

Indigenous Practices of Mothers in Acute Diarrhoea in Children Under Five Years of Age in Peri-Urban Areas of Southern Punjab

Seemal Vehra¹, Muhammad Ibrar Iqbal² and Ejaz Mahmood Ahmad Qureshi²

ABSTRACT

Objective: To find out mothers' indigenous practices for controlling diarrhoea in children.

Study Design: Observational / descriptive / cross-sectional study

Place and duration of study: This study was conducted at the Department of Public Health, IPH, Lahore and Department of Botany, GPGCW, Lahore for three months.

Materials and Methods: 200 children suffering from diarrhoea attending a private clinic in Southern Punjab were included in this study. Data was collected through questionnaire and analyzed using SPSS 19.0. Chi-square test and correlation were applied to find out the level of significance and correlation between different variables.

Results: Majority (59%) of the children suffering from diarrhoea were < 1 year old. 97% of mothers of children with diarrhoea were housewives. Information collected about mother's educational status revealed that 50% were illiterate. 3% had attended school only up to grade 1 or 2 or educated up to primary level. Total family monthly income of majority (61.5%) was > Rs 10,000. A vast majority of respondents i.e. 72.5% lived in an extended family system and 47.5% children belonged to families having 6-10 members. About three fourths of children (74.5%) were bottle fed whereas 32.5% consumed cow milk as breast milk substitute. Regarding the diet given to children during diarrhoeal condition, 48% of mothers fed their children with bananas, 41.4% khichri, 54.0% ORS, 30% yogurt, 23.5% rice water and 12.5% saunf (fennel).

Conclusion: Breast feeding had a significant negative correlation ($p = 0.001$) with the number of stools passed per day while bottle feeding and other breast milk substitutes had insignificant negative correlation. Likewise, insignificant negative correlation was found between the use of banana, rice water, kichri, pomegranate (anar) juice, honey, lemon water, qahwa and yogurt with the number of stools children passed per day. Information about benefits of breast feeding and frequent hand washing as well as rota virus vaccination to prevent diarrhoea should be provided to families for controlling diarrhoea at community level.

Key Words: Acute diarrhoea, indigenous practices, mothers, children

Citation of article: Vehra S, Iqbal MI, Qureshi EMA, Indigenous Practices of Mothers in Acute Diarrhoea in Children Under Five Years of Age in Peri-Urban Areas of Southern Punjab. Med Forum 2016;27(12):9-13.

INTRODUCTION

Acute diarrhoea, the second leading cause of child morbidity and mortality, accounts for 21% of all the deaths in children under-five years of age, especially in the developing countries^{1,2} even more than Acquired Immunodeficiency Syndrome (AIDS), malaria and measles combined. Moreover, it also exposes children to secondary infection.

In Acute diarrhoea, a child usually passes three or more loose stools per day. Mothers improper knowledge and

their misdirected approach towards management of the disease leads to high degree of diarrhoea and results in severe dehydration⁶. A variety of bacteria, viruses and parasites cause diarrhoea. There is no single microbial cause for persistent diarrhoea; *Escherichia coli*, *Shigella* and *Cryptosporidium* play a greater role than other agents. Infection spreads through contaminated food or drinking water or from person to person as a result of poor hygiene.

Traditional beliefs, barriers and practices by mothers regarding childhood diarrhoea vary in different communities⁷. Indigenous practices for control of diarrhoea in children include breast milk, animal milk, khichri, yogurt, qahwa, rice water, ORS, curd, banana, glucose water, pomegranate juice, sherbet (Rooh Afza, Jam-e-Shereen), limo pani (lemonade) and 7-up (carbonated drink) etc. Safe drinking-water, use of improved sanitation and hand washing with soap can reduce the disease risk. Some studies have revealed that in children, certain habits like not washing hands before meals or after defecation, eating with hands rather than spoons; in mothers, feeding children or preparing foods with unwashed hands; dirty feeding bottles and utensils,

¹ Department of Botany, Government Post Graduate College for Women, Samanabad, Lahore.

² Department of Public Health, Institute of Public Health, Lahore.

Correspondence: Dr. Seemal Vehra, Associate Professor and Head of Botany Department, Government Post Graduate College for Women, Samanabad, Lahore,
Contact No: 0300-4105969
Email: svehra@hotmail.com

unhygienic domestic places (kitchen, living room, yard), unsafe food storage, presence of animals and flies inside the house, were associated with risk of diarrhoea morbidity in children^{8,9}.

The present study was designed after looking at the high incidence rate of diarrhoeal infection in children and the fact that very few serious studies have been carried out in semi urban areas to investigate indigenous practices carried out by mothers to control diarrhoea. The objectives of this study were to find out indigenous practices exercised by mothers for prevention and control of diarrhoea in children and to give recommendations to improve knowledge, practices and awareness amongst mothers regarding control of diarrhoea.

MATERIALS AND METHODS

The study was conducted on children less than 5 years of age, suffering from diarrhoea and attending a private clinic in Jahanian, District Khanewal, Punjab.

All children suffering from diarrhoea attending a private clinic in Jahanian, District Khanewal.

Sampling Technique: Systematic random sampling technique was used to select the study population.

Inclusion Criteria: Mothers of children suffering from diarrhoea

Exclusion Criteria: 1. All mothers whose children were suffering from diarrhea as well as other diseases.

2. Those who refused to participate

Sample Size: The sample size was 200. It was calculated by the following formula^{10,11}:

$$n = \frac{z^2 \times p(1-p)}{d^2}$$

Where,

P (anticipated prevalence) = 51%¹²

d (error term) = 7%

95% Z value = 1.96

By putting the value in the above formula

$$n = \frac{3.84 \times 51 \times 49}{49} = 196$$

For convenience, a sample size of 200 was taken.

Data Collection Tools: The data collection tools comprised of semi-structured questionnaire which was pre-tested and modified accordingly.

Data Collection Procedure: A private clinic in Jahanian, District Khanewal was visited to collect information regarding indigenous practices to control diarrhoea, Data was collected and recorded in a pre-tested questionnaire. From a group of 8-10 patients, every fifth patient was selected for interview.

Data Analysis: SPSS (Statistical Package for the Social Sciences) version 19.0 was used for data analysis. Chi-square test and correlation was carried out.

Ethical Considerations: Informed verbal consent was taken prior to interview. The respondents were informed about the purpose of study. The confidentiality of all the information was ensured and maintained.

RESULTS

The detail of results is given below in the form of tables from Table 1 to 4.

Table No.1: Descriptive analysis of demographic characteristics of families of children <5 years suffering from diahorrea

Sr.No.	Variables	Description	Frequency (%)	Mean	SD
1	Education of mother	Illiterate	50 (25.0)	3.92	2.098
		Grade 1&2	3 (1.5)		
		Primary	28 (14.0)		
		Middle	33 (16.5)		
		Matric	34 (17.0)		
		Intermediate	23 (11.5)		
		Graduate	29 (14.5)		
2	Total family income (Rs.)	≤10,000	77 (38.5)	1.62	.488
		>10,000	123 (61.5)		
3	Type of family	Nuclear	49 (24.5)	1.76	.431
		Extended	151 (75.5)		
4	Total family members	≤5	51 (25.5)	1.62	.488
		6-10	95 (47.5)		
		11-15	36 (18.0)		
		16-20	10 (5.0)		
		>20	8 (4.0)		

Table No.2: Descriptive analysis of Diarrhoea in Children < 5 Years

Sr. No.	Variables	Description	Frequency (%)	Mean	SD
1.	Duration of diarrhoea (days)	1-2	84 (42.0)	3.12	1.709
		3-5	94 (47.0)		
		>5	22 (11.0)		
2.	Duration between diarrhoea seeking doctor's advice (days)	1-2	113(56.5)	2.69	1.519
		3-5	74 (37.0)		
		>5	13 (6.5)		
3.	No. of stools per day	1-5	6 (3.0)	8.30	2.255
		6-10	175 (87.5)		
		>10	19 (9.5)		
4.	Frequency of acute diarrhoea in last 30 days	1	55 (27.5)	2.00	.811
		2	102 (51.0)		
		3	32 (16.0)		
		>3	11 (5.5)		

Table No.3: Correlation of weaning practices by mothers of children suffering from acute diarrhoea with number of stools/day

Sr. No.	Variables	Description	Pearson correlation	Level of significance P value	Remarks
1.	Feeding practices	Exclusive breast feeding	.231*	.001	Significant
		Bottle feeding	-.104	.445	Insignificant negative correlation
		Breast plus bottle feeding	.017	.813	Insignificant
		Weaning started	-.110	.066	Insignificant negative correlation
2.	Breast milk substitute	Cow	-.178*	.012	Insignificant negative correlation
		Buffalo			
		Goat			
		Formula milk			
3.	Source of drinking water	Tap water	-.133	.060	Insignificant negative correlation
		Boiled water			
		Filtered water			

Table No.4: Correlation of Indigenous Practices by mothers for control of diarrhoea in Children with number of stools/day

Sr.No.	Variables	Pearson correlation	Level of significance P value	Remarks
1.	Saunf paani	.030	.671	Insignificant
2.	Ghutti/gripe water	.069	.330	Insignificant
3.	Banana	-.148*	.037	Insignificant negative correlation
4.	Rice water	-.141*	.046	Insignificant negative correlation
5.	Taweez water	.058	.413	Insignificant
6.	Glucose	.038	.589	Insignificant
7.	7-up	.049	.494	Insignificant
8.	Khichri	-.145*	.041	Insignificant negative correlation
9.	Annar juice	-.030	.678	Insignificant negative correlation
10.	Araq	.008	.911	Insignificant
11.	Honey	-.214*	.002	Insignificant negative correlation
12.	Isphagol husk	.020	.774	Insignificant
13.	Lemon water (lemonade)	-.204	.004	Insignificant negative correlation
14.	Qahwa	-.052	.465	Insignificant negative correlation
15.	Yogurt/curd	-.053	.453	Insignificant negative correlation
16.	Nimkol (ORS)	.109	.125	Insignificant

DISCUSSION

Present study which was undertaken to find out the indigenous practices of mothers in acute diarrhoea in children under five years in one of remote district of South Punjab revealed that more than 50% of children who were reported for treatment were less than one year old in contrast to study by Kolahi et al. (2008) who reported greater incidence of diarrhoea in children whose ages were between 1 to 3 years¹³. During in-depth interviews it was observed that both parents of the ill children who were very keen to learn how they could help their children recover speedily were literate. The finding of this study that most mothers of the ill children were housewives are similar to those reported by Zahid et al. (2014) and interestingly, Mengistie et al. (2013) reported that majority of fathers of affected children were illiterate.¹⁴

Saurabh et al. (2014)¹⁵ reported that substantial family income is indispensable for good health as it helps in maintaining hygienic conditions. Moreover, availability of good quality food and early access to health care providers is important for sound health. Likewise, this study showed that the income of majority of the families was $\leq 10,000$. Size of the family is another important factor for decrease parental care. Incidence of diarrhoea was more in families who had >5 family members living in extended family system as shown in Table 1. Mohammed and Tamiru (2014) also reported similar findings¹⁶.

Role of breastfeeding, amount and frequency of milk feed was interrogated in detail. In contrast to findings of Mohammed and Tamiru (2014)¹⁶, this study found that majority of the children was bottle fed. Mothers were rather ignorant about importance of breast milk. They were confused how breast milk was superior and how it protects their children from repeated episodes of diarrhoea. In addition to that they had very little knowledge about preparation of formula or cow milk. Similarly these children were not given milk feed in between breast milk. Zahid et al. (2014) also reported such findings¹⁷. This study revealed insignificant negative correlation between bottle feeding, time of weaning and use of breast milk substitute with number of stools/day as shown in Table 3.

Contaminated water is considered a leading cause of diarrhoea. Families who boiled and filtered water, their children had less episodes of diarrhoea but this study revealed a insignificant negative correlation between source of drinking water and number of stools/day as shown in Table 3. This finding did not corresponds to the findings of the study conducted by Kelly et al. (1999) who confirmed that majority of children who suffered diarrhoea were given tap water¹⁸.

With the passage of time, trend of indigenous practice during diarrhoea is declining and majority of the mothers prefer to visit doctor for the treatment of their

children. Study identified that more than half of the mothers gave nimkol (ORS) to their children during diarrhoea, followed by rice water, taweez water, qahwa, ghutti/gripe water, araq, saunf paani, glucose, 7-up, pomegranate (annar) juice, honey and isphagol husk. This study showed insignificant negative correlation between intake of banana, rice water, kichri, annar juice, honey, isphagol husk, qawa and yogurt with number of stool/day as shown in Table 4. This is in contrast to study of Zahid et al. (2014) who asserted in their study that banana, khichri and yogurt were preferred food.

CONCLUSION

Indigenous practices for control and prevention of diarrhoea had played a major contributing factor for control of this menace. These practices were easy to use and acceptable to majority of study population. Among these saunf pani, ghutti/gripe water and nimkol (ORS) were the most important and widely used.

Recommendation and suggestions: The treatment/preventive package for diarrhoea in children less than five years should be provided at all health care centres especially in remote and far flung areas where specialized health care facilities are not available. Oral rehydration therapy and zinc treatment should be provided in these centres as it decreases both diarrhoea severity and duration. Rotavirus and measles vaccinations, promotion of hand washing with soap and improved water supply are the additional step which can help in the reduction of diarrhoea in children especially less than 5 years of age.

Acknowledgement: The authors would like to thank Head of the Public Health Practicing (PHP) Department, Institute of Public Health (IPH), Lahore as well as Doctors and Paramedical Staff of private clinic, Jahanian, District Khanewal for being extremely helpful throughout the study. Gratitude is also expressed to Department of Biostatistics, IPH, Lahore, for their help for statistical analysis.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. United Nations Children's Fund/World Health Organization. Diarrhea: why children are still dying and what can be done. New York: UNICEF/WHO 2009.
2. Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? *Lancet* 2003;361: 2226-2234.
3. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. Child survival study group. How many child deaths can we prevent this year? *Lancet* 2003;362: 65-71.

4. Bryce J, Boschi-pinto C, Shibuya K, Black RE. The child health epidemiology reference group. WHO estimates the cause of death in children. *Lancet* 2005;365: 1147-1152.
5. Fischer Walker CL, Friberg IK, Binkin N, Young M, Walker N. Scaling up diarrhea prevention and treatment interventions: a lives saved tool analysis. *PLoS Med* 2011;8:1-8.
6. Rehan SH, Gautam K, Gurung K. KAP of mothers regarding diarrhea. *Indian J Prev Soc Med* 2003; 34: 1-6.
7. Ansari M, Palaian S, Ibrahim M. The role of mothers in the management of childhood diarrhea in Nepal. *Aust Med J* 2009;14:235-238.
8. Curtis V, Cairncross S, Yonli R. Domestic hygiene and diarrhea: pinpointing the problem. *Trop Med Int Health* 2000;5(1): 22-23.
9. Hung BV. The most common causes of and risk factors for diarrhea among children less than five years of age admitted to Dong Anh Hospital, Hanoi, Northern Vietnam. Oslo: University of Oslo 2006.
10. Daniel WW. Biostatistics. A foundation for analysis in the health sciences. 7th ed. New Delhi: Wiley India; 2006.
11. World Health Organization, 2006. <http://www.euro.who.int/eech/news/2006.1120-1>.
12. Shah SM, Yousafzai M, Lakhani NB, Chotani RA, Nowshad G. Prevalence and correlates of diarrhea. *Indian J Pediatr* 2003;70: 207-211.
13. Kolahi AA, Nabavi M, Sohrabi MR. Epidemiology of acute diarrheal diseases among children under 5 years of age in Tehran, Iran. *Iranian J Clin Infect Dis* 2008;3(4): 193-8.
14. Mengistie B, Berhane Y, Worku A. Prevalence of diarrhea and associated risk factors among children under-five years of age in Eastern Ethiopia: a cross-sectional study. *Open J Prev Med* 2013; 3(7): 446-53.
15. Saurabh S, Shidam UG, Sinnakirouchenan M, Subair M, Hou LG, Roy G. Knowledge and practice regarding oral rehydration therapy for acute diarrhoea among mothers of under-five children in an urban area of Puducherry, India. *Natl J Comm Med* 2014; 5(1): 100-4.
16. Mohammed S, Tamiru D. The burden of diarrheal diseases among children under five years of age in Arba Minch District, Southern Ethiopia, and associated risk factors: a cross-sectional study. *Int Scholarly Res Notices* 2014; 2014: 6.
17. Zahid SS, Zehra N, Ullah S, Khan N, Javed MH, Khan M. Mother's awareness and practices regarding home management of childhood diarrhea in a squatter settlement in Karachi. *Pak J Med Dent* 2014;3(2): 1-6.
18. Kale Pradhan PB, Jassal HK, Wilhelm SM. Role of Lactobacillus in the prevention of antibiotic-associated diarrhea: a meta-analysis *Pharmatherapy* 2010;30(2): 119-126.

Electronic Copy