- bipus (mermaid) with meningocele. Indian J Pediatr 1992, 59: 387-388.
- Stevenson RE, Jones KL, Phelan MC, et al. Vascular steal: The pathogenetic mechanism producing sirenomelia and associated defects of the visera and soft tissues. Pediatrics 1986, 78: 451-457.
- 5. Tang TT, Oechler HW, Hinke DH, Seguva AD, Franciosi RA. Limb body wall complex in association with sirenomelia sequence. Am J Med Genet 1991, 41: 21-25.
- Rodriguez JI, Palacios J. Razguin S. Sirenomelia and anencephaly. Am J Med Genet 1991, 39: 25-27.

- Murphy JJ, Fraser GC, Blair GK. Sirenomelia: case of the surviving mermaid.J Pediatr Surgery 1992, 27: 1265-1268.
- Sirtori M, Ghidni A, Romero R, Hobbius JC. Prenatal diagnosis of sirenomelia. J Ultrasound Med 1989, 8: 83-88.
- Rodriquez JI, Palacios J. Craniorachischisis totalis and sirenomelia. Am J Med Genet 1992, 43: 732-736.
- Martinez-Frias ML, Cucalar F, Urioste M. New case of limb body wall complex associated with sirenomelia sequence. Am J Med Genet 1992, 44: 583-585.

Mothers' Beliefs and Practices Regarding Prevention and Management of Diarrheal Diseases

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Several community-based studies have demonstrated that most of the diarrhea related deaths can be prevented by appropriate and timely use of Oral Rehydration Therapy (0RT)(1-3). However, even after a decade of active promotion, only one third of the

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Received for publication: March 16, 1993; Accepted: May 19, 1993 diarrheal episodes are treated by ORT(4). Though availability is an important factor but beliefs and attitudes also influence the use of ORT. The objective of this study was to find out the change in mothers' beliefs and practices after implementation of the diarrheal diseases control programme, and to use the information for improving the promotional strategy.

Material and Methods

Two villages of Raipur Rani block in Haryana, were purposively selected where Diarrheal Disease Control Programme is being implemented for almost a decade. A list of mothers having at least one child of less than 5-years-old was prepared and 48 mothers were selected using systematic random sampling method. Mothers were interviewed in the month of July by using a pretested semi-structured interview schedule.

Results

Most of the mothers described multiple causes for occurrence of diarrhea. Consumption of uncovered food, eating 'dirty' or stale food, eating mud, and 'dirty' feeding bottle were believed to be the cause by 23.0 %, excessive 'heat' by 75% and 'cold' by 14.5%, specific food items by 52%, over eating by 22.9%, teething by 14.5%, top milk by 4.2%, side effect of medication by 6.2%, and constipation (hard stools) by 4.1%. Out of 48 respondents only 10.4% were aware of the specific measures for prevention of diarrhea.

Most (85.5%) of the mothers were in favor of continuing breastfeeding during diarrhea. Fluids in more than usual amounts were favored by 6.3 %, in usual amounts by 39.6 %, in less than normal amount by 50 %, and 4.1% mothers were in favor of complete restriction. Sixty five per cent mothers were of the opinion that usual amount of food be given and 35.4% favored less than usual amount of food during diarrheal episodes.

For treatment of diarrhea, 33 (68.8%) mothers give home remedies; 9 (18.8%) start ORS at home. When illness is serious or home remedies do not seem to benefit, 83.7 % consult local medical practitioner, and 16.3% seek treatment from Government health functionaries. Out of the 26 (54%) respondents who had used ORS in the past, 42.9 % knew correct method of preparation and 70.5 % knew the correct method of administration of ORS.

Danger signals during diarrheal disease were reported to be eight or more watery stools per day (41.6%), too sleepy (54.1%), frequent vomiting (27.1%), weakness (20.8%), dry and sunken eyes (16.6%), refusal to feed (12.5%), loose skin (6.2%), fever (4.2%), sunken fontanelle (2.0%), noisy breathing (2.1%), fits (2.1%), dehydration (2.1%), and swelling on face (2.1%).

Discussion

The ongoing Diarrheal Disease Control

Programme in this block has led to improvements in the understanding of mothers about causation and management of diarrhea in children. As reported earlier(5), at the time of introduction of the programme, 11.4% mothers believed infection to be the cause of diarrhea, whereas now 23.0% believe it to be caused by unhygienic food. In another part of Haryana only 11.0% mothers mentioned dirty food to be the cause of diarrhea(6).

Beliefs regarding dietary management of diarrhea have also changed in this area. Only 14.5% of the mothers were in favor of withholding breastfeeding whereas restrictions were practiced previously by majority of mothers(7). Food restriction was favored by 98.1% earlier, now it is favored by only 35 %. However, there is no change in partial fluid restriction.

Familiarity with ORT has also increased, 54 % mothers had used it in past whereas in another rural area of Haryana, only 30% knew about ORT(6). Although most mothers give herbal remedies as first line of treatment, 18.8% in this area straight way start with ORT. Liquid supplementation with home made ORS were practiced by only 4 % in another rural community of Haryana(6). Those who seek medical help at any stage mostly consult unqualified local practitioners. It is important that they should be made aware about ORT. Although 54% mothers had used ORT, more than half of them did not know the correct method of preparation. This aspect needs to be emphasized in training programme. Nearly a quarter (23.0%) of mothers rightly pointed out unhygienic food as cause of diarrhea in this study but only 10.4% were aware about the specific measures which they can adopt for prevention of diarrhea. In intervention programs short term measures such as

promotion of ORT usually get precedence over preventive measures which are likely to benefit the community in the long term. Innovative strategies for educating the community about causes and methods of prevention of diarrhea need to be developed keeping in mind that many of the benefits and practices are part of the existing culture of **a** particular society and are difficult to change.

REFERENCES

- Kumar V, Kumar R, Datta N. Oral rehydration therapy in reducing diarrhearelated mortality in rural India. J Diarrh Dis Res 1987, 5: 159-164.
- McCord C, Kielmann AA. A successful programme for medical auxiliaries treating childhood diarrhea and pneumonia. Trop Doct 1978', 8: 220-225.

- 3. Rahaman MM, Aziz KMS, Patwari Y, Munshi MH. Diarrheal mortality in two Bangladeshi villages with and without community-based oral rehydration therapy. Lancet 1979, 2: 809-812.
- Grant JP. The State of the World's Children. Oxford University Press, Delhi, 1992, p 17.
- Kumar V, Clements C, Marwah K, Diwedi P. Beliefs and therapeutic preferences of mothers in management of acute diarrheal disease in children. J Trop Pediatr 1985, 31: 109-112.
- 6. Anand K, Lobo J, Sundaram KR, Kapoor SK. Knowledge and practices regarding diarrhea in rural mothers of Haryana. Indian Pediatr 1992, 29: 914-917.
- Kumar V, Kumar R, Raina N. Impact of oral rehydration therapy on maternal beliefs and practices related to acute diarrhea. Indian J Pediatr 1989, 56: 219-225.

Neutropenic Enterocolitis with Acute Leukemia

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Neutropenic enterocolitis (NE) also termed as typhlitis, nectrotizing enteropathy, ileocecal syndrome, is a fulminant necrotizing process involving segments of large and small intestine that occurs in the setting of agranulocytosis most commonly in patients with acute leukemia, lymphoma (induction or relapse), aplastic anemia, cyclic neutropenia and in immunosuppressed organ transplant recepients(l). It is a major cause for mor-

bidity and mortality among patients with hematologic malignancies and autopsy studies have documented a 10-12% incidence in patients dying of leukemia(2,3). Most of the early reports have labelled this condition as a grave, preterminal event progressing to sepsis and death. However, the availability of modern antibiotics and supportive care

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