# Dialogue on Diarrhoea

The international newsletter on the control of diarrhoeal diseases

## Hygienic habits in the home

Preventing diarrhoea is a priority for many health workers who see every day the risks it poses to children's health and the distress it causes families.

This issue of *DD* looks at one of the most effective ways of preventing diarrhoea – improving hygiene behaviour linked to water and sanitation use.

Diarrhoea is transmitted mainly by people swallowing faecal germs. Three key behaviours can reduce transmission of germs – safe disposal of faeces, hand-

washing, and protecting drinking water from contamination.

The provision of safe water sources and sanitation facilities is important. But constructing latrines and digging wells will have little effect on health unless people use these facilities, wash their hands and store drinking water hygienically in the home.

The messages may be simple, but changing behaviour is not always easy. We have to understand local behaviour,

involve people in designing improvements, and carry out hygiene education sensitively. *DD* includes examples of successful hygiene interventions and offers advice on what behaviours to target. It is also important to remember that every culture has its own practices, and different situations call for different solutions.

Improving hygiene behaviour is not an overnight task. We learn most of our hygiene behaviours when we are children, so change may take a generation. This should not discourage us. Instead we should set realistic goals and take one small step at a time. A first step would be encouraging communities to avoid defecating near water sources or people's homes, and to bury faeces.

For many communities, a plentiful supply of water close to home is a priority. Women who have walked two hours in the hot sun to collect a bucket of water will be reluctant to use precious water for handwashing. This urgent need for an adequate supply of safe water close to home must be addressed.

But even if water supplies are not abundant, communities can still be encouraged to adopt good handwashing practices. *DD* publishes a guide to making a simple water-saving device, a 'tippy tap', which allows hands to be washed using very little water.

In addition to hygiene behaviour linked to water and sanitation, food hygiene is also very important. *DD* will look at this topic next year.



Hands-on practice: handwashing is crucial to preventing diarrhoea.

#### In this issue:

- Tips on improving hygiene Page 2
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Appropriate Health Resources & Technologies Action Group

## **Prevention priorities**

Promoting the hygienic use of water and sanitation facilities is one of the most effective ways of preventing diarrhoea transmission. *DD* looks at three hygiene behaviours that can stop the spread of disease.

t is well known that access to safe water and good sanitation are important in reducing diarrhoea transmission. But simply providing a clean, adequate water supply and good sanitation facilities does not automatically result in significant improvements in health<sup>1</sup>.

How people use those facilities is crucial. Improving hygiene is potentially one of the most effective ways to reduce the spread of diarrhoea. Studies of hygiene improvements linked to water and sanitation use have shown a reduction in diarrhoea incidence of between 14 and 48 per cent<sup>2</sup>.

Most episodes of diarrhoea are caused by people swallowing faecal germs (called faecal-oral transmission). This can happen in a number of ways, including: a water source or food being contaminated directly by faecal matter; people not washing their hands after defecating or after cleaning up children's faeces, then touching and contaminating water, food, food containers or eating utensils; people with faecallycontaminated hands touching their mouths, or spreading germs to other people's hands; or animal faeces around the home contaminating cooking utensils or being touched or eaten by crawling young children.

This chain of contamination needs to be broken to prevent the spread of diarrhoea. Prevention efforts should concentrate on the following areas.

#### Disposal of faeces

The safe disposal of faeces is vital to reducing the spread of diarrhoea. Particular attention should be given to the faeces of people with diarrhoea and those of young children, both of which can contain large numbers of infectious germs.

A recent review of studies into health interventions found that improved sanita-

#### **HYGIENE BEHAVIOUR**

is the way people do things in the home (including washing, eating and defecating) that affects the spread of infections, including diarrhoea. tion had a greater impact on improving child health than water provision<sup>3</sup>.

Providing sanitation facilities such as latrines is important, but hygiene education must come first, to encourage people to use and maintain the facilities properly.

However, communities do not have to wait for latrines to be built to safely dispose of faeces. Simple, low-cost measures such as encouraging people to bury faeces, sweep up faecal matter around the home and avoid defecating near water sources, or near people's homes, can also reduce the spread of disease.

#### Handwashing

Handwashing after defecating or handling babies' faeces and before preparing food, feeding children or eating is also crucial to reduce the transmission of diarrhoea germs. Washing with water alone is not enough. To remove faecal contamination, hands must be washed with an agent such as soap, mud or ashes which requires the hands to be rubbed together.

To reduce diarrhoeal diseases, a plentiful supply of water for hygiene purposes is probably more important than the quality of drinking water. When water is scarce, people are likely to save it for drinking and cooking, rather than personal hygiene. The more water there is available, the more readily people will respond to campaigns to promote handwashing. However, even when water is scarce, strategies such as using a tippy tap (see pages 6–7), which allows adequate handwashing with only a small amount of water, can facilitate handwashing.

Water supplies should be as close to people's homes as possible. This makes it easier for people to collect enough water for hygiene purposes, and is likely to result in water being stored in the home for shorter periods of time, reducing the risk of contamination during storage.

#### **Protecting from contamination**

Protecting drinking water from faecal contamination at the source, during collection and in the home is also important. Even when clean water is available, substantial contamination can occur between the source and use in the home.

Families should be encouraged to collect and store water in clean, covered containers and to use a long-handled dipper for taking water from the container.

#### Changing behaviour

Experience of promoting other health behaviours can be useful in planning hygiene education. For example, it is important to find out about local views and practices. Key hygiene behaviours that need improving should be identified.

In the past many projects have failed by targeting too many changes. It is better to concentrate on a few important behaviours that can be changed. Goals should be realistic. Small improvements in hygiene standards are much better than no improvements at all. Projects should not wait for perfect technologies to be available.

Communities should be involved at every stage in the process of hygiene promotion. The best results will be achieved when people feel they are making an informed choice.

- 1. Huttly, S R A, 1990. The impact of inadequate sanitary conditions on health in developing countries. Rapp. trimest. statist. sanit. mond. 43.
- 2. WHO, 1993. Improving water and sanitation hygiene behaviours for the reduction of diarrhoeal disease: the report of an informal consultation. CWS/CDD programmes, Geneva, June.
- 3. Esrey, S A et al., 1990. Health benefits from improvements in water supply and sanitation: survey and analysis of the literature on selected diseases. WASH technical report No. 66.

Thanks to PRITECH, WASH and WHO for providing information for this article.

For further reading see DDs 47, 45, 36, 31. For 'how to make soap' see DD18.

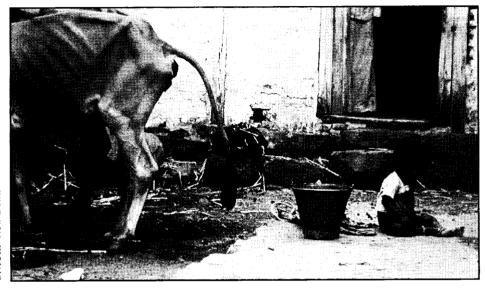
#### **MAIN POINTS**

Three key hygiene behaviours could lead to the greatest reduction in the incidence of diarrhoea:

- Safer disposal of faeces, particularly faeces of young children and babies, and of people with diarrhoea
- Handwashing, after defecation, after handling babies' faeces, before preparing food and before feeding and eating
- Keeping drinking water free from faecal contamination, in the home and at the source.

## Successful community involvement

**Nasar Ahmed** describes how a project in rural Bangladesh used community participation to achieve success in changing unhygienic practices.



Crawling babies are particularly at risk in unswept yards where they are likely to play with or chew faecally-contaminated objects.

Many hygiene interventions to reduce diarrhoea have not been successful because they were developed without understanding the local situation. In contrast, a project in Manikgonj district of Bangladesh used a range of methods to find out local views and practices, and to ensure that community leaders were involved in designing and testing ways to improve hygiene<sup>1</sup>.

Local beliefs and practices that cause or prevent diarrhoea were identified through a survey and group discussions. Very few mothers had heard of germs, and the link between faeces and diarrhoea was not recognised. Some mothers believed it was necessary for a baby to eat its own faeces for normal teething.

Almost all infants crawled freely in compound yards littered with animal and sometimes human faeces. Mothers reported that 70 per cent of infants had touched faeces during the past fortnight, and 43 per cent had eaten faeces. After cleaning up the faeces of babies, mothers washed their hands with water only and wiped them on their clothes. Sometimes these clothes were also used to clean babies' faces and mouths before feeding.

Faeces were usually removed from compound yards at least once a day by wiping the ground with straw or leaves which left the ground contaminated, as well as the hands of the person sweeping.

It was decided to try to change behaviour around three main areas: keeping babies from touching and eating faecal matter in compounds; reducing the transmission of germs after defecation; and reducing the spread of germs during feeding and bottle feeding. (Because this issue of *DD* concentrates on hygiene behaviour associated with water and sanitation, this shortened article will not cover the food hygiene improvements.)

The hygiene improvements were designed and tested in household settings by using a combination of observation, discussion and experimentation. The intervention area was divided into five blocks. In each block a project worker and five volunteer mothers met with mothers from low income families in small groups at least twice a week. The small groups enabled the mothers to participate in discussions and encouraged them to learn from one another.

The first step was to teach about the role of germs in transmitting disease. Participants were then asked to identify practices in their homes that spread diarrhoea. They were encouraged to find local solutions to improve hygiene.

The following behaviours were suggested by the group discussions and were successfully adopted by the vast majority of participating households.

#### **Ground sanitation**

- Sweep the baby's play area four times a day.
- Use a locally-produced dirt disposer (similar to a flat garden trowel and provided by the project at US\$0.30) to immediately remove babies' or animal faeces from the yard.
- Construct a special pit to dispose of faeces and other waste matter from the compound. The faeces pit was about 2ft deep, with a narrow opening to be covered by a piece of pottery.
- Wash babies in one place after defecation so that germ-contaminated water does not spread everywhere.
- Keep crawling babies in a playpen (locally constructed, provided by the project at a cost of US\$1.00) instead of permitting them to crawl in the dirt.

#### Personal hygiene

- Wash hands with ashes or soap after defecation as well as before feeding or eating.
- Use a clean rag to dry hands after washing.
- Hold the bodna (water pitcher used for cleaning after defecation) with the right hand only so that germs from the left hand (used for cleaning after defecation) do not contaminate the bodna and spread to other people.
- Clean the baby immediately after defecation.
- Use a razor blade to cut the fingernails of all the family at least once a week.
  (The right hand is used for eating, and long nails are harder to clean.)
- Clean the baby rug or mat as soon as it becomes soiled.

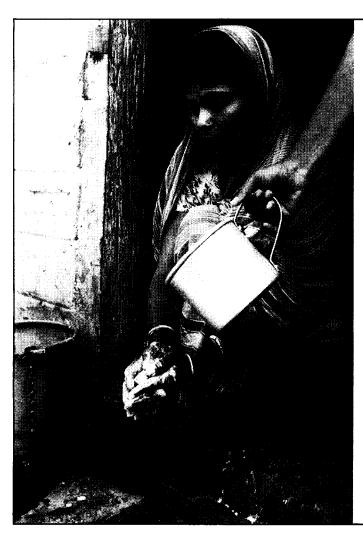
Almost two-thirds of the behaviours listed were adopted by 96 per cent or more of mothers. The other third were adopted by more than 75 per cent of mothers.

#### Dr Nasar U Ahmed, School of Nutrition, Tufts University, Medford, MA 02155, USA.

1. Ahmed, N U, Zeitlin, M F, et al., 1992. Community-Based Trial and Ethnographic Techniques for the Development of Hygiene Intervention in Rural Bangladesh. International Quarterly of Community Health Education 12:3.

## Soap, mud or ashes

Handwashing with mud or ashes has been found to be just as effective as using soap. *Bilqis A Hoque* reports.



Handwashing technique: hands should be rubbed together at least four times using soap, mud or ashes. Plenty of clean water should be used in rinsing. Hands should either be dried with a clean cloth or left to dry naturally in the air.

n rural Bangladesh, soap is not commonly used for handwashing. It is expensive and is used more for cosmetic purposes. Hands are usually washed with water only. After anal cleansing following defecation most rural people rub their left hand on the ground and rinse it with water. Ash is not widely used, although it is often promoted in health education programmes.

Twenty women from a low-income community in the city of Dhaka volunteered to take part in a five-day handwashing study. They were randomly divided into five groups to take turns at using soap, mud, ash, water only, or to act as a control (not washing their hands). Those using soap, mud or ash were shown how to rub both hands clockwise for 10 seconds using the

washing agent and then rinsing with water. Those using water alone rubbed both hands for 10 seconds under running water.

Samples were obtained from the left hand of each woman and tested for faecal contamination.

The study found that soap, mud or ash reduced contamination significantly\*. These three agents were found to be equally effective. The use of water alone also reduced the level of contamination, but not significantly. In contrast, more than half the control women (those who did not wash their hands) had significant levels of faecal contamination.

A follow-up field study confirmed these findings. It also found that the source and amount of water for handwashing was

important, as well as the duration of hand rubbing. A significant amount of water stayed on people's hands, so use of a contaminated source, such as a pond, resulted in contaminated hands.

Women who used their clothes to dry their hands after handwashing had higher contamination levels after drying their hands than before drying their hands. As a result, it is recommended that health educators advise women to either use a clean cloth or let their hands dry naturally in the air.

The field study also found that mothers had more bacteria on their hands as a result of washing their children's bottoms than they did after washing their own anal area after defecation.

The women tended to wash their left hands only, since the left hand is used for personal anal cleansing. However, women's right hands used for eating were also contaminated and needed to be washed.

#### Dr Bilqis Amin Hoque, ICDDR, B, GPO Box 128, Dhaka 1000, Bangladesh.

Hoque, B A, and Briend A, 1991. A comparison of local handwashing agents in Bangladesh. Journal of Tropical Medicine and Hygiene 94:61–4.

Hoque, B A, et al., 1993. Comparison of Soap, Soil and Ash in Cleaning Hands After Defecation: A Rural Bangladesh Experience. WHO-funded study conducted by ICDDR, B. (Unpublished data).

\* Sixty per cent of control group women tested positive for faecal contamination, whereas only 15–20 per cent of women using soap, ash or mud tested positive.

#### **MAIN POINTS**

Three key messages were devised as a result of the two studies:

- Everybody should wash both hands using an agent such as soap, mud or ashes.
- As much water as possible, preferably clean water, should be used in handwashing.
- Both hands should be rubbed as many times as possible (at least four times) during handwashing.

Editors' note: There is no 'magic' amount of water or number of times that hands should be washed. This depends on how contaminated hands are and how much water is available. But the study does show that the duration of handwashing and amount of water used is important.

## The sustainable use of soap

**Jane Wilson** describes a handwashing campaign that achieved changes that continued long after the intervention study was over.

The hygiene habits of mothers of small children can be crucial in reducing the spread of diarrhoea. A study in Central Lombok, Indonesia focused on promoting two key behaviours in mothers of small children: handwashing with soap, and disposal of toddlers' faeces.

First, mothers' knowledge, attitudes and practices concerning handwashing were surveyed. Mothers usually rinsed their hands with water before eating, but no-one routinely used soap.

Two experienced community organisers (COs) from the local area – one male and one female – conducted the interviews, and got to know the community by staying overnight between interviews. They also interviewed mothers once a fortnight for two months about their children's incidence of diarrhoea.

Similar groups of mothers in neighbouring villages were chosen to act as intervention and control groups. The COs called meetings of the 65 women in the intervention group to discuss how handwashing with soap could reduce diarrhoea incidence. They distributed bars of a locally available, inexpensive soap and colourful plastic soap boxes. Mothers were encouraged to wash their hands, and those of their children, after defecation and before contact with food. Where the COs noticed children's faeces near homes, they encouraged mothers to clear them away promptly.

The COs continued to visit the control and intervention communities every two weeks to collect information about children's illness and to supply soap to the intervention village.

By the end of the study, 11 weeks later, the diarrhoea rate reported amongst the children in the intervention group was much lower than before the intervention (89 per cent reduction). The incidence of diarrhoea in the control group had also decreased, but by a smaller proportion (30 per cent reduction). Seasonal differences were thought to be the reason for the control group reduction.

Many mothers said they would buy soap to use when the supply of free soap ceased. Two years later one of the COs returned to the intervention village and found that 94 per cent of mothers said they were still using soap, while 79 per cent could show soap at their washing places. The diarrhoea rate reported amongst children was still much lower (67 per cent lower) than before the intervention began.

Much of the success of this small project was due to the way simple messages were communicated. The COs spoke the local language and got to know the communities in a way that would have been impossible if they had just made short daytime visits. Discussions, based on mothers' own

experiences, were used to spread messages, since over 90 per cent of the mothers were not literate. Messages were promoted sensitively, in order to avoid villagers feeling they were being judged as dirty.

### Dr Jane Wilson, 33 Hartington Grove, Cambridge CB1 4UA, UK.

Wilson, J M, et al., 1991. Hand-washing reduces diarrhoea episodes: a study in Lombok, Indonesia. Transactions Royal Society Tropical Medicine & Hygiene 85:819-21.

## Involving the private sector

Soap manufacturers can be encouraged to promote handwashing by sponsoring advertising.

persuade a major soap-producing company in Indonesia to contribute to a campaign to promote handwashing.

Local market research showed that 90 per cent of Indonesians washed their hands with soap **after** eating, but fewer than 10 per cent used soap **before** eating, the critical time.

PRITECH (Technologies for Primary Health Care), a USAID-supported project, took these figures to Unilever soap company to convince them to support a general handwashing campaign. With a 50 per cent share of the Indonesian market for soap, Unilever had a lot to gain from increased use of soan

The handwashing campaign, devised by a local advertising agency and funded by the company, is now underway. A television announcement about handwashing to prevent diarrhoea was broadcast earlier this year, and an advertisement about the use of a brand of soap will soon be shown.

As part of the campaign a handwashing poster for schoolchildren (right) has also been developed in collaboration with the Indonesian Medical Association and is now being used in 1,000 schools in the capital, Jakarta.

A poster for doctors was also distributed by the medical association. Further radio spots are planned.



#### Sources of information

For more information on hygiene behaviour and water and sanitation, write to:

BASICS, 1925 North Lynn Street, Suite 400, Arlington, VA 22209, USA.

International Water and Sanitation Centre (IRC), PO Box 93190, 2509 AD, The Hague, The Netherlands.

Water and Sanitation for Health Project (WASH), 1611 N. Kent Street, Room 1001, Arlington, VA 22209, USA.

## 'Tippy tap' saves water

It is possible to promote handwashing even in areas where water is scarce. *Elena Hurtado* describes a project that used a simple water-saving device called the tippy tap.

Studies of behaviour and beliefs in a highland village in Guatemala found that water shortage was a major reason why handwashing was not commonly practised.

An intervention was designed based on the use of the tippy tap – a water-saving device made from a plastic bottle. (See picture below.) Originally designed in Zimbabwe based on the use of a gourd, the tippy tap was adapted in Canada to use a plastic bottle. It requires about a tenth of the water normally used to wash hands\*.

In a trial project, selected mothers were given tippy taps and encouraged to install

them in 'pretty corners' of their homes, together with hanging soap and clean cloths for hand drying. Mothers were given messages about using the tippy tap for handwashing.

A week later, these mothers were interviewed about handwashing. The trial showed that families were enthusiastic about using the tippy tap. They believed it used less water, and also less soap because the hanging soap did not become soggy.

A number of potential problems were highlighted. Older children were tempted to play with the tippy tap, wasting water or

> breaking it. The tippy tap required extra time and work to use and maintain it, and it was not easy to wash young children's hands using it. As a result of users' suggestions, the tippy tap was redesigned so that it had a hanging string to be pulled to tip out water when required. Also, the plastic bottle was hung from a stick so it could be moved to other places in the house if necessary.

The co-operation of fathers was recognised as vital to the whole family's use, so men were trained in making and installing the tippy tap. One child from each family was taught how to maintain the tippy tap. Their duties included filling it with water, letting their parents know when the soap ran out or the cloth needed changing, stopping other children from playing with it, and helping to wash young children's hands. All members of the family were encouraged to congratulate each other on using the tippy tap.

Communication support materials such as a flip chart and radio messages were designed and tested. Home visits to supervise tippy tap installation and encourage correct handwashing were carried out. Stories, songs, drawings and contests were used to put across messages to schoolchildren.

#### Results of intervention

Ten months after the start of the intervention, more than half the intervention mothers (54 per cent) were still using the tippy tap to wash their hands.

To evaluate handwashing behaviour four 'correct' steps were scored:

- 1. running water over hands
- 2. using soap
- 3. rinsing with clean water run over hands
- 4. drying with a clean cloth.

When asked to demonstrate how they washed their hands, 89 per cent of tippy tap users performed at least three out of four correct actions, and 61 per cent performed all the correct actions. When mothers not trained in tippy tap use were asked to show how they washed their hands, less than 2 per cent could demonstrate three out of four steps, and none could demonstrate all four steps.

Ten months after the intervention, the average incidence of diarrhoea among children in families belonging to the intervention group was lower than in a control group. But this difference was not statistically significant.

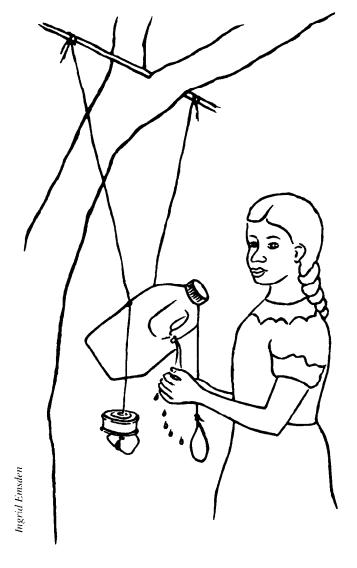
A possible explanation for this is that during the intervention period (1991) a cholera outbreak occurred in Guatemala. The Ministry of Health (MOH) initiated community clean-up campaigns and distributed hygiene information pamphlets house-to-house. There were 19 cases of cholera in a population of 10,000, compared with an MOH prediction of 250 cases. There were no cholera cases in households using tippy taps.

By reducing the total incidence of diarrhoea, the cholera information campaign may have obscured the impact of the tippy tap intervention.

#### Elena Hurtado, c/o INCAP, Apartado Postal 1188, Guatemala City, Guatemala.

When working on this research the author was working at the Institute of Nutrition of Central America and Panama. The study was supported by WHO. Dr Alfred Bartlett and Ms Elizabeth Mills Booth also worked on the project.

\* An individual uses 40–50ml of water for handwashing using the tippy tap, compared with at least 500–600ml in other forms of handwashing.

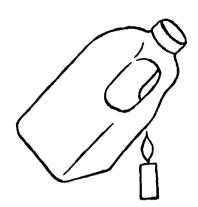


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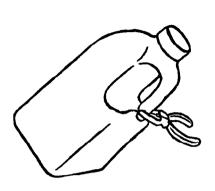
## How to make a 'tippy tap'

You will need

■ a plastic bottle ■ a nail ■ a small empty tin can ■ string ■ a stick ■ a pair of pliers ■ a candle ■ matches ■ a bar of soap

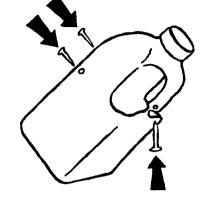


Take a plastic container with a hollow handle. Gently warm the base of the handle over a candle, turning the handle around until the base of the handle is shiny and soft all the way around.



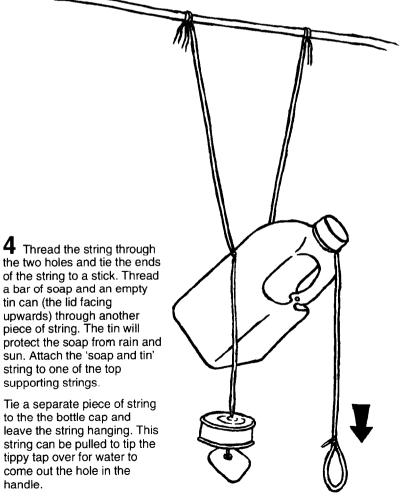
2 Remove the candle and quickly 'pinch' the soft base of the handle with pliers so that the base is sealed tight to prevent water flowing through it. Hold the pliers there until the plastic cools, ensuring that the seal is completely closed.

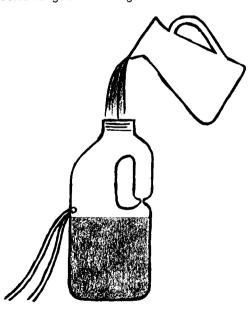




Heat the point of a small nail over a candle. Use the hot nail to make a small hole on the outside edge of the handle, just above the sealed area.

Heat the nail again and make two larger holes on the back of the bottle. The holes should be about half way up the bottle and about a thumb-width apart. These holes will be used to thread string to hang the tippy tap. The holes need to be wide enough apart to hold the string and to be positioned so that the 'full' bottle hangs at a 45° angle.





Pour water into the tippy tap until the water is almost level with the holes in the back of the bottle. Use the stick to hang the tippy tap in the bathroom or outside in a tree. The tippy tap is now ready for use.

The original gourd tippy tap was designed by Dr Jim Watt and Jackson Masawi at the University of Zimbabwe's rural centre. The plastic tippy tap was designed by Ralph Garnet and Dr Jim Watt in Canada.

#### Exclusive breastfeeding

When we talk about the ideal of exclusive breastfeeding, should we take into consideration the deep-rooted beliefs in many countries about giving alternatives to mother's milk for the first day or two of life?

Traditional views about not giving colostrum for a day or two are very strong. In south India, the practice of giving small quantities of castor oil for the first two days is very common because evacuation of meconium is the major concern. The community is quite knowledgeable about the quantity to be given and I have not seen any ill effects due to giving castor oil.

I feel we cannot be absolutely dogmatic about exclusive breastfeeding. We have to carry community opinion with us. Should one suggest alternatives, e.g. give breastmilk as early as possible, and if cultural beliefs insist on babies being given other fluids, then advise that they be given for only a short time and in as hygienic a manner as possible?

#### Dr Shanti Ghosh, Paediatrician and MCH Consultant, 5 Sri Aurobindo Marg, New Delhi 110 016, India.

Editors' note: What do other readers think? Please write and tell us.

#### Evaluating the cost

I very much liked the articles on evaluation in DD51. The front page editorial presented a practical cycle of steps for evaluators. I would like to suggest adding two more steps:

- Working out the actual costs of the programme. These should be compared with planned costs. The cost for each activity should be calculated, e.g. the cost for each mother trained.
- Comparing the results with the costs. This can be done by the evaluators, the programme managers and participants. The participants should be informed of the costs. Often the judgements of the participants on the cost-effectiveness of the programme can indicate the really good programmes or how weak programmes need to be changed.

J C H Morris, Head, Evaluation Department, Overseas Development Administration, 94 Victoria Street, London SW1E 5JL, UK.

#### Questioning appropriateness

DD51 made a number of good points about evaluation but I believe it promoted a very limited conception of what evaluation is all

The editorial says 'evaluation involves comparing what we are doing with what we set out to do'. Similarly, the article on page two says 'evaluation is any process

designed to assess whether a programme or activity is actually doing what it set out to do, and to suggest ways in which it could be altered to improve effectiveness'.

This view rests on two assumptions: namely that what we are doing is worth doing, and secondly that the plan that we are implementing is actually realistic.

Unfortunately, the history of development projects is littered with projects that should never have left the drawing board. Plans, projects and activities are often inappropriate, irrelevant or even downright harmful to their intended beneficiaries. But they could still be judged successful according to DD's definition of evaluation as long as they were implemented on schedule. Any evaluation that does not pose the questions of relevance and appropriateness is not worthy of the name.

Next we come to the question of realism of plans and targets. If a project is lagging behind the initial plan and the targets set, should the evaluation conclude that the project is deficient? Only if it can be assumed (or proved) that the plan and its targets were realistic in the first place. For many projects, especially experimental and new ones, the setting of realistic targets is extremely difficult or even impossible.

I appreciate that it is difficult to present complex issues simply and in a limited space. However, I fear that you have done some damage to the essence of the issue in this case.

Lauchlan T Munro, Planning and Monitoring Officer, UNICEF, PO Box 1250, Harare, Zimbabwe.

#### Dr David Ross, a co-author of the introductory article on evaluation replies:

The writer highlights two important aspects of evaluation: questioning the appropriateness and relevance of the objectives of the project or programme, and asking how realistic the set targets were. The answers should be used either to reinforce or change the overall aims and objectives of the programme, or to set more realistic targets for the future.

However, an evaluation must also include assessment of the programme's success in meeting its stated objectives and targets, or it could be accused of moving the goal posts when the game is underway!

This debate also highlights a key aspect of successful evaluations - the need for the evaluation itself to have clear and realistic objectives, but to be flexible enough to challenge both the programme's and the evaluation's own assumptions. The ultimate aim is to provide really useful information for the programme's planners, implementers and intended beneficiaries.

# Dialogue on

Dialogue on Diarrhoea is published four times a year in English, Bangla, Chinese, French, Nepali, Portuguese, Spanish, Tamil and English/Urdu, reaching more than 287,000 readers worldwide.

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