for a three-month period. In the case of an emergency, the project would directly distribute packets via local transport. Newly trained *guardianes* and midwives would receive a bag of 100 packets during the training course.

The graphic materials designed for households were distributed by Region and Ministry of Health staff to the health centres, *guardianes*, midwives, and promoters. Graphics were distributed directly to auxiliary nurses during their monthly meetings. The distribution of graphic materials to community health workers through the Region's medicine distribution system was very slow, but the evaluation showed that most materials were arriving and being distributed. This also indicated, however, a need for advance planning to ensure that graphic materials were in place when needed.

The project placed posters in all the buses that travelled to major towns throughout the Region. Anecdotal feedback indicated that many posters were taken by passengers, but they were usually left in place for several trips between the villages and the capital.

Regular programme monitoring

Formative evaluations and monitoring of campaign inputs helped the project to measure the impact of the various aspects of the campaign. They proved invaluable to the project staff and served as a basis for all major mid-course modifications.

Formative evaluations

The first formative evaluation, in September 1981, attempted to assess the role of each element of the campaign (radio, graphics and face-to-face instruction), and recommended how each could be improved. A second, performed in February 1982, tried to assess how ORT had been incorporated into the traditional treatment of diarrhoea.

These formative studies used a variety of instruments including individual interviews, focus groups, and direct observation. During the formative evaluation of September 1982, previous to phase V, individual interviews with 75 rural

mothers and 28 rural health workers focused on what mothers had learned from the previous phases of the project, while focus group interviews with 40 additional mothers were used to further investigate attitudes, knowledge and practices related to breast-feeding, especially resistance points to exclusive breast-feeding in the first four months. The results of the focus groups, in particular, were critical to the breast-feeding campaign planning. They indicated that while rural mothers accepted that breast milk was the best milk, they believed breast-plus-bottle-feeding was better.

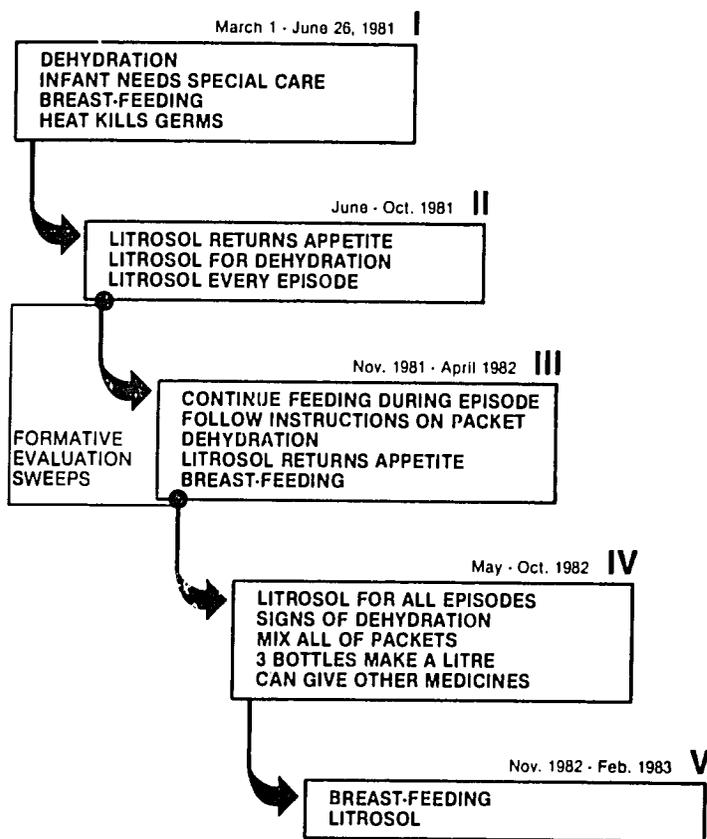


Fig. 2: Message sequence

Figure 2 illustrates how new messages were introduced at each phase in response to results of these formative evaluations. Formative studies done in October 1981, for example, showed the need to focus on teaching mothers to use the mixing instructions printed on each packet. It showed that they had not perceived the pictures as anything other than simple "decoration".

Monitoring of campaign inputs

In addition to content and audience monitoring, a system was developed to monitor the distribution of campaign inputs. The Materials Distribution Control System was supervised by the Ministry of Health's Audio-Visual Coordinator but with an increasing emphasis on regional institutionalization. The system included two sources of information: (1) records of materials distributed during seminars in the Region; and (2) responses to bi-monthly cables sent to randomly selected sites regarding present availability of materials. Health centres were asked to report on current stocks of selected materials.

Monitoring of the radio broadcasts proved essential in the first year of the project. Neither national nor regional radio stations were accustomed to being monitored and the control showed that at one time up to 25% of the spots were not aired. The national radio stations responded to complaints of spots not being aired and most air time was recuperated.

Results and impact

The MM&HP Project is being formally evaluated by Stanford University's Institute for Communication Research. The evaluation includes use of resident experts in Honduras and a research design which relies on a variety of studies including a panel study of some 800 families, and health worker, nutrition, and mortality studies. A special behavioural study is also underway to determine how women actually use the programme's advice in their homes. The following text is abstracted from Stanford's formal evaluation report of results after only the first year of activity.

Extensive communication coverage

Results of the first year evaluation in Honduras are very encouraging. The population has good access to the main channels of communication used by MM&HP. Roughly 80% of families own radios, of which about 90% are functioning at any given time. Some listen to the radio throughout the day but most of the audience tunes in between six and seven in the morning and at noon, with virtually no one listening in the evening. On any given day, roughly two-thirds of the mothers will listen to the radio.

People have frequent contact with members of the health care community, either through community-based workers (21.3% of families in the last six months) or staff of fixed health care facilities (32.6% of families in the last six months). There is a strong preference for care from modern medicine sources over folk medicine sources (82.5% of contacts over the last six months were with representatives of the Ministry of Health system rather than healers, spiritualists, etc.).

More than 50% of the mothers can read and, if they cannot, there usually is someone else in the family who can. The household literacy rate is 86.8%.

Therefore, it is clear that the MM&HP messages can be received by the target audience through all three channels.

Retention of message content

Mothers who listened to the radio on the preceding day remembered having heard an MM&HP radio spot about 70% of the time. An average of more than three spots was remembered by mothers who listened to the radio on the previous day.

Mothers also have the potential to learn through instruction that takes place during contacts with health care workers. Instruction took place in an average of 42.4% of contacts with staff of fixed health care facilities and in an average of 37.9% of contacts with community-level health care workers.

Exposure to the printed materials was also very high. Roughly 50% of the sample reported having seen a health poster, usually at a health centre. About 80% of those recalling seeing a poster could describe it well enough for it to be identified as a particular MM&HP poster.

There is no doubt that the campaign messages are actually reaching and being remembered by the target audience.

Learning of the message content is quite successful. After five months of broadcasting, mothers successfully supplied 28.9% of all possible answers to the questions, most of which were unaided recall items with multiple responses, a particularly demanding test of knowledge. By the 13th month of broadcasting, this rate had risen to 33.8%, a statistically significant increase.

If one looks at the learning scores for particular items, the percentages are even higher. For example, nearly two-thirds of all mothers could complete the campaign jingles when prompted with opening lines. An average of roughly 50% of the mothers named at least one correct answer in each learning category. An average of almost 90% of the sample who heard Dr Salustiano spots could identify LITROSOL as the medicine he was recommending.

There is thus a pattern of initial fast learning to a very respectable level when the campaign begins, followed by slower gains in learning as time goes by.

Translating information into practice

Diarrhoea prevalence is high. Estimates at different points vary: the maximum point prevalence observed was 14.6% of children less than 60 months of age sick with diarrhoea on the day of interview. A minimum of almost 50% of the children experienced an episode of diarrhoea during a six-month period.

Use of LITROSOL in cases occurring within two weeks prior to the interview rose from 9% of cases after four months of the campaign to 26.1% after 12 months. Higher percentages of cases (up to 45.3%) were reported to have been treated with

LITROSOL over periods of six months prior to the interview, but it seems likely that mothers were forgetting more of the less severe cases. Half of the entire sample said they had tried LITROSOL after 13 months of the campaign. About two-thirds of the women obtain their LITROSOL from people in their own community; the rest tend to obtain it from clinics or the hospital.

Learning of the method for preparing LITROSOL is primarily from the packet (58% at the end of the first year), secondarily from interpersonal sources (43.4%), and relatively little from the radio (14%). Knowledge levels about mixing of the LITROSOL packets were good for the most important aspects—using a litre of water and putting in all the packet—both received about 95% correct responses. Evidence indicates that more severe cases of diarrhoea are more likely to receive treatment with LITROSOL.

Breast-feeding levels are high (over 90% of children are breast-fed at some time), but bottle-feeding is often carried out in combination with breast-feeding. At the end of a year, 87.5% of mothers knew they should continue breast-feeding during diarrhoea bouts, and 58.7% knew they should keep feeding the same or increased amounts to children during diarrhoea episodes.

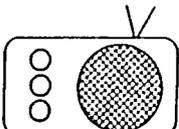
Mortality monitoring in children less than 2 years old shows a 40% drop in deaths involving diarrhoea, but not in overall mortality. Honduran children show intermediate levels of malnutrition, wasting, and stunting. Data for assessing change in nutritional status during the intervention have not yet been completed.

The overall picture that emerges of the impact of the MM&HP Project in Honduras is one of an intensive, well-integrated campaign that is achieving impressive success in teaching people health information and getting them to change specific behaviours related to infant diarrhoea. Subsequent analyses on the health effects over time will reveal the impact of the behavioural changes on health status.

The following chart provides a detailed overview of the five phases of the programme with qualitative message and training data.

EVALUATION LEGEND

- B** = Baseline
- A** = Anthropometry
- M** = Morbidity
- C** = Communication
- N** = Nutrition & breast-feeding

		RAINY SEASON												
		PHASE I					PHASE II							
		OCT 1980	NOV	DEC	JAN 1981	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
MESSAGE SEQUENCE														
INTERPERSONAL 	DIRECT							73	23	195	26			
	INDIRECT								160	200	200	200	200	
RADIO 	SPOTS								6 450			5 424		
	VOZ De SALUD													
	OTHER													
PRINT/GRAPHIC PACKETS 	POSTERS/DISTRIBUTION								37 000			18 600		
	FLYERS											80 000		
	WITH LABELS											160 000		
	WITHOUT LABELS													
EVALUATION									B			A		M
														C
														N

From pilot project to national level

a) Technical assistance overdrive

The MM&HP Project has had outside technical assistance and financial support from its inception. It is difficult to quantify the real impact of this assistance, but everyone agrees that it represented a major contribution.

"The outside technical assistant sharing a brief moment of Ministry life with a permanent staff counterpart can afford to be unidimensional and forceful. That's what he's paid for. The permanent Ministry staff must face the reality of underfunding, centralized decision making, and less flexibility in internal bureaucratic procedures once the expatriate project staff has departed. In this scenario, skill training of Ministry staff as such is not the critical issue at all. The combination of the outside specialist's skill and motivation with the procedural benefits deriving from donor agency prestige and fiscal flexibility produces what we think can best be described as 'technical assistance overdrive'."²

While the risks to long-term methodology transfer are well known, technical assistance overdrive might nevertheless in such circumstances be a necessary condition for undisputed project success, which can then lead to a political decision to extend the approach nation-wide, as was the case in Honduras.

Two expatriate advisers and some US\$ 300 000 were made available to assist the Ministry of Health over the first three years of the project. Subsequently only one adviser, but considerably more local financial assistance, were made available to cover expansion to other health topics such as malaria, the identification of tuberculosis cases, family planning and immunization. A more detailed discussion of the costs was presented at the 1983 International Health Conference held in Washington, D.C.³

b) Integrating the project into normal government health activities

Two major events occurred in 1982 which greatly affected the role of the project and the project staff. First, the new

Ministry of Health officially designated the control of diarrhoea and an expanded vaccination programme as Ministry priorities. As a result of that decision, the DDC Programme, with two full-time staff under the director of the Division of Epidemiology, was created. The activities of the project in Region I were gradually, but systematically, absorbed into the DDC Programme as one of the integrated normal activities of the Region and of the Ministry. In this way, the project's role changed from implementation to providing technical and logistical advice to the staff of the DDC Programme, so that they could eventually implement the national programme using the educational materials and technical methodology that were developed during the two previous years of the project. At the same time, the project continued to design, pre-test, and produce new materials which could be of future use to the DDC Programme. In particular, project staff worked with the staff of the DDC Programme to define which educational materials used by the original pilot project should be used in the national campaign.

New radio messages were defined based on the monitoring activities carried out. Individual interviews and focus groups were conducted in three Health Regions outside the original area to define which messages should be stressed on radio during the 1983 rainy season.

Project staff also continued to work with the DDC Programme on the design and production of ORS packets. The new envelope design included the name LITROSOL as well as the red heart with the mixing instruction logo. This packet will help to maintain the visual continuity that was clearly established during the project's early phases.

The DDC Programme used 80 000 UNICEF packets which were purchased to ensure a continued supply of packets independently of local production. The DDC Programme considered attaching a gummed label with the LITROSOL red heart logo onto the UNICEF packets.

The two staff members supported by pilot funds were added as permanent staff of the Division of Education. The Division also added three new technicians, thus establishing a Health Education Unit with seven professional-level positions.

As part of the continuing transfer of skills to the personnel involved, two training courses, one on formative evaluation (January 1983) and one on pre-testing (February 1983) were organized and conducted.

c) Extending the method to other health priorities

However, expansion in Honduras has meant more than just transferring the original pilot project to a national level. It has also meant adapting the social marketing strategy to include new health priorities. During the 18 months since the original pilot project was completed, the Ministry of Health has mounted four new campaigns on malaria, tuberculosis, family planning, and immunization. Each campaign was preceded by a detailed, though much shorter pre-programme research phase. This research guided the strategy in selection of messages, channels, and delivery systems. Each campaign has been run as part of an annual health communication strategy which sequences—or pulses—messages on each topic to coincide with seasonal variation or administrative priorities. Figure 3 indicates how each of these different topics has been scheduled in the months following the original pilot project.

d) Message strategies for new campaigns

Expansion has meant new message strategies adapted to each new health problem. Each new health topic has its own special characteristics. The immunization campaign stressed simple information on why a series of vaccinations are necessary, where and when they are available, and gave particular emphasis to the nine-month measles vaccination. Tuberculosis campaigns have tried to alter the public conception of tuberculosis as an incurable and inevitably contagious horror, while the malaria campaign stressed practical steps to take in preparing for spraying teams and in administering chloroquine tablets.

The diarrhoeal programme also continues, reinforcing old lessons, and responding to the continuing concerns and problems which women encounter in administering ORS in the home.

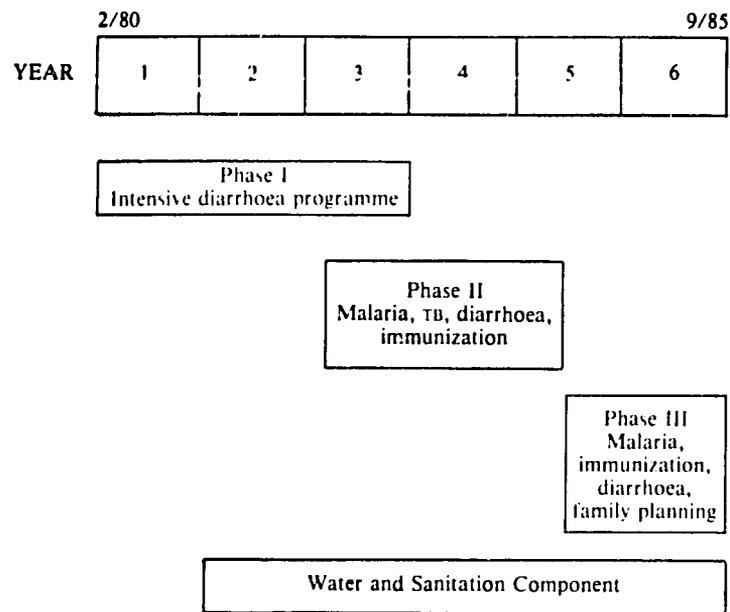


Fig. 3: Sequential introduction of health topics

e) A new working relationship between health education and various health sectors

Expansion has meant doing much less research than in the pilot project. It has, however, required more emphasis on management and scheduling and an aggressive health education leadership to coordinate and guide the technical departments of each division in charge of the new health topics. It has meant that the Division of Education has become more dependent upon the technical medical guidance of each office and less likely to influence medical decisions. The result has been a Health Education Unit which behaves in many ways like an advertising and marketing agency. It views other departments of the Ministry of Health as "clients" and the rural audience as potential consumers whose needs must be researched and understood. It combines creative and research management

talents into an ever increasing staff complex. It consumes a significant budget, much of which is financed by external donors. But for the first time in many years, the Health Education Unit is considered a vital part of the Ministry's overall health programme.

Some lessons learned

Many things were learned about how to make a programme like this work in Honduras. Some of these lessons may be useful for other programmes in other countries. One set of lessons revolves around how to use communication strategies effectively, and while they are not in themselves new insights, they do support what many experts have argued for years.

Communication programmes that seek to teach new behaviours, particularly to large dispersed audiences, are better when they:

- define through research what the health problem really is, who it affects, how those people understand and respond to the problem, what obstacles they are likely to encounter, and how the audience can best be influenced to change;
- segment general audiences into smaller groups of people who see the problem in similar ways, permitting more effective appeals to be directed at each different group;
- create messages/products that are salient in solving the problem, practical, given all the real-life constraints on the audience segment, and attractive when compared to other alternatives facing that segment;
- test these messages and products to see if they in fact meet the requirements, and make appropriate changes if they do not;
- ensure the practical availability of whatever materials, supplies, and equipment are needed for the audience to take the advice being promoted;
- integrate various communication channels (mediated, printed, face-to-face) around a single set of coherent themes for each segment, ensuring that the audience

receives the same messages from more than one credible source and maximizing the particular strength of each channel (i.e., radio reaches many people quickly and regularly, a printed flyer is a timely reminder of complex instructions, a supportive health worker is a highly credible source of information);

- monitor all the inputs through repeated mini-evaluations of selected outputs to determine if the system parts are in place, and if changes need to be made in the approach;
- commit to the long haul, avoiding quick solutions and flashy campaigns, in favour of a long-term strategy which can be modified but is consistent over time.

We believe these principles are just as true for "full-scale national programmes" as for smaller demonstration projects. The Honduran experience illustrates one means of improving health care delivery by expanding the quality and usefulness of health communication. While communications alone were not responsible for the achievements made over the past three to five years in Honduras, they played an important and unique role in the process.

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ANNEX**ORAL THERAPY BEHAVIOURAL PROFILE**

Refers to rural mothers with children suffering from diarrhoea but with no serious signs of dehydration

Motivation*Feel need for medication*

- Know that diarrhoea can cause death/malnutrition
- Know that fluid loss can be replaced
- Recognize child as being sick with diarrhoea
- Recognize sickness is severe enough to require fluid replacement
- Believe diarrhoea is an illness which can be treated successfully
- Believe in their own ability to make/give fluid

Feel need for packet

- Believe packet works to replace fluid lost and save child's life
- Believe packet works better than other alternatives
- Feel they can afford packet
- Feel getting the packet is worth the bother

Feel need to feed child during episode

- Know good food and full diet (including breast-feeding) should be continued
- Believe child with diarrhoea needs and will accept food

Procurement*Know about packet*

- Know where to go
- Know what to ask for
- Know how much it costs

Purchase packet

- Have the money
- Packet must be available where they go to get it
- Have the time/capacity to go and get it

Purchase correct amount of packets

(Decisions not made here as yet)

Acquire appropriate mixing vessel

- Vessel must be present in the house
- Mothers must recognize vessel as being appropriate
- Vessel is not being used for something else when needed
- Vessel must be clean

Mixing

Open packet without spilling salts

Add salts from packet to vessel

- Add all the packet
- Add only the contents of the one packet
- Add nothing else

Add water to same vessel

- Add correct volume (fill the vessel without spilling)
- Add as clean water as possible (tea)
- Add nothing else

Stir salts to dissolve

- Recognize when the salts are dissolved
- A utensil for stirring must exist
- Stirring utensil must be relatively clean

Do not boil mixture

Administration

Use a small spoon to give child the one litre mixture over the next 24-hour period along with water, breast milk and juices. Continue this regimen for three days or until the diarrhoea stops.

- Have small spoon or bottle available for bottle-fed babies
- Believe that child can consume the recommended volume
- Remember to give the child small amounts over time
- Recognize what a 24-hour period is
- Store solution in place where it will not be disturbed or forgotten
- Believe that breast-feeding is all right when child has diarrhoea
- Have breast milk, or give water or juices
- Give sufficient volume of water and juices
- Believe child is capable of taking all these liquids
- Go and get another packet, or buy several packets at once
- Evaluate whether child (a) still has diarrhoea, but is not becoming dehydrated, (b) is becoming dehydrated, or (c) has no more diarrhoea
- Have confidence in their own evaluation of child's status
- Feed child regularly and with appropriate diet in spite of diarrhoea

External help

If diarrhoea continues after three days, if continuous vomiting occurs, or if child cannot or will not drink, seek help

- Recognize that diarrhoea continues
- Believe that health worker can help
- Are able to take child to health worker
- Perceive vomiting as continuous.

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