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KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS TOWARDS PREVENTION AND HOME BASED MANAGEMENT OF DIARRHEAL DISEASE IN UNDER 5 YEARS CHILDERN

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ABSTRACT

Background:
Diarrhea continues to be the third leading cause of death among children under the age of five worldwide, it kills more young lives. However, many of these deaths could be prevented through the basic home-based care, such as used of oral rehydration therapy. Mothers play a key role in both the prevention and management of the diseases. Therefore, the primary aim of this study was to evaluate the knowledge, attitudes, and practices of mothers regarding the prevention and home based management of diarrheal disease in children under five year in Khuda Ji Basti, Kotri, Jamshoro Sindh.

Methodology:
Current community based cross-sectional study was conducted at the Khuda Ji Basti, Kotri, Jamshoro Sindh, Pakistan. Mother of children under 5 years of age and suffering from diarrhea were included in the study. Total 200 mothers were interviewed by using questionnaires, adopted and modified comprising of 26 questions.1st Demographic information, section 2 knowledge, section 3 attitude, and section 4 practice regarding diarrhea management. Data was entered and analyzed used SPSS 23.00 v.

Results:
In this study, 200 participants were included with 100% response rate. From total 200 mothers, around two-thirds (75.2%) of them had good knowledge, and p value was (0.002). Mothers (55%) were positive attitude towards home-based management and

prevention of diarrhea among under-five children, p value was (0.065). Regarding the attitude of the mothers, 78% were poor practice towards home-based management and prevention of diarrhea among under-five children, p value was (0.106).

Conclusion

The study indicated that mothers were a satisfactory level of knowledge regarding the prevention and home-based management of diarrheal diseases in children under five. They were generally aware of key practices such as breastfeeding, and was used of oral rehydration solutions (ORS), handwashing, sanitation, and hygiene. However, despite this knowledge, proper hygiene was not consistently observed among the mothers and childrens. Additionally many families continued to used contaminated water, and most mothers were not received guidance from healthcare professionals.

INTRODUCTION

Passage of 3 or more than 3 loose of stool or watery stools per day or consider as abnormal by the mothers or stools more common than normal for a child is considered as diarrhea said by WHO (1). Diarrhea is defined by 3 criteria, stool frequency ≥3 bowel movements per day, stool consistency soft, mushy, or watery, and stool weight <200 g/day. Meeting any one of these criteria is sufficient for a clinical diagnosis of diarrhea. (2).Clinically, Diarrhea can be classified as acute bloody diarrhea, acute watery diarrhea, and chronic diarrhea, Continuing for a minimum of two weeks(14 days) (3,4). Diarrheal disease is the third leading cause of death in children under age of five. It is both preventable and treatable. Each year around 443 832 death related to diarrhea in children under 5. A large number of diarrheal diseases can be avoided with access to safe drinking water, proper sanitation, and good hygiene practices. worldwide, children experience approximately 1.7 billion cases of diarrhea each year. Among children under the age of five, diarrhea remains one of the primary causes of malnutrition (5). The disease spreads through the fecal-oral route, where pathogens from an infected person's stool contaminate food or water and are then ingested by another person (6) If not treated immediately, this can lead to severe fluid loss and dehydration, which may ultimately cause death if the fluids are not replaced (7) .Diarrhea is caused by a variety of bacteria, viruses, and parasites. Diarrhea claims the death of more young children than AIDS, malaria, and measles combined. It also makes children more vulnerable to other infections (8). Key factors include caregivers' understanding of what causes diarrhea, recognizing its signs and symptoms, and knowing how to prevent dehydration during diarrheal episodes by using Oral Rehydration Salts (ORS) (9).The majority of deaths and illnesses caused by diarrhea can be avoided through primary preventive measures, including using safe drinking water, regular handwashing, exclusive breastfeeding, vaccination, proper waste disposal, using toilets, and maintaining good hygiene and sanitation.(10). Secondary prevention involves immediately identifying dehydration caused by diarrhea and providing timely oral rehydration, continuing and increasing the intake of energy-rich foods alongside breastfeeding, and administering zinc supplements.(11).Unlike many other diseases, diarrhea is often not seen as a serious disease, which leads to most cases being untreated or treated at home using traditional methods (12). about half of children under the age of five are not brought to a healthcare facility, and around one-third of those suffering from diarrhea receive no treatment at all (13). Rotavirus is among the commonest diarrheal pathogen in children globally. Rotavirus can cause intestinal losses of fluid, electrolyte and nutritional deficiency which relatively expands rapidly to cause dehydration and death. Diarrheal disease is one of the commonest illnesses that has the largest negative impact on the growth and development of infants and young children globally(1). Several studies have highlighted several risk factors associated

with diarrhea. younger age, male gender, early weaning, seasonal patterns, low maternal education, lack of piped water supply, poor water-storage practices, poor sanitation, younger maternal age, unsatisfactory garbage disposal , lack of hand washing with soap by caregiver, visible feces in the yard indiscriminate disposal of child feces, inadequate boiling of water, using water from cistern trucks and Not treating water in the home (14). The WHO advises that mothers and caregivers should be able to recognize the symptoms of dehydration, which include intense thirst, sunken eyes, decreased urination, extreme drowsiness, loose or poor skin elasticity, irritability or restlessness, and a absence of tears.(15). Although diarrhea may not always result in fatality, mothers' wrong beliefs, bad habits, and misguided methods for managing and preventing it lead to high levels of severe dehydration and, eventually, death .UNICEF and WHO introduced Oral Rehydration Salts (ORS) and Oral Rehydration Treatment (ORT) in the late 1970s, and both methods have been shown to be effective in managing diarrhea in children (16). Severe diarrhea causes substantial fluid loss and can be life threatening, particularly in young infants who are underweight or have compromised immune systems(17). Washing hands with soap is one of the most affordable public health measures and can decreases the incidence of diarrhea by approximately 23% to 48% (18). The beneficial effects of oral zinc in treating both acute and persistent diarrhea are well established.In 2004, the World Health Organization (WHO) and UNICEF revised their guidelines to recommend zinc supplementation (20 mg per day for 10 to 14 days) for children age six months to five years suffering from acute or chronic diarrhea.(19,20). Diarrhea is disease closely related to environmental conditions. Two dominate factors are access to clean water and proper waste disposal. These environmental aspects are closely influenced by human behavior. When the environment is contaminated with diarrhea germs and this is combined with poor hygiene practices especially related to food and drink can cause diarrhea (21). Previous research showed a statistically important link between access to clean water and the incidence of diarrhea. Proper water treatment and safe storage practices play a crucial role in decreasing diarrhea cases. This is because drinking water can serve as a transmission medium for diarrhea causing bacteria. Therefore, ensuring a clean and well maintained water source is essential in preventing diarrhea (22). This study Understanding the maternal Knowledge, attitude and practice is essential for designing effective public health interventions, improving home management strategies like the use of oral rehydration salts (ORS), and ultimately reducing the burden of diarrheal diseases among under-five children.

PURPOSE:

The study aims to identify gaps in understanding and behavior in mothers knowledge, attitude and practice, which can inform the development of effective health education strategies and community interventions to reduce the incidence and impact of diarrheal diseases in this vulnerable age group.

OBJECTIVES :

1. To assess the knowledge of mothers regarding the causes, symptoms, and management of diarrhea in children under 5 years in khuda ji basti kotri.

2. To assess the attitude of mothers towards diarrhea prevention, treatment, and healthcare-seeking behavior for their children.

3. To assess the practices of mothers regarding diarrhea management, including hygiene practices, feeding habits, and use of oral rehydration therapy (ORT).

METHODOLOGY:

Study Setting : This study was conducted in Khuda Ji Basti Kotri, Jamshoro, Sindh, Pakistan.

Study Design : Current community based cross-sectional study.

Sample Size : A sample size of 200 mothers is deemed sufficient to achieve reliable results. By using Raosoft software, margin of error was 5% and confidence level is 95% used 50% population formula. Total sample size was n= 200

Sampling Technique : A non random convenience sampling technique was used.

Data Collection Tool : A well Structured questionnaire adopted and modified to focus to assess the knowledge, attitude, and practice of mothers regarding diarrhea in children under 5 years. The questionnaire consisted four sections 1st was demographic information 2nd section knowledge, section 3rd attitude, and section 4th practice regarding diarrhea management.

Data Analysis : Responsed from the questionnaire could be coded and analyzed using statistical SPSS software version 23. (Statistical Package for the Social Sciences) is commonly used in research to analyze and interpret data,Chi squire test was used for queilitative variables and Co-relation Co-efficient test was used for queintitative variables.

Inclusion Criteria :

1. Mothers with children under 5 years.
2. Mothers who are residents of khuda ji basti.
3. Mothers who are willing to participate in the study and provide informed consent.

Exclusion Criteria :

1. Mothers with children above 5 years.
2. Mothers who are not residents of khuda ji basti.
3. Mothers who are not willing to participate in the study or do not provide informed consent.
4. Mothers who have a severe mental or physical illness that may affect their ability to participate in the study.

CHAPTER#03
RESULTS

Table 1. Age of mothers (n = 200)

age of mother	Frequency	Percent	Cumulative Percent
18-25	106	53.0	53.0
26-35	75	37.5	90.5
36-45	16	8.0	98.5
46 and above	3	1.5	100.0
Total	200	100.0	

Majority 53% of mothers belong to age (18-25) , 37.5% mothers were age (26-35) and 8% of mothers belong to (36-45) age while only 1.5% mothers age 46 Above.

Figure 1 Age of mother

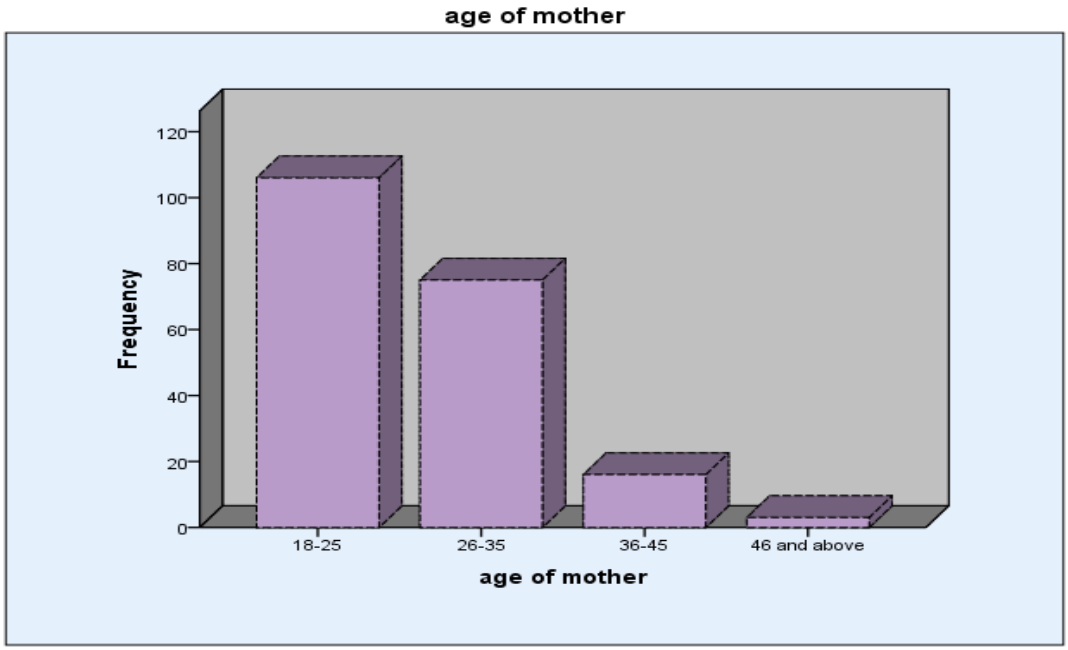

Table 2. Level of education (n=200)

level of education	Frequency	Percent	Cumulative Percent
no formal education	95	47.5	47.5
primary education	59	29.5	77.0
secondary education	34	17.0	94.0
tertiary education	12	6.0	100.0
Total	200	100.0	

Most of the mothers were No formal education (47.5%), mothers were primary education (29.5%), while secondary education (17%) and 6% only tertiary education.

Figure 2. level of education

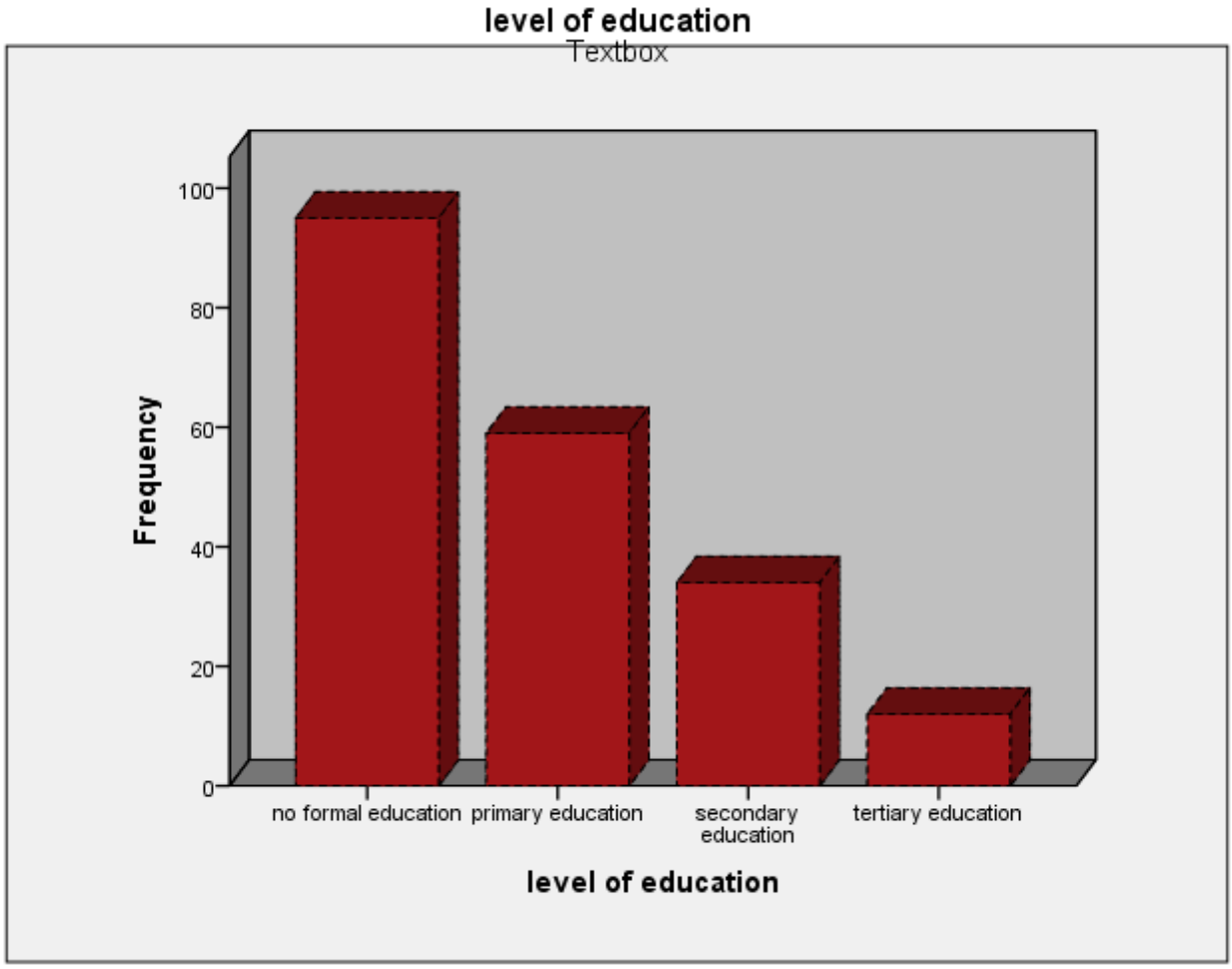

Table 3. how many children do you have under the age of five

how many children do you have under the age of five	Frequency	Percent	Cumulative Percent
one	141	70.5	70.5
two	37	18.5	89.0
three or more	22	11.0	100.0
Total	200	100.0	

Majority of mothers have only one child (70.5%), mothers have two child (18.5%) and only (11%) mothers have three childrens under five years.

Figure 3. number of childrens under five years

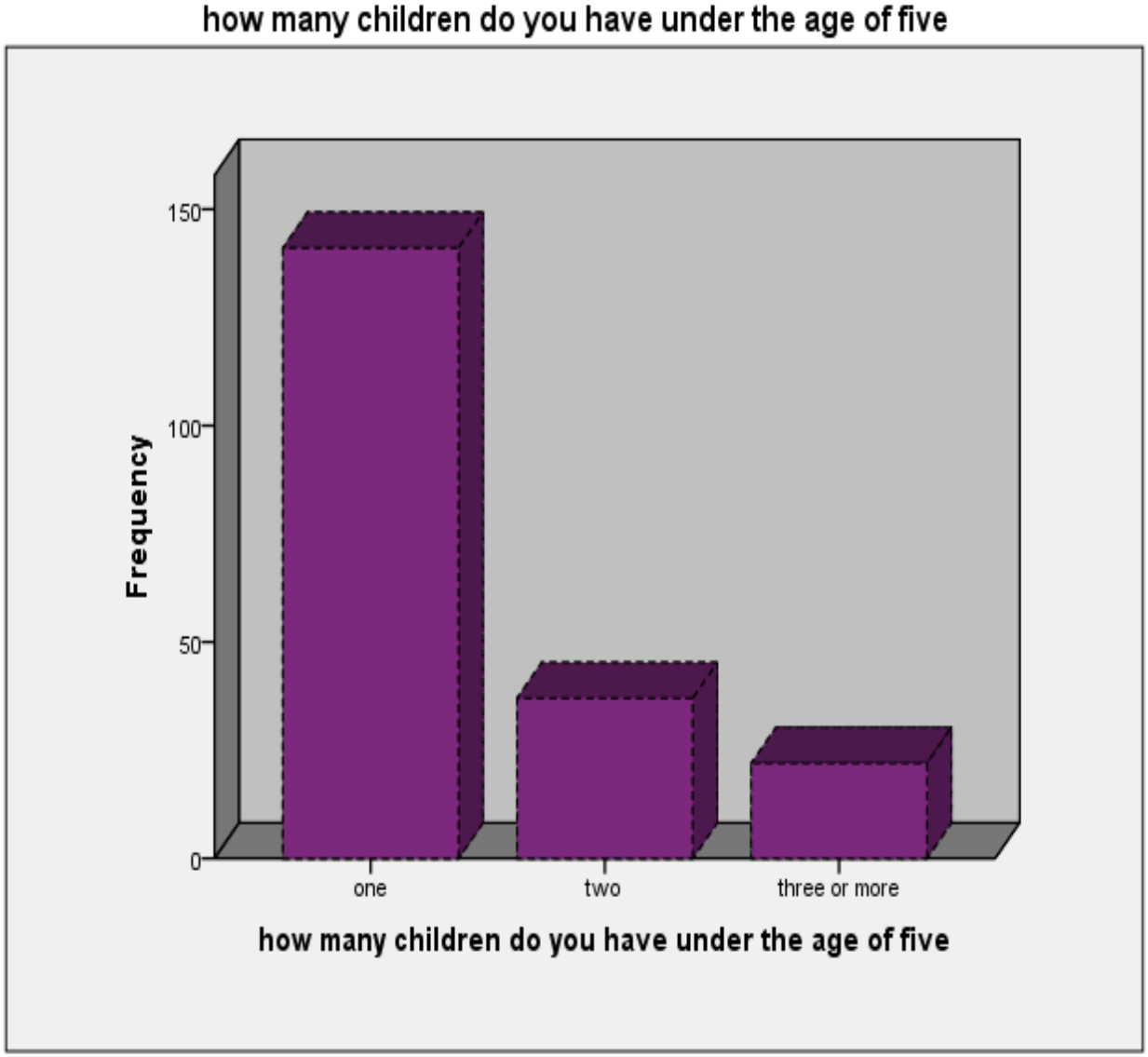

Table 4. familys monthly income.

what is your familys monthly income	Frequency	Percent	Cumulative Percent
less than 50	148	74.0	74.0
50-100	48	24.0	98.0
100-120	4	2.0	100.0
Total	200	100.0	

Most of the family members were monthly income less than 50 (74%), monthly income 50-100 were (24%), and only (2%) were belong to monthly income 100-120.

Figure 4. monthly income of family

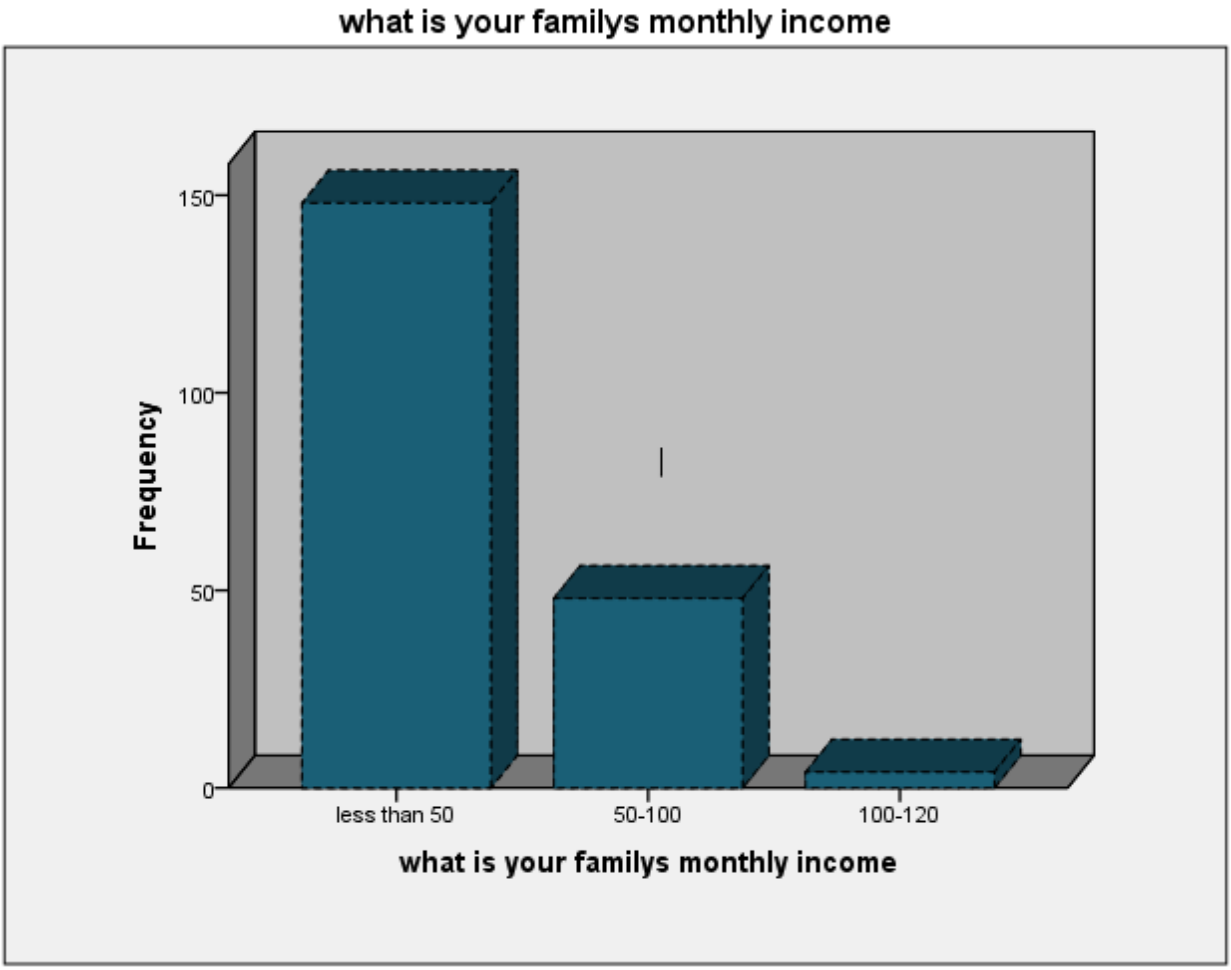

Table 5: Knowledge of Diarrheal Disease Prevention and Home-based Management

What is diarrhea?	**Frequency**	**Percent %**	**P value**
Watery stool	132	66.0	0.000
Frequent stool	49	24.5	
Stool with blood	16	8.0	
Vomiting and stomach pain	3	1.5	
What are the common causes of diarrhea in children under five years old?			
Bacterial infection	14	7.0	0.000
Viral infection	6	3.0	
Contaminated water or food	75	37.5	
Poor hygiene	50	25.0	
All of the above	55	27.5	
What are the main symptoms of diarrhea in children under five year?			
Loose or watery stools	117	58.5	0.000
Pain in abdomen	26	13.0	
Vomiting	3	1.5	
Dehydration	54	27.0	
Do you know how diarrhea can be prevented?			

No	37	18.5	
Yes	163	81.5	0.000
What is the role of handwashing in preventing diarrhea?			
Hand washing before eating only	87	43.5	
Hand washing after using toilet	24	12.0	
Hand washing after changing diaper	3	1.5	0.001
All of the above	86	43.0	
Do you know what oral rehdration solution is?			
No	22	11.0	
Yes	178	89.0	0.001
When should you use ORS for a child with diarrhea?			
When diarrhea lasts more than a day	136	68.0	
When the child is dehydrated	36	18.0	
Only when the child has a fever	1	.5	0.000
All of the above	27	13.5	
Which of the following can be used to treat diarrhea at home?			
ORS	120	60.0	
Antibiotics	25	12.5	
Herbal medicine	14	7.0	0.000
All of the following	41	20.5	

Most of the mothers replied watery stool (66%), the p value is (0.000) while frequent stool said by (24.5%), and stool with blood said by (8%) while (1.5%) said vomiting and stomach pain. Majority of mothers (37.5%) the p value is (0.000) know that the contaminated water or food can cause diarrhea under five, second major response (27.5%) from mothers side were all of the above, while (25%) the p value is (0.000) mothers said that poor hygiene is the cause, and (7%) were reacted to bacterial infection and only 3% were said that viral infection is the cause.58.5% of mothers said that the loose or watery stools are the symptoms of diarrhea, the p value is (0.000) , 27% reacted to dehydration and 13% said that pain in abdomen while only 1.5% said that vomiting is the symptoms of diarrhea. Majority (81.5%) of mothers know that how to prevent diarrhea, the p value is (0.000), while rest of the mothers (18.5%) said they don't know how to prevent diarrhea. Most of the mothers (43.5%) reacted towards hand washing before eating only can play a role in diarrhea prevention, the p value is (0.001), (43%) tick all of the above , while hand washing after toilet said by only (12%) and (1.5%) mothers said that hand washing after changing diaper. Majority (89%) mothers were the knowledge about ORS, the p value is (0.001), rest of the mothers (11%) don't know about ORS. (68%) said that when diarrhea lasts more than a day then they use ORS,the p value is (0.0001), (18%) reacted towards dehydration, while (13.5%) said that all of the above and only (0.5%) reacted when child has a fever. Most of the mothers (60%) said that ORS is used to treat diarrhea at home, the p value is (0.000) while (20.5%) replied all of the following and (12.5%) mothers used antibiotics to treat diarrhea at home and only (7%) mothers used herbal medicines.

Table 6: Attitude Toward Diarrheal Disease Prevention and Management

How serious do you think diarrhea is for children under five year	**Frequency**	**Percent %**	**P value**
Very serious	120	60.0	
Somewhat seriouss	24	12.0	
Not serious	56	28.0	0.000

How confident are you in managing diarrhea at home?			
Very confident	61	30.5	
Somewhat confident	51	25.5	
Not confident	88	44.0	0.000
How often do you seek medical care for your child when they have diarrhea?			
Always	155	77.5	
Sometimes	29	14.5	
Never	16	8.0	0.012
Do you believe that providing ORS at home can prevent dehydration in children with diarrhea?			
No	38	19.0	
Yes	162	81.0	0.000
Do you think that proper sanitation and hygiene can help in preventing diarrhea?			
No	34	17.0	
Yes	166	83.0	0.000
Would you seek medical attention if diarrhea lasted more than 2 days?			
No	46	23.0	
Yes	154	77.0	0.000
Do you think that breastfeeding helps to prevent diarrhea in children under five year?			
No	53	26.5	
Yes	147	73.5	0.053

Most of the mothers (60%) were taken diarrhea in children very serious,the p value is (0.000), (28%) mothers were taken diarrhea not serious while (12%) of mother taken somewhat serious. Majority of mothers (44%) were not confident in managing diarhea at home, the p value is (0.000), (30.5%) mothers very confident while (25.5%) mothers were somewhat confident in managing diarrhea at home. Most of the mothers (77.5%) said that they always seek medical attention when their children have diarrhea, the p value is (0.012), (14.5%) were seek sometimes medical attention while (8%) only never seek medical attension. (81%) of the mothers said that yes ORS is prevent a child from dehydration, the p value is (0.000), while (19%) of the mothers said No. (83%) of the mothers reacted yes that proper sanitaion and hygiene can help in preventing diarrhea the p value is (0.000), and only (17%) mothers replied NO. (77%) mothers said that yes they would seek medical attention if diarrhea lasted more than 2 days, the p value is (0.000), while (23%) said No. Most of the mothers (73.5%) replied yes breastfeeding helps to prevent diarrhea in children under five the p value is (0.053), while only (26.5%) said No

Table 7: Practices Related to Diarrhea Management and Prevention

How often do you wash your hands before feeding your child	**Frequency**	**Percent%**	**P value**
Always	167	83.5	
Sometimes	32	16.0	
Never	1	.5	0.002
Do you use ORS when your child has diarrhea			
Yes, always	157	78.5	
Sometimes	27	13.5	
Never	16	8.0	0.000

Do you use any specific food or drinks to treat diarrhea at home?			
Yes I give ORS	160	80.0	
Yes I give specific food (rice , banana)	25	12.5	
No I dont give any specific food	15	7.5	0.104
Have you ever recieved any advise on how to treat diarrhea at home from a health professional			
No	118	59.0	
Yes	82	41.0	0.000
What do you do if your child has watery stools for more than 24 hours?			
Give them ors	102	51.0	
Take then to the clinic	40	20.0	
Give them home remdies	58	29.0	0.000
Do you boil water for drinking in your household?			
No	140	70.0	
Yes	60	30.0	0.000
What measures do you take to ensure the food your child eat is safe?			
Wash hands before cooking	177	88.5	
Cook food thoroughly	1	.5	
Store food properly	22	11.0	0.000

Majority of mothers (83.5%) said that they always wash their hands before feeding, the p value is (0.002) ,and (16%) mothers replied sometimes while (0.5%) say never. (78.5%) mothers used ORS when their child has diarrhea, the p value is (0.000), and (13.5%) mothers replied sometimes while only (8%) said never . (80%) mothers use only ORS and the p value is (0.104), (12.5%) mothers replied yes I give specific food (rice, banana) and only (7.5%) mothers don't gave any thing to their child in diarhhea. (59%) mothers said that No, the p value is (0.000), while (41%) replied that yes they received advice on how treat diarrhea at home from health professional. Most of the mothers (51%) replied that give them ORS, the p value is (0.000), (29%) of the mothers give them home remidies while (20%) of the mothers take them to the clinic. Most of the mothers (70%) said NO they don't use boil water for drinking,the p value is (0.000), while rest (30%) of the mothers replied yes they use boil water for drinking. (88.5%) of mothers replied that they wash hands before cooking, the p value is (0.000), while (11%) of mothers response that they store food properly and only (0.5%) of the mothers said that they cook food thoroughly.

DISCUSSION

The current study shows that only 66% of the mothers knew the correct definition of diarrhea (as the passing of loose stool 3 or more times per day). This result is consistent with the study conducted in Bangladesh stated that 88% of mothers knew the correct definition of diarrhea.(23) In another study conducted in pakistan, civil hospital karachi stated thst 72% knew the correct definition of diarrhea(8). The preferences of the mothers about diet varied but majority 12.5% of them preferred a diet comprising of khichri, bananas, porridge. Some of the mothers even gave yoghurt and rice, boil water to the child and 80% gave ORS to their children. A similar study conducted in Burkina also stated that during diarrhea, 50% mothers gave pulses and khichri, rice water, banana, 25% ORS.(24). Another study in Bangladesh showed that a more than 50% of mothers were in favor of giving food and fluids during the illness but less than 25% opted for oral rehydration therapy (25). study in civil hospital karachi stated 71% of them preferred a diet in diarrhea (8). Regarding prevention of diarrhea, 83% mothers perceived the importance of personal hygiene for prevention of diarrhea in contrast to 45% in

a Gambia research (26). In civil hospital karachi stated that 62% mothers percieved the importance of personal hygiene for preventon of diarrhea (8). Very few mothers knew various preventive methods like, boiling water 30%. Another research conducted in Indian city of Karnataka, showed that only 25% mothers boiled their drinking water (25). in civil hospital karachi stated that 14.5% used boil water for drinking (8). Most of the mothers (88.5% & 100%) usually wash their hands before preparing food. But in Assossa, Ethiopia only 11.7% of the mothers was wash their hands before preparing food (27). To contrary, in Bangladesh, 60.0 % don't wash their hands before food preparation (28). (20%) in the present study mothers seek medical treatment for their children during the time of diarrhea diseases which much different from Fagita Lekoma, Ethiopia (71.6%) (29), Karachi, Pakistan (52.5%) (8), and Assossa, Ethiopia (62.4%) (28). the majority of the mothers agreed that ORS can replace lost fluid but its inability to stop diarrhea caused them to seek additional treatments such as antibiotics and traditional medicines to treat diarrhea. Similarly, a study done in Mali showed that majority of mothers knew ORS can replace lost fluid (30). current study shows that (73.5%) mothers know that breastfeeding helps to prevent diarrhea in children five, World Health Organization (WHO) and UNICEF advocate for exclusive breastfeeding for the first 6 months to reduce the risk of infections, including diarrhea. According to the Centers for Disease Control and Prevention (CDC).

CONCLUSION

The finding of this study showed that the knowledge of mothers were satisfactory about the prevention and home-based management of under-five diarrheal diseases. Mothers have the knowledge about breast feeding, ORS, hand washing, sanitation and also hygiene. We observe that the knowledge of mothers were good but we did not see the hygiene in mothers as well as in childrens, also they use contaminated water and no any advice receives from any health professional. To promote better prevention and management of diarrheal diseases in children under five, efforts should focus on health education, effective information dissemination, and engaging community dialogue to foster positive attitudes and behaviors.

LIMITATIONS:

- ✧ majority of the respondents had the questionnaire read to them because they could not read, and this could have introduced some bias.
- ✧ The study is conducted over a relatively short period (3 months), which might not capture seasonal variations or long-term trends
- ✧ Responses may be influenced by social desirability bias, where mothers report what they think is the "correct" answer rather than what they actually do.
- ✧ Mothers may not accurately remember past events or practices related to diarrheal disease management, leading to inaccurate data.
- ✧ the study is cross-sectional, it only captures information at one point in time and cannot establish causality between knowledge, attitude, and practice.
- ✧ The sample is from one geographic area or community, the results may not be applicable to all mothers in other regions or with different socio-economic or cultural backgrounds

RECOMMENDATIONS:

- ✧ Mothers should use Oral Rehydration Solutions (ORS) and breastfeed infants frequently.
- ✧ Mothers should continued feeding with easily digestible foods.
- ✧ mothers should done handwashing before cooking.
- ✧ Mothers must focus on hygiene of their children.
- ✧ Mothers should always use boil water for drinking to their childrens.
- ✧ Mothers should cover food and water.
- ✧ Mothers must do practice of handwashing to their childrens before meal, after toilet use and also after playing.

Ethical consideration :

Permission taken from the councilor of Khuda ki Basti, to access and collect data for research study, ensuring that all necessary ethical and administrative requirements have been met. Furthermore we also obtained ethical permission from the mothers to collect data for research study through questionnaire . we ensure that the confidentiality of the participants will be maintained, and their personal information will not be disclosed or used for any purpose other than this research. We guaranted that all data collected will be kept anonymous, secure, and confidential. Also all participations were informed them with voluntary and that they could withdraw at any time of the study.

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LIST OF ABBEREVIATIONS

UNICEF	United nation international children's emergency fund
WHO	World health organization
ORT	Oral rehydration treatment
LUMHS	Liaquat university of medical and health sciences jamshoro
ORS	oral rehydration solutions
SPSS	Statistical package for the social sciences
AIDS	Acquired immunodefficiency syndrome
CDC	Center for Disease Control