A nutrition curriculum module for Ghanaian community health workers - developed for field-testing, by Ghanaian Nutrition Technical Officers (NTOs), The University of Ghana Department of Community Medicine, and the International Nutrition Communication Service, at a workshop in Accra, September 12-19, 1982.
PILOT MODULE # 3  TREATING AND PREVENTING DIARRHOEA

A. Performance Objectives for Community Health Worker

At the end of this module, the community health worker should be able to:

1. Understand his/her role with respect to treating and preventing diarrhoea in the home (lesson 1).

2. Detect the signs of dehydration in children, and decide which cases need to be referred for special treatment (lesson 2).

3. Advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes (lesson 3).

4. Educate mothers about harmful local remedies for treating diarrhoea (lesson 4).

5. Advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea (lesson 5).

6. Advise and involve parents in carrying out practical home-based activities to prevent diarrhoea (lesson 6).

B. The Role of the Community Health Worker in Identifying, Preventing and Treating Diarrhoea

In this, the primary role of the Ghanaian community health worker should be to teach and involve parents about the preparation and use of rehydration fluids in their homes. In terms of treatment he or she should know how (objective 3) to prepare oral rehydration fluids using ORS solutions, sugar/salt solutions, or solutions using local resources, whichever is available. Figure 1 and Tables 1 and 2 have been developed as picture guides to help the community health worker carry out this task. Figure 1 and Tables 1 and 2 illustrate somewhat simplified procedures to account for the fact that
the community health worker should not be held responsible for mastering all the technical complexities of diarrhoeal disease management. It is assumed she will be supervised by the Community Health Nurse, and that she will also be able (objective 2) to detect severe cases of dehydration and refer them for special treatment. Figure 1 (p.3-9a) is a guide for the community health worker that illustrates the major clinical signs of dehydration.

Another important task for the community health worker is (objective 4) to educate mothers about harmful local remedies for treating diarrhoea. Such known harmful remedies in Ghana include the giving of enemas or laxatives, oral remedies using ginger and pepper, and the practice of starving the baby. If the community health worker is uncertain about whether or not a particular remedy is harmful, she should consult her supervisor who in turn may want to consult with the District Medical Officer, the Center for Traditional Healers at Mampong or the Department of Pharmacology at the University of Science and Technology in Kumasi.

The community health worker also should be able (objective 5) to advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea. Beneficial feeding practices include breastfeeding, boiling of water for the child, making food from scratch each day for the sick infant, and providing him or her with frequent feeds. Beneficial foods include breastmilk, light soup, and porridge mixed with either groundnut paste, fish powder or local beans.
Finally, the community health worker should be able (objective 6) to advise and involve parents in carrying out practical, home-based activities to prevent diarrhoea. She should be familiar with environmental factors in the community that contribute to diarrhoea, such as the source and condition of the water supply, the location and condition of public toilets, the prevalence of flies in certain areas. Personal hygiene factors include the methods for preparation and storage of food and water for the sick infant, methods for cleaning and handling feeding utensils, particularly bottles, and the methods for household and village refuse disposal.

To accomplish all of the above objectives, the community clinic attendant should know how to communicate with mothers, and involve them in adopting new behaviors. Consequently, a great many of the training activities focus on role play where one trainee assumes the role of a village mother while another trainee attempts to persuade the first to adopt a new behavior.

C. Training Format and Procedures

Format

This module on "Treating and Preventing Diarrhoea" consists of six full lessons, each corresponding to one of the six Performance Objectives listed on page 3-1. The lessons should be given at weekly intervals to enable the trainees to try out what has been learned.

The site for training for these lessons should be in the same training village. The entire lesson should take place in the village.
In the mornings, the trainees should have their own lesson either in the village clinic, the VDC chairman's house or some other private location. The second part of the lesson should take place in the afternoon, with a group of village mothers and other community members in a public location. The teacher and the trainees together should repeat the lesson for the village mothers. The very first lesson, explaining to the trainees their role in educating mothers to treat and prevent diarrhoea disease, will not include a meeting with mothers. Instead, this lesson will include a meeting with the VDC and the local traditional healers. In the last part of this session the teacher will discuss the role of the trainee in teaching how to treat and prevent diarrhoea with a group of village leaders and ask for their support. The trainees will participate in the discussion. The last lesson will involve a performance evaluation of the trainees by the trainer.
LESSON 1

Performance Objective: Enable trainees to understand their role with respect to treating and preventing diarrhoea.

Morning Session (with trainer and trainees only)

Location: Village clinic or village school classroom.

Time: One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Teacher asks trainees to briefly describe their experience and role in relation to the problem of diarrhoea. Teacher probes to understand to what degree diarrhoea is considered a serious problem in the minds of the trainees.</td>
</tr>
<tr>
<td>Instructor-led discussion</td>
<td>Instructor outlines the role the CCA will be asked to play, using performance objectives 2-6 as a guide. A discussion follows where the CCA is asked to respond to the reasonableness of what she is being asked to do in light of conflicting time demands.</td>
</tr>
<tr>
<td>Explanation of plans for afternoon</td>
<td>Prepare trainees for meetings with the VDC and the village traditional healer; trainer should stress importance of gaining the support of village leadership and traditional healers.</td>
</tr>
<tr>
<td>Post-test (role play)</td>
<td>One trainee plays the role of the CCA; another plays the role of a VDC member, and a third plays the role of a traditional healer in a discussion about the nature of dehydration, its causes and cures.</td>
</tr>
</tbody>
</table>

Afternoon Field Session

Format and location: Instructor and trainees meet in a public place with VDC members and also visit the home/office of village traditional healer.

Time: One and one-half hours.
Activities | Approach
--- | ---
Pretest | Instructor and trainees ask VDC members and traditional healer what they think CCA can do to solve problems of diarrhoeal disease in the village.
Instructor-led lecture and discussion | Instructor outlines the performance objectives to VDC members and village traditional healers; VDC members are asked to refer cases of diarrhoeal disease to the CCA for treatment.

Lesson 1 Content

The two main dangers of diarrhoea are death and malnutrition.

**Death** from diarrhoea is usually caused by losing large amounts of water and of salts from the body in the frequent watery stools. This is called **dehydration**. Small children with severe diarrhoea lose water and salts fast and can die quickly, sometimes in a few hours. Many children with diarrhoea recover by themselves, but they become weaker. 14.1 per cent of all childhood deaths in Ghana are attributed to gastroenteritis.

Malnutrition can be caused by diarrhoea, and makes it worse, because food passes too quickly through the body for it to be absorbed and because a person with diarrhoea usually feels too ill to be hungry and so does not eat. In addition, diarrhoea is more severe and more common in people who are already suffering from malnutrition.

The community health worker must be able to detect the signs and symptoms of diarrhoeal disease among children; treat diarrhoeal disease using resources available to him or her; and finally be able to involve parents and community members in adopting new behaviors to prevent future incidences of diarrhoeal disease. All of these functions are extremely critical, and the community health worker is the first professional line of resistance in a public health campaign against diarrhoea.

**Procedures**

In most cases the community health worker's procedure for helping the community deal with its diarrhoeal disease-related problems will involve five steps.

First, he or she must be able to detect the signs of dehydration...
in young children, and decide which cases need to be referred for special treatment. This involves knowing what the first symptoms of diarrhoeal disease are, e.g., three or more loose or watery stools in a day; and being able to tell, by looking, whether or not a child is dehydrated. It also involves a workable medical referral system that the community health worker can make use of if a particular child is severely ill.

Second, the community health worker must be able to advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes. This involves knowing how to prepare and use WHO Oral Rehydration Salts (ORS) packets, sugar and salt solutions, and local resource solutions such as coconut milk and akasa. It also involves the ability to convince a mother to give these fluids to her sick child.

Third, the community health worker should be able to educate mothers about harmful local remedies for treating diarrhoea. To do this well he or she should become familiar with the various local remedies used by villagers to treat their sick children. The community health worker should discourage the use of enemas and other known harmful remedies. Local remedies, whose effects are unknown, should be referred for analysis and special treatment.

Fourth, the community health worker should be able to advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea. In many communities it is a common practice to starve children when they have diarrhoea, or to use unhygienic practices in the preparation of food for sick infants. The community health worker should know how to discourage these harmful practices, and have full knowledge about methods of preparation and use of foods to feed sick children.

Finally the community health worker should be able to advise and involve parents in carrying out practical home-based activities to prevent diarrhoea. He or she should know how to identify environmental conditions or hygienic methods of food preparation that promote the spread of diarrhoeal disease. The community health worker should be able to convince mothers and community members to adopt new behaviors aimed at preventing the transmission of diarrhoeal disease.

As a prerequisite for all of these activities the community health worker should get the support of village community leaders and, if possible, local traditional healers for his or her efforts to treat and prevent diarrhoea. Once the community health worker understands what his or her role will be, a meeting should be arranged with members of the Village Development Committee and others in an attempt to secure their support.
**LESSON 2**

**Performance Objective:** Detect the signs of dehydration in children and decide which cases need to be referred for special treatment.

**Morning Session**

**Location and format:** Session with trainees only. District nutrition rehabilitation clinic or health post.

**Time:** Two hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Trainees are asked to describe the skills they hope to master in relation to the goal of treating and preventing diarrhoeal disease in their village; they should also be asked to identify any special problems that they feel they might have in coordinating what they do with the village traditional healer or members of the VDC.</td>
</tr>
<tr>
<td>Pretest</td>
<td>Instructor asks trainees how they can tell whether or not a baby has diarrhoea? What are the signs of dehydration? And in what instance, and to whom, would they refer a case of dehydration for special treatment?</td>
</tr>
<tr>
<td>Instructor-led discussion and lecture</td>
<td>Instructor explains how to detect the onset of diarrhoea. He uses Figure 1 (page 3-9a) to illustrate the clinical signs of dehydration; then a visit is paid to the district health post or nutrition rehabilitation center where trainees can observe severely dehydrated children and meet health professionals to whom they would refer severe cases in the village.</td>
</tr>
<tr>
<td>Post-test</td>
<td>Trainees are asked to sketch the figure of a severely dehydrated child.</td>
</tr>
</tbody>
</table>
Afternoon Field Session

Location and format: Instructor, trainees and village mothers meet publicly in the village.

Time: One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Instructor asks village mothers to describe the symptoms of diarrhoeal disease; mothers are asked to whom do they turn for treatment.</td>
</tr>
<tr>
<td>Instructor-led lecture and discussion</td>
<td>Trainees explain to mothers how to detect diarrhoea; they use figure 1 to point out signs of severe dehydration and point out to mothers how serious a health problem that is.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Trainees, under supervision of instructor, visit village homes to determine if any infants are suffering from diarrhoeal disease and if any need to be referred for special treatment.</td>
</tr>
</tbody>
</table>

Lesson 2 Content

Detect the Signs of Dehydration in Children and Decide Which Cases Need to be Referred for Special Treatment

Diarrhoea is a condition in which stools are passed more frequently and are more loose or watery than is usual for the person. People vary in the sort of stools they pass, and in how often they pass them, but as a general guide, three or more loose or watery stools in a day can be considered as diarrhoea. Frequent passing of normal stools is not diarrhoea. Breast-fed babies often have stools that are very soft, but this too is not diarrhoea.

The following guidelines may be useful. They come from the WHO prototype manual, Guidelines for Training Community Health Workers in Nutrition.
Detecting children who have lost much water and salt from diarrhoea (dehydrated cases)

All children with diarrhoea are in danger. Many children recover, but some become seriously ill. Who are the children who need urgent care? Four of the things to do to find them are: ask, look, feel, and weigh.

Ask: How long has the child had diarrhoea? How many stools has he had in the last day (24 hours)? Have these been large and watery stools? Has the child vomited? The longer a child has had diarrhoea and the more he has passed stools and vomited, the more serious his condition is. Is the child thirsty? Has he had anything to drink? If he is thirsty, he is dehydrated and needs extra fluid. When did he last pass urine? How much urine and what colour was it?

Look: Can the child drink? Is he irritable or drowsy? Are the eyes sunken? Is the breathing fast and deep? Are the mouth, tongue and eyes dry? These are signs of a dehydrated child. Has he passed little urine or dark yellow urine? That is a sign of dehydration. If his stools are large and watery, the dehydration will be worse.

Feel: Is the skin elastic? Pinch up a fold of skin over the shoulder, abdomen or thigh. When you let it go, it should spring back like rubber. If it does not return to its normal shape immediately, the child is dehydrated. He needs fluid quickly. In a child with marasmus this test is not reliable since the skin is already wrinkled and not elastic. Feel the pulse. If it is fast and weak, the child needs more fluids. Feel the arms and legs. If they are cold when the weather is not cold, this is a bad sign; he needs urgent help. Is the child hot? Take the child's temperature, if possible.

Weigh: If a child has a growth-chart and has been weighed regularly (see Module 2), this is useful. A child who has diarrhoea and has lost weight is probably dehydrated. Five per cent dehydration is serious (that is, if he has lost 50 grams for each kilogram of his normal body weight). Ten per cent dehydration is very serious (that is, if a 10-kg child has lost 1 kg).

It is important to know if a child is only mildly ill or seriously ill because this affects the action you should take. A child who has mild diarrhoea can be treated at home, but a child who has severe diarrhoea, dehydration, and complications should be sent to the nearest health centre for special treatment. Figure 1 on the next page is a visual aid that the instructor can use to help trainees or mothers detect the clinical signs of dehydration.
Figure 1 Clinical signs of dehydration
LESSON 3

Performance Objective: Advise and involve parents in the preparation and use of rehydration fluids to treat diarrhoea in their homes.

Morning Session

Location and format: Session with trainees only. Village health clinic or school room.

Time: Two hours.

<table>
<thead>
<tr>
<th>Activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Trainees are asked to report on the home visits they have made in the village during the past week to look for signs of diarrhoeal disease and dehydration. How many children did they find who were suffering from diarrhoea? What visual signs of dehydration did they notice in these children? Did they refer any for special treatment? If so, to whom?</td>
</tr>
<tr>
<td>Pretest</td>
<td>Instructor asks trainees about their experiences using oral rehydration fluids. Have they prepared and administered ORS packets? sugar/salt solutions? Local resource solutions? Are ORS packets available in the village? Is sugar available?</td>
</tr>
<tr>
<td>Instructor-led demonstration</td>
<td>Instructor demonstrates how to prepare and use ORS packets, sugar/salt solutions and local resource (e.g., coconut water) solutions. Each trainee is asked to demonstrate the use of all three; instructor then shows trainees how to make use of support materials (Table 1, Fig.2*) that prescribe the amount of each type of solution to be given to children according to weight and age. Trainees should practice using both a cup and a cup and spoon.</td>
</tr>
<tr>
<td>Post-test</td>
<td>Instructor gives ages and weight of various children and asks trainees to prepare appropriate amounts of oral rehydration fluids.</td>
</tr>
</tbody>
</table>

*Fig. 2, p. 3-13.
### Afternoon Session

**Location and format:** Session with trainees and village mothers. Trainees and village mothers meet publicly in the village.

**Time:** One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pretest</strong></td>
<td>Instructor and trainees ask mothers to describe their experience with ORS, salts, sugar/salt or local resource solutions. If there has been experience, trainees are asked to judge if mothers prepare and use fluids correctly. If there has not been experience, trainees ask for volunteers—mothers who want to learn new methods. Volunteers are given a great deal of support.</td>
</tr>
<tr>
<td><strong>Instructor/trainee led demonstration</strong></td>
<td>Instructor asks trainees to demonstrate to mothers how to prepare and administer oral rehydration fluids. Demonstration will focus on method most appropriate for village. If no ORS packets are available, the demonstration will focus on sugar/salt solutions; if no sugar/salt then rice water, coconut milk or akasan.</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Mothers are then asked to demonstrate the use of oral rehydration fluids, repeating procedures that were taught to them in the afternoon demonstration. Mothers are asked whether they will use this method in treating children with diarrhoea.</td>
</tr>
<tr>
<td><strong>Post-test</strong></td>
<td>During the week trainees will observe mothers in their homes using the oral rehydration method that was demonstrated to them in the afternoon session of lesson 3. They also will teach new mothers that method.</td>
</tr>
</tbody>
</table>
Lesson 3 Content

Advise and Involve Parents in the Preparation and Use of Rehydration Fluids to Treat Diarrhoea in Their Homes

There are three major categories of oral rehydration fluids: (1) Oral Rehydration Salts; (2) sugar/salt solutions; and (3) local resource solutions, such as coconut water, akasa, etc. Figure 3 on page 13 illustrates how to prepare fluids using each method. Ideally a community health worker should know how to prepare and use all three. ORS packets, distributed by WHO/UNICEF, and sugar/salt solutions are the preferred methods of treatment. However, some villages in Ghana may not have access to ORS packets, and there may be no sugar available. In that case, the community health worker should know how to prepare and administer oral rehydration fluids using local resources such as rice water, maize pap, fruit juices, etc.

A basic rule of thumb is to give the child one glass or cup of fluid for every loose stool he passes. Table 1 below gives approximate quantities of fluids, using any of the three solutions, that ought to be given each day according to the age and/or weight of the child. These quantities are expressed in terms of common cups or glasses that should be available in Ghana.

<table>
<thead>
<tr>
<th>Patients Weight in Kilograms:</th>
<th>3</th>
<th>5</th>
<th>7</th>
<th>9</th>
<th>11</th>
<th>13</th>
<th>15</th>
<th>16</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients Age:</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>← MONTHS →</td>
<td>← YEARS →</td>
<td></td>
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<tr>
<td>To Treat Dehydration Give Fluid:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

![Graph showing fluid quantities](image)

Table 1: Amount of Rehydration Fluid Per Age/Weight of Child
If the child is dehydrated, give small amounts of the solution to the child every few minutes. The best way is to give 2-3 small spoonfuls from a cup, wait 2-3 minutes, then give again. Patience and persistence are very important in feeding a sick child with fluids. When the child improves he may drink from a cup.

Protection of the prepared solution is very important. Use the fluid on the day it is prepared. Keep the container in a cool place and keep it covered at all times so that flies and dust cannot get in. Throw away any fluid that was prepared the day before.

**Preparing Oral Rehydration Salts Solution**

First, wash thoroughly a large pot or other container in which the solution can be kept. Wash, too, a cup or other small vessel from which the child can drink the solution, and a mixing spoon. Pour one litre of clean drinking-water into the pot. Whenever possible ORS solution (and all rehydration solutions) should be prepared with potable water.

Open the packet of Oral Rehydration Salts and pour the powder inside it into the litre of drinking-water. With the clean spoon, mix the powder until it has completely dissolved in the water. To make sure the mixture is correct, taste it; it should taste less salty than tears. If it is more salty, add a little clean water or throw it away and mix another amount according to the instructions.

Occasionally, a child may vomit after being given Oral Rehydration Salts. If he does, wait 5-10 minutes, then give again. Vomiting is not a reason to stop treatment with Oral Rehydration Salts solution, unless it is severe and frequent. In that case the child should be taken to the nearest health center.

If there are no Oral Rehydration Salt packets available in the village, the CCA should know how to teach parents how to prepare and use a sugar and salt solution. Figure 3 can be used as a guide to the measurement of sugar/salt solutions. It is from *Helping Health Workers Learn* by David Werner and Bill Bowen.
Figure 2: Types of Rehydration Fluids
First method: ordinary spoons

Mix 1 teaspoon of SUGAR + the tip of a teaspoon of SALT

in a glass of water (about 1/3 of a liter)

Second method: by hand

Mix about this much SUGAR + a pinch of SALT

in a glass of water

Third method: plastic measuring spoons

In some places, special plastic spoons are available to measure the exact amounts of sugar and salt for one glass of water.

Fourth method: homemade spoons

Rather than depend on plastic spoons that can get lost or broken, the children can learn to make their own measuring spoons.

For another example, see the next page.

Figure 3. Methods of sugar/salt measurement
**LESSON 4**

**Performance Objective:** Educate mothers about harmful local remedies for treating diarrhoea.

**Morning Session**

**Location and format:** Session with trainees only. Village Health Clinic or school room

**Time:** One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Trainees are asked to report on the use of oral rehydration fluids by village mothers. How many mothers prepared and administered oral rehydration fluids correctly? How many prepared and/or used OR solutions incorrectly? What were the mistakes?</td>
</tr>
<tr>
<td>Pretest</td>
<td>Trainees are asked to list existing local remedies for treating diarrhoea, identifying which ones are harmful and describing why.</td>
</tr>
<tr>
<td>Instructor-led lecture</td>
<td>Instructor describes and holds up examples of harmful local remedies for treating diarrhoea. Instructor describes a medical history of a child who was treated with an enema.</td>
</tr>
<tr>
<td>demonstration</td>
<td></td>
</tr>
<tr>
<td>Post-test</td>
<td>Role play between trainees. One trainee assumes role of mother who uses a harmful local remedy. Second trainee tries to persuade her to stop using the harmful remedy and adapt an improved practice.</td>
</tr>
</tbody>
</table>
**Afternoon Session**

**Location and format:** Session with trainees and village mothers and local traditional healer. Instructor and trainees meet first with mothers in a public place; then visit traditional healer's office/home.

**Time:** One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Instructor and trainees ask mothers to describe their methods for treating diarrhoea.</td>
</tr>
<tr>
<td>Lecture discussion</td>
<td>Trainees point out ways in which particular local remedies may be harmful; and engage in discussions with mothers in an effort to persuade them to discontinue harmful practices and adopt beneficial methods of treatment.</td>
</tr>
<tr>
<td>Discussion</td>
<td>Trainees visit local traditional healer and discuss the merits of various local remedies. Trainees attempt to gain support from the traditional healer in their efforts to discourage harmful local practices. Trainees ask traditional healer about the value of certain local remedies whose worth is unknown to them.</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Trainees visit mothers during the week to see which ones are still using harmful local remedies and attempt to persuade them to stop, and use beneficial methods taught in Lesson 3.</td>
</tr>
</tbody>
</table>

**Lesson 4 Content**

**Educate Mothers About Harmful Local Remedies for Treating Diarrhoea**

Common remedies for treating diarrhoea in Ghana, which may be harmful to young children, include purgatives, antibiotics and certain herbal treatments.
Often Ghanaian mothers will give enemas to children with diarrhoea in an attempt to purge their systems. Purging a sick child to clean out disease only accelerates dehydration.

Modern antibiotics are not effective for treating the majority of childhood diarrhoeas, which are caused by viral or unknown agents. Antibiotics are indicated only for cholera and shigellosis. The drug of choice for cholera is tetracycline and for shigellosis is ampicillin or trimethoprim/sulfamethoxazole. The widespread use of antibiotics for a large proportion of diarrhoea cases is not only ineffective and a waste of scarce resources but also a hazard in itself. Several antibiotics, such as chloramphenicol and neomycin, which are frequently used, cause respectively aplastic anemia and renal damage.

There is also little place in the treatment of early childhood diarrhoea for medications such as kaolin, paregoric mixtures and Lomotil-type drugs. Studies have repeatedly shown that these medications do not change the course of diarrhoea, although they may temporarily relieve cramp and other symptoms.

Many Ghanaian homes use traditional herbal remedies to treat diarrhoea. Several, such as those based on ginger/pepper solutions, are harmful and should be discouraged. Many do a lot of good because they help to get water back into the child. In some cases the value of a particular herbal remedy will be unknown. In that case, the remedy should be referred for analysis to the Institute for Traditional Healers at Mampong or the School of Pharmacology at the University of Science and Technology at Kumasi.
**LESSON 6**

**Performance Objective:** Advise and involve parents in the use of beneficial feeding practices in the home for infants who have diarrhoea.

**Morning Session**

**Location and format:** Session with trainer and trainees only. Village clinic or village school classroom.

**Time:** One and one-half hours.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Trainees are asked to relate experiences during the week in trying to get mothers to stop using harmful local remedies.</td>
</tr>
<tr>
<td>Pretest</td>
<td>Instructor asks trainees what kinds of foods are given in the village to children who have diarrhoea. How are the foods prepared? How are they served?</td>
</tr>
<tr>
<td>Instructor-led demonstration and role play</td>
<td>Instructor demonstrates how to prepare special foods for young children with diarrhoea; instructor assumes a role of a mother who does not want to feed her child because she says he has no appetite, and asks trainees to convince her she's wrong.</td>
</tr>
<tr>
<td>Post-test</td>
<td>Instructor asks trainees to prescribe a one-week meal plan for an infant trying to recover from diarrhoea.</td>
</tr>
</tbody>
</table>

**Afternoon Session**

**Location and format:** Session with trainees and village mothers. Trainees and village mothers meet publicly in the village.

**Time:** One and one-half hours.
Activities                                      Approach

Pretest                                         Trainees ask mothers to describe how they feed children who are dehydrated.

Instructor/trainee demonstration                 Instructor and trainees demonstrate to mothers appropriate home-based recipes, e.g., akasa, light soup, etc., for feeding sick infants. Emphasis is placed on frequent feeding and hygienic preparation and on continuation of breastfeeding. Mothers are asked to repeat demonstrations.

Evaluation                                      Trainees are asked to observe the homes of mothers of infants who are suffering from diarrhoea, and to promote improved feeding practices if appropriate.

Lesson 5  Content

Advise and Involve Parents in the Use of Beneficial Feeding Practices in the Home for Infants Who Have Diarrhoea

Feeding during and after diarrhoea

Many mothers and others in a community believe that feeding a child with diarrhoea is dangerous. This is a wrong belief. Children need food to restore strength and replace the loss caused by diarrhoea.

If the child is being breast-fed, the mother should continue to breast-feed him. Breast milk is safe, clean, and nourishing. Breast milk should be given between drinks of Oral Rehydration Salts solution.

If the child is on cow's milk or artificial formula, this should be diluted to half-strength with clean water. It should be given between drinks of Oral Rehydration Salts solution. Full-strength milk should be started again when diarrhoea stops.

If the child normally takes solid food, he should still be given food. Simple soft easily digestible foods (porridge, etc.) can be given. Small frequent meals should be given between drinks of ORS solution. Feeding a child who is ill requires extra patience, time, and care.

After recovery from diarrhoea, extra food should be given. Try to give one extra meal each day for seven days in order to recover what has been lost.
LESSON 6

Performance Objective: Advise and involve parents in carrying out practical home-based activities to prevent diarrhoeas.

Morning Session

Location and format: Session with trainer and trainees only. Village clinic or schoolroom.

Time: One and one-half hours

<table>
<thead>
<tr>
<th>Activities</th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review</td>
<td>Trainees are asked to describe their experiences of the previous week in getting mothers to adopt improved feeding practices.</td>
</tr>
<tr>
<td>Pretest</td>
<td>Trainees are asked to describe environmental conditions in the village that contribute to the spread of diarrhoeal disease.</td>
</tr>
<tr>
<td>Lecture/discussion</td>
<td>Instructor describes to trainees the process by which certain environmental practices, such as improper food storage, can lead to diarrhoeal disease. Instructor and trainees draw up a checklist of diarrhoea-related environmental conditions, which trainees will use as a guide for village level observations.</td>
</tr>
<tr>
<td>Post-test</td>
<td>Role Play: one trainee assumes the role of a mother who says there are too many conflicting demands on her time to adopt improved feeding practices. Second tries to convince first about the value to the health of her children in adopting improved practices.</td>
</tr>
</tbody>
</table>
Afternoon Session

Location and format: Session with trainees, village mothers and a local artist. Instructor, trainees and mothers meet in a public place.

Time: Two hours.

Activities

<table>
<thead>
<tr>
<th>Pretest</th>
<th>Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainees and mothers pair off and tour the village to identify environmental conditions and hygienic practices that may be contributing to the spread of diarrhoeal disease in the village.</td>
<td></td>
</tr>
</tbody>
</table>

Discussion

Whole group meets back in a public place and discusses their observations. Suggestions for practical improvements are made by instructor and trainees, and mothers are asked if these suggestions are realistic for them to do. If not, modifications are made. A set of priority behavior objectives for mothers is made. A local artist develops a poster and/or set of visual aids in support of these objectives.

Evaluation

Trainees visit homes during the following week to promote the adaptation by mothers of agreed upon list of behavior objectives. If visual materials have been made, trainees arrange to have them distributed or on display at key locations.

Lesson 6 Content

Advise and Involve Parents in Carrying Out Practical Home Based Activities to Prevent Diarrhoea

How to prevent diarrhoea

Breast-feeding protects against diarrhoea and other infections. It also provides excellent nutrition. Do not bottle-feed. Bottles are difficult to clean and germs grow easily in milk.
Diarrhoea germs come from stools. If stools are passed where people cannot come into contact with them, the germs will not spread to others. Latrines should be built, used, and kept clean.

Dirty hands cause diarrhoea. Wash hands with soap and water before feeding a child, preparing and serving food, and after passing stools. Finger-nails should be kept clean.

Dirty contaminated food can cause diarrhoea. Freshly cooked food is clean. Preserve food by covering it completely and keeping it cool. Food prepared earlier or the day before may be contaminated by germs. It should be cooked again before being given to children.

Dirty water can cause diarrhoea. Water for drinking must be clean and should be kept in a special pot with a cover. Never put hands in drinking-water. Drinking-water for small children should be boiled.

Flies can carry the germs of diarrhoea. Flies settle on stools, pick up germs and then settle on food. Cover food to protect it from flies. If children pass stools near the house, the stools should be removed and covered with earth. Keep the house and surroundings clean and there will be few flies.