



**PRITECH**

*Technologies for Primary Health Care*

# Occasional Operations Papers

CDD in Kenya:  
Policy and Research on  
Home Treatment

*by Peter Spain*

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**Positive Results from WHO/CDD Kenyan Survey:  
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**The Fluid and Foods Panel**

**The WHO Kenyan Household Case Management Survey:  
Main Findings and Implications for a Communications Strategy**

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## INTRODUCTION

This Occasional Operational Paper is the first in a series that the PRITECH Project, funded by the U.S. Agency for International Development, will be publishing periodically. The papers will focus on programmatic experiences in the field and on lessons we have learned. The PRITECH Project has full-time field staff operating in country and regional offices in Africa, Asia and Latin America. Our field staff, in collaboration with their national colleagues, have operational experiences and ideas to share with their colleagues through these papers. Although the experiences derive from a particular country situation, we hope that lessons learned can be useful to CDD program managers elsewhere.

For the most part, these papers will be written by field staff for field staff. Papers will not be made to conform to a pre-determined, sanitized format and style. We want to retain the originality of the individual author. Offered by the writers on an ad hoc basis, these papers will be peer reviewed only when the author so chooses.

We believe that, by sharing our experiences working with national CDD programs throughout the world since 1983, we may give you new ideas for your programs. We encourage you to let us know about your experiences. We hope that you find this series interesting and useful -- and that you enjoy a sense of sharing in the many struggles and successes of CDD programs throughout the world.

## POSITIVE RESULTS FROM WHO/CDD KENYAN SURVEY: PRITECH AREA HIGHLIGHTED

The Diarrhoeal Diseases Control Programme of the World Health Organization (WHO/CDD) carried out a Diarrheal Diseases Household Case Management Survey in Kenya from January 27 to February 4, 1990. Using standard WHO survey methods, this study was conducted in six (out of forty-one) of Kenya's districts. Three of these districts were areas of Western Kenya where the national CDD program had run a major communications campaign, with PRITECH assistance; the other three are among those slated for CDD activities in 1990. In all districts in Kenya, extensive healthworker training has been carried out by CDD central and provincial staff, but targeted communications have been done only in Western Kenya so far.

A total of 23,884 children under five were surveyed, through their parents' self reports. The most notable results were as follows:

annual diarrhea incidence rate per child per year	3.3 - 5.8
point prevalence (i.e., diarrhea now)	4.0 - 7.7
ORS use rate	10.8 - 29.0
SSS use rate	.3 - 10.3
use rate of recommended home fluids	65.6 - 90.7
ORT use rate (ORS, SSS, and/or HF)	69.4 - 93.0
continued breastfeeding during diarrhea	96.9 - 100.0
continued feeding during diarrhea	46.2 - 73.4
increased fluid during diarrhea	4.0 - 26.0
drug use during diarrhea	25.9 - 47.1
two-week point prevalence	13.0 - 20.5%*
	* range of confidence limits

The high use of recommended fluids reflects the common practice of giving *uji* (a local cereal gruel), milk, and fruit juices given to children even before diarrhea starts. ORT use is high because use of these fluids is common in feeding Kenyan children. These fluids are recommended by the program, and are being continued when diarrhea occurs. ORS use is low, and volume of ORS is also low, in the range of 288 ml to 687 ml in 24 hours.

Use of good diarrhea management practices was better in Western Kenya than in other areas. The survey concluded that, in these districts with the CDD communication program (the PRITECH districts), children with diarrhea are more likely to be cared for properly, although improvements in case management are called for in all districts.<sup>1</sup>

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<sup>1</sup> A direct result of the Household Survey was the commissioning of the Food and Fluids Panel, to develop policy guidelines for home case management of diarrhea. cf. the PRITECH Operations Occasional paper, *The Fluid and Foods Panel*, which follows.

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## THE FLUID AND FOODS PANEL

### Rationale

Diarrhea begins at home, and so too should diarrhea treatment. The question that has consistently challenged policymakers is: what should a mother do first, when diarrhea begins in her child?

The options for the mother's practice and for the policymaker's guidance are many. Traditional African medicine imposes a number of food taboos during diarrhea, restricting what a sick child can eat. Traditional Western medicine has been even more restrictive, counseling fasting for the first day or two of diarrhea, to "rest the gut". Other immediate options for the mother include going to the local healer, going to the local clinic if there is one, going to the local pharmacist if there is one, going to her mother-in-law or some other older woman for advice, or using medicines including ORS that may be in the home.

Determining the best, immediate course of action involves balancing the ideal diarrhea therapy with the need to recommend a course of action that *all* women can carry out. This is what the Kenyan Food and Fluids Panel, set up by the MOH in early 1990, set out to do.

This particularly important Kenyan CDD activity, supported by PRITECH, was launched by the Division of Family Health, which has responsibility for the national CDD program. The Food and Fluids Panel was made up of Kenyan pediatricians, plus one Kenyan communications specialist, to deal with policy on the management of diarrhea in the home. The panel looked at all available research on feeding practices by Kenyan women when their children are sick with diarrhea. They also assessed the nutrition and rehydration value of the foods they were able to identify. In addition, the panel reviewed the general body of research that deals with the dietary management of diarrhea, and looked for gaps in the research base that should be filled. For its final deliberations, the Food and Fluids Panel was joined by PRITECH consultant Dr David Sack from the Johns Hopkins University.

### Recommendations

#### 1. Use of uji

The panel's principal conclusion was *to recommend the use of uji, a locally available porridge*, for mothers to use in the home.

*Uji* stands out as the most commonly used weaning food and also the commonest home fluid used during diarrhea -- according to a recent WHO survey of more than 20,000 children in six districts of Kenya. But the survey found that the volume of *uji* given was too low, so ways need to be devised to increase volume. Used in adequate amounts,

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*uji* contains starches that are ideal for sodium transport across the intestinal wall.

The panel gave some specific guidance on how to use *uji* during diarrhea:

- o no alteration should be made to the way mothers presently prepare *uji*;
- o *uji* should not be diluted further for use during diarrhea;
- o salt should not be added to *uji* during diarrhea;
- o *uji* is not a food, but is a fluid without enough calories and electrolytes, so other foods should be given during diarrhea to maintain nutrition;
- o *uji* should not be mixed with ORS;
- o current CDD messages -- "give more fluids and continue feeding during diarrhea" need to be more specific;
- o in terms of volume, half a tea cup (100 ml) of *uji* should be given after each loose stool to children under one year, and one to two tea cups (200-400 ml) should be given after every loose stool to children over one year.

Use of familiar home-prepared fluids for prevention of diarrheal dehydration was preferred to the use of packets. The panel cited home-based fluids as the more sustainable approach, based on raw materials available in the home and independent of distribution problems. The panel cautioned, however, that *uji* or other home fluids are not intended for infants under four months (for whom breastfeeding is recommended) or for children with severe or persistent diarrhea. This latter group needs medical attention (cf. below).

## **2. Other fluids**

Alternative fluids that may be given include:

- o plain water in liberal quantities;
- o *fresh* fruit juices, but not commercial fruit juices and drinks due to their relatively high osmolality and potassium content.
- o fermented milk;
- o coconut water where available.

## **3. Breastfeeding**

The panel endorsed exclusive breastfeeding for the first four months of life, and recommended that any infant below four months of age suffering from diarrhea should be breastfed frequently, referred to a health facility, and not given home fluids like *uji*.

## **4. Feeding**

The panel emphasized the need for continued feeding during diarrhea, and stated clearly that *uji* does not provide enough energy requirements during diarrhea. They specifically recommended that mothers be urged to feed their children at least five times a day or more during diarrhea.

## **5. Communication**

Citing a gap between knowledge of ORT and its practice, the panel urged that communication be improved to increase behavior change. It also recommended that communication be targeted at the mothers of children most at risk, whom the panel

specified as malnourished children, post-measles children, low-birth-weight children, non-breastfed children, and first-born children. Another focus for communication urged by the panel was proper preparation of ORS.

## **6. Research**

Gaps in the research picture led the panel to recommend additional research. Most immediate, they said, was the need to study *uji* more closely, in terms of its osmolality and sodium content in different regions of the country. The panel also called for ethnographic studies to determine the acceptability of *uji* as a rehydrating fluid by mothers and by public and private health workers. If research showed it to be feasible, the panel said that *uji* should be introduced at ORT corners in health facilities.

Studies were also called for to look at weaning foods in various regions for their nutrient density, salt content, and preparation techniques. Where weaning foods were found to be calorie-deficient, strategies would be needed to increase calories that children get, either by more frequent feeding or by identifying more nutritious local foods.

The panel saw value in studying regional feeding variations during diarrhea -- variations in frequency, taboos, salt content, and use of fermented milk.

In the area of communications, the panel asked for studies to determine the most effective strategies and the most efficient frequency of messages to ensure reinforcement. New and attractive ways to promote *uji* were called for.

The panel also urged that studies be done into the cost-effectiveness of marketing ORS commercially.

## **A National Home Treatment Policy**

The endorsement of *uji* makes Kenya one of the first countries to respond to WHO's recent recommendation that nations develop a policy specifically for diarrhea treatment at home. WHO's recommendation and Kenya's endorsement recognize the facts that (1) ORS will never be plentiful enough even if health facilities had plenty to distribute (which most do not), because of the limited coverage of health posts, and (2) whatever the availability of ORS, there is a real need for an immediate home-based treatment that will in most cases head off any later need for a clinic visit or ORS.

In Kenya, that is *uji*.

# THE WHO KENYAN HOUSEHOLD CASE MANAGEMENT SURVEY:

## MAIN FINDINGS AND IMPLICATIONS FOR A COMMUNICATION STRATEGY

A Diarrheal Diseases Household Case Management Survey was conducted by the Ministry of Health and the World Health Organization (WHO) from January 27-February 4, 1990, with support from PRITECH and other donors. This survey, carried out in six districts and covering over 20,000 children under five, has provided a solid basis for CDD planning. Survey results highlight the existing strengths and weaknesses of the national CDD programs, and suggest areas of immediate and longterm need. The highlights reported here are taken from a draft of the CDS Communication Unit's annual plan, and are presented in terms of their fit into a communication strategy.

### Principal Research Findings

While the survey gathered information on a wide range of subjects relating to the management of diarrhea in the home, we wish to emphasize eight survey findings, which in our judgment called for inclusion into the communication strategy. These findings are:

***1. Breastfeeding is almost universal during diarrhea. Feeding during diarrhea occurs in between 46.2% and 73.4% of the diarrhea cases<sup>1</sup>.***

What this says is that Kenyan mothers do quite well on feeding during diarrhea. In some countries, the traditional practice is to withhold food entirely during a diarrhea episode, in the belief that fasting would cure the diarrhea.

In terms of message development, this good practice by so many mothers deserves reinforcement. Messages of praise for this practice are important. "Congratulations to Kenyan mothers! A recent survey found that most of you continue to feed your children during diarrhea. And almost all of you continue to breastfeed your children during diarrhea. Congratulations!" We can build on what is good already, and enlist more and more mothers into properly feeding during diarrhea. "Most Kenyan mothers give food during diarrhea. Do you?"

With a message like this based on an existing practice, the message could be a testimonial from a mother, about the benefits of feeding her child during diarrhea. In addition to the mother, a credible figure like an older woman or a doctor might be used as well. Perhaps we could create a character who would serve as a spokesperson for good diarrhea practice -- an older woman, or a doctor, or some other person respected for his/her views on childcare, like the fictional Dr. Salustiano figure used in Honduras or the motherly actress so popular in Egypt or the cartoon Pied Crow here in Kenya. Use of

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<sup>1</sup>All the percentage ranges given here and below refer to the range by district; that is, one district had 46.2% feeding, one district had 73.4% feeding, and the other districts fell in between.

such a figure would give continuity to the messages, both through print and broadcast media.

Dr. Spock is well known in Kenya; quotes from his writings in support of ORT might be well received.

**2. Too few mothers increase fluids during diarrhea (4.0%-26.0%).**

So, mothers do not recognize the increased need for fluids during a diarrhea episode. Messages need to be developed stressing the losses being suffered by the child and the need to give the child as much as the child wants to drink. We can build on the positive here, because many mothers give home-available fluids (HAF) or oral-rehydration salts (ORS) during diarrhea. Mothers need to give a greater quantity of these recommended drinks.

These commonly used HAF need to be identified and named, their nutritional value established, improvement on this value suggested, and their use promoted.

The following two findings restate finding #2:

**3. The quantity of ORS given during diarrhea is too low (228 ml - 687 ml).**

**4. The quantity of HAF given during diarrhea is too low (317 ml - 708 ml).**

Taken together, these two findings argue for greater emphasis on giving fluids. The more important finding is #4, since so many more children are given HAF as compared to ORS. The survey recommends that more research be done on HAF, especially on *uji*, the most commonly given HAF.

*Uji* is a crucial nutrient, especially during diarrhea. A cereal gruel, *uji* needs to be studied, according to the WHO survey report, in terms of its "actual preparation, dilution and sodium content. Whether adding salt to this cereal-based porridge is acceptable to mothers should also be studied."

Is *uji* a fluid? Is *uji* a food? During diarrhea, is *uji* diluted and reduced to negligible nutritional value? If the mother gives dilute *uji*, does she think she is giving food or fluid or both? Do mothers give other, more solid foods to children with diarrhea while also giving *uji*? The danger is that *uji* may provide hydration while ignoring the child's nutritional needs during diarrhea, which contributes so heavily to malnutrition. The proposed collaboration with the Nutrition Communication Project will address these questions and assist in the development of messages on *uji*.

**5. ORS mixing is rarely correct (10.3% - 41.7%).**

**6. Correct ORS use is low (1.9% - 8.6%).**

In this survey of 23,884 children, 16% had diarrhea within the past two weeks. On the day of the interview, 5.8% or 1,389 of the children had diarrhea. Of these 1,389 children with diarrhea, only 74 (5.5%) were being treated correctly with ORS.

Clearly, Kenya is not a place where ORS use in the home has become widely

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practiced, and where ORS is used it is not used correctly. These data reflect the uncertain status of ORS availability and promotion for home use. The transition from one-liter to half-liter packets has left packet promotion in limbo, and continues to do so. Until the packet situation is regularized, the communication component of the program should not give major attention to ORS promotion.

In terms of ORS availability, the survey found that, of those who did get ORS packets, almost nine of ten got them from an MOH facility. Commercial sources accounted for only one in twenty, private doctors for only one in forty. There is great potential for moving into the private sector at some point to promote ORS. Another glaring need is for ORS to have a more marketable name and a more attractive package. When the time comes for these activities, marketing research will be the means to establish ORS as a commercial product.

Also needed is greater promotion among private physicians. The seminar that was held in Meru was disappointing, attendance-wise, but this was recognition of an essential activity that needs to be expanded. The communication unit can support work among doctors by producing promotional material for them -- prescription pads featuring ORS, calendars, posters, and illustrated treatment plans.

#### ***7. Drug use for children with diarrhea is high (25.9% -47.1%).***

While we want to caution that the most common drugs given during diarrhea are anti-malarials and analgesics, three out of ten of these children get antibiotics and two out of ten get antidiarrheals. Clearly the children with diarrhea may have fever, and are given anti-malarials presumptively. But the last two medications are for diarrhea specifically; antibiotics are indicated only when there is blood in the stool and antidiarrheals are *never* indicated for a child with diarrhea.

We recognize that antibiotics and antidiarrheals and withholding food had been the therapy taught in Kenya's medical school until recently, under the influence of European medical practice; indeed, these practices are still taught in many European and American medical schools. Some of the doctors who are practicing today need to "unlearn" what they have been taught in medical school. We expect that the future seminars for pediatricians will address the need for changing the diarrhea therapies now being practiced by most doctors.

For the public, ORT messages countering overuse of drugs for diarrhea should probably feature a doctor; emphasis can also be put on the cost of these useless and dangerous drugs.

#### ***8. The principal reasons recognized for taking a child to a health facility are "many stools," "not better," "does not eat/drink," and "very weak."***

We can do two things with this finding. The first is to continue to give emphasis on the need to take a child to a facility after a certain period of time (two days) or when signs of weakness appear. The second is to present ORT as a therapy that deals with the child's weakness and lack of appetite. When ORS is again promoted explicitly, ORS can be presented as a stimulus for appetite. If the mother is concerned about lack of appetite and weakness, we can position ORS as the key to both, restoring appetite and enabling the child to regain his strength by eating. In Ghana, where surveys showed mothers very concerned about weakness during diarrhea, the message proposed was "ORS for appetite,

breast milk and food for strength".

## Summary

On the basis of the latest research findings, we can summarize the messages that seem most likely to make a difference in home diarrhea management:

- o emphasis on feeding during diarrhea, praising the many mothers who already do this;
- o greater stress on the need for fluids and greater encouragement toward improvement of the nutritious value of the fluids given;
- o continued hesitation in ORS promotion until the half-liter packets are generally available through the health system;
- o emphasis on the rare need for drugs during diarrhea;
- o reinforcement of the fairly widespread recognition of signs that indicate a child with diarrhea should be taken to a health facility. As with the feeding messages, the strategy here may be to use testimonials from mothers who did the right thing and saw their children improve because of what the health facility did.