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Frequency of Diarrhea and Its Risk Factors among Children under Five Years in Three Teaching Hospitals of Peshawar, Pakistan

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Abstract:

Diarrheal disease among children under 5 years' age is a major cause of morbidity and mortality of infants and younger children worldwide particularly in less developed countries.

Objective: we conducted a study in order to identify frequency of diarrhea & its most common risk factors among children aged less than five years in Peshawar.

Methods: It was a descriptive study conducted on 450 children coming with different complains in outpatient Pediatrics Department of Khyber Teaching Hospital, Lady Reading Hospital, Hayat Abad Medical Complex, in Peshawar.

Results: The frequency of diarrhea was 59 % (264) among 450 children .While other diseases was 41%. 88% children under the 24th months of age & 12% were more than 24 months. Most of the mothers were illiterate 76.5%, primary and middle were 14.4% metric and intermediate were 8.3% and graduate were only 0.8%. There were only 17% (44) mother washed her hands before feed the frequency of no washing hand before feed 19.3% (51)and The mothers were found to wash their hand every time after attending toilet 85.2% (225) while 14.4% (38) wash their hand occasionally and only 0.4% (1) did not wash their hand. 86.4% families had income less than 5000 to 20000 per month. Children's with the complete immunization were 46% (121) among 264 cases, partial immunization 35% (92), had no immunization 19 % (51). In the comparison of frequency of diarrhea with gender, result showed that there is no significant association between gender and frequency of diarrhea (p-value >0.05).

Conclusion: The result of the study show that the main factors which lead to diarrhea namely, Low socio economic status 86.4% No or occasional hand wash before feed 83.3%, mother illiteracy 76.5%, joint family 58.0%, no or partial immunization 54.1%.

1. Introduction

Diarrheal disease remains one of the most important causes of morbidity and mortality in developing countries, especially in African countries and Pakistan.¹ Diarrhea is defined as an abnormal increase in daily stool fluidity, frequency, and volume from what is considered normal for an individual.² Diarrhea kills an estimated 2.5 million people each year, with about 60-70% of them being children under five years of age.³ The disease is responsible for over a quarter of the deaths of children in the world today, more than 80% of child deaths due to diarrhea occur in Africa and south Asia, of these 38% deaths occurred in south Asia region.⁴

The prevalence of diarrhea varies according to education of mother, being significantly lower among children of more educated mothers than among children of mothers with no education. This is probably because education provides the knowledge of the rules of hygiene, feeding and weaning practices, and the interpretation of symptoms which enhances timely action on childhood illness.⁵ Instead of widespread use of oral rehydration therapy (ORT) the incidence of diarrhea has not declined, this is because most population of the world especially developing countries lack access to portable water due to poverty and sanitation and lack of hygiene.⁶

A study done on prevalence of diarrhea in Peshawar result showed that prevalence of diarrhea was 21% under 5 years of age.⁷

It is further classified into acute and chronic diarrhea. Acute diarrhea lasts for less than 21 days, and chronic diarrhea, lasting beyond 21 days. Chronic diarrhea is responsible for the serious problem of malnutrition where as acute diarrhea is responsible for death due to dehydration.⁸

Diarrhea is a common symptom of gastrointestinal infections caused by wide range of pathogens. The major pathogen causing diarrhea in Pakistan is Rota virus. It is a leading cause of acute diarrhea and is responsible for about 40% of all hospitals admission due to diarrhea among children under five.⁸

In 2008, a study was done in Iron. Study result showed that use of formula milk before 6 month of age and mother employment status were significantly associated with acute diarrhea in children.⁹

In 2012, another study was done in Nigeria. Study result showed that common risk factors for diarrhea were low maternal education, non-exclusive breast feeding and previous diarrhea episode in siblings.¹⁰

1.1. Purpose

The purpose of this study is to determine frequency of diarrhea & its common risk factors leading to diarrhea in children under 5 years of age.

2. Methodology

It was a descriptive study conducted on 450 children coming with different complains in outpatient Pediatrics Department of Khyber Teaching Hospital, Lady Reading Hospital, Hayat Abad Medical Complex, in Peshawar. The duration of Study was 3 months from December 2013 to February 2014. A semi structure questionnaire having both open and close ended questions was designed to collect data from mothers of all children. Sample size was calculated with WHO sample size calculator. All necessary information was obtained by having face to face interviews with patient's mother. Statistical analysis was done by the using SPSS 16.

2.1. Results

Diarrhea	Frequency	Percent
YES	264	58.7
NO	186	41.3
Total	450	100

Table 1: To determine frequency of diarrhea among children under five years of age

In the 450 children sample size the frequency of diarrhea was (264) 59 % (then the other diseases which was 41% (186)

Age In Months	Frequency	% Age
1 month to 24months	232	88%
More than 24months	32	12%
Total	264	100.0

Table 2: To assess the age group more susceptible to diarrhea

During my study, we found out of 264 children with diarrhea in different tertiary care hospital, of Peshawar. We found 88% children under the 24th months of age & 12% were more than 24 months. (table 2).

Education status	Frequency	% age
illiterate	202	76.5
primary and middle	38	14.4
metric and intermediate	22	8.3
graduation and higher	2	8
Total	264	100

Table 3: common risk factor for diarrhea:

2.2. Education Status of Mothers

In 264 patients of diarrhea the illiterate mothers were 76.5% primary and middle 14.4% metric and intermediate 8.3% and graduate only 2 mothers 0.8%, (table 3)

Hand wash	Frequency	% age
no	51	19.3
occasional	169	64.0
every time	44	16.7
Total	264	100.0

Table 4: Hand wash before feed

In our study the frequency of hand washing before feeding was found to be for every time 17% (44) not washing hand before feed 19.3% (51)and occasionally hand washing 64% (169

House hold income (PKR)	Frequency	%age
Less than20000	228	86.4
21000-35000	25	9.5
>35000	11	4.2
Total	264	100.0

Table 5: House hold income

In our study 86.4% families had income less than 5000 to 20000 per month.

Immunization status	Frequency	%age
nil	51	19.3
partial	92	34.8
complete	121	45.8
Total	264	100.0

Table 6: Immunization status

Children's with the complete immunization were 46% (121) among 264 cases, partial immunization 35% (92), had no immunization 19 % (51).

3. Discussion

Each year, an estimated 2.5 billion cases of diarrhea occur among children under five years of age, and estimates suggest that overall incidence has remained relatively stable over the past two decades. More than half of these cases occur in Africa and South Asia¹⁴. The incidence of diarrheal diseases varies greatly with the seasons and a child's age. Incidence is highest in the first two years of life and declines as a child grows older. Despite these declines, diarrhea remains the second most common cause of death among children under five globally, following closely behind pneumonia, the leading killer of young children.³³

This study showed a higher frequency 59% (264) of diarrhea out of 450 cases for study. While a similar study was done in 2012, by Kakulu in Tanzania showed the 33% diarrheal frequency out of 301 children of under five years of age.³⁴

In our study 88%of the children with diarrheal were under 24 months of age, So it's a more susceptible age group for diarrhea .Because in this age the children spatially6-9 month the child takes every thinks to mouth regards hands feet and toys . When the mother feed her baby occasionally or she may not washed her hands properly. Study was done in 2011; Khattak T A etal. in PAF hospital, Rawalpindi and study results showed that in acute watery diarrhea children peak age was between 13-24 months.³⁵

It is a known fact that there is a strong relationship between the child's health' and the parents education specially mother education. According to our study results illiterate mothers were found to be 76.5% and illiterate fathers were 28%.and literate were 72.1%. So illiteracy rate is very high in our study group. Kakulu, s etal. study results showed that parents education has a significant association with diarrhea.³⁴

If the literacy rate become high in the mothers can be reduce the diarrheal and other infection in children because the educator mother can be good look after of her children's.

In our study the frequency of hand washing before feeding was found to be for every time 44 (17%), not washing hand before feed 51 (19.3%) and occasionally hand washing 169 (64.0%).so results shows that mothers does not follow regular hand washing practice. Similarly in our study results only 85.2% mothers wash their hand every time after attending toilet and 52.3% wash their hand with plain water. In 2004, study done by Luby SP et al, in Karachi, results showed that in a setting in which diarrhea is a leading cause of child death, improvement in hand washing in the household reduced the incidence of diarrhea among children at high risk of death from diarrhea.³⁷

In our study 86.4% families had income less than 5000 to 20000 per month because of low income the nutrition status were poor and because poor nutrition the children become weak and prone for infection, like diarrhea RTI. According to Khan, s study results low socio-economic status of parents corresponded with greater vulnerability of their infants.³⁶

Children with complete immunization were 121 (45.8%) among 264 cases, partial immunization 92(34.8%), had no immunization 51(19.3%).

Rota virus Immunizations help to reduce deaths from diarrhea because the Rota virus is the most frequent cause of diarrhea during the winter month. Rotavirus, prevent from all perinatal diarrhea which complication of an illness, such as measles otitis media. Rotavirus is estimated to cause about 40 percent of all hospital admissions due to diarrhea among children under five years of age worldwide. Diarrhea is one of the most common causes of death associated with measles worldwide.³⁸

4. Conclusion

Our study results show that out of 450 cases taken from Pediatric OPD of three tertiary care hospital of Peshawar, frequency of diarrhea is 264(59%).According to our study results child age from 1month to 24 month are found to be more susceptible group for

diarrhea, having frequency 88%.The result of the study show that the factors namely, Low house hold income (86.4%) is one of leading risk factor to diarrhea followed by no or occasional hand wash before feed (83.3%), mother illiteracy (76.5%), no or partial immunization (54.1%),.

5. References

- i. Kosek M, Bern C, Guerrant RL. The magnitude of the global burden of diarrhoeal disease from studies published 1992-2000. *Bull World Health Organ* 2003;81:197-204.
- ii. WHO. The treatment of diarrhoea: A manual for physicians and other senior health workers.2005
- iii. UNICEF/WHO, Diarrhoea: Why children are still dying and what can be done. 2009
- iv. *Weekly Epidemiological Record*, vol. 83, no. 47, 21 November 2008.
- v. Yilgwan CS, Okolo SN. prevalence of diarrhea and risk factors in jos university teaching hospital., Nigeria., *Ann Afr Med* 2012; 11: 217-21
- vi. Ruxin Jan. Magic bullet: The history of oral rehydration therapy. *Med Hist* 1994;38:363- 97. [PUBNED]
- vii. vafae A, Moradi A, Khabazkhaab M. Case control study of acute diarrhea in children, *journal of research in health science* 2008; 8(01); 25-32.
- viii. Haneef S.M, Maqbool S, Arif M.A. Text book of paediatrics, 14th edition; international book bank:235
- ix. Boschi Pinto, C., et al., 'The Global Burden of Childhood Diarrhea', in: Ehiri, J.E., M. Meremikwu (editors), *International Maternal and Child Health*, 2009)
- x. Kakulu R K. diarrhea among underfive children and household water treatment and safe storage factors in mkuranga district, Tanzania, Muhimbili University of Health and Allied Sciences , 2012
- xi. Khattak T A, Ali S, Safdar S, Aslam M S. frequency of rotavirus infection in children with acute diarrhea, *Pakistan armed force medical journal* 2011; 1
- xii. Khan MH, Shah S H, Sarwar G, Anwar S, Bashir G, Gul N, Begum J. factors affecting the frequency of infantile diarrhea, *Gomal Journal of Medical Sciences* 2004; 2(1).
- xiii. Luby SP, Agboatwalla M, Painter J, Altaf A, Billhimer WL, Hoekstra RM. Effect of intensive hand washing promotion on childhood diarrhea in high-risk communities in Pakistan: a randomized controlled trial, *JAMA* 2004 ;2
- xiv. *Weekly Epidemiological Record*,2008; 91(21):2547-54.
- xv. Kakakhel ZM1, Ibrar S, Khan WA, Bibi H, Zamir SA, Khan SS, Khan S, Khan S, Tariq W, Tahir MH, Iqbal S. Assessment of frequency of diarrhoea in relation to drinking water among residents of Nurpur Shahan, Pakistan, *J Pak Med Assoc* 2011 Sep;61(9):934-7