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Research Article

**PREVALENCE OF DIARRHEAL DISEASES AMONG
CHILDREN IN DISTRICT MULTAN PUNJAB PAKISTAN**¹Dr. Ahsan Masood Khan, ²Dr. Salahudin Mahmood, ³Dr. Sana ullah¹DHQ Hospital Khanewal, ²Bakhatawar Amin Medical & Dental College Multan, ³Bhu
632/TDA Muzaffargarh.**Article Received:** February 2019**Accepted:** March 2019**Published:** April 2019**Abstract:**

Objective: Diarrhea is very common and leading disease among children in Pakistan and also is the third major cause of childhood mortality. According to WHO more than 53000 deaths are observed in children due to diarrhea in Pakistan.

Methodology: The purpose of the present study is to analyze the prevalence of acute diarrhea among children from the period of June 2018 to December 2018 In District Multan. The major causes of diarrhea and its clinical features were observed. Total of 300 samples were collected from the age group of 1 month to 13 years.

Discussions and results: With the progress of health facilities availability the mortality rate among children due to diarrhea has reduced considerably as compared in the past. Treatment of diarrhea usually include oral rehydration solutions, zinc, antibiotic and intravenous fluid.

Conclusion: The research has also helped to analyze the major causes of diarrhea and how to reduce the burden of diarrhea by improving quality of life of the society.

Keywords: Diarrhea, dehydration, clean drinking water, fever, vomiting, rehydration.

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INTRODUCTION:

Access to health facilities in Pakistan during last decade has shown steady progress and it has helped to reduce the mortality among young children. The progress was made possible with the consistent ongoing immunization program, availability of Rota virus vaccine for infants, programs for respiratory and diarrhea control. Although the death among young children has reduced but still it is considered the leading cause of death among children in Pakistan. Poor sanitation and contaminated water is the major cause of dysentery in addition to hepatitis and typhoid fever.

From clinical pattern point of view diarrhea can be classified as

- Diarrhea lasting for more than 14 days(Persistent Diarrhea)
- Diarrhea lasting for less than 14 days without blood (Acute watery Diarrhea)
- Diarrhea lasting for less than 14 days with blood(Acute bloody Diarrhea)

Acute watery diarrhea causes extreme dehydration and can lead to death among children. Rehydration and Zinc therapy helps a lot to improve the condition. Pakistan is under developed country and hence poverty rate is high. Majority of the population has limited access to quality food, safe and clean drinking water, and poor access to good living standard, poor sanitation system and poor management of solid waste management. These issues have emerged many diseases in the society. Stunting is another challenge for Pakistan. The persistent diarrhea was common among children who were malnourished; having delayed growth, deficiency of Vitamin A and also suffering from other infections like respiratory and urinary tract infection. Supplemented diseases can boost the complexity of the situation. Diarrhea is considered a fatal problem and it must be prevented by intervention of donor agencies to support the improved health plans for children and women in the developing countries. The global strategies by the international agencies suggest that the living standard of people should be improved because without this you cannot stop persistent diarrhea.

METHODOLOGY:

This is observational study conducted in the District Multan from the time period of June 2018 to December 2018. The sample size was 300 patients who came up with the history of at least 3 loose stools in a day or increased history of number and days for less than 14 days. The age group of selected population ranged from infants to 13 years. The children who were malnourished and came up with diarrheal history were excluded from the study because their condition was more linked with their food and vitamin deficiency. The patients who were participating in the study their detailed medical history along with their socio economic status were recorded. Following information was collected.

- Particular of the patient (age, gender and family occupation)
- History of diarrhea and related symptoms
- Oral rehydration and patient awareness about the therapy
- Diarrhea in family history
- Quality of life and area where the patients are living
- Availability of clean drinking water
- Nutrition assessment
- Dehydration assessment
- Socio economic status of patient and attendants

RESULTS AND DISCUSSIONS:

During six month study period 300 patients who came up with diarrhea history were registered in District Multan. Young children were included in the study that were suffering with acute diarrhea and also were positive in bacterial enteropathogens. Table 1 shows the age distribution of children among selected cases. Out of total sample size maximum cases were falling under 5 years of age group and their cumulative percentage is 66.3 %.The children with age group less than 7 years were suffering with acute watery diarrhea only 11.6 %. The children less than 9 years of age were 6 % of the total sample. Children with less than 11 years of age were 10 percent of total sample. It is clear from the table that as the age group of children increased their acute watery diarrhea disease reduced and the children with age group of less than 13 years contributed only 5 %.

Table 1 Age group Distribution

Age group	Number of Children	Percentage
Less than 1 year	40	13.3 %
Less than 3 year	90	30%
Less than 5 years	70	23%
Less than 7 year	35	11.6%
Less than 9 years	20	6%
Less than 11 years	30	10%
Less than 13 years	15	5%

From the table 2 which is about the gender of sample size. The male children who were suffering from the acute diarrhea were 56.6 % and the female children consisted only 43.3 % of the total population.

Table 2 Gender Distribution

Gender	Number of Children	Percentage
Male	170	56.6%
Female	130	43.3%

The demographic characteristics in table 3 depicts that the 73.3 % of the sample belonged to rural area and only 26.6 % of the sample was from urban area. The literacy rate in South Punjab is increasing and 63.3 % of the sample was literate only 36.6 % of the

population was illiterate .The indicators are about the attendant's profile that came with the young children.76.6% of the patients and their attendants were from poor income group and only 23.3% were from middle income group.

Table 3 Demographic Distribution

Indicator	Number	Percentage
Urban	80	26.6%
Rural	220	73.3%
Literate	190	63.3%
Illiterate	110	36.6%
Poor income	230	76.6%
Middle income	70	23.3%

The main source of watery diarrhea was due to drinking contaminated water, from the table 4 the results shows that 80 percent of the population use hand pumps as a source of water. The population who were from urban area use public tap as a drinking water contributed only 10 %. The patients

who used water tank as a source of drinking water contributed 3 % and 6% of the sample used old water tank as a source of drinking water. If the availability of clean drinking water is made sure then the burden of disease can be reduced drastically.

Table 4 Water source

Source	Number	Percentage
Hand pump	240	80%
Public tap	30	10%
Water tank	10	3%
Old water tank	20	6%

In rural areas young marriages are common and the young parents are not well trained and aware about hygiene of dealing with children. Poor socio-economic status, young age, low literacy, presence of young siblings in family, malnutrition, breast feeding is inadequate, poor sanitation, flees bombardment in urban and rural areas and unhygienic practices are the main causes of higher frequency of diarrheal

diseases. The incidence of diarrhea is high in poor socio-economic group as compared to the middle socio-economic group. The small family have lower rate of incidence of diarrhea as compared to the larger family. Due to malnourishment the immunity among children was low and hence it becomes the main reason for getting diarrhea again and again in regular intervals. The diarrhea incidence increased in

summer. In hot summer kids consume unhealthy ice creams and unpacked juices to treat summer heat. It becomes the cause of acute diarrhea. Rainy season also contribute in enhancement of the disease due to humidity, mud, poor infrastructure, waste water presence in the street, refuse presence and storage everywhere, unclean water tank conditions, disposal of feces by the mother of infants, poor hand washing habit are the major reason of diarrhea spread. Hand washing is absent and if present proper use of sanitizer or soap is missing which causes the diarrhea in young children.

Clinical Symptoms

Medical history of the patients was recorded and the sign and symptoms observed were loose motion, fever and vomiting. The frequency of loose motion in one day was also recorded. The condition of the patient who was less dehydrated, dehydrated and severe dehydrated was recorded. The treatments of the patients were started immediately along with rehydration therapy. The patients who have higher frequency of loose motion per day were severely dehydrated and were admitted in hospital for timely treatment. Following table 5 shows the presence of symptoms, the condition of dehydration in the patients who was registered as a sample size.

Table 5 Clinical Features

Symptoms	Present	Percentage
Fever	230	76.6%
Vomiting	190	63.3%
Motion more than 3 a day	90	30%
Motion more than 5 a day	170	56.5%
Motion more than 7 a day	30	10%
Motion more than 9 a day	10	5%
Mild dehydrated	120	52.1%
Dehydrated	160	53.3
Severe Dehydrated	20	6 %

In rural areas it is the culture that the disease is not taken serious at its start but when the home remedies won't help people come for medical help in hospitals

Table 6 Number of days diarrhea prevailed

Days	Present	Percentage
Less than a day	5	1.6 %
Less than 3 days	35	11.6 %
Less than 5 days	140	46.6%
Less than 7 days	90	30%
Less than 9 days	18	6%
Less than 11 days	10	3 %
Less than 14 days	2	0.06%

Patients have long days history of diarrhea and also the frequency of diarrhea is high. Patients were usually dehydrated and in some cases were severely dehydrated. Antibiotic treatments along with osmolarity oral rehydration, intravenous rehydration and zinc therapy helped to release the problem in few days. These strategies have helped to prevent the mortality among young children

How to prevent Diarrhea?

Diarrhea can be prevented by developing awareness among masses and also improving the education and living standard of the people. Access to safe drinking water, awareness about hand washing with soap, safe

disposals of excretions, immunization against different diseases like Rota virus, typhoid etc, provision of vitamin A supplements and exclusive breast feeding in infants can help to reduce the risk of diseases among children.

In rural areas the open toilet systems increases the intensity and prevalence of disease. Use of proper clean toilets and sanitation system can reduce the burden and risk of diarrhea. Hand washing before handling food; eating and defecation should be promoted among attendants and children

CONCLUSION:

It is concluded that cleanliness of the person, home,

community and society is the only option to decrease the burden of many diseases. Access to better sanitation, safe drinking water and improved infrastructure can help to reduce the diarrhea in society. Rota virus vaccine should be availed by the community in order to develop immunity against diarrhea in young age. Poverty alleviation plans should be introduced and education to women and girls are important measures for enhancing overall children health

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