

Dialogue on Diarrhoea



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Annat Nikromat/UNICEF

Everyone, especially mothers, needs to know about ORT — clear demonstrations and practical experience are the best ways to learn.

Tell, show and do

There is now more than ten years of world experience in promoting oral rehydration therapy (ORT). Although more children every year now receive ORT, over four million of them still die each year from acute diarrhoea. These four million deaths could mostly be prevented by the universal use of ORT. It seems, therefore, that just telling people about the simplicity of ORT, and the beneficial impact this cheap, effective solution can have on child survival, is really not enough.

Making ORS widely available is also not enough. Packets must be actually used and used correctly. We now know that short term intensive ORT campaigns can only produce lasting effects on diarrhoea treatment when they are part of a wider move towards sustained social change. Also, we know that ORT training programmes for health workers must include genuine hands-on practice in diarrhoea case management — and also in effective teaching methods — if they are to promote positive changes in behaviour.

It seems that belief in the value of

ORT, and confidence in being able to manage diarrhoea at family and community levels using ORS packets, or home based solutions, can only come through effective, appropriate education and communication at all levels of any society. The following pages offer practical advice about various aspects of training and teaching. It is clear that the best way to convince anyone about ORT, from highly trained physicians to underprivileged mothers, is both to tell and show them how ORT works, and for them to do it themselves!

KME and WAMC

In this issue:

- A Diarrhoea Training Unit
- Practical advice: How to teach
- Breastfeeding promotion

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Technologies Action Group Ltd

A training idea

Dehydration

Ignorance of causes

Associated infections and malnutrition

Religious taboos and misbeliefs

Recognition of how infection spreads

Hygiene

Oral fluids as early as possible

Environmental sanitation

Always give food regularly

This formula was sent to us by Dr (Mrs) Radha Y Aras of Bombay, India, who uses it when training community health workers to help them remember key aspects of the causes and control of diarrhoeal disease. We would like to hear from other readers about other ideas they have used.

ORS in the UK

In March 1989, a detailed description of oral rehydration therapy was included for the first time in the British National Formulary. The entry describes the benefits of ORT and lists the WHO formula for ORS and seven proprietary preparations available in the UK.

To readers in India

Readers of *DD* (English edition) in India who would like to be included on the mailing list should send requests to the Christian Medical Association of India (CMAI), Plot 2, A-3 Local Shopping Centre, Janakpuri, New Delhi 110058, India. CMAI is now printing and distributing *DD* in India on a quarterly basis.



Light on ORT...

This matchbox is produced by the Ministry of Women's affairs in Cameroon. Thanks to Dr A Froment, ORSTOM, Yaounde, Cameroon for letting us know about this method of information support for the national CDD campaign.

Viewpoint — local laboratory skills

Diarrhoeal diseases caused by different organisms can have similar signs and symptoms. With most diarrhoeas, it is not necessary to know the cause, and oral rehydration therapy should be given for prevention and immediate treatment of dehydration caused by diarrhoea. However, it can sometimes be useful to discover the cause of the diarrhoea — especially if the spread of the disease is to be prevented. The quickest way to find out about the type of germs causing diarrhoea is to use simple, low technology laboratory techniques. But this is only possible if trained staff are available as part of a local primary health care team.

Laboratory workers examining stool samples from patients with diarrhoea need considerable skills and knowledge. In Zimbabwe, a scheme has been developed to ensure that trained laboratory workers spend two years working in rural health programmes. In The Sudan, a different approach has been used: training local microscopists to carry out one or two simple laboratory techniques using basic equipment. These two approaches have proved very successful and could be models for other places where there is a shortage of skilled personnel.

In Zimbabwe, to attract skilled laboratory workers to rural health centres and local hospitals where the need for highly skilled laboratory diagnosis and interpretation is often greatest, the Ministry of Health asks qualified technologists to work in rural areas for two years as 'payment' for their training. By means of this bond commitment, resources used in training are paid back to the community and more remote areas benefit from the services of the technologist.

In the Gezira region of Sudan, with assistance from the University of Gezira, a training programme has been set up for microscopists whose sole task is to examine blood film for malaria parasites and urine and faeces for Schistosome eggs. No other laboratory work is undertaken. This means that the equipment is kept very simple and an academic background is not needed.

Every village in the scheme has a trained microscopist who works at home — often in very basic conditions. All that is required is a table for the microscope, staining solutions and jars. The work is mainly done out of doors, using daylight for illumination. Villagers are tested for parasites on a routine basis, quality control being provided by the organisers, to maintain high standards. Microscopists are paid with millet, cooking oil, salt and other food. Training takes three weeks with

periodic refresher courses lasting one to two days. Extension of this idea would not be too difficult as long as the field of activity is kept fairly specific. Advantages include ease of training and little chance of the microscopist being attracted to work elsewhere.

For differential diagnosis of diarrhoea, either of these approaches could accomplish a great deal towards improving health in rural areas.

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Laboratory investigation of diarrhoeal diseases

Readers whose work involves laboratory diagnosis are invited to write in for a 12 page *Health Basics* booklet: *Laboratory investigation of diarrhoeal diseases in primary health care*, written by Monica Cheesbrough and produced by *DD*. The booklet describes the equipment, training and techniques needed to identify causes of diarrhoea at PHC level, including the investigation of chronic diarrhoea in AIDS. Containing illustrations, and a resource list giving sources of information and equipment, the booklet is available, free of charge, from AHRTAG, 1 London Bridge Street, London SE1 9SG, UK.

Training methods

These studies from India and Bangladesh are about training mothers to mix and give oral rehydration solution. The results of the first study show that, as a teaching method, demonstration is more effective than description. In the second study, it was found that mothers can be taught to use ORT as successfully in small groups as on a one-to-one basis.

1. Telling or showing?

Measuring the correct amount of fluid to mix up oral rehydration solution can be difficult. Many studies have found a wide variation in the composition of OR solutions. Three methods of teaching rural, non-literate women to mix ORS were tried in the Punjab, India. The success of each method was measured by analysing the solutions the women had made after training.

Group I was told simply, in the local language, how to mix a packet of ORS by a community health worker. A doctor was also present to answer questions. Group II was given the same verbal instructions as Group I, but was also shown how to mix ORS. Group III was given OR salts in a larger bag with a line printed on it, marking the level to which it should be filled with water. The community health worker also explained and demonstrated this method of making ORS to the group.

All the women — about 20 in each group — left the training session with either a sachet or a bag of oral rehydration salts, as had been discussed or used in their group. A few hours later, every woman was visited at home by the health worker and doctor, who watched her make up the ORS as she had learnt. A sample of each solution was taken, to be analysed for sugar and salts.

There was no significant difference in the age, income or education of the women between the three groups. The solutions made by women in Groups I and III contained concentrations which differed significantly from the ideal ORS concentrations. This difference was far less marked in Group II. The conclusion of the study is that the women in Group II made oral rehydration solution most accurately.

Measuring problems

In Group I, given only verbal instruction, five of the women did not use the whole packet of salts. This was because

they thought making oral rehydration solution was like making a cup of tea: they added two or three spoonfuls of ORS to a cup of water in the same way that they would add this amount of sugar to a cup of tea. Mothers also found it hard to measure a quantity of water exactly (half a litre in this case). Those using milk measures were more successful than those using tumblers or cups; those using jugs or other larger vessels were least successful.

It was expected that the plastic bags used by Group III would reduce measuring problems because they are designed to hold exactly the right amount of water. However, the concentration of the solutions made by Group III was less accurate than that of those made by Group II. This is possibly because of the poor design of the plastic bags: they are intended to be held from above in one particular position, which is difficult even with the help of another person to pour in the water. When 20 doctors were asked to measure half a litre (500ml) of water using the same bags, after verbal instructions and a demonstration, the actual volumes measured by them varied from 300ml to 700ml, with a mean of 420ml.

The authors conclude that demonstrating measuring and mixing ORS is more effective than verbal instruction alone. Finding a method for measuring ORS accurately is important, because too little salt means that the solution may be ineffective, and too much may be dangerous.

This study is reported in full by Nagarajan, L, et al., 1989: A comparative study of different methods of teaching rural subjects for reconstitution of oral rehydration solutions. *Indian Pediatrics* 26 (April): 323-329. Reprints are available from Professor B N S Walia, Department of Paediatrics, PGIMER, Chandigarh 160012, India.

2. Teaching in groups or one to one?

The Bangladesh Rural Advancement Committee (BRAC) is a large non-government organisation with much experience of promoting ORT in communities. Health workers have taught mothers, using a one-to-one approach, to make home sugar-salt solution (SSS). The cost of the programme was recently found to be 72 US cents per household visited. If this amount could be reduced, more money would be available to meet other needs. BRAC carried out a study to see if costs could be reduced, without affecting the programme quality, by teaching mothers in groups rather than individually. The study compared the costs and resulting OR solutions when mothers were taught one at a time and in small groups.

In one area, mothers from different households were taught in groups of five by a health worker. They were taught 'seven points to remember' about making and giving ORT, the standardised technique used by BRAC. After the teaching session, each mother was asked to demonstrate making the SSS, to make sure that she had understood. The same training was given individually to other mothers in a similar area. One year later, an interviewer from BRAC returned to see how much the mothers had remembered, and to find out if they used SSS. A random five per cent of the 2,500 households interviewed were asked to prepare SSS, and samples were taken for analysis. There was no significant difference in either the composition of the solutions, the levels of knowledge or the use of SSS between the mothers who had been taught alone, and those taught in a group.

The cost of teaching mothers in groups of five was found to be approximately half as much per mother as teaching individually. This study showed that by working with groups of mothers, the same results could be obtained for half the cost.

Further details of this study are published by Chowdhury, A M R et al., 1988: Teaching ORT to women: individually or in groups? *J. Trop. Hygiene* 91: 283-287. Correspondence to: A Mushtaque R Chowdhury, BRAC, 66 Mohakhali Commercial Area, Dhaka-1212, Bangladesh.

Diarrhoea Training Unit

A Diarrhoea Training Unit (DTU) is a unit in a hospital which routinely treats many cases of acute childhood diarrhoea and conducts training in correct diarrhoea case management. In a large hospital, the DTU may be permanent; in other hospitals, it may be set up or expanded as the need occurs, particularly when diarrhoea is seasonal.

What does a DTU do?

A DTU develops the skill and confidence of doctors and other health workers so they can give proper treatment for diarrhoea. They learn skills in diarrhoea management, especially use of ORT, through hands-on experience, and in teaching others. A DTU can be established where staff are interested in training others; where many patients are treated for acute diarrhoea and dehydration, so that participants are trained by actually treating patients. Five essential elements of a DTU are listed below.

1 *Proper therapy for diarrhoea is practised on a routine basis.*

- Mothers stay with their children to give ORT and continue breastfeeding
- Mothers are taught how to give ORT, continue ORT at home, feed during and after diarrhoea, and recognise the signs indicating that a child should be brought back to a health worker. They are given other relevant health education messages on prevention of diarrhoea
- ORT is used appropriately; intravenous therapy is not used when ORT would be effective
- Antibiotics are used only as needed; antidiarrhoeal drugs are never used

2 *Doctors, nurses and other staff members should use the same diarrhoea treatment methods.*

3 *Space is arranged so that there are three areas for management of diarrhoea cases.* In the **reception area**, new cases are assessed, and classified for treatment. Also, mothers are taught about diarrhoea prevention and home management. In the **ORT area**, ORS is made up, and staff supervise while relatives give ORS to patients with diarrhoea. In the **diarrhoea ward**, patients with severe dehydration or complications are treated separately, and may initially receive fluids through a drip or a nasogastric tube.

4 *At night, continued care is provided for in-patients and new emergency cases.*

5 *Appropriate supplies are available in adequate quantities (see box).*

Training objectives

At the Diarrhoea Training Unit, case management skills should be developed with supervision, so that the procedures outlined below are followed.

In the reception area

1 Diarrhoea cases are assessed to:

- determine the extent of dehydration
- identify other problems (e.g. dysentery, fever, severe malnutrition), complications (e.g. paralytic ileus), or associated diseases (e.g. measles)
- identify other diseases (e.g. meningitis) that may require treatment elsewhere.

2 Decide which cases need to be sent to the ORT area or diarrhoea ward.

3 Teach each mother management of diarrhoea at home (fluids, food and

signs that indicate a child should be brought to a health worker), and educate her about prevention of diarrhoea.

Note: *If it is the policy to give ORS packets to mothers, trainees should demonstrate and teach mothers how to mix and give ORS.*

4 Prescribe other medicines if needed.

In the ORT area

1 Assess and treat cases:

- take the history, examine the patient and determine the amount of fluid to be given over a four to six hour period
- discuss findings and recommendations for treatment with staff
- begin administering ORS and teach the mother to give the ORS
- assess the patient's progress periodically and record findings (every hour until the patient is rehydrated; every two hours thereafter)
- decide on the amount of ORS to be given for maintenance and advise the mother
- treat other problems (e.g. reduce fever, give an antibiotic for dysentery)

2 Mix oral rehydration solution in bulk volumes.

Supplies for a Diarrhoea Training Unit

Reception area

- Health education materials including pamphlets, and posters on preparation of OR solution, home fluids, diarrhoea prevention, and management including feeding during and after diarrhoea
- Forms for record keeping
- ORS packets of the standard size in the area (for demonstrating to mothers)
- Jars and flasks (commonly available sizes and one marked with volume measurements)
- Glasses, cups and spoons

ORT area

- ORS packets for making up large quantities of solution, and of a standard size in the area (for demonstrating to mothers)
- Jars and flasks (as above)
- Antibiotics (tetracycline capsules) if cholera is likely in the area, and a suitable antibiotic for dysentery
- Health education materials (as above)
- Baby scales accurate to 20 grams
- Thermometers

- Glasses, cups and spoons
- Cotton, gauze, towels and other linens
- Forms for record keeping
- Droppers
- Soap, wash basin and towel rack
- Nappies

Diarrhoea ward

- Beds or tables with wires above for hanging bottles of IV fluid
- Lactated Ringer's Solution with giving sets
- Scalp vein (butterfly) needles
- Antibiotics (as above)
- Glucose for injection (20%)
- Baby scales (accurate to 20 grams)
- Nasogastric tubes
- Thermometer
- Droppers
- Feeding bottles, milk powder
- Soap, towels and other linens
- Forms for record keeping
- Seating for nurses and relatives
- Health education materials for families
- Syringes and needles
- Alcohol, cotton, gauze
- Glasses, cups and spoons
- One litre and half litre flasks
- Nappies
- Tray or trolley for supplies
- Waste basket or bucket

3 Deal with difficulties in giving ORS (such as vomiting).

4 Supervise mothers and nurses giving ORS.

5 Encourage the mother to continue feeding the child giving a diet appropriate for the child's age and prior feeding status.

6 Before a mother leaves, teach her how to continue caring for her child at home and the signs that indicate she should bring her child back. Also, explain what she can do to prevent diarrhoea, as well as how she can treat it.

In the diarrhoea ward

1 Assess patients with severe dehydration:

- take history, read any hospital chart or notes, and examine the patient
- determine amount of fluid required
- if there will be a delay in putting in the IV, and if the patient can drink, begin ORS while waiting for IV to be started
- discuss findings and recommendations for treatment with staff

2 Treat as appropriate:

- give intravenous therapy, if possible, otherwise insert nasogastric tube and administer oral solution
- care for other problems, complications and associated diseases

3 Assess the patient's progress periodically and record findings (every one to two hours until the patient is rehydrated; every six hours thereafter). Start giving some ORS as soon as the patient can drink; discontinue the IV when the initial deficit is corrected and signs of severe dehydration are gone.

4 Before the child is discharged from the diarrhoea ward, be sure that the mother is taught how to continue caring for her child at home and the signs that indicate she should bring her child back. Tell the mother that if her child starts passing many watery stools, has frequent vomiting, becomes very thirsty, does not eat and drink normally, develops blood in the stools, or seems not to be getting better, she should bring him or her back. Also explain what she can do to prevent and treat diarrhoea.

This article is based on material from *Diarrhoea Training Unit: Director's Guide 1988*, produced by the CDD Programme, World Health Organization, 1211 Geneva 27, Switzerland.

Step-by-step planning

How can training be effective in preparing health workers to carry out key CDD tasks? The effectiveness of training depends upon how well it is planned, the training methods used, and whether or not there is refresher training, as well as follow up visits to personnel in the field. It takes time to plan good training, and planning should be done one step at a time. The steps described here can be used in planning any type of health personnel training.

Step 1: Define CDD tasks

The success of training will be measured by how well health workers carry out CDD tasks when they return to their posts. Define carefully the tasks expected of them based on an understanding of existing practices and behaviour, so that they are taught about which practices need to be changed, reinforced, or introduced. An example of a task would be to educate mothers about home management of diarrhoea.

Step 2: Identify knowledge, attitudes and skills needed

This step is often missed out, and the content of health training programmes is limited to technical knowledge of the particular health topic. To teach mothers about diarrhoea, knowing the clinical signs of diarrhoea and dehydration is necessary, but certain attitudes and skills are also needed. For example, the health worker must be able to: find out what mothers usually do at home to treat diarrhoea; know how to mix and give ORS; and know how to ask questions in the right way.

Step 3: Choose priority topics

You will now have a list of tasks, and of what is needed to carry them out. There will never be enough time to teach everything, so decide on priorities. To do this, it can be helpful to categorise the skills which are 'essential', 'useful', or 'interesting'. 'Essential' items can then be grouped in topics, for example: advising on home treatment; mixing and giving ORS.

Step 4: Define objectives

Once priority topics are identified, define the specific objectives for each training session. Trainers and trainees need to know what is to be learned, and it is important to limit the content of the

training session. Define objectives in terms of what trainees should be able to do by the end of the training session.

Step 5: Prepare a draft training plan and schedule

Using topics (Step 3) and the objectives for each topic (Step 4), prepare a draft training plan and schedule. Order the topics and estimate the time necessary for each one. It is important to do this before planning sessions in detail.

Step 6: Choose appropriate learning activities

Trainees learn more through active participation than just watching or listening. Make sure that learning activities are as similar as possible to the tasks which will be expected of the trainees in their own work environment. For example, practice in mixing ORS will be more effective than talking about it. Think about which learning activities would be best for achieving different objectives. A knowledge objective could be dealt with using a lecture, a text, a film plus discussion, or several of these activities combined. Activities where trainees are personally involved — group discussions, role plays and practical experience — would be more effective in getting participants to think about their present attitudes and to consider adopting new ones. For skill objectives, practical experience: for example, preparing and giving ORS to a dehydrated child; conducting a group CDD education session with mothers, would be most effective.

Step 7: Develop a detailed plan

A 'planning worksheet' can be useful in deciding how each learning activity in each session will be carried out, what material and human resources will be needed, who will be responsible for what, and the time for each activity.

Step 8: Finalise the training plan

Finally, review and, if necessary, adjust the training plan and schedule based on what is decided in Steps 6 and 7.

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Breastfeeding promotion

The right start

Encouraging breastfeeding instead of bottle-feeding can help to prevent diarrhoea. CDD programmes can promote breastfeeding by training health professionals and improving hospital practices.

Medical education about diarrhoea management should stress the role of breastfeeding, both in preventing diarrhoea, and as a component in ORT and feeding during and after diarrhoea. A recent Guatemalan survey found that more than 50 per cent of doctors did not know that breastmilk helps protect infants against diarrhoea, or that it can be an important food source after the first six months of life.

Teaching health workers about the advantages of breastfeeding, and how to help mothers breastfeed, has been productive in Indonesia, Thailand, Panama, the USA, and elsewhere. Although many programmes have emphasised the benefits of breastfeeding, they have not been aware of the need to include techniques to help mothers to breastfeed — an equally, if not more, important part of training. It is important: to encourage proper positioning of the infant at the breast; to help the mother in cases where the infant does not want to suck or sucks with difficulty; to advise on how to prevent engorgement, infection, and other breastfeeding problems.

Changing hospital practices

Changing the ways hospitals manage childbirth can also encourage mothers to breastfeed. Appropriate practices include keeping the mother and baby together, and suckling soon after delivery. Mothers who have immediate contact with their infants after birth are more likely to continue breastfeeding. This also ensures that the baby receives the first milk — colostrum — which gives important protection against infection.

Analgesics (painkillers) and anaesthesia should be used as little as possible during delivery, as these drugs are passed on to the baby making it too sleepy to suck after the birth. No water, glucose water, or other supplements to the infant's diet should be introduced in hospital. Infants who are given bottles often show subsequent 'nipple confusion', because sucking at the breast

requires different movements from sucking at a bottle nipple, and can be more difficult. Demand feeding promotes increased milk production, because infants fed on demand will usually suckle about every two hours during their first few weeks, and regular sucking helps increase milk production.

Rooming-in

It is important to allow the mother and baby to stay together continuously while in hospital. Known as 'rooming-in', this provides the conditions needed for successful breastfeeding, encouraging demand feeding, no bottles, and no replacement of breastmilk by water or other supplements. Health professionals can promote breastfeeding by encouraging mothers to feed infants frequently, by not allowing bottles on the wards, by restricting the distribution of milk samples or bottles in the hospital, and by changing the ward arrangements to make rooming-in a standard practice.

Routines in ORT units

CDD workers often have to deal with cases of diarrhoea associated with lack of breastfeeding, but then it is often too late to re-establish breastfeeding. By promoting exclusive breastfeeding during the first months of life, health workers can help to discourage early supplementation and use of bottles.

In ORT units, bottles should not be used, and spoon feeding of ORS should be the approved method of the hospital, so that mothers will not think that bottles are endorsed by the medical community. Health workers can also use this opportunity to encourage mothers to continue breastfeeding at home, and to use spoons rather than bottles for giving ORS. Hospital ORT units and in-patient intravenous units should be arranged to ensure that breastfeeding mothers are not separated from their infants.

It is essential that CDD workers see breastfeeding as an important aspect of diarrhoea prevention and try to influence policy and practice at all levels in



To encourage early and continued breastfeeding, it is important for a mother and baby to be together often.

their day-to-day work. Many hospitals have ORT units and in-patient wards where diarrhoea is a major cause of admission. These units are often a highly respected part of the paediatric service and doctors managing diarrhoea are often also responsible for conducting paediatric rounds. They have access to the administrators who make policy, and work alongside obstetricians, who may need to be convinced about rooming-in. In all these situations, paediatricians can influence hospital policies for the better, and can encourage practices which promote breastfeeding.

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A five page bibliography, including references for the studies mentioned in this article, is available free of charge, on request, from DD.

How to teach

Health workers may need to train others in primary health care, including diarrhoeal disease control. But, often, they themselves have no training in how to teach. DD presents practical guidelines for those involved in training.

If you are training others, it is not enough to know how to do something — you need to know how to pass on that knowledge. Whether you are helping a community to build latrines or leading a training course, it is always important to ask a few key questions:

- Do you know enough about the needs of the trainees, and how will you find out about these needs?
- What is the aim of this training — what should be learnt from it?
- Have you allowed enough time to cover everything you planned?
- Have you planned how to check that your training is effective?

Two-way communication

If you are teaching members of the community, rather than health workers you need to be extra sure that your teaching is appropriate. Is this training needed and wanted? For example, if you have been asked to teach mothers about ORT, you should learn to understand their needs. To do this:

- Ask what they want to know, and why
- Find out what they think about diarrhoea and its causes, and learn about local words and customs
- Find out how much they know already about prevention and treatment
- See how much time they can spare for learning
- Try to adapt your training to local knowledge and customs
- Decide how much you can cover in the time available (do not attempt too much)

Do not just tell mothers only what you think they should know. Listen to them, and let them know that you are listening. Only when you do this, can you provide teaching that is useful and likely to be acted upon.

Teaching methods

It is always difficult to learn anything just by hearing about it. Traditional teaching methods often rely too much on talking. When practical skills are being taught, it is especially important

to show something being done, and to let people learn by doing. Trainees should be encouraged to take an active part in discussions, rather than sitting back passively. New skills and information are always more memorable when they are 'discovered', rather than heard about. Below are some examples of techniques you could use to get people more involved.

• **Group discussions** are valuable in finding out about existing knowledge and attitudes, and useful to help everyone to get to know each other. They provide a chance for participants to learn from each other as well as from the teacher, and to ask questions relatively informally, without fear of losing face or being embarrassed.

• **Practical work** is essential if the people being trained are expected to learn practical skills. Interviewing, taking histories, and good communication of all sorts are all skills which require practice as much as skills like making oral rehydration solution, using weighing scales, and sterilising equipment.

• **Problem solving** is a useful way of making training more interesting and easy to remember. It is also more likely to be the way in which health workers will have to carry out their work after training. For example, rather than listing a set of procedures for dealing with breastfeeding problems, you could present different problems one at a time, and ask people how they would try and solve them.

• **Role playing** can help trainees to see a situation from another person's point of view. You could divide a group into pairs, with one person acting the part of a mother with a sick child, and the other a health worker.

• **Games** can be useful learning aids, but you need to be sure that people do not feel embarrassed about taking part, and that they are really learning and not only thinking about the game itself. You could use the toss of a coin to determine imaginary events, or use picture cards to make up families and events.

• **Case studies** are useful for introducing the complicated combinations of

events which occur in real life. Some training needs to be simplified so that treating diarrhoea, for example, can be learnt one step at a time. But case studies can link an episode of diarrhoea with other factors such as malnutrition, poor sanitation and lack of awareness about hygiene.

• **Field visits**, for example to a health centre or practising diarrhoea management unit, allow trainees to see more than you can demonstrate to them with fewer resources. They can also be important when teaching about referral, and what referral centres can offer. You could also arrange visits to mothers at home, women's groups, schools, pharmacists and experts on different subjects related to the training.

• **Visual aids** are very important to convey key messages clearly, but they must always be easy to understand and culturally appropriate, otherwise they can cause confusion. Suitable posters, diagrams, graphs, and pictures should all be used as much as possible.

Evaluation

An important part of training is checking what people are learning. If some things are not being absorbed, you need to adjust your teaching speed or style, or possibly accept that some things are outside the scope of what you can teach in the time available. You can evaluate your training simply by testing trainees' knowledge of a subject you have worked on together, or by observing them at work.

Further reading

Werner, D, and Bower, B, 1982. *Helping health workers learn: a book of methods, aids and ideas for instructors at the village level.* Hesperian Foundation: USA.

World Health Organization, 1987. *The Community health worker: working guide, guidelines for training, guidelines for adaptation.* WHO: Switzerland.

What is weaning?

In issue 32 of *Dialogue on Diarrhoea*, the information on weaning was welcome and informative. However, it may have caused some confusion regarding the definition of 'weaning'. The article describes weaning as "giving of family foods in addition to breastmilk" and "a gradual process by which the infant becomes accustomed to the adult diet". According to Dorland's Medical Dictionary, weaning means "taking off the breast", that is, *not* supplementation, but the replacement of breastfeeding. Could you clarify this point and state exactly when the infant should be taken off the breast?

Dr M A Muttalib, President, Community Health Research Association, 22 Bijoy Nagar, Dhaka, Bangladesh.

Dr Andrew Tomkins, London School of Hygiene and Tropical Medicine, replies There is often a lack of clarity about the use of the word 'weaning', even in most dictionaries. I myself use 'weaning on' to mean the start of weaning — the introduction of solid foods in addition to (i.e. supplementing) breastmilk, and 'weaning off' to mean completion of weaning — stopping breastfeeding completely. Breastfeeding can be continued for two years or more, but other food is needed as well as breastmilk when the baby reaches four to six months of age.

Food hygiene and infection

Following Dr Schweiger's article on food hygiene in *DD36*, I would like to add some points of my own. These are some ways in which individuals can reduce the risk of catching diarrhoea from dirty food:

- Refuse to buy any food which is ready cooked and cooled, or is to be eaten raw, that is not wrapped or protected from flies

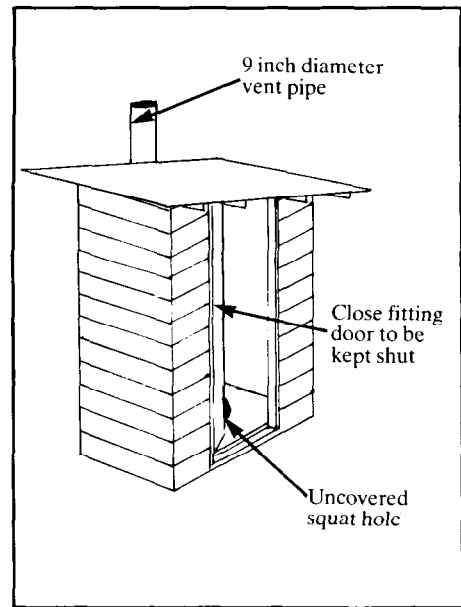
- Never carry unwrapped food in your hands, and never carry jugs of milk or other fluids with your fingers or thumbs inside the jug
- Keep food preparation surroundings clean, and never leave dirty plates and pots or scraps of food where they might attract flies to contaminate other food
- Report to the authorities any shop where food is handled in dirty and unhygienic conditions.

Akinyemi A Taiwo, Secretariat, PMB 5005, Ibadan, Oyo State, Nigeria.

Latrine confusion

In the March issue (number 36) of *DD*, the picture of a latrine in the *Practical Hygiene* insert shows some confusion between the ordinary type of pit latrine and the ventilated improved pit (VIP) latrine. The picture shows a VIP latrine, but with the opening covered, and a large space over the door. The opening of the ordinary type must be kept covered when not in use, and plenty of light allowed in over the walls and through the open door. But the VIP latrine needs to be kept relatively dark inside so that the ventilation pipe (of nine inches diameter) is the main source of light, and so that this light is brighter than that entering through the latrine hole. Any flies which may breed in the pit are then attracted to the ventilation pipe, but die and fall back when they cannot get out through the fly screen in the vent pipe. Also, with the VIP latrine door shut, warm air is drawn up and out of the vent pipe, removing smells. VIP latrines are popular because they are relatively free of flies and smells, compared with ordinary pit latrines. It is therefore important to distinguish clearly between the two types.

Dr C A Pearson, 2 Springfield Road, Bury St Edmunds, Suffolk, UK.



A ventilated improved pit latrine.

Improving latrines

Our Community Health Unit has started a campaign to stop faecal borne diseases in our area. As part of this campaign, every household built a pit latrine with a pit of six to seven feet deep. However, many of the latrines smelt so bad that people were unwilling to use them. After discussion with the villagers, it was decided to add ventilation pipes made from bamboo (which is a cheap local material). So far, only a few families have made this improvement, but they have found that smells have been considerably reduced. We hope to take these ideas to other villages in the area.

Mr Dawa Tshering, Health Assistant, Lingmethang BHU, BPO Kurizampa, Mongar, Eastern Bhutan, Bhutan.

Editors' note: To obtain the full benefits of VIP latrines, other factors as well as ventilation pipes require attention: see Dr Pearson's letter above.

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