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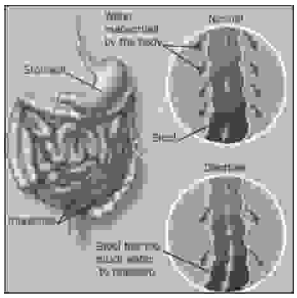

PREVENTION OF DIARRHEA;
THE ROLE OF HEALTH EDUCATION.

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ABSTRACT… Objectives: To identify the role of health education in reducing diarrheal diseases in children by improving awareness among mothers regarding, washing hands with soap and water, safe feeding practices i.e. avoiding feeding left over food, use of boiled water and keeping surrounding clean. **Study Design:** It is a quasi experimental study. **Setting;** Children Hospital Complex (CDDU-CHC) Multan: **Period:** From March to August 2005 **Material and Methods:** A total of (n= 400) mothers were randomly selected and health education was imparted during their stay in ward, Oral Rehydration Therapy (ORT) corner and Out Patient Department (OPD) visits through lectures, posters, charts, practical demonstrations and individual counseling. After this intervention, the mothers who had completed at least four follow up visits at 6 months, were studied again as at the base line on various aspects and data was analyzed in terms of percentages and frequencies. **Results:** At 6 months the environmental sanitation and personal hygiene of the mothers were improved. There was marked improvement in hand washing practices, avoidance of feeding leftovers and use of boiled water. There was overall reduction in the incidence of diarrhea. **Conclusion:** Heath education is an effective tool in bringing about a positive behavior modification in mothers and thus reducing incidence of diarrhea.

Key words: Health Education, Prevention of Diarrhea, Hand Washing, use of Boiled Water.

INTRODUCTION

Children constitute a major proportion of global population today. It has been reported that 10% of about 6 billion people living in the world are children under 5 years of age[1]. It is estimated that annually some 1.8 million children die from the direct effect of diarrheal diseases. However, many more are affected by the effects associated with diarrheal diseases and malnutrition. It is estimated that annually some 13 million children under 5 years die in developing countries,

mostly from associated effects of malnutrition and infection[2]. Besides, contaminated water, contamination of food also plays an important role in the etiology of diarrhea[3,4]. The chances of food contamination become higher especially in the lower socioeconomic setup due to unsatisfactory environmental conditions, poor hand washing practices and personal hygiene, poor quality and insufficient water supplies, unhygienic preparation, storage and feeding of foods[5,6,7,8,9].

Since personal hygiene and environmental sanitation are of utmost importance in prevention of diarrhea, health education must receive high priority. For this reason education of caretakers particularly mothers should be considered as an important intervention in prevention of diarrheal diseases in young children. Education by the health workers can play a vital role in this preventive aspect. Therefore, preventive strategies that can bring about a sustainable behavioral change in the caretaker of the young children are the need of the present time.

METHODS AND MATERIALS

This study was conducted on mothers of underprivileged children (age group 2 months to 5 years) presenting at CDDU-CHC Multan during epidemic of acute diarrhea (March to August 2005). A total of (n=400) mothers were randomly selected.

The baseline data of all the 400 subjects was collected with respect to their socioeconomic status, diarrhea profile of the children, current practices regarding child feeding, personal hygiene and hand washing, surrounding cleanliness and use of boiled water. After health education intervention the mothers who had completed at least four follow up visits at 6 months were again assessed for the same parameters. Data was collected and double checked for any error of translation before entry into the computer database and analyzed.

At the time of interview, mothers were asked regarding episodes of diarrhea in the last 6 months. Data on mother's current practices regarding child-feeding, hand washing, environmental sanitation, personal hygiene and use of boiled water was collected.

Health education of these mothers was done while their stay in ward, ORT corner and during follow up visits by trained medical and paramedical staff through lectures, posters, charts, practical demonstrations and individual counseling. The emphasis was on personal and environmental hygiene, hand washing, surrounding cleanliness, use of boiled water, safe feeding practices and weaning at appropriate age. Other messages regarding promotion of breast feeding, use of ORS during diarrhea, discouraging teats and pacifiers were also conveyed.

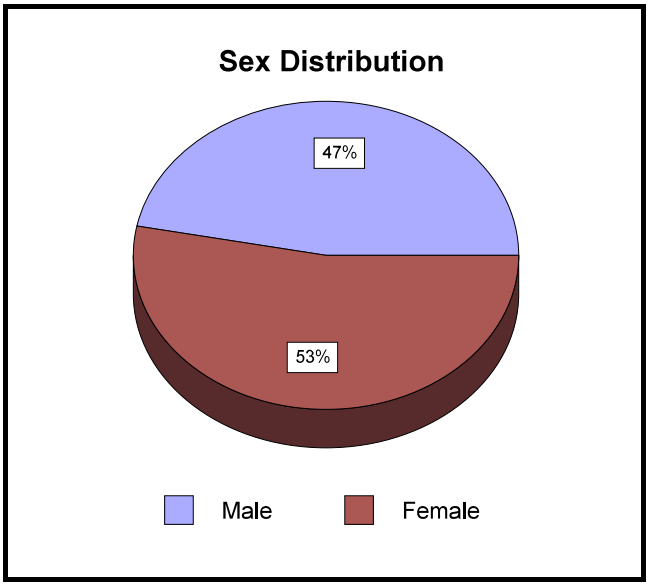
RESULTS

Total of 256 mothers completed four follow up visits at 6 months and data was compiled on these subjects. The results are presented in terms of socioeconomic status of the families, child's data, diarrhea profile of the children, environmental sanitation, personal hygiene of the mother and awareness of the mothers regarding child feeding practices, hand washing and personal hygiene, environmental sanitation and use of boiled water.

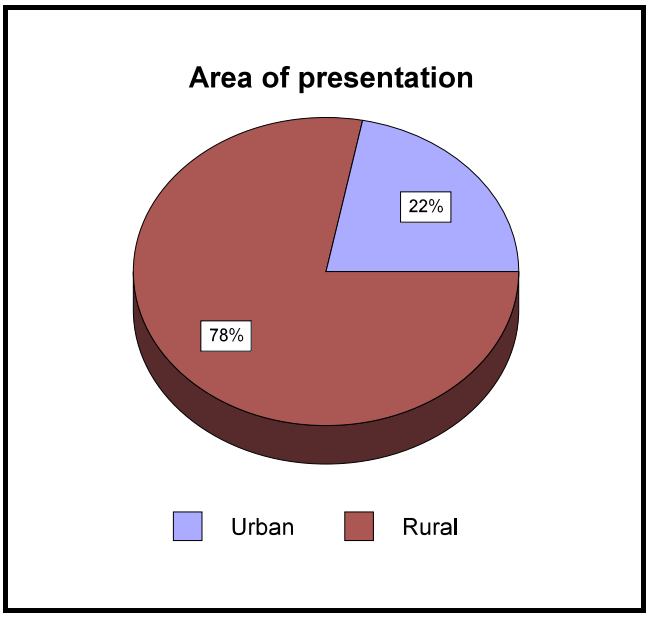
Sex Distribution		
	No. Of children	**%age**
Male	120	47%
Female	136	53%
Total	256	100%

Children from 2 months to 5 years of age were included, 120 males, 136 females with mean age of 23.6 months were studied. Only 23% of the patients were admitted for management as indoor patients and 77% were treated in ORT corner for rehydration on OPD basis. Most of the patients (78%) came from urban slums and only 22% from rural areas. In this study 59% of the families were using municipal water supply and 41% were sucking ground water through pumps. Flush system latrines were observed in the houses of 88% families. Most of the

children belong to a family size of 4-7. The literacy rate was noted only 17% among mothers and 23% among fathers.

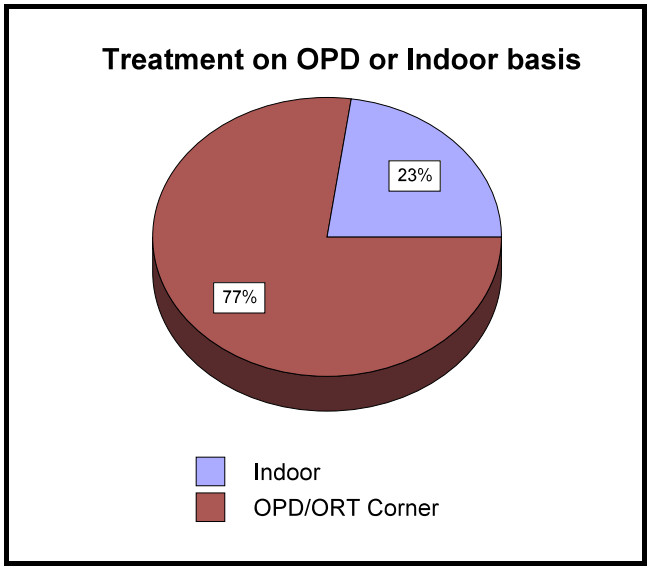


Area of presentation		
Urban	200	78%
Rural	56	22%
Total	256	100%



In most of the families the monthly income ranged from Rs 2500-4000 indicating that they belong to a low-income group. It was seen that 95% of the children suffered from 2-4 episodes of diarrhea in last 6 months. After the health education intervention the number of children suffering from diarrhea was reduced to 56% from the baseline of 95%.

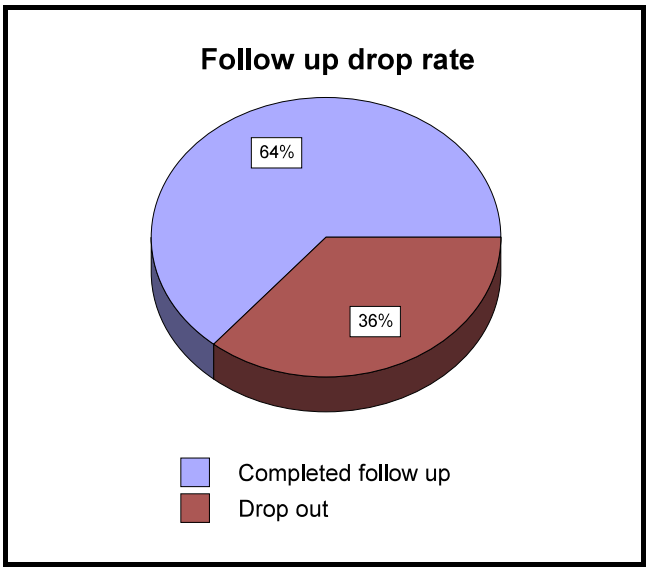
Treatment on OPD or Indoor basis		
Indoor	59	23%
OPD/ORT Corner	197	77%
Total	256	100%



Follow up drop rate	
Total Pts. At presentation	400
Follow up completed	256
Drop out	146
% Drop out	36%

A large proportion (69%) of the mothers became aware of the association of child's health with clean environment. Also (63%) families started using dustbin for household waste disposal as compared to only 18%

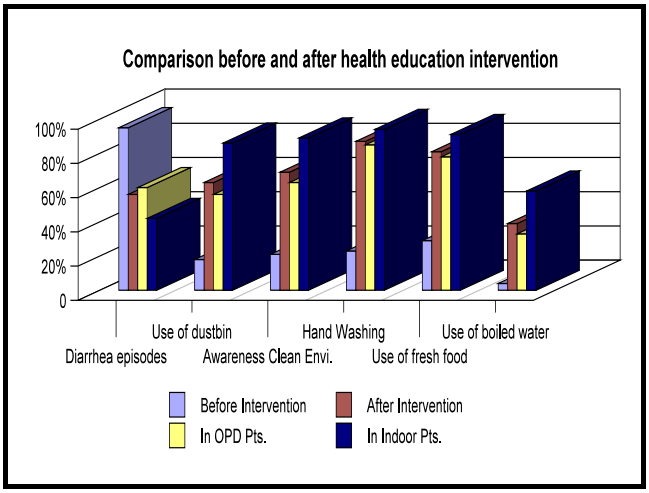
prior to intervention. Most of the mothers (87%)started washing hands with soap and water prior to feeding, cooking, eating, visit to toilet, cleaning child's defecations, cleaning child's nose and sweeping and mopping, compared to only 23% before intervention.



After health education intervention 81% of mothers started giving freshly prepared weaning diets as compared to only 29% before intervention and they became aware of ill effects of feeding left over moist foods to the children especially if that was stored at ambient temperature for long hours. There was significant rise (39%) in mothers using boiled water for their children as compared to only 4% before intervention.

Sociodemographic information		
	No.	%age
Literacy rate		
Fathers	59	23%
Mothers	43	17%
No. Of Siblings		
< 4	100	39%
4 - 7	120	47%
> 7	36	14%
Socioeconomic status (Monthly income)		
< 2500 Rs.	20	8%
2500-4000 Rs.	169	66%
> 4000 Rs.	67	26%
Water supply system		
Municipal supply	151	59%
Own water pumps	105	41%
Latrines system		
Flush system	225	88%
Others	31	12%

Comparison before and after health education intervention				
	Before intervention Total = 256	After health education intervention		
		Avg. Effect Total = 256	Pts. Treated on OPD basis (197)	Pts. Treated on indoor basis (59)
2-4 Episodes of diarrhea in 6 months	95% (243)	56% (143)	60% (118)	42% (25)
Use of dustbin	18% (46)	63% (161)	56% (110)	86% (51)
Awareness regarding association with clean environment	21% (54)	69% (177)	63% (125)	89% (52)
Hand washing	23% (59)	87% (223)	85% (168)	94% (55)
Use of fresh food	29% (74)	81% (207)	78% (153)	91% (54)
Use of boiled water	4% (10)	39% (100)	33% (66)	58% (34)



DISCUSSION

Pakistan with a four fold rise in population in the last fifty years is still suffering from high rates of childhood morbidity and mortality from preventable causes including diarrhea[10]. It is important to improve the source of information of mothers in order to establish a proper health care system and to increase the effectiveness of health education. In the present study success can be attributed to the cumulative effect of improvement in all the factors such as environmental sanitation, personal hygiene, improved feeding practices and use of boiled water[11]. Positive correlation in literacy rate and knowledge gain has also been reported in some other studies[12].

It has been seen that surrounding cleanliness, personal hygiene of mothers, feeding practices and use of contaminated water continues to be the etiological factors for diarrhea. Behaviors such as mother not washing the child's hand or her hands with soap and water after defecation or cleansing child's perineum were directly related to high incidence of diarrhea[13]. There was a marked improvement in hand washing practices in our study which is a crucial preventive aspect and has been stressed by other studies[14].

The behavior modification was more observed in admitted patients as compared to the patients who were treated on OPD basis, probably due to longer stay with the health workers and better understanding of the baseline problems. The vitality of health workers played an important role here, as it inspired them the confidence to become agents for change[15].

Similar education messages as in the present study were directly imparted to the mothers in one of the earlier studies[16]. However, the knowledge gains in the present study is quite remarkable which can be attributed to the trained health workers.

CONCLUSION

Health education imparted through motivated health workers can play an important role not only in the reduction of diarrheal morbidities in young children but increasing awareness among mothers regarding safe feeding practices, environmental sanitation, personal hygiene, breast feeding and vaccination.

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