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FIELD NOTE

PRETESTING HEALTH EDUCATION MATERIALS

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Everyone who is trained in communication or health education techniques knows the importance of pretesting audio and visual materials. But it often happens that the press of time, the impatience of superiors, or the lack of necessary resources cause health educators to skip or skimp on this critical step. The purpose of this paper is to share some experiences from the HEALTHCOM Project in Lesotho in order to stiffen the reader's resolve to pretest all educational materials.

Health Education in Lesotho

The backbone of health education in Lesotho has been provided by health workers in more than 160 clinics and hospitals. A 1987 study conducted by the Research Section of the Lesotho Distance Teaching Center indicates that health workers are identified by mothers as their prime source of knowledge about such topics as oral rehydration therapy and immunizations. Radio, too, has added to mothers' knowledge of good health practices. In the study referred to above, most mothers said that health programs on the radio were their second major source of knowledge.

Health education efforts by health workers have been mostly oral. On some topics, health workers have had a poster or an illustration from a training manual to show mothers, but there has been little, if anything, to send home with mothers for them to keep as ready reference. However the accuracy of some health practices, such as the preparation of an oral rehydration solution in the home, could be improved substantially if instructions were at hand.

Lesotho has one of the highest literacy rates in sub-Saharan Africa--about 50 percent--producing the temptation to use health education materials in written/printed form. Despite this high literacy rate, the fact remains that half of any general target audience may not be able to comprehend printed messages. There is a role, therefore, for graphic materials, without the printed word, which teach good health practices. Such materials have the advantage of conveying important information to nonliterate, semi-literate, as well as those who can read.

Health Education Needs and Objectives

This field note describes one part of the health education effort which supports Lesotho's Control of Diarrheal Disease (CDD) Program. Among other subjects, the health education effort tries to teach and encourage mothers to use oral rehydration therapy (ORT) in their homes as a treatment for dehydration resulting from diarrhea.

A 1986 international evaluation of Lesotho's Control of Diarrheal Disease Program and Expanded Program on Immunization showed that 60 percent of mothers reported using a sugar-salt solution (SSS) in the home to rehydrate their children. However, the evaluation indicated that slightly more than half the sample of mothers could not mix the sugar-salt solution correctly. About 25 percent of the mothers mixed solutions which were too weak to be fully effective. Of much greater concern are nearly 30 percent of the mothers who mixed solutions with salt concentrations that might be life-threatening if the recommended amount of solution were given to a child.

While encouraging more mothers to use a rehydration solution in the home is an important goal, the most critical need for health education is to teach mothers to mix a rehydration solution correctly.

Not long after the CDD/EPI international evaluation in 1986, the Ministry of Health decided to change its ORT policy which, in turn, redirected the emphasis of the health education program. With the encouragement and support of the CCCD and HEALTHCOM project officers, the Ministry adopted a policy which promotes the home use of pre-measured packets of oral rehydration salts (ORS) as the preferred method of treatment. ORS is more effective than the simpler sugar-salt solution. However, until the health education and ORS distribution programs can be fully implemented, mothers will continue to be encouraged to use SSS. The Ministry also wanted closely related sanitation and nutrition messages added: washing of hands before preparation of the solution, use of clean drinking water, and continued breastfeeding as well as the giving of weaning foods throughout the diarrheal episode.

The Health Education Program

The prime target audience is 185,000 mothers in Lesotho with children under five years of age.

A variety of coordinated and complementary health education initiatives are being implemented by the Health Education Unit, with the assistance of the HEALTHCOM Project. These include:

- a series of eight radio programs, covering all aspects of ORT, and repeated throughout the diarrheal season;
- continued training of health workers in ORT;

- direct teaching of mothers by health workers at clinics and in their communities;
- a set of standardized messages about ORT to be used in all health worker training programs and by all health workers and health educators in the country;
- a 1988 calendar with the ORT messages;
- a redesigned ORS packet with mixing instructions on it;
- ORS mixing instructions on the back panel of each child's growth monitoring chart;
- a pamphlet containing illustrations of the key steps of ORT, to be given to mothers with children under five years of age to take and keep at home.

Designing an ORT Brochure

One goal of the Health Education Unit was to produce an ORT pamphlet using illustrations, but no printed words, to teach mothers the essential steps in diarrhea management and prevention.

The illustrator in the Health Education Unit began to work on some sketches. He was guided by the results of qualitative research supported by the HEALTHCOM Project. In-depth interviews with a sample of mothers had indicated knowledge gaps and critical steps of ORT which mothers did not know. The illustrator prepared 12 illustrations in a story sequence.

As the sketches were being developed, Ministry staff were asked to comment. Their medical and technical advice about the accuracy of the illustrations was needed. It was important to keep in mind that the Ministry staff were not the target audience for these materials (except in a "political" sense).

The medical and technical comments were numerous and very useful.

Several staff noted that the mother's hand was on the edge of the pail and could contaminate the water. (Figure 1) In the same way, there was concern that stirring and

feeding spoons in the illustrations be shown in the cup, not lying on the table top where they would get dirty.

Comments on a more cultural line were received from the Ministry staff, as well. For example, in the picture showing the child playing in filth, the illustrator got carried away, showing garbage of incredible variety and rats having a field day. Many staff felt that this would be offensive to mothers. The importance of a clean environment could be gotten across with much less detail, so the picture was "cleaned up." (Figure 2)



Figure 1



Figure 2

The illustrator is a young man from an urban area. The Ministry staff, especially the nurses, quickly spotted certain details he wouldn't have known much about. His first drawings did not show the mother holding the baby properly. With much jovial "clucking," the nurses modeled for him. The early sketches showed the mother in dress more typical of capital city than the rural areas. In addition, he initially placed the mother on a bench as she administered rehydration solution to her child. It is more typical in rural communities for mothers to sit on a woven grass mat. These changes were easily made and the result is shown in Figure 3.

To teach about diarrhea prevention, a sketch shows a mother cleaning up the feces of her child. This illustration went through several modifications because of the sensitivity of the topic. A Western dust pan was replaced with something which looks more typical: a piece of cardboard or flattened zinc roofing. A stick, and then a tree branch were replaced with a bunch of grass. And the relative positions of the mother and child were adjusted to suit cultural norms. (Figure 4)

When the staff agreed that the set of illustrations was technically correct and would convey the information about ORT to typical rural and urban mothers, they turned to the next stage--field testing with a "real audience."

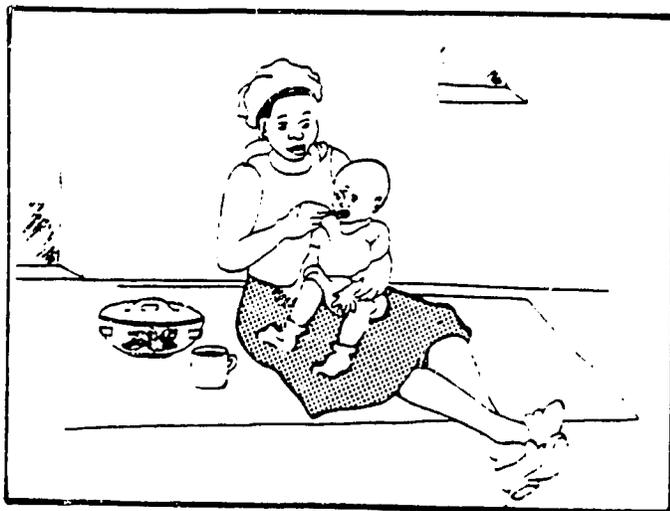


Figure 3



Figure 4

Pretesting Results — Surprise, Surprise!

As the pretesting process began, the greatest concern was whether mothers would be distracted by the disembodied hands in the SSS mixing scene. (Figure 5) To everyone's surprise (and relief), none of the mothers had trouble with the hands. Furthermore, the mothers interviewed clearly understood the ingredients and the proportions.

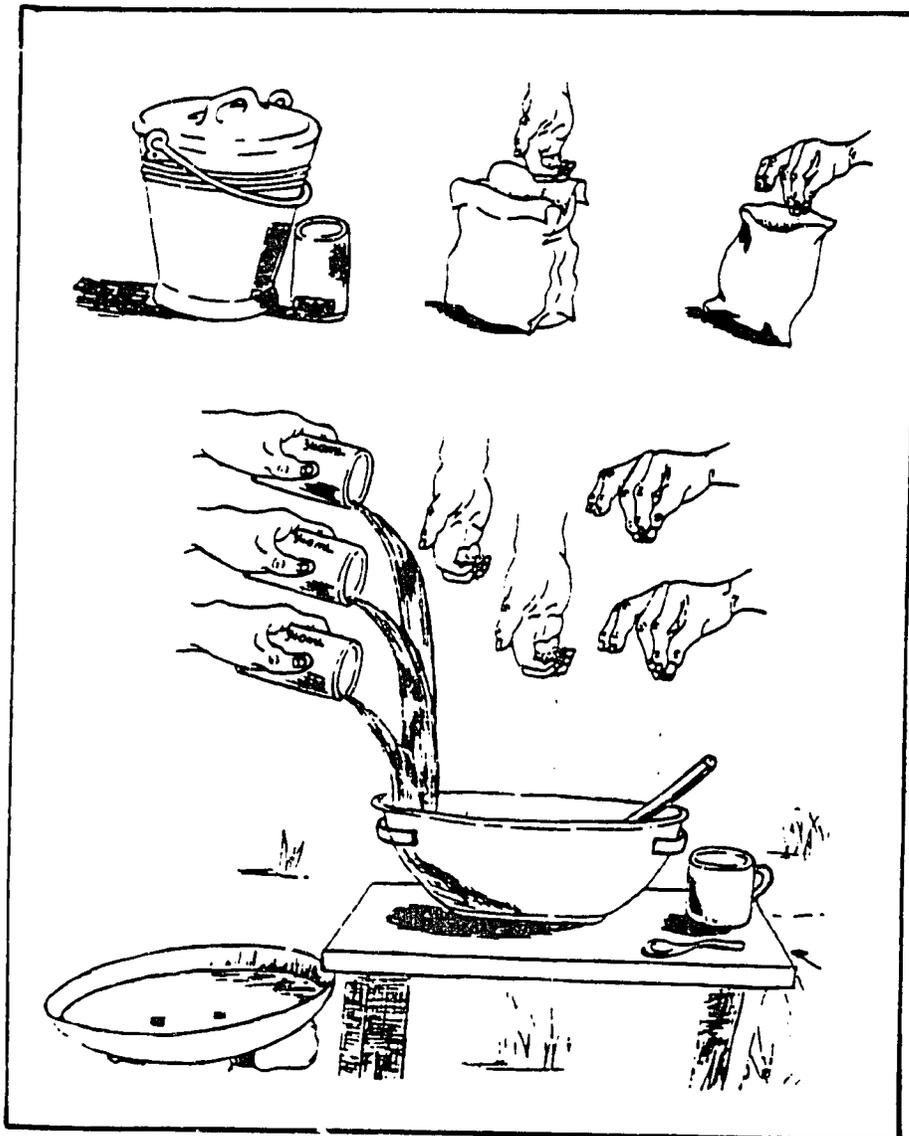


Figure 5 (see also Figure 9)

However, some unforeseen critical flaws showed up.

One of flaws was that the original covered pail (Figure 5) used to collect and store clean water from a protected spring looked to some mothers rather more like a night soil pail or like the slop pail used for feeding garbage to pigs. These mothers were very confused about the health message being presented to them. (The idea of a covered pail was to keep the water free of flying and air-borne contamination.) It was decided to leave the safe-keeping of water to another health education program.

In the original picture of hand washing (Figure 6-A), many mothers did not notice the bar of soap, even when prompted. In Figure 6-B, the soap has been placed in the foreground, somewhat exaggerated in size, and is now easily noticed.

Many mothers mis-identified the lid of the mixing bowl shown in Figure 5. Even though some mothers couldn't recognize the lid, they did see what they thought were two flies resting on it. The "flies" (actually rivets) were removed.

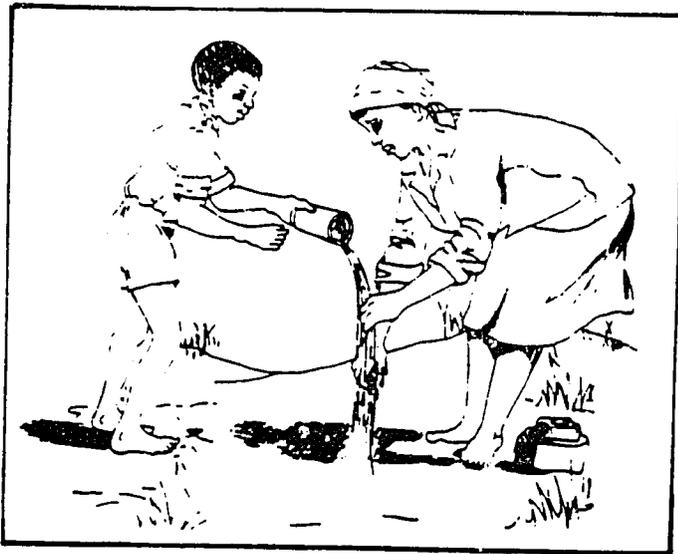


Figure 6-A

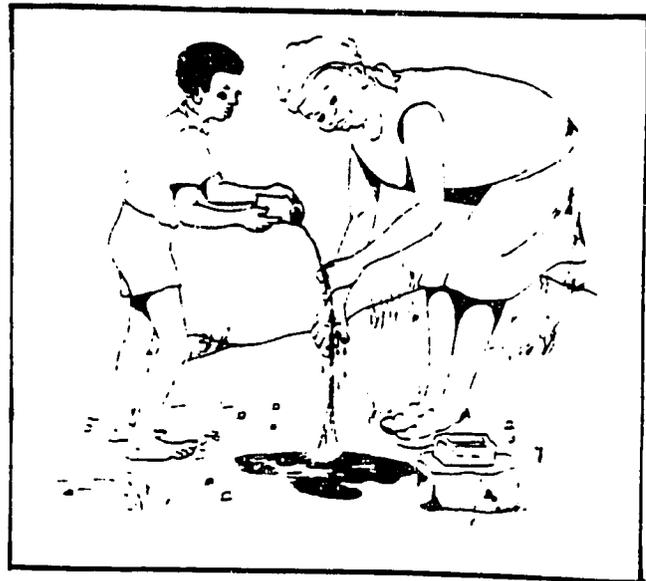


Figure 6-B

The most serious problem with the drawings--one that would have had calamitous results if it had gone undetected--was that a rather large number of mothers completely lost track of the rehydration message in the middle of the sequence of illustrations. (See Figures 5, 7, and 8) Nearly all mothers correctly recognized the mixing, stirring, and storing of the oral rehydration solution. But many of them thought that what was being given to the child by spoon or cup in the following illustrations was a watery porridge. These mothers never talked again about ORT as they interpreted the rest of the illustrations.

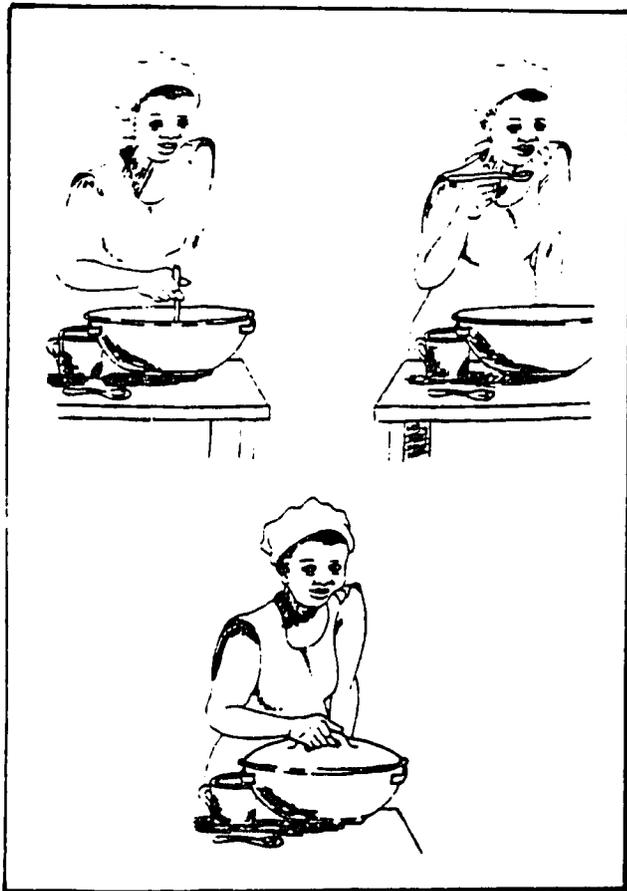


Figure 7 (see also Figure 10)



Figure 8 (see also Figure 11)

The mothers who lost track of the oral rehydration solution were carefully questioned. It turned out that they had been taught by nurses and by the radio program about the importance of continued feeding during diarrhea. The effectiveness of the illustrations was being undone by previous health education efforts!

As it turned out, this problem of communication stemmed mainly from the mixing bowl in the illustrations. It was a typical shape, of a kind found in many, if not most, homes. However, the apparent size of it varied from picture to picture, partly because of the changing perspectives of the illustrations, and partly because the bowl did, in fact, appear to change in size. As a consequence, many mothers did not recognize the bowl in the feeding scene as the same one in which the rehydration solution was mixed.

Had these illustrations not been pretested, the loss of the rehydration message probably would not have been discovered until after 140,000 pamphlets had been printed and distributed.

It was not expensive or terribly time-consuming to pretest these materials. The Chief Health Educator, the illustrator, his Peace Corps co-worker, and the HEALTHCOM resident advisor went first to a clinic about an hour's drive from the capital. The road was bad which tended to make the community rather isolated from the urban influences of the capital. About a dozen Village Health Workers and two chiefs were assembled for us by the clinic staff. Their reactions to and assessment of the illustrations were important because health education relied on people like them to teach mothers using these pictures. Afterwards, about 25 mothers from the community served by the clinic were gathered. They were shown each of the pictures (as a group) and asked to tell us everything they saw in each picture. This trip took the better part of day.

The same team from the Health Education Unit went for less than a half a day to a second clinic in the capital and asked about a dozen mothers, one at a time, to interpret the illustrations. Ten Village Health Workers associated with that clinic also commented on the pictures. And as part of the same trip, the team went to a nearby village where eight mothers of different ages went over the pictures.

These two field exercises revealed the problems with the illustrations reported above.

Correction and Re-testing

Fortunately, reintroducing the concept of the lost ORT solution was rather easy. One step was to adjust the apparent size of the mixing bowl in all the illustrations so that the viewer would be more inclined to think it was the same bowl throughout. More importantly, though, a flower design was added to the bowl. (See Figures 9, 10, and 11.) Many of the enamelware bowls sold in Lesotho have such a design so it is a familiar sight. Re-testing showed that mothers--including those who had been exposed to health education about continued feeding during diarrhea--did not lose track of the ORT message. The re-testing was conducted with mothers waiting in the outpatient and pediatric wards of the hospital next to the Health Education Unit. Because it is a referral hospital, many of the mothers are from the rural parts of the country. There is no record of the number of mothers consulted or the number of times the illustrator presented the pictures for interpretation. However, it took less than half a day in total time to confirm satisfactorily that the corrections were working as intended.

Figure 9 (corrects Figure 5)

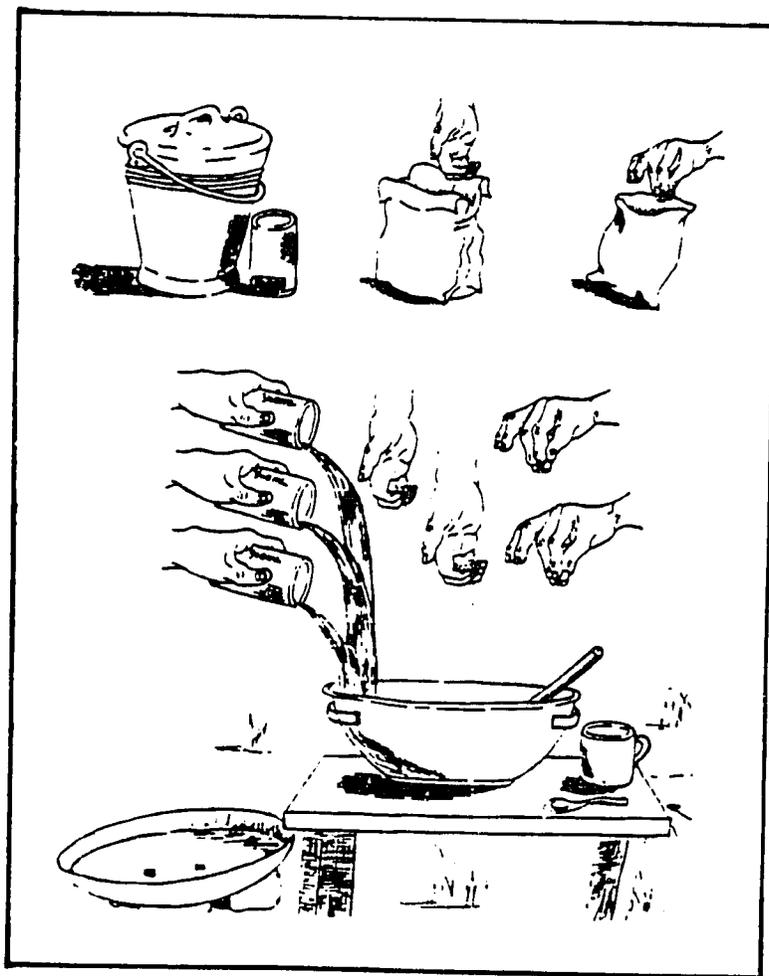


Figure 10 (corrects Figure 7)

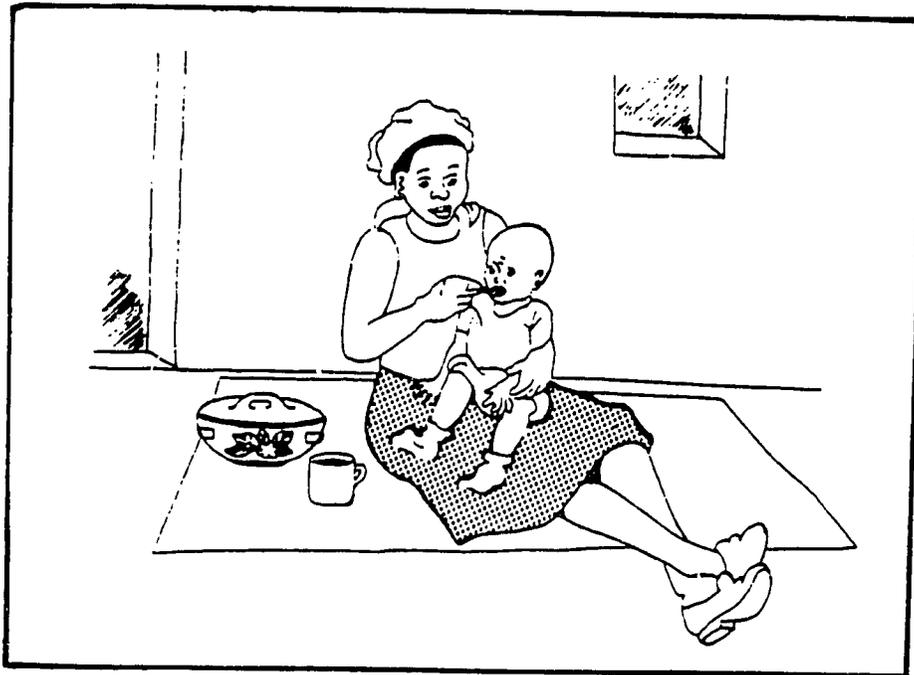
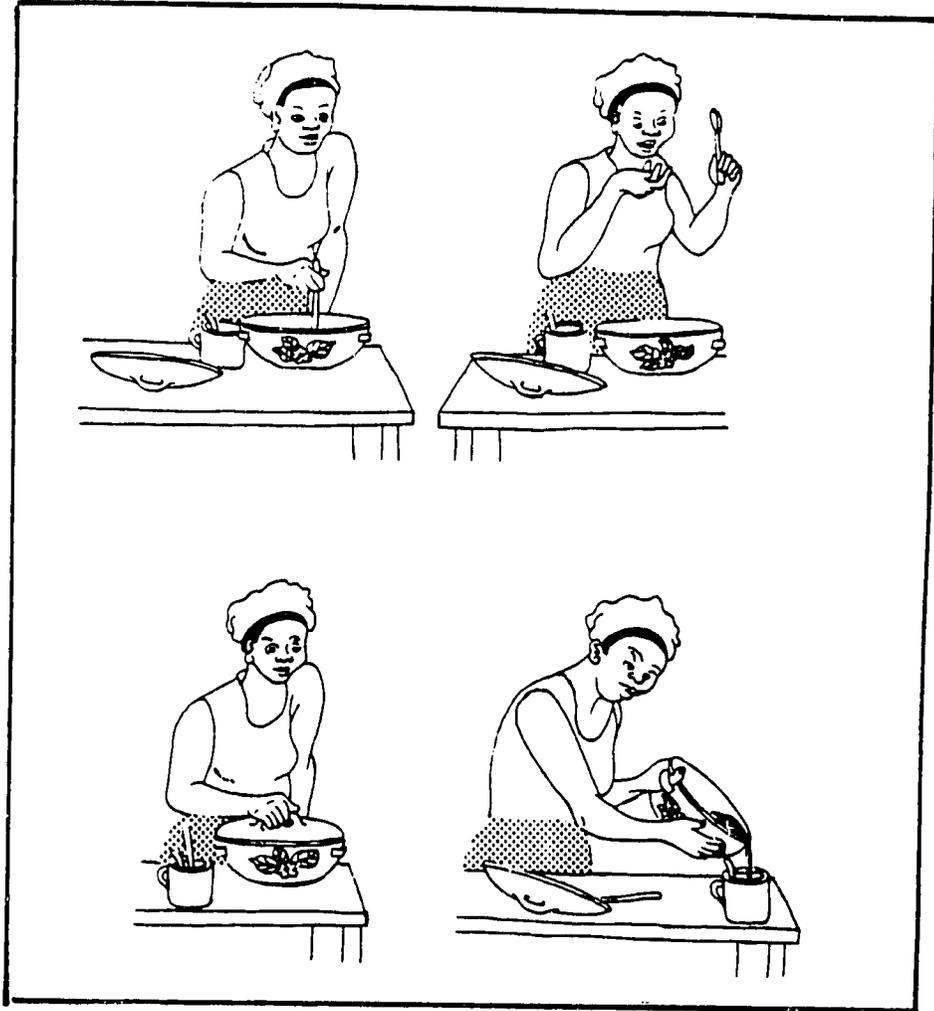


Figure 11 (corrects Figure 8)

The Moral of the Story

Putting all the misinterpretations of the illustrations together, the Health Education Unit might have produced a lovely pamphlet for mothers which told them they should gather water in a night soil pail, use the water to make an ORT solution, store it in a bowl, and then give their child some porridge. Pretesting revealed the misinterpretations, and confirmed that the revised illustrations were producing more of the effects which were wanted.

The object of communication is for the sender to generate nearly identical ideas and images in the mind of the receiver as appear in the mind of the sender. The ideas and images are usually so clear to the sender, that it is easy for the communicator to fail to realize how very different the results of transmitted words and pictures can be in the mind of a listener or receiver.

Differences--in knowledge, in experiences, and in culture--between sender and receiver make it likely that some parts of the intended message will be interpreted in ways the sender cannot imagine or anticipate. Pretesting is not terribly difficult or expensive. It is likely to save more money than it costs, especially if a price is put on professional embarrassment--and more importantly, on the value of a child's life which is threatened by dehydration.