Editorial

Management of watery diarrhoea

Sri Lanka Journal of Child Health, 2000; **29**: 63-4

(Key words: watery diarrhoea, management)

Since the commencement of the Diarrhoeal Disease Control Programme in Sri Lanka in 1983, a marked reduction in deaths from diarrhoeal diseases among children and infants have been observed. In 1983 diarrhoea was the main cause of death in children under 5 years of age. In 1996, diarrhoea accounted for only 2% of the deaths from all causes in this age group. The case fatality rate has dropped from 1% in 1983 to 0.2% in 1996. However, the incidence of diarrhoeal diseases continues to be the same at 149,829 per 100,000 population in 1983 versus 176,685 per 100,000 population in 1998. The reduction in mortality has been due to the prevention of dehydration, early recognition of dehydration and the prompt use of oral rehydration therapy (ORT) by the Health Care Workers as well as the mothers. It has now been confirmed that the use of other drugs such as anti-diarrhoeal agents, anti-emetics and antibacterial agents have no place in the management of acute watery diarrhoeas of infancy and childhood.

The use of these medications reduces the reliance on the proper use of oral rehydration therapy and the enthusiasm with which it is used. ORT alone has been proved effective in over 98% of children and infants with watery diarrhoeas. Other medications are not only useless, but at times, can be dangerous, as they have the potential to convert an acute watery diarrhoea into a protracted diarrhoea. However, the use of appropriate antibacterial agents may be useful in bacillary dysentery as evidenced by the presence of significant amounts of blood and mucus in the stool. Positive stool culture for bacteria other than Shigella is no indication for the use of antibacterial agents.

Despite the intense educational activities carried out through the Diarrhoeal Disease Control Programme for almost two decades, the management of acute watery diarrhoea has been far from optimal. This was revealed in the Diarrhoea Household Care Management surveys conducted in 1990 and 1992. In the WHO survey on Diarrhoea Case Management 1989/90 within the Colombo Municipal Area, correct case management was observed in only 11.5% of cases. Drugs were prescribed in 57% of patients and in 44% of them more than four drugs were used. In 64% of patients who received drugs they were prescribed by a private doctor and in 22% by a Government Institution. The ORT use rate was 58.5% and the ORS use rate was only 20.8%. It was also noted that the drug use rate was 2-3 times greater than the ORS use rate.

The Diarrhoea Household Case Management survey in the Kurunegala District in 1992 was in 441 cases of diarrhoea in children under 5 years of age. Here it was noted that 71% of these patients received drugs with 45% of them receiving 4 or more drugs. It was a cause for concern that in this survey it was noted that children with watery diarrhoea were twice as likely to receive drugs rather than increased amounts of fluids. The situation in the major hospitals including the Lady Ridgeway Children's Hospital and those in the Private Sector too, needs to be assessed.

The rational approach to the management of acute watery diarrhoea in children and infants would constitute the following:

1. Prevention of dehydration by giving plenty of fluids available in the home from the time the diarrhoea starts till it ends - Oral Rehydration Therapy (ORT). These fluids may include rice cunjee, soups, fruit cordials, king coconut water etc or ORS. Fluid intake should balance the fluid loss through diarrhoea and vomiting.

2. If the child has any signs or symptoms of dehydration, correct the fluid deficit rapidly in the next 4 hours using the balanced complete glucose citrate salt mixture - Oral Rehydration Salt solution (ORS) - Jeevani. Next maintain hydration till the diarrhoea stops.

3. Correct severe dehydration using intravenous therapy.

4. To prevent deterioration of the nutritional status and to expedite recovery, maintain normal or increased feeding throughout the diarrhoeal episode.

The performance of stool cultures, antibiotic sensitivities, and viral studies, remain only as research procedures. These results are of no significance in the management of the patient. These tests, use of drugs and abuse of intravenous therapy would become a significant financial burden to the family, while being of no benefit.

Use of lactose-free-milk formula is of no benefit in the management of acute watery diarrhoea of infants but adds significantly to the cost of treatment. Lactose intolerance is extremely uncommon being observed in just a minority of patients. Even in this group, it is transient in the majority.

In a study of 1,000 consecutive patients with watery diarrhoea admitted to Ward 4 of the Lady Ridgeway Children's Hospital in 1983 the degree of dehydration observed on admission was as follows.

Degree of dehydration	No. of patients	Percentage
Nil	662	66.2%
Mild	262	26.2%
Moderate	55	5.5%
Severe	21	2.13%
Total	1,000	100%

Hence, only 2% of children needed intravenous therapy. Oral rehydration therapy was instituted in 98% of whom only one third required oral rehydration salt solution. These results indicate that even in a major hospital, treating a majority of the more serious cases, only a small percentage needed intravenous therapy. The degree of severe dehydration seen in patients in the Out Patients Department, Peripheral Units and the Private Sector is much less.

The early commencement of oral rehydration therapy in acute diarrhoea not only prevents and corrects dehydration, but also minimizes vomiting, electrolyte, and acid base derangements and facilitates early feeding. However, it does not reduce the frequency or duration of the diarrhoea. This may take 2-10 days till the natural cure of the disease is achieved. The failure of ORT to influence the diarrhoea has prompted mothers and health care workers to rely on adjuvant therapies which include antibacterial agents, anti-motility agents, anti-emetics, absorbents and lactose free milks. These medications have been extensively studied by the WHO. They have all been found to be of no clinical benefit. This predicament has prompted the WHO to initiate extensive research for an improved formulation of an oral rehydration salt solution (ORS). It is expected that the improved ORS formulation (Super ORS) would not only prevent and treat dehydration but also reduce the duration and frequency of the diarrhoea. Studies on Rice Powder ORS, where the 20g of glucose in the ORS has been replaced by 50 g of dry rice powder, has shown encouraging results. This solution does reduce the fluid loss up to about 50%. However, its poor keeping qualities, much shorter shelf life, necessity to boil the rice powder, and problems of reconstituting the solution by the mothers has hindered its widespread use. These issues are being currently studied by the WHO and the industry. Until such an improved formulation of ORS become safe and widely acceptable, the standard Oral Glucose Citrate Electrolyte Solution (ORS - Jeewani) will remain the only effective and safe treatment in over 98% of infants and children with watery diarrhoea.

References

1. Annual Health Bulletin - Ministry of Health 1998.

2. A Manual for the treatment of Diarrhoea WHO / CDD / SER/ 80-2 Rev 2 1990.

3. WHO Interim Programme Report, 1990 WHO/CDD/91.36.

4. WHO Diarrhoea Household Case Management Survey in Sri Lanka - Kurunegala District, December 1992.

5. Sonnadara DA. *Ceylon Journal of Child Health*. 1986: **1(15)**: 1.

D A Sonnadara
Consultant Paediatrician.