

ORAL REHYDRATION THERAPY:

USAID Assists Indonesia's National CDD Program

by Barbara Millman Cole

Diarrheal diseases take the lives of millions of children every year. In Indonesia, these diseases account for nearly one out of every five child deaths. Most surprising is that children do *not* die directly from the diarrheal infection, but from *dehydration*, or rapid loss of body fluids.

When diarrheal disease hits, the body quickly empties itself of life giving fluids and salts in reaction to the infection. This process of *dehydration* often occurs faster than mothers can replace fluids through breast feeding or giving other fluids. Fortunately, there is a simple solution to this devastating health problem--Oral Rehydration Therapy (ORT) (translate: *Upaya Rehidrasi Oral (URO)*), or the introduction of new fluids to the child's body through specially prepared drinks.

ORT (translate: *URO*) is now the major weapon being used throughout the world in the fight against death from diarrheal disease. It provides people in Developing Countries with a simple, fast and effective way to treat dehydration. For this reason, the United States Agency for International Development (USAID) has been working closely with the Indonesian government to spread the knowledge and practice of this remarkably effective method for saving children's lives.

Oral rehydration is not simply accomplished by giving a child plain water, although it helps. Rather, the solution must contain a combination of salts and sugar. The easiest way of doing this is by using an inexpensive, pre-packaged mix (containing sodium chloride, sodium bicarbonate, potassium chloride and glucose) which only requires addition of water. In Indonesia this product is known as

Oralit. In an emergency, a mother can achieve the same results by mixing a teaspoon of white sugar and one fourth teaspoon of salt (translate: *satu sendok teh nunjung gula*) to a glass of water. Because this therapy is given orally instead of intravenously, it can be provided immediately by parents.

Oral Rehydration Salts (ORS) (translate: *Oralit*) is a simple solution to dehydration that requires basic knowledge, but no expensive technologies or specialized training. Educating people is therefore the top priority. This is the approach taken by the World Health Organization (WHO) under the Control of Diarrheal Diseases (CDD) programs being promoted in 96 countries worldwide.

USAID became involved in this international effort in 1982. It has provided much of the needed funding for educational programs; particularly for *social marketing*, or using advertising techniques for socially beneficial purposes. Using the mass media and one-on-one training, USAID is assisting governments of developing nations to reach even the remotest clinics and households in their countries.

USAID Pilot Project in West Java

In 1984, USAID began assisting the Indonesian Diarrheal Disease Control program. Warren Jones, a long term consultant on loan from the Center for Disease Control in Atlanta, Georgia, USA, was the key figure in formulating plans for the best use of that assistance and continues to provide oversight to project activities.

Because of its firm belief in communications as an important partner in preventive health care, USAID proposed and funded an ORT (translate: *URO*) program with a strong communications emphasis in West Java as a pilot project. John Davies was brought in from the Academy of Educational Development in Washington, D.C. to assist in designing and implementing the project. The idea was to demonstrate

the benefits of a well-planned communications methodology and to develop methods and messages specifically appropriate for Indonesia. West Java was chosen because of its large population and high rates for diarrheal disease in children.

The initial program began small, being implemented in one central district of the *kabupaten* of Garut, West Java. In 1986, the program was expanded to include the whole *kabupaten* of Garut, with a mostly rural population of about 1.6 million. A small radio campaign directed toward mothers along with a case management training program for Health Department workers and village health cadres were implemented.

Mothers are the main targets of the educational program. But a 1986 evaluation showed that while Health Department workers' knowledge and understanding of ORT (translate: *URO*) improved substantially, mothers' and cadres' knowledge improved only slightly. The program managers were finding it was not as easy to convey the ORT (*URO*) message through social marketing as they initially expected.

Part of the problem of the initial program stemmed from cultural and educational differences between those preparing the messages and those receiving them. The multiple messages were confusing to mothers and cadres. Moreover, messages that seemed clear to program specialists were interpreted quite differently by rural mothers and cadres living in villages.

It was clear that revisions needed to be made to better reach rural mothers and cadres and improve the program overall. Mr. Davies was asked to act as social marketing advisor at the Central Health Education Unit (PPKM) in Jakarta, working with officials to institutionalize basic social marketing concepts and to develop a national strategy for social marketing in communicable diseases as one of the strategies in communicable disease control. He still maintains ties with the West Java Project as well.

In 1986, Terry Louis was brought in from the Academy of Educational Development in Washington, D.C. to act as Social Marketing Resident Advisor for the project in Bandung, West Java, and to continue and expand the work begun by Mr. Davies. Mr. Louis brought a wealth of experience to Indonesia having worked on ORT (translate: *URO*) social marketing projects in Bangladesh, Pakistan, and India, as well as family planning social marketing projects in India. He stresses the need in any successful social marketing program to find simple messages appropriate to the level of current knowledge of the target group and in a form understandable to them.

Dr. Sutoto of the Ministry of Health's Sub-Directorate for the Control of Diarrheal Diseases points out that mothers often do not even understand that diarrhea is a problem. "Rural mothers often view diarrhea as simply a sign of growth or teething. They withhold food and drink from the child thinking it will lessen stool output and help the child get over the diarrhea. In reality, these measures only serve to make the child's condition worse."

Mr. Louis' approach to addressing this problem is to keep the message simple. "Rather than teach the mothers all of the signs of dehydration," he says, "we want to focus on one key message...that diarrhea is dangerous and can lead to dehydration and death. A child with diarrhea must be given oral rehydration salts (translate: *Oralit*) and nutritious foods. If the condition persists, the child should be taken to the local health center (translate: *PUSKESHAS*)."

"We are using anthropological approaches to study child rearing practices of mothers and how they view such preventive measures as hand washing with soap." says Mr. Louis. Using these methods the social marketing experts hope to gain insight into how to shape messages. "In order to get the message across, we have to understand the mother's frame of mind and what is available in the local environment".

One example of more appropriate means for conveying messages is a color-coded card system for village health cadres to interpret signs of the severity of diarrhea, whether mild, moderate or severe, and what treatment is needed for each type. Each type is depicted on a single card with the signs of the severity of diarrhea being described pictorially as well as verbally on one side and directions on how to mix ORS (translate: *Oralit*) on the other. Using these cards, cadres can more easily show mothers how to distinguish between a mild case of diarrhea, which can be treated in the home, and a moderate or severe case, which must be treated at the health center (translate: *PUSKESHAS*) or local hospital.

Mr. Louis has also worked with his Indonesian health education counterparts to develop a mass media campaign consisting primarily of radio broadcasts, but also including advertisements in the cinema, newspapers and magazines. Another vehicle for conveying the message is through the use of mobile van cinemas. Product advertising and short feature films will be produced and shown around the province using these vans.

Expanding to New Provinces

As the benefits of the diarrheal disease control program in West Java become increasingly clear, the Indonesian government has become interested in expanding the program to other provinces. Part of USAID's assistance is therefore being used to fund projects in South Sulawesi, South Sumatra, expanded areas of West Java and at the Central Level.

The major challenge faced in these expansion efforts is how to effectively spread the benefits of the program on a larger scale, while keeping costs within available resource limits. USAID is assisting in the dissemination of the improved methods demonstrated in West Java to these other provinces. To improve training

efficiency, a tier system focusing on four groups has been designed. The four groups are: (1) doctors and nurses, (2) cadre coordinators, (3) community cadres and (4) mothers. Instead of one specialized group of trainers trying to teach everyone in the system, the information will be passed down through the tiers: specially trained doctors and nurses will train cadre coordinators, cadre coordinators will train community cadres, and cadres will teach mothers.

Already, twenty doctors and nurses from teaching hospitals have been to the International Training School for Diarrheal Diseases in Bangladesh. There, they learned techniques in case management and were shown how oral rehydration works. They came back very enthusiastic. They, in turn, will now teach the methods they learned to doctors and nurses in Indonesia.

In West Java, hundreds of doctors and nurses from eight *kabupatens* are now receiving special training. Some 20,000 cadre coordinators have been selected and began training in February. Diarrheal Training Units have been set up and are functioning in each of the three provinces at one hospital in each *kabupaten* and diarrheal training corners have been installed in each health center (translate: *PUSKESHAS*).

The next step is the revision of the curriculum in medical schools to include up to date diarrheal disease case management. This project was activated in 1988 and consists of holding workshops and translating and adapting reams of current literature on the treatment of diarrheal diseases.

In March of 1989 an implementation workshop was held in Jogjakarta that marked the jumping off point for medical education revisions. Representatives of medical faculties took these data and began to develop their curriculum. USAID is also assisting the government to establish a National Information Center for Diarrheal Diseases based at Gadjaja Mada University in Jogjakarta. It was opened

formally by the Director General for Communicable Disease and Environmental Health, Dr. Gandung Hartono, on March 3, 1989.

Logistics is another area that is being tackled. James Bates, consultant to the ORS (translate: *Oralit*) supply management component of the project, has been working with counterparts to improve information systems, diarrhea outbreak assessments, periodic surveillance mechanisms for diarrhea incidence and ORS (translate: *Oralit*) needs estimations. He and his colleagues at the Ministry of Health are intensively working on a formula for provinces, *kabupatens* and health centers (translate: *PUSKESHAS*) to estimate their needs for the pre-packaged oral rehydration salts (translate: *Oralit*) in order to ensure a constant supply. Indonesia has chosen to concentrate on 200 cc packets to avoid confusion over proper proportions of water and salts--200 cc is the exact amount of salts needed for one standard sized household glass or *belimbing*.

Improving the Overall System

In 1987, Dr. William Emmet was brought on board as a CDD Advisor to the Ministry of Health to help the ministry form and implement a work plan for their national diarrheal disease control effort. This plan has been completed and work is progressing on schedule.

Under this new plan, the central government's role is to provide policy and guidance. The role of selected provinces is to design specific provincial level activities using the national guidelines and to implement these activities and manage the budget. Up until 1988, the central government in effect managed everything. Communications from the center to the provinces took time and waiting for approvals for even the simplest procedures often delayed implementation of important programs. With the new system, the government avoids entanglement in minor program details. Expert staff at the national level will be better utilized both to keep

abreast of new developments in the health field and to concentrate on bringing the best possible support services to provincial activities.

In April, 1988, the central government went to the provinces and explained the new system and what was required in terms of local project development. Provinces were then given funds for administering their own programs. Many provinces have now had the experience of having formed and implemented successful programs. "This demonstrates fairly convincingly the value of the old management adage...that the best results occur when the people who have to implement an activity are responsible for what they implement," says Dr. Emmet.

A Management Information System (MIS) is being created to keep accurate records of inventory, to monitor distribution and usage of ORS (translate: *Oralit*) in order to estimate needs and to create an assessment package to effectively monitor and respond to outbreaks of diarrhea. Each province has received computers, hardware and software and training began in March.

Approximately seven manufacturers in Indonesia have the capability to produce pre-packaged oral rehydration salts (translate: *Oralit*) in sufficient quantity to meet current and projected demand. Production costs are low and the product can be sold at an affordable price to low income consumers. At this point, the government directly provides all pre-packaged salts (translate: *Oralit*) free of charge through the health centers (translate: *PUSKESHAS*). But this system is both an unnecessary financial burden on the government and ultimately limits availability in areas distant from health centers (translate: *PUSKESHAS*). A major objective is therefore to make the salts (translate: *Oralit*) widely available in private local drug stores. Store owners need to be taught about DRT (translate: *URO*) and they need reliable sources of ORS (translate: *Oralit*). This approach will greatly improve the efficiency of provision of ORS (translate: *Oralit*) since many families will choose to buy packages

locally while other families will still be able to receive ORS (translate: *Oralit*) through public health clinics (translate: *PUSKESHAS*). The government funds saved can be used for developing more centers.

The Diarrheal Disease Control program in Indonesia today is moving ahead quickly and effectively. This program represents a good example of how USAID assists the Indonesian government to decrease infant and child mortality and morbidity; first by assisting in careful experimentation with improved services and then by assisting the government to expand programs to a national scale.