

Controversial Issues Affecting the Success of ORT Initiatives

In the last chapter, we reviewed some of the major issues that affect the policies and practice of oral rehydration. We focused on the debate between the use of ORS packets and home-based ORT. Now, in order to further reveal how top-down, centralized decision-making undermines programs designed to benefit marginalized groups, in this chapter we will briefly examine some additional, controversial issues of oral rehydration therapy. These include:

- Underuse of ORT and overuse of drugs
- What's in a name? Mystification versus demystification.
- A simple solution or a magic medicine
- “Boil the water” and other misguided health messages
- Blunders in the formula: how much salt?

In looking at each of these issues, we will show that the positions which commercial interests and/or mainstream policy-makers have taken have often been inappropriate and counterproductive. And we will explore how and why policy-makers arrived at some of these positions.

Underuse of ORT and Overuse of Drugs

The medicalization and mystification of simple therapies for purposes of personal financial gain is common in poor countries as well as rich. In some cases, doctors may continue to overuse IV therapy in the management of diarrhea because they are unwilling to re-examine their entrenched beliefs; the inadequate discussion of ORT in many medical textbooks is also an important contributing factor.¹²³ In other cases, doctors' resistance to change may relate to considerations of power, prestige, and profit. By continuing to use a relatively sophisticated technology and to prescribe unnecessary medication, they hang on to their monopolistic control over one of the world's most common ailments. Joshua Ruxin has this to say about doctors' low use of ORT in the United States:

The formidable and persistent ignorance of the Western Medical establishment ... of ORT is phenomenal. While its refusal to advocate ORT

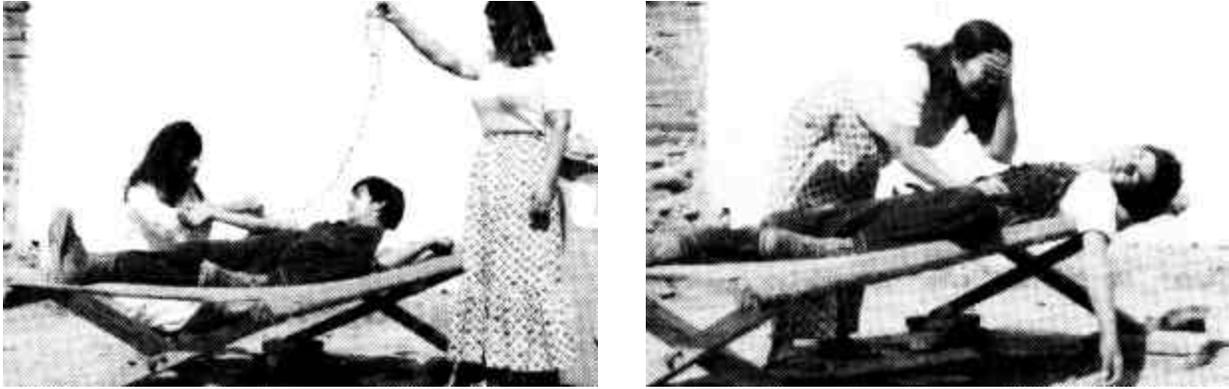
may be due in part to the notion that ORT is only necessary in the developing world, its actions appear to be driven also by financial considerations. Most hospitals do not train physicians in the use of ORT since they have no financial reason to do so. The use of intravenous therapy, which often involves keeping a dehydrated child overnight, assures maximum insurance reimbursement. Sending children home with ORT would destroy these profits.¹²⁴

In Latin America overuse and misuse of IV therapy is not limited to treatment of diarrhea. Many doctors (both government and private) plus a motley army of “*médicos practicantes*” (self-taught quacks) still routinely administer IV dextrose solution for a variety of ailments ranging from anemia and asthma to aging. In Mexican villages, people reverently speak of these misused IV solutions as *vida artificial* (artificial life). A poor family whose breadwinners are weak from malnutrition will often pay two weeks' wages to have a half liter of IV sugar water dripped into their veins, in the belief that this will renew their energy and health. In some instances it does give them a transient lift—but at considerable cost and risk. This practice is so common that the village health team in Project Piaxtla, Mexico, has used farmworkers' theater to demystify *vida artificial* and warn the public against its use. (For more information on Project Piaxtla, see Chapter 19.)¹²⁵

Overuse and misuse of medicines for diarrhea

Medical practitioners' persistent overuse of IV therapy in the treatment of diarrhea is paralleled by their continued overuse and misuse of medicines.¹²⁶ Both WHO and UNICEF clearly state that for most cases of diarrhea no medicines are needed and many do more harm than good. WHO estimates that antibiotic treatment is necessary in only one in twenty cases of childhood diarrhea episodes.¹²⁷

Yet the world over, drug therapy is still the treatment most prescribed by doctors and most demanded by consumers. In many countries antibiotics—often sold over the counter—are part of the standard treatment of virtually all cases of diarrhea. Multinational drug companies exploit this misuse of drugs by placing on the market hundreds of irrational products (see page 92). Drugs are used two to four times more often than is ORS, and a



In a Farmworkers Theater skit titled *Useless Medicines that Sometimes Kill* healthworkers show that the misuse of IV solutions (“vida artificial”) can be dangerous.

prescription of four or more drugs is common.¹²⁸ A recent WHO survey in Egypt—whose anti-diarrheal program has been held up as a model for success—shows ORS was used in 23% of diarrhea cases while drugs were prescribed in 54%.¹²⁹

Antibiotics are ineffective against many common causes of diarrhea (including viral infections), and can seriously upset the normal bacterial flora of the gut, often exacerbating or prolonging the diarrhea. Infectious diarrheas that require antibiotics or antiparasite drugs (for example, those caused by *Shigella* and *amoeba*) represent only about 10% of cases of children’s diarrhea.

The drugs misused for diarrhea also include anti-diarrheals, or “motility agents.” Antidiarrheals such as diphenoxylate hydrochloride with atropine sulfate (*Lomotil*) and kaolin with pectin (e.g., *Kaopectate*), slow down the activity of the gut or thicken stools. While often used to ease the discomfort of diarrhea, such remedies can actually prolong infection and mask the signs of dehydration.¹³⁰

To its credit, WHO has recently taken a stand against the irrational use of anti-diarrheal drugs. In 1990 it published a manual on *The Rational Use of Drugs in the Management of Acute Diarrhea in Children*,¹³¹ recommending that certain of the more useless and harmful drugs have their availability reduced or be withdrawn from the market altogether.¹³² WHO now advises that drugs commonly used for diarrhea—including diphenoxylate hydrochloride, kaolin and pectin, loperamide, streptomycin, neomycin, hydroxyquinoline, nonabsorbable sulfonamide, activated charcoal, attapulgit, and smectite—“have no role in the management of acute diarrhoea in children.”¹³³ The WHO guide states flatly that “anti-diarrheal drugs ... should never be used” since “none has any proven practical value and some are dangerous.”¹³⁴

Even more harmful is the danger that arises from what poor people spend on these medicines—often in lieu of food. Many of the medicines are sold to poor parents who are willing to spend their last pennies to keep their children from dying of diarrhea. According to WHO, “over one billion dollars a year is currently being spent on anti-diarrhoeal drugs, most of which are useless or harmful, while all that is needed in the vast majority of cases, is simple and inexpensive ORT.”¹³⁵

In response to this mounting criticism of inappropriate anti-diarrheal medicines, a few pharmaceutical companies have withdrawn some of their most indefensible products. Nonetheless, the pharmaceutical industry continues to do a highly profitable business in most Third World countries where scores of brand name anti-diarrheals remain on the market. Exploiting the fact that diarrhea remains a widespread, life-threatening health problem in developing countries, doctors, pharmacists, and street vendors there sell some 150 million dollars worth of over 400 different anti-diarrheal drugs each year.¹³⁶ Some 350 million dollars worth of anti-diarrheal drugs are sold each year by major Western manufacturers alone, with one third of them going to the Third World.¹³⁷ In general, the poorer the country (as measured by GNP per capita), the higher the per capita spending on such drugs.¹³⁸

UNICEF acknowledges that:

Even among doctors who have started using ORT, ‘kicking the drug habit’ is hard. Far too many prescribe both ORT and drugs, thus diverting the mother’s attention from the need to give the child fluids and food, and undermining the credibility and effectiveness of oral rehydration. Good therapy has not replaced bad therapy; it has simply been tacked on to it.¹³⁹

*The continued overuse by doctors of IV fluids and pharmaceuticals in the management of acute diarrhea is one of the major obstacles to the successful promotion of ORT.*¹⁴⁰

What's in a Name? Mystification Versus Demystification

We live in an age of high-tech information; yet, as noted earlier, the late Executive Director of UNICEF, James Grant, lamented the fact that “shamefully little is known about how to communicate information whose principal value is to the poor.”¹⁴¹ Nowhere is bungling in communication more obvious than in the language with which experts first chose to popularize ORT. Even the three Latinized medical terms in the name itself—*oral*, *rehydration*, and *therapy*—are words unfamiliar to people with limited formal education (in any language). Might not people grasp the idea more easily, and make it their own, if we adapted our language to *theirs*? Instead of making people feel ignorant and inferior by introducing an unfamiliar term like Oral Rehydration Solution, could we not simply speak of a “special drink to return liquid?”

But rather than simplify, the pundits of public health further muddled the “simple solution” by introducing a whole set of abbreviations: ORT for *oral rehydration therapy*; ORS for *oral rehydration salts/solution* (designating specifically the WHO “full formula” packets); SSS for homemade *sugar and salt solution*; CB-ORT for *cereal-based oral rehydration therapy*; and so on.

To top it all, experts in Geneva started calling the aluminum foil envelopes of ORS salts *sachets*. This French term was used in English language instructions that were printed for care-givers, many of whom are only marginally literate in English. Grassroots educators complained for years about this snobbish and unnecessary linguistic barrier, until at last WHO and UNICEF began to speak of the envelopes as “packets.”

Anthropologists C. MacCormack and A. Draper, in a study in Jamaica, found that the mystification of ORT was an important obstacle to the understanding and proper use of rehydration procedures:

Nurses validated their professional status by using words such as ‘electrolytes’ when explaining the therapy, and it is therefore not surprising that 52% of the guardians who had just heard the

nurse’s talk did not have any idea—correct or incorrect—of what the [rehydration] ‘salts’ were.... People were being told never to use the traditional therapies they understood and could make at home, and therefore were being made dependent upon medical services provided by ‘qualified’ personnel who commanded secret knowledge.¹⁴²

A Simple Solution or a Magic Medicine?

The use of mystifying, medicalized language in introducing ORT to the general public may not have been altogether accidental. As we have seen, the medical profession resisted the shift from intravenous to oral fluid replacement. This shift represented a move toward demystifying and demedicalizing the management of diarrhea. It was a move towards health care in the hands of the people, a relinquishing of physicians’ control. One way for doctors to retain control over the new treatment was to cloak it in medical mystique.

For instance, many doctors have argued for a highly medicalized approach to ORT, insisting on a strictly controlled product with precise measurements and pure ingredients. But this emphasis on absolute, precise measurements makes little sense. After all, experts differ greatly on the ideal formula for oral rehydration solution; some recommend that it contain twice as much sugar or salt as do others. This is not, of course, to say that relative accuracy of measurements is not important. Although there is a wide range of acceptable proportions, too much salt or sugar can be dangerous, as we will discuss in item 4 below.

In addition, ORT strategists have debated heatedly about whether oral rehydration solution should be promoted as a simple food (or special drink) or as a medicine. Social marketing experts point out that parents want “strong medicine” for their sick children.¹⁴³ It is not easy to convince parents (or doctors) that ordinary salt, sugar, and foods in their homes can be as effective as factory-packaged medicine. In order to sell ORT, they argue, present it as medicine. Package it in shiny little packets, and call them *sachets*. Call the ingredients by their chemical, not their common names—*sodium chloride* for table salt, *sodium bicarbonate* for baking soda, and *glucose* for simple sugar. Keep people in awe. Portraying ORS as a powerful new wonder drug, these experts argue, is the quickest way to get people to buy the idea.

The Piaxtla wonder drug: a big mistake

I (David Werner) am embarrassed to say that the above line of reasoning was more or less the one that my fellow health workers and I took 28 years ago in Project Piaxtla, Mexico, when we first began promoting what was later to become known as oral rehydration therapy. Finding mothers reluctant to simply give their sick child a drink made from common household ingredients, we decided to trick them: “You want medicine, we’ll give you medicine!” We began to package measured quantities of sugar, salt, and baking soda into little plastic bags. We even added a pinch of strawberry Kool-Aid to color it red, so it would look medicinal. And we promoted it as the “*Piaxtla Wonder Drug*.”

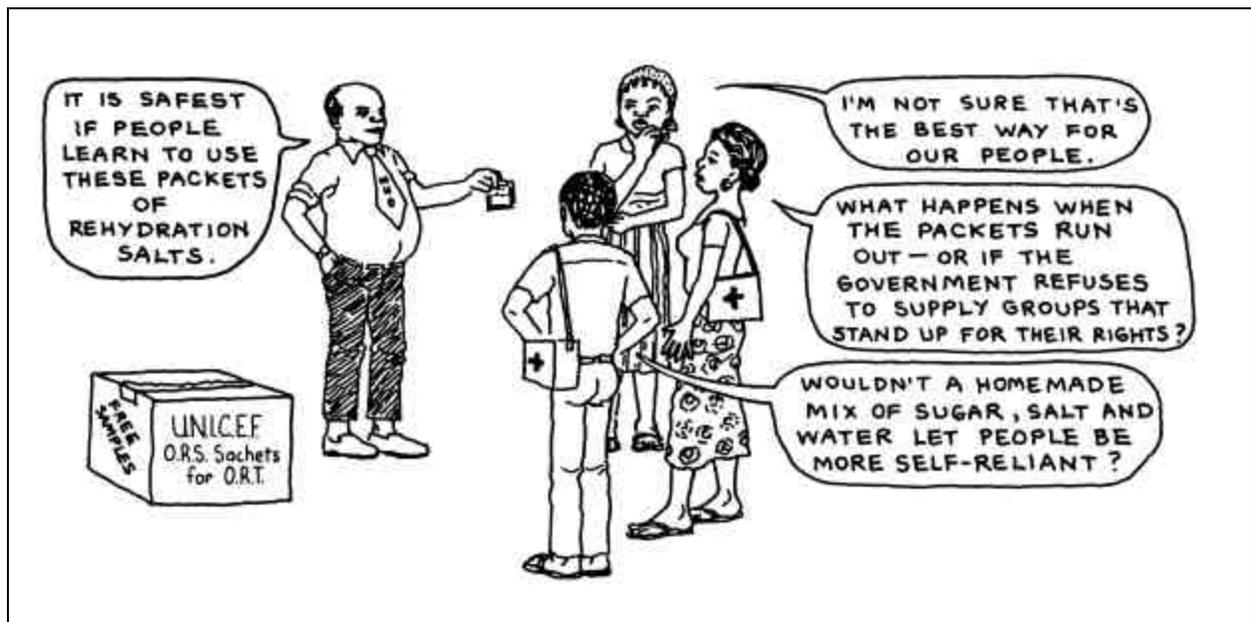
Only slowly, working closely with the local people, did we begin to realize our mistake. The population served was scattered over hundreds of miles of rugged mountainous terrain. During the rainy season (when more children die from diarrhea), rivers flood and access to health posts is often cut off. By leading people to believe that oral rehydration works best with a “special medicine,” we were keeping from them the knowledge and ability to manage diarrhea effectively in their own homes. We were making them dependent on our services and products, rather than encouraging them to be self-sufficient. Gradually it dawned on us that, although the Piaxtla Wonder Drug was technically safe and effective, in the social context within which we worked it became dangerous. The misconceptions and dependency it created were costing children’s lives. We needed an alternative that would demystify the technology and place it in the people’s hands, so that they could manage most cases of

child diarrhea in their own homes, without having to depend on medicines and services beyond their control.

Making the shift was not easy. But fortunately we were a small program that had no major investment, economically or politically, in our new “wonder drug.” Our primary motive was to help people meet their needs, so we gathered courage and openly admitted that our gimmick for promoting ORT had backfired. We told people what was in the plastic bags, and apologized for tricking them with the Kool-Aid. Over the next several years we collaborated with them to develop simple methods and teaching aids to help parents and school children clearly understand about dehydration and rehydration. We tried to demystify the whole process, so that families would fully realize the importance of giving children with diarrhea plenty of drink and food. We helped them to understand why a simple homemade solution usually works better than losing time and money by going a long way for unnecessary medicines.

For parents who could read and write, or who had children who could read and write, we began to make simple, illustrated sheets explaining how to prepare and give a special drink for diarrhea right in the home. These instruction sheets were eventually included in our villagers’ health care handbook, *Where There Is No Doctor*. A variety of hands-on, discovery-based teaching aids were also developed. (These and other ORT-related teaching methods and aids are depicted in more detail in *Helping Health Workers Learn*.¹⁴⁴)

Around the world, many community-based programs have come to the same conclusions as we did in Project





Piaxtla and have tried to demedicalize and demystify oral rehydration, placing the technology as much as possible in the people's hands. However, many large government programs still favor presenting ORT as a pre-packaged "medicine." This "pharmaceuticalization" of a simple solution has led to a great deal of misunderstanding and incorrect use.¹⁴⁵ For instance, mothers who have been led to think that ORT is a medicine often give it to their children in "doses" that are much too small and infrequent to be effective.¹⁴⁶

The mystification of oral rehydration by calling ORS packets "oral rehydration salts" has, in Jamaica, led to confusion which can cost children's lives. Traditionally, some people have used Epsom Salts or Andrews Salts (both laxatives made of magnesium sulfate) to wash out the gut of persons with diarrhea—a dangerous practice that had gradually lost popularity. However, the promotion of "oral rehydration salts" led people to return to using Epsom Salts and Andrews Salts as substitutes for ORS. People preferred buying the laxative salts at the corner shop to making a long trip to the health post and then waiting for hours in line for a single packet of ORS. Perhaps if the medicalized name *oral rehydration salts* had been replaced by a term like "special drink for diarrhea" and otherwise demystified, mothers would have been less likely to confuse it with medicines and laxatives—and fewer children might have died.¹⁴⁷

"Boil the Water" and Other Misguided Health Messages

One reason why those who formulate health education messages often miss the mark is that they live in a different world from those whom their messages address. They

tend to take a narrowly medical/scientific/technological approach to problem solving and neglect the actual situations people live in and the overwhelming constraints they face.

A good example of this is the advice to mothers to *always boil the water* they use for making oral rehydration drinks. This message used to be standard advice—until some of the "experts" listened to what mothers had to say about it. They then realized that the message to boil the water may actually cause more infant deaths than it prevents, for two reasons:

- *Boiling water takes time.* Women must often walk for hours to collect the firewood or cow manure they use for fuel. Time is also required to actually heat the water, and finally, the water must be cooled, which takes still more time. However, a child with severe diarrhea needs liquid *now*. The delay entailed in boiling the water *increases* the risk of dehydration and as such may far outweigh the benefit of boiling. After all, the child with diarrhea has probably already been exposed to whatever infection he might get from the unboiled water. Thus, in many cases boiling is unnecessary and may be dangerous.¹⁴⁸
- *Boiling water costs money.* In many poor communities, fuel is expensive relative to the incomes of the poor. Because of the time and expense involved, some mothers will simply not make the special drink if told they must boil the water. Others may spend food money for the extra fuel, at the expense of their children's nutrition.¹⁴⁹

Instead of telling mothers that they must always boil the water they use to make the rehydration drink, it is usually better to advise them, "Prepare the drink fast! Use the cleanest water you have on hand. If you have water that has already been boiled or filtered, use that. But *don't lose time boiling water* when your baby has severe diarrhea." (There are, of course, exceptions to this recommendation. For example, in some squatter camps where all of the water comes from sewage systems, *all* water should be boiled first.)



Although this new advice to “use the cleanest water you can” is now fairly widely accepted, including by WHO and UNICEF, in many countries health educators and instructional material still tell mothers they must “always boil the water.” For millions of families whose children are at the greatest risk, this advice can be deadly.

Other erroneous messages Examples abound of well-intentioned health education messages that prove ineffective or even counterproductive in practice. For example, in the November 1992 issue of *The Prescriber*—published by UNICEF in cooperation with The United States Pharmacopoeial Convention—in an article titled “Management of Acute Diarrhea: The Appropriate Way,” a prominent sidebar displays in large letters: “ORS Solution: The recommended fluid for diarrhea and its prevention.”¹⁵⁰ What is meant of course is “... for *dehydration* and its prevention.” Such dangerous carelessness is unconscionable. Adding credence to this error, the article with this sidebar is credited as having been “prepared by the Programme for the Control of Diarrheal Diseases—The World Health Organization—Geneva.”¹⁵¹ Mistakes such as this are often amplified by other normally reliable sources such as when the Worldwatch Institute, in its April 1996 report on infectious disease, reported that “ORS is useful to prevent and treat diarrhea.”¹⁵² Thus it comes as no great surprise that Arturo Quispe, a pediatrician in Ecuador, reports that poor families were giving ORS to their healthy children to *prevent* cholera.

Overzealous marketing of ORS as a “wonder drug” in Pakistan led to a situation where more mothers (15%) were giving ORS to children who did not have diarrhea than to children who had diarrhea (11%). The reason given by mothers was that “ORS is good for a child’s health, especially in summer.”¹⁵³ If poor families spend their limited money on ORS rather than food, ORS—far from being good for a child’s health—could contribute to the child’s undernutrition, and hence to the increased incidence and severity of diarrhea, and the risk of death.

When to use other drugs for diarrhoeal diseases: The vast majority of patients visiting a health centre or a hospital can be successfully treated by using Oral Rehydration Therapy (ORT) and continued feeding. Antibiotic treatment or antiparasitic treatment should never be given routinely. The diseases for which antimicrobials should be given are listed below, and the recommended drugs can be found in Table 1 and Table 2.

**ORS Solution:
The recommended fluid
for diarrhoea
and its prevention**

Inaccurate information like this from *The Prescriber* (a UNICEF publication) can lead poor families to waste money by giving their children ORS to prevent diarrhea—which it does not do.¹⁵⁰

Blunders in the Formula: How Much Salt?

Even solutions that are technically accurate can be socially disastrous—as we have seen with the bacteriologically sound advice to boil water. However, there are times when the technology itself has shortcomings that arise from not looking at critical factors from a community perspective. ORS is a case in point. The WHO formula was developed and tested by highly qualified doctors, chemists, and physiologists. Yet the standard WHO ORS formula—at least for community use—may be less safe and less effective than some alternative formulas now being used. One of the drawbacks of the standard WHO formula is its *relatively high salt content*. Even WHO admits that this can be risky for certain small, undernourished infants.¹⁵⁴ Although reducing the salt content of standard “full formula” ORS could result in safer, more effective oral rehydration, WHO has long delayed changing the “standard formula.” (A WHO-sponsored multi-center trial with a lower sodium content is now underway. See page 60.)

Originally, the salt content for ORS was based on that needed for intravenous solutions. In such solutions—which go directly into the bloodstream, the concentration of molecules (osmolarity) of salt plus other ingredients needs to be close to that of the blood (isotonic). For oral rehydration solutions, however, such a high amount of salt is usually unnecessary—and carries additional risks. Drinking a solution with a higher concentration of salt than is in the blood (a hypertonic solution) would, through the process of osmosis, draw water from the blood back into the gut, thus increasing both the diarrhea and dehydration. Such a hypertonic salt solution also tends to provoke vomiting. For these reasons, considerable care needs to be taken not to exceed the amount of salt recommended in the WHO formula (and not to mix the ORS packet with too little water).

Another reason the salt in ORS is higher than is usually needed or desirable is that ORS was originally developed for rehydrating persons with cholera.¹⁵⁵ With cholera, salt loss tends to be much higher than in other forms of diarrhea. Therefore, to avoid sodium depletion, scientists put as much salt in the ORS formula as they considered to be physiologically safe. While a relatively high salt content may have been appropriate for cholera (and even this is now being questioned), it has become evident that for most types of diarrhea less salt is required.¹⁵⁶ Solutions containing as little as one-third of the amount of salt in the WHO formula appear to work just as well when rehydration is begun before dehydration sets in.¹⁵⁷ Since cholera accounts for relatively few cases of diarrhea in children, by the mid 1980s many health advisors had begun to recommend using a smaller amount of salt.¹⁵⁸

WHO ORS Formulas			
Current full formula WHO/UNICEF ORS (In millimoles per liter)		Proposed new low-osmolarity ORS formula (In millimoles per liter)	
glucose	111	glucose	75
sodium (Na)	90	sodium (Na)	75
chloride (Cl)	80	chloride (Cl)	65
potassium (K)	20	potassium (K)	20
citrate	30	citrate	10
total	331	total	245

Fig. 2-4 From 25 Years of ORS: Joint SHO/ICDDR, Consultative Meeting on ORD Formulation

A pragmatic argument for a lower salt content is that, as studies in a number of countries have shown, *mothers often do not mix ORS packets with enough water, leading to an even saltier solution.*¹⁵⁹

In contrast to WHO, many programs working close to the community have adjusted their home mix formula to allow for a wide range of error. For the same reason, in the villager's health care manual *Where There Is No Doctor* we recommend half a teaspoon of salt per liter—roughly half the amount of salt in the standard WHO formula.¹⁶⁰ This low-salt content was initially criticized by medical experts, but an increasing number of studies bear out its effectiveness and added safety.¹⁶¹

It was then postulated that a lower salt concentration might make ORS more effective in terms of reducing stool volume and duration. To investigate this, a multi-center clinical trial was conducted in four countries (Brazil, India, Mexico, and Peru) comparing the standard WHO ORS formulation (311 millimoles/liter) with a low osmolarity ORS (225 millimoles/liter). It was found that rehydration took place faster with the less concentrated solution than with the standard ORS and that the mean duration of illness was 18% shorter.¹⁶²

Reducing the salt content and osmolarity of the WHO-UNICEF “standard formula ORS”

Finally, in response to the growing concern that the salt content (or osmolarity) of standard formula ORS is too high (and in response to increasing interest in cereal-based ORT, see page 66), WHO, together with the International Center of Diarrhoeal Disease Research, Bangla-

desh (ICDDR,B), held a consultative meeting on ORS formulation. In December 1994, in Dhaka, Bangladesh, an international team reviewed seven controlled trials in underdeveloped countries, and found that:

- A solution with a reduced amount of sugar (glucose) and salt was significantly more effective than standard ORS.
- In treatment of cholera, the less concentrated solution reduced stool output by 15% and decreased the need for IV fluids (i.e. the occurrence of advanced dehydration) by 33%.
- In treatment of acute noncholera diarrhea, stool output was reduced by 25% in the first 24 hours, and need for IV fluids was reduced by 33%.
- In non-breastfed children the lower concentration ORS reduced the risk of severe dehydration (need for IV fluids) by 50%.

WHO concluded that the results were convincing enough to recommend that a single “reduced osmolarity ORS formulation” be selected and evaluated. The new formulation will reduce both the glucose and salt content of ORS by about 25%, bringing the osmolarity from 331 mmls/l down to 245 mmls/l.¹⁶³

It remains to be seen how long it will be until WHO and UNICEF officially revise the standard formula so that ORS can combat dehydration more effectively and save more children's lives. A question which is still unanswered is whether the standard home-mix sugar-and-salt solution (SSS), when made with less salt than the standard ORS formula, is more effective in combating dehydration and in reducing stool volume than is standard (high-salt) ORS. Research on this is needed, but to our knowledge has not been initiated.

*There is limited empirical evidence that food-based drinks which contain no added salt may rehydrate people effectively (though probably less effectively than food-based drinks containing salt), or at least prevent dehydration. This deserves further study, since salt is unavailable in certain remote areas (for example, in parts of northern Mozambique).

Principles of fluid and food management of diarrhoea in the home

Several fluids should be identified that are readily available, considered acceptable by mothers, and that do not have adverse effects for children with diarrhoea. If possible, one selected fluid should normally contain salt. Some examples are: salted rice water, a salted soup, and ORS solution. Mothers may also be taught to add salt (about 3 g/l) to an unsalted soup or drink, but this requires a substantial and sustained educational effort, which may not be cost-effective.

Salt-free fluids should also be selected. These include common drinks such as weak tea (plain or slightly sweetened), rice water, yoghurt-based drinks, and plain water. Certain fluids should be avoided, such as soft drinks, coffee, or those with diuretic or purgative effects.

The fluids selected above should be given in increased amounts up to as much as the child wants to drink, and along with continued feeding. Breastfeeding should be maintained. Children taking infant formula, or animal milk should continue to receive it at full strength. Children eating solid foods should continue to take them, including, if possible, one that normally contains some salt.

When this approach is followed, the child will receive enough carbohydrates and protein to promote the absorption of ingested salt. This together with increased water taken in drinks, will prevent dehydration in most episodes of diarrhoea.

From Programme for the Control of Diarrhoeal Disease: Ninth Programme Report 1992–1993 World Health Organization, 1994, p. 14

WHO's latest guidelines for home fluids

In its most recent guidelines for early home management of diarrhea, WHO has completely changed tack. Specially prepared rehydration drinks are de-emphasized, and in their place WHO recommends simply that children with diarrhea be given "more fluids than usual" and "plenty of food."¹⁶⁴ An assortment of "recommended home fluids" (RHF) is suggested, with more stress placed on quantity than quality.

While WHO's move away from emphasizing packets is laudable, many critics feel the new recommendations have gone too far. They suggest WHO is giving up the search for a highly effective and reliable home mix, as evidenced by the imprecise list of RHF's; this includes a pot luck assortment of both salted and unsalted local home drinks, with or without sugar and/or starches. Little attempt is made to make sure the salt and carbohydrate content is

conducive to effective rehydration. Dr. William Greenough (who has for years spearheaded research on ORT), on comparing home-made cereal-based rehydration drinks with ORS, asserts that

Clearly, properly constituted home fluids (not what WHO calls home fluids) are equally effective [to ORS] when controlled trials have been done... The critical issue is to insure that any solution has adequate substrate (cereals preferred) and the right amount of salt — 40–120mEq/L is a safe range and can be achieved by crude measurement methods (hands or spoons).

Proper education and understanding are the key.¹⁶⁵



Many child health advocates feel that WHO's new stance is as unacceptable as its old one. The agency must not be allowed to settle for a complicated second-rate home solution when a simple first-rate home solution is attainable. The WHO guidelines are summarized in the box on this page. These may be followed by a village mother to produce an effective rehydration drink for her child to drink along with foods. However, they may also be followed to produce drinks which fill her child's belly with a combination of salted rice water and unsweetened tea—a nonrehydrating drink deficient in both fluid transfer ability and nutritional content. The problem is that some fluids on the RHF list will only have a rehydrating effect when taken with food. Since children often refuse food when they are dehydrated, the ability of these fluids to rehydrate is compromised. If dehydration is already present, WHO of course recommends its full-formula ORS, reserving home fluids for nondehydrated children. But in reality early dehydration and loss of appetite may begin almost as soon as watery diarrhea does; in such cases a well-formulated home solution (cereal or sugar based) will rehydrate quickly and appetite will begin to be restored. Unfortunately many of WHO's RHF's simply do not provide adequate rehydration during the very critical initial hours before the child accepts food.