

# Dialogue on Diarrhoea

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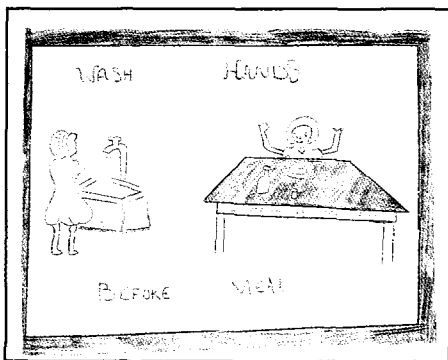
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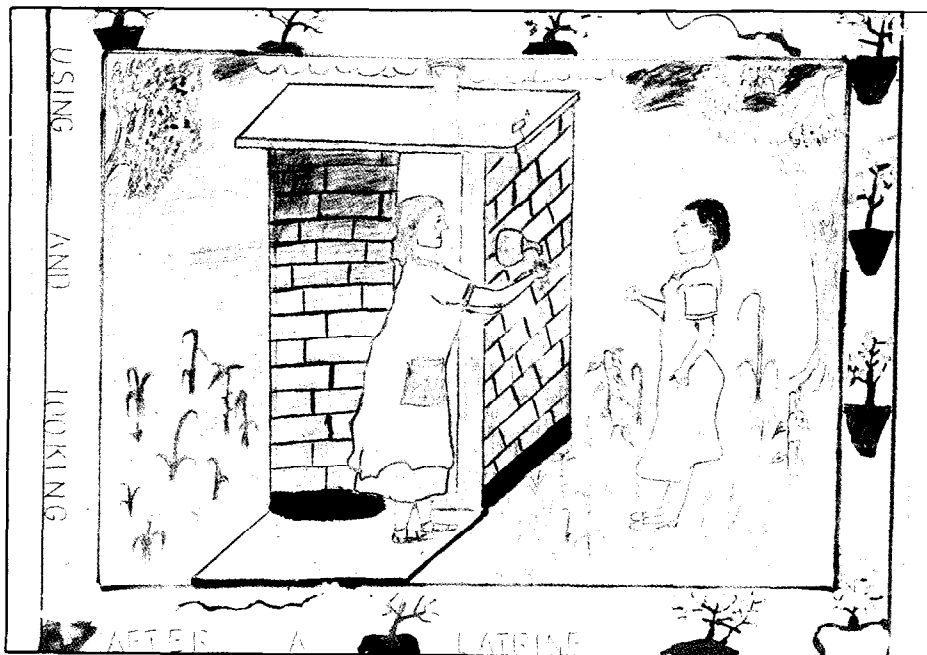
The international newsletter on the control of diarrhoeal diseases

## What people think and do about diarrhoea

Health workers need to know what people believe causes diarrhoea and how they deal with it. This issue of *DD* looks at the significance of beliefs and behaviour, and methods of finding out what people think and do.



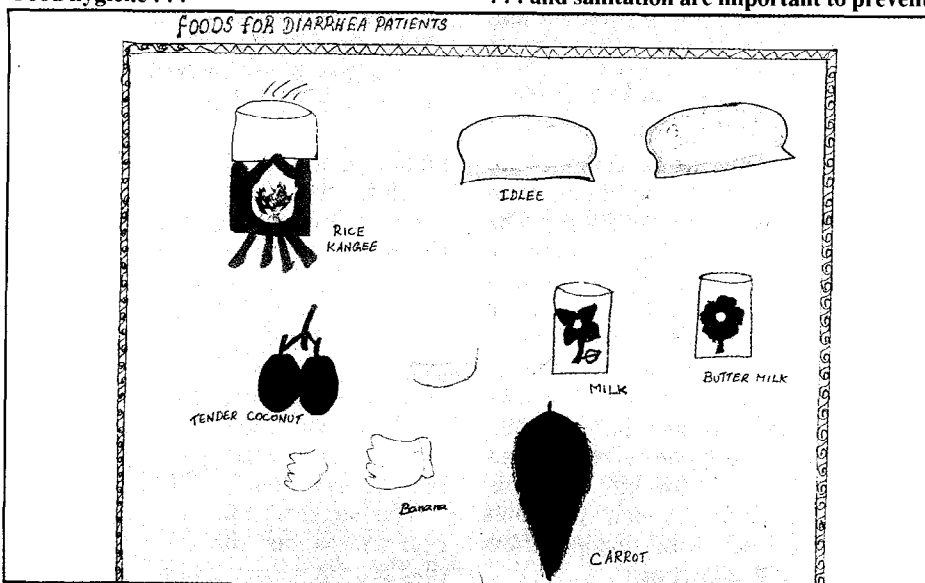
Evelyn Enos, age 12, Yamnata



Care Makarau, age 15, Zimbabwe

Good hygiene ...

... and sanitation are important to prevent diarrhoea.



M. Pithi, age 9, India



Patricia Quill, age 10, Vanuatu

Patricia Quill, age 10, Vanuatu

Continued feeding, including breastfeeding, during illness helps to minimise the effects of diarrhoea.

## In this issue:

- Rapid survey methods
- Diarrhoea: beliefs and behaviours
- Readers' viewpoints

# AHRTAG

Appropriate Health Resources & Technologies Action Group Ltd

# Investigating beliefs

## Research methods

Findings from several studies of beliefs and practices related to diarrhoeal disease have recently been published. P Stanley Yoder describes one way to collect data for this type of study.

Research we carried out in three language groups (Hassaniya, Ffulde, Fulani) in Mauritania, and three language groups (Nupe, Hausa, Gwari) in Nigeria, all gave very similar results. They showed that a number of illnesses (from four to eight), whose symptoms include loose/frequent stools, are identified in the local language, and that these illnesses are labelled or diagnosed according to symptoms, causes or both. Also, that diarrhoea accompanied by what are regarded as signs of dehydration, is identified as an illness distinct from diarrhoea and usually unrelated to other diarrhoeas. There is not a single term that groups diarrhoeal disorders into one category of illness.

We used a quick and simple method to collect information about how illnesses are classified. We also investigated how symptoms are grouped according to illness, and what causes and options for treatment are known in different cultural groups. The method is to interview small groups of women (from three to five in a group), asking questions in local terms about common illnesses. The questions are always open ended and move from the general to the specific within each session, those being interviewed providing the terms for later questions. During the first two days, questions are mostly asked about names of illnesses, in order to get a comprehensive list. Then questions are asked about the causes, symptoms and possible treatments.

Information collected on specific illnesses (symptoms, causes, and treatments) is grouped into tables to make it possible to compare the answers of each group to the same questions. This allows the researcher or health worker to evaluate the relative consistency of the symptoms given for a particular illness as well as to decide about the range of treatment possibilities.

The main advantages of this approach are: the short amount of time required; the informants provide all terms and categories for questioning; and the symptoms can be grouped,



Survey questions should always be asked using local words and language.

according to specific illnesses, to estimate the consistency of knowledge about them. Research can be completed in five weeks, including one week of preparation, two weeks of field work, and two weeks of analysis and report writing.

### Applying the method in Zaire

In November 1988, a study was conducted in Swahili to investigate the most common childhood illnesses in the city of Lubumbashi, Zaire. The study was to provide information for an oral rehydration therapy promotion campaign and for developing a questionnaire on diarrhoea and vaccinations. Diarrhoeal illnesses were therefore given high priority. Swahili is spoken by nearly everyone in Lubumbashi. In addition to the names given to diarrhoeal disorders in Swahili, information was needed about what symptoms were associated with each illness characterised by diarrhoea.

The study was carried out by a Zairian anthropologist and two assistants, after spending one week in preparation, including practising interview techniques. A total of 35 groups of women were interviewed in three different parts of the city over a period of two weeks. The average time spent

with each group was 45 minutes. Once a list of common childhood illnesses was established and further questions did not reveal new information, the investigators concentrated on finding out the symptoms, treatments and possible causes for each illness associated with diarrhoea.

### Classification of diarrhoea

People spoke of five different illnesses which generally included frequent and/or watery stools as characteristic symptoms: *maladi ya kuhara*, *kilonda numbo*, *lukunga*, *kasumbi* and *buse*. The symptoms, causes and treatments mentioned for each illness were arranged in tables so that the common symptoms and the responses of each group to the elements related to each illness could be compared.

The analysis showed that *maladi ya kuhara* could be counted as diarrhoea, and *lukunga* as diarrhoea with dehydration. The symptoms, treatments and causes described were very different for the two illnesses. By comparing the symptoms named for each illness, we found that, from a biomedical point of view, *kilonda numbo* can be characterised as dysentery or amoebiasis, *kasumbi* as diarrhoea with nappy rash, and *buse* as diarrhoea which occurs in a breastfeeding child when the mother becomes pregnant. Are these all different kinds of diarrhoea in Swahili?

A study of the data showed: first, that there is a high level of consistency in the symptoms, causes and treatments mentioned for each illness; and second, that there are major differences between the five illnesses in terms of symptoms, causes and treatments. The degree to which mothers see relationships between these five illnesses is not clear, but it is clear that they are distinct illnesses. Nevertheless, since all include loose or frequent stools as symptoms, a survey on morbidity due to diarrhoea would need to seek information on all five illnesses.

This suggests that, if health education campaigns aim only at illnesses that are local translations of the term 'diarrhoea', mothers will understand the messages as being concerned only with that one illness rather than with a range of diarrhoeal disorders.

**P Stanley Yoder, Senior Research Director, HealthCom Evaluations, University of Pennsylvania, Philadelphia, USA.**

## Collecting information

This article outlines a series of ways to collect information about beliefs and behaviour, known as RAP (rapid assessment procedures), applied to understanding of diarrhoeal diseases.

RAP can be used to replace surveys when resources are limited and only minimal information can be collected quickly before, during, or after programme development. RAP is preferably used to complement and enrich information obtained by a survey which assesses local conditions and needs; knowledge, attitude and practices; opportunities for intervention; and the activities and effects of different programmes. RAP is short for Rapid Assessment Procedures, but the name was also chosen for its ability to convey some of its characteristics. Research activities using RAP are rapid (two to four weeks of fieldwork), community based, focused, action oriented, and low cost.

### Techniques

The techniques used in RAP are:

- **Limited participant observation** — observation of a community, household or programme to gain important insights into everyday life and activities.
- **Observation** — looking at and listening to events and behaviours of interest.
- **Conversation** — informal individual or small group conversations.
- **In depth key informant interview** — more detailed interviews with a selected group of individuals, asking open-ended questions and incorporating additional questions based on responses.
- **Survey interviews** — structured or close-ended questionnaire given to a selected group of respondents.
- **Focus group** — discussion in which a small group of participants (six to ten) guided by a facilitator, talk freely and spontaneously about topics considered important. Different community group meetings (church, women, school, co-operatives, committees, etc.), though not focus groups in a strict sense, can also be used to obtain information.

A more complete description of each technique is provided in the RAP field guide and other manuals. Data collection with each of these techniques is guided by checklists (for observation, for example), discussion guides (for focus groups), interview guides, etc.

We have used RAP to learn more about diarrhoeal disease in Central America and Panama in relation to the following:

- popular and health providers' perceptions, definitions and response to diarrhoea episodes in children
- infant and child feeding and care practices
- sanitary conditions in homes and surroundings
- existing distribution systems for medicines
- sources of information for mothers and health providers

The fieldwork activities were concentrated in three areas: in the community, the household and among health providers. Detailed guidelines with specific questions for data collection were developed; here we will only outline the main topics or sectors of information included within each area and illustrate some of the findings.

### Community

Information about the community can be obtained from available data (census, reports, theses etc.). Other relevant and more specific information (for example, on traditional health providers) can be obtained during fieldwork through observation and interviews with key informants, such as community leaders and school teachers.

### Household

A minimum of 15 households (for communities of 1,000 inhabitants) is selected. When random selection is not feasible, a range of households from different locations should be selected. Contrasting households (e.g. those with children who frequently have diarrhoea, and with children who seldom

have diarrhoea), can be selected to make the survey more representative. Mothers of selected households are interviewed as key informants using more structured questionnaires. Focus groups of mothers with children under five can also meet to discuss the topics.

### Examples of health resources in a Guatemalan community

#### Popular medicines

- Home — herbs from bush and patio and commercial medicines

#### Traditional healers

- Folk curers (*curandera*) — four women who are also masseuses (*sobadora*) and one woman who is also a clairvoyant
- Masseuses (*sobadora*) — four women mentioned above, two other women and two men who are also bonesetters (*hueseros*)
- Spiritists — one man and one woman
- Midwives (*comadrona*) — four women (two of them used occasionally)

#### Modern non-government

- Injectionists (*pone inyecciones*) — four women and two men
- Stores (*tienda*)
- Drugstores (*farmacia*) — with one male and one female lay pharmacist
- Private physician — one during weekends

#### Modern government

- Health post — auxiliary nurse and rural health technician

Useful information can be obtained from these interviews and group discussions about: family composition; socio-economic conditions; characteristics and sanitary conditions of the home and surroundings; different types of diarrhoea — causes, symptoms, perceptions of severity, health care seeking and treatments; detailed description of the last episode of diarrhoea in the family and response to it; diet of healthy children and of children with diarrhoea; child care (especially food preparation, faeces disposal and hand-washing); remedies (home and commercial medicines, including ORS) used for diarrhoea in the home; knowledge and use of ORS; sources of information.

*Continued on page 4*

### Health care providers

These include health care providers from both biomedical (e.g. health post, clinic, dispensary, pharmacy, store), and traditional (e.g. healer, midwife, masseuse) health resources identified at the community level, especially those consulted in cases of particular types of diarrhoea. Different types of health providers are key informants and can be interviewed in groups. Additional information can also be gained by observing the interaction between users and providers of health care.

Information about health providers includes: characteristics of health resource/health provider; types of services offered, especially for diarrhoea; knowledge and practices in regard to diarrhoea — types, causes, symptoms, and treatments; inventory of remedies for diarrhoea in health resource/home of health provider; knowledge and use of ORS (can include observation of preparation of ORS packet); interaction between health provider and user (observation of a consultation for diarrhoea); sources of information, educational and informative materials available.

Information obtained using RAP can be very valuable for programme planning, implementation and evaluation. Consideration of techniques for data recording and organisation, qualitative data analysis and report writing have not been dealt with here, but are crucial to produce useful information. These are discussed in detail in the RAP field guide.

*The RAP field guide (price US\$8.95 plus \$2.00 postage) is available in either English or Spanish from: D Alaba, UCLA Latin American Center, University of California, Los Angeles, CA 90024-1447, USA.*

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**Elena Hurtado, Division of Nutrition and Health, Institute of Nutrition of Central America and Panama (INCAP), Guatemala; and Susan Scrimshaw, School of Public Health, University of California, Los Angeles, CA, USA.**

## Brazil: a RAP survey

In Porto Alegre, a Brazilian city of 2.5 million people, we investigated local beliefs about diarrhoea, and found out about liquids and weaning foods given to children. We used the RAP technique (see page 3) during a study period of six weeks.

Mothers' classifications of diarrhoeal diseases are complex and combine ideas from biomedical and popular sources. The treatment of diarrhoea at home may include changes in the diet, use of ORS, teas and drugs. These therapies are fitted to the episodes by the causes mothers attribute to the diarrhoea. Causes include kinds and quality of food, lack of water, 'dirty' water, commonly known infectious diseases like otitis media, teething, 'worms', inappropriate use of drugs, particular states of mind or mood, evil eye, 'loss of fat of the intestines', and eating earth. Episodes are divided by the mothers into simple and complicated ones, and children with complicated cases are taken to the health centre or hospital.

### Use of teas

The use of teas for infants is widespread in the study area. They are introduced into the child's diet in the first days of life, sometimes in the hospital soon after birth, and even when the mother is breastfeeding. Teas are used for thirst, pain (colic, earache), soothing children when they are crying, and are given between each breastfeed or bottle feed. Teas are the main treatment used when the first symptoms of diarrhoea appear. They are thought to be more efficient than ORS (called 'sorinho') to stop diarrhoea. Some mothers add salt and sugar to teas. The impact of mixing ORS with teas has not been examined but it is certainly not recommended. The use of these teas as a supplement to breastfeeding during the first few months of life is also dangerous because dirty bottles and utensils cause infection. Also, any supplement makes breastfeeding more difficult, because it may decrease the number of breastfeeds, thereby reducing the production of milk, possibly contributing to mothers stopping breastfeeding too early. On the positive

side, giving any home fluid, including teas, to children over six months of age at the onset of diarrhoea, may be beneficial in avoiding dehydration.

### Diet

Behaviour related to diet shows how popular beliefs support good as well as bad practices. For example, mothers continue breastfeeding during diarrhoeal episodes, and perceive it as a remedy for diarrhoea. The importance of breastfeeding was also emphasised by traditional healers. On the other hand, mothers report that they withdraw other food during diarrhoeal episodes: either specific foods such as beans, oranges and bananas ('heavy' foods), or sometimes all foods.

### Dehydration

Due to a mass media campaign in Brazil and other health education efforts, mothers reported the term 'dehydration' and knew it to be a severe condition. However, deeper questioning revealed that few understood that it referred to a loss of water and salts. Mothers would often recite the campaign slogans, but did not appear to understand concepts such as diarrhoea, dehydration and ORS. Dehydration, for example, was often confused with malnutrition (in Portuguese 'desidratação' and 'desnutrição').

In spite of the limitations of RAP — the generality of the guides, the need to develop new questions, the dependence on a small number of informants, and the difficulty of analysis — the use of this technique produces a snapshot of a set of beliefs and reports of practices that is particularly applicable for the control of diarrhoeal diseases. For example, traditional causes and classifications of diarrhoea are extremely complicated and continue to change. RAP also reveals the important effect these beliefs have on popular treatments for diarrhoea.

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## Why do mothers wash their hands?

**Improving handwashing has been shown to reduce diarrhoeal disease. We need to understand why, when and how people normally wash their hands, before we can change behaviour. This article describes a study in Peru to investigate beliefs and practices in relation to handwashing in ten shanty towns surrounding the capital city of Lima.**

As well as looking at handwashing behaviour, it is also important to understand the way in which it is affected by living conditions, especially access to water supply. Most people in the shanty towns do not have access to piped water. Water is provided by private vendors who sell it house to house from tankers. This sales system, in addition to being irregular, means that the water costs much more than in neighbourhoods where there is a proper water supply. To save money, mothers in the shanty towns re-use water for different domestic chores. For example, the same water that is used to wash vegetables is afterwards used to wash dishes, clothes or hands. Although the scarcity and cost of water influences the way in which it is used, this study has shown that cultural beliefs related to the concept of 'dirtiness' and the social prestige attached to cleanliness are also important in determining how water is used.

### Beliefs about 'dirtiness'

There are three kinds of 'dirtiness' that may lead to handwashing:

- **Perceived 'dirtiness'**: when the hands look, feel or smell dirty to the mother. She washes her hands when they are visibly soiled, smell strongly, for example of kerosene, or when they feel sticky. This is the most common type of handwashing. Essentially the hands are washed because they feel uncomfortable.
- **Contaminating 'dirtiness'**: when the hands have been in contact with anything considered dirty, such as money, garbage or adult human faeces. All of these are felt to be vehicles of different illnesses. Although mothers report that they wash their hands on these occasions, observation shows that this is not always the case. Baby stools are also not considered to be dirty or contaminating.
- **Social 'dirtiness'**: when mothers wish to improve their general physical

appearance. This type of handwashing is very common and occurs before going out, or receiving guests at home. It is associated with aesthetic or social values.

Since many household chores involve the mother having her hands in water, she feels that most of the time her hands are clean and that there is no necessity for additional washing with clean water and soap. As far as she is concerned, she is 'washing' her hands when she is cooking, and washing dishes and clothes. Consequently, most handwashing is very superficial and is done with the water in which vegetables, dishes or clothes, including dirty nappies, have previously been soaked or rinsed.

### Methods of handwashing

How mothers wash their hands depends on the kind of 'dirtiness'. For perceived dirtiness, water alone or water with detergent remaining from previous use is usually considered adequate. For contaminating dirtiness, previously used water with detergent, clean water and detergent, or clean water and washing soap is used. Handwashing for social purposes is done with cosmetic soap. However, the water mothers use to wash on these occasions has generally been previously used by the husband and/or the children. Mothers usually dry their hands on their clothes. They may also use drying-up cloths, nappies or any reasonably clean cloths.

This study has demonstrated that mothers in the shanty towns of Lima understand the concept of contaminating 'dirtiness' but that they primarily wash their hands for practical and social reasons. In addition, hands are rarely washed with clean water and soap and they are generally dried on the mother's clothes.

Changes in behaviour are more effectively brought about when the



WHO photo by P. Altmayr

**Handwashing behaviour is affected by access to water supply: where water has to be collected (as above), or bought (as in the shanty towns of Lima) it is often used for several purposes.**

existing behaviour is understood and the intervention can be designed so that it reinforces cultural beliefs and practices. Thus, in our educational intervention to promote handwashing, the concept of contaminating dirtiness has been emphasised with the addition of the idea that children's faeces should also be included in this category.

*This study was supported by WHO and THRASHER and is part of a project aiming to change behaviour which is related to the high incidence of diarrhoeal disease.*

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Preceding articles in this issue show how important it is, for national CDD programme planning purposes, to use qualitative research methods to obtain accurate information about beliefs and behaviours which affect family management of diarrhoea. The viewpoints on the following three pages may have certain scientific limitations, either describing less formal studies or being more anecdotal reports. They are, however, very relevant to the theme of beliefs and behaviours and provide valuable information about particular local attitudes and actions in relation to diarrhoea. Comments and reports from other *Dialogue* readers would be welcomed.

## Uganda: newborns, false teeth and diarrhoea

The condition of 'false teeth', called *ebiino* in south western Uganda, is believed to cause diarrhoea and fever convulsions. In fact, young neonates are given water which is often collected from unsafe sources, and it is this contaminated water which frequently causes diarrhoea and associated fever. The 'false teeth' belief first appeared in the 1970s and has since spread. Dehydration, caused by diarrhoea, dries the gums, making the canine teeth inside the gums more pronounced and pale. This is why parents and grandparents think that diarrhoea is caused by false teeth.

The response to 'false teeth' involves making a cut in the gum with unsterilised, rudimentary instruments, to dig out the 'milk tooth', believed to be false. No form of anaesthesia is

used, and the baby's mouth may bleed for hours. This treatment is paid for and is accepted as a panacea for, and immunisation against, childhood health complaints, and is received by almost all children. After extraction of the teeth, some newborns also suffer from local infections which make breastfeeding difficult and increases the chances of malnutrition and worsening diarrhoea.

Our project is trying to change beliefs and behaviour concerning 'false teeth' through dialogue with mothers, fathers, relatives and traditional healers. Health workers explain about the relationship between diarrhoea and dehydration and the importance of preventing the dehydration rather than extracting the 'false teeth'. Those families who have not removed their children's teeth but have used rehydration are encouraged to share their positive experience during community meetings.

The health workers help the parents

to appreciate the fact that diarrhoea and vomiting existed long before the false teeth problem was recognised. Emphasis is placed on sharing information about the potential hazards of premature extraction of teeth.

Water source caretakers, community based pump mechanics, and project health workers help the parents to explore ways to prevent diarrhoea, and discuss the need to prevent rapid death from dehydration in newborns.

For those who still strongly believe in 'false teeth', the health worker recommends instead a placebo of treating the gums with warm salty water using clean cotton wool or a clean piece of cloth. This has been found to improve hygiene and minimise possible infection from dirty fingers.

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## Promoting breastfeeding in urban communities

Promoting breastfeeding is one of the most effective ways to reduce neonatal death and illness. In some urban communities there has been a significant decline in breastfeeding. Mothers in these communities are often without family support. Deliveries take place in overcrowded maternity wards, and after birth very little time is allowed for the mother to be with her newborn infant. Two separate control studies of first time mothers in poor urban areas in Guatemala showed that the level of support during labour can affect maternal behaviour after birth, including the bonding needed for successful breastfeeding. Early and continued contact between the mother and her newborn infant can result in successful and prolonged breastfeeding. Studies

in Brazil<sup>(1)</sup> and Sweden<sup>(2,3)</sup> compared mothers who had contact with their infants shortly after delivery, and for extended periods during their hospital stay, with a control group of mothers. It was found that the mothers in the first group were more likely to breastfeed than those in the control group. In a study in a poor urban area of Guatemala, mothers who had had extra contact with their infants after birth were more likely to be breastfeeding one year later.<sup>(4)</sup>

Efforts in urban areas should be directed towards improving maternal nutrition, prenatal care, and especially early maternal infant contact, breastfeeding and prevention of infections.

**Roberto Sosa, Director, Department of Neonatology, All Children's Hospital, 801 Sixth Street South, St Petersburg, FL 33701, USA.**

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## Beliefs of rural mothers about diarrhoea in Orissa, India

A study was carried out in a rural referral hospital to find out what mothers believe about the causes of diarrhoea, feeding practices, treatment and ORS, in order to plan health education activities. Mothers of children with diarrhoea attending the government hospital in Daspalla, Orissa, were selected at random and asked about various aspects of diarrhoea. A total of 1,000 mothers were interviewed, two thirds of whom were non-literate.

Mothers thought that diarrhoea was caused by casting of the 'evil eye' (65 per cent), indigestion (44 per cent), 'hot' foods such as mango and egg (ten per cent), teething (eight per cent), and food eaten by breastfeeding mothers (35 per cent). They believed that children cannot digest the breastmilk of

mothers who eat oily, spicy curries, dahl, fish, meat, and eggs, even though most of these foods are good for lactating mothers. The most distressing fact observed in this study was that 136 mothers, even from the more educated group, blamed their own breastmilk for causing diarrhoea. In all these cases, one child or more in the family had died because of previously chronic diarrhoea, and older relatives of the mothers had attributed this to breastmilk.

The incorrect ideas of mothers about the cause of diarrhoea were reflected in case management. Cereal food and milk were restricted by 95 per cent and 46 per cent of mothers in this study group, fearing that these would cause indigestion in children with diarrhoea, making it worse. They preferred to give arrowroot water, sago water and barley water. These attitudes and feeding practices will lead to malnutrition. Unfortunately a large proportion of the more educated mothers also have wrong ideas. A quarter gave glucose

water to combat weakness, while only 11 per cent gave commercial ORS preparations.

Other treatments included household remedies and homeopathy, as well as *Jharphunk*, a method of prayer to ward off the evil eye. Homeopathic medicine is very popular because there are practising homeopaths in almost all villages, and the medicines are very cheap. The people of this area are very poor and only come to hospital as a last resort because they cannot afford allopathic medicines.

The study highlights the need for a well-planned, intensive health education programme based on these findings, to change some incorrect beliefs and to educate mothers about the role of infection in causing diarrhoea, the importance of continued breastfeeding and of feeding during diarrhoea, and the preparation and importance of ORS.

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## Diarrhoea in Nicaragua: causes and local remedies

Poorly stored water in cities, contaminated surface water, and bottle feeding are important causes of diarrhoea in Nicaragua. Breastfeeding is generally regarded positively, and women will breastfeed if possible, although this is more difficult if a mother is working. Bottle feeding is fairly common and is not actively discouraged in hospitals. Infant feeding bottles are widely available at low cost, which makes them attractive to working women, although the Centre for Information and Technical Services for Health (CISAS), a Nicaraguan NGO, tries to encourage the use of cups instead of bottles in weaning and for giving ORT.

Mothers sometimes believe that fear will cause illness in children, although often it is understood that diarrhoea has links with bad food. Water is not usually seen to be dangerous; if it is clear, mothers will think it safe to drink. In some cases the sunken fontanelle, which is a result of dehydration, is seen as the cause of illness, and some remedies for it include blowing smoke into the child's mouth, holding the child



Traditional local remedies for diarrhoea and other illnesses are being re-evaluated in Nicaragua.

upside down, or pressing upwards on the roof of the mouth. Local remedies for diarrhoea include a drink made from cornstarch and lemon, rice water, and teas (for example, made from guava leaves).

CISAS aims to change attitudes both in the community and among health workers. Training is needed to help health workers deal sensitively with patients who may be illiterate or semi-

literate. Resources are also limited and clinics cannot deal with the large numbers of children with diarrhoea who could be treated effectively at home if families knew what to do. Education of families about hygiene and health is also very important.

**Based on an interview with Ana Quiros, Centro de Informacion y Servicios de Asesoría en Salud, Apto 3267, Managua, Nicaragua.**

## Beliefs and behaviour: the Maasai in Kenya and Tanzania

Success in preventing diarrhoeal illness does not depend only on providing information. There are important lessons to be learnt by studying how communities understand diarrhoea, the believed causes of infection, and treatments and behaviour. If sanitation, hygiene and other practices relating to diarrhoea are to be improved, change must come from within the community.

In northern Tanzania and southern Kenya, our health team studied the beliefs about diarrhoea of several groups of nomadic Maasai, including causes and treatment. The study (among 231 mothers in Kenya and Tanzania) found that there were 21 believed causes of diarrhoea. Those mentioned most were stale food, dirty water, flies, badly cooked meat, malnutrition, and water holes used by domestic and wild animals. The study identified 29 different terms used for diarrhoea, depending on stool colour, composition and type. Thirty two treatments for diarrhoea, mainly medicinal plants, were found as well as a distrust of modern medicines, and a belief among some nomads that people have two stomachs. The Maasai believe that bad food and bad water is processed by the second stomach by washing the badness from the body. Animal fat is a popular treatment, as is the drinking of clean water and breastmilk (for infants).

The Maasai showed knowledge of common causes of diarrhoea on which Maasai health workers can build an education programme, adapting and using positive beliefs. We are now also studying the efficiency and effectiveness of traditional Maasai treatments for diarrhoea.

The success of interventions relating to practical hygiene is due to the fact



Michael Meegan

**If sanitation, hygiene and other practices relating to diarrhoea are to be improved, change must come from within the community.**

that many of our own community health workers are Maasai and Samburu warriors who are part of the community and who have combined what they see as 'modernism' with traditional practices. There is an important place for building on cultural perceptions and ideas and those beliefs are essential in building and designing any community health initiative. As one of our health workers said: 'At the end of the day, a mother will listen to her mother's advice rather than to a stranger's. She'll draw on her experience from her world, not from ideas given her in another language.'

Should any *DD* readers wish for information about our research methods, or for more details of our ongoing research, we would be glad to share this. Ultimately, ethnomedical research is about listening carefully and learning before trying to teach. The more we listened in our research, the more we realised we had to learn.

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### Clarification

**Feeding bottles: a source of faecal contamination** — an article published in *DD* issue 37, should have credited Dr Guillermo Lopez de Romana as co-author. The Editor would like to apologise for this omission. The authors would also like to clarify a point made in the article by the *DD* editors: 'There is no need to use a baby bottle. The use of baby bottles should be completely eliminated. This would not only reduce the frequency of consumption of contaminated weaning foods, but will also help to maintain breastfeeding, resulting in a better infant diet.' The authors suggest that the recommendation to eliminate feeding bottles completely is often impractical in cities such as Lima, because many mothers have to be away from their children for some hours and the caretaker feeding the child, even with breastmilk, may have to use a feeding bottle. If it is not possible to eliminate the use of feeding bottles, then promotion of better and more hygienic use is necessary (or use of a cup and spoon).

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