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An Observational Study Of Home Remedies For Diarrhoea Treatment In Children In Rural Pilkhuwa, Hapur

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ABSTRACT

Introduction: diarrhoea is one of the most common ailments of children and the third most common cause of paediatric mortality (8.6%), next to prematurity & low birth weight (29.8%) and pneumonia (17.1%).[1] The morbidity and mortality due to diarrheal diseases has steadily decreased in present times, but it still takes a heavy toll on children. Much of our victory over diarrheal diseases has been due to better health awareness of laymen and the progressive use of oral rehydration solutions and antibiotics. Public awareness has also led to better use of scientific and rational home remedies for the management of diarrhoeal illnesses.

Methodology: The present study is a descriptive study. Observers planned to interview a population of 140 subjects who were mothers having children of less than 15 years of age and who were attending various outpatient clinics of Rama Medical College Hospital between July 2023 and September 2023. The medical college is a tertiary care centre situated in a semi urban location. Observers elicited a history of episodes of diarrhoea in their children since birth and asked them about the methods of care adopted by them during such episodes. In the course of detailed interviews with the mothers, observers brought out the different factors in the home treatment of diarrhoea using a pretested questionnaire.

Results: The present study revealed that among the 140-patients, the majority [83(58.9%)] were under 5 years of age, 23(16.3%) were in the 6 to10 year age group and 34 (24.1%) were in the 11 to15 year age group. Among mothers of children, 13 mothers (9%) were very young i.e. under 20 years of age, 95 mothers(68%) were in the age group of 20-30 years, 32 mothers (23%) were above 30yrs of age. In the education category, 36 (26%) mothers were having higher secondary or above education, 50(36%) had primary or secondary education, the rest 54 (38%) were illiterate or only could write their names. In the socioeconomic status category, 39(28%) belonged to high, 75 (54%) belonged to lower middle class category and remaining 26 (18%) were from low socioeconomic category

53(38%) of mothers had good knowledge about “definition of diarrhoea” while 59(42%) and 28(20%) of mothers had average to poor knowledge respectively. 15% mothers revealed that at the time of diarrhoeal episodes, they start giving home remedies, 74.5%, mothers revealed that they do not increase the fluid intake during the period of diarrhoea, 85.1% mothers revealed that they started providing homemade ORS to their children, 46% mothers revealed that they started using medicines after episodes of diarrhoea, 7.1% mothers accepted that they started giving remedies from quacks, 74.5% mothers revealed that they provided prescription drugs to their children and 86.5 % mothers revealed that they provided indigenous or herbal medicines to their children.

Conclusion: The study emphasizes how inadequate mothers’ knowledge and care-seeking behaviours are. The issue may be better managed if mothers and other healthcare providers, who are the target population, received accurate health education about guidelines form managing diarrhoeaa home. It demands a thorough examination of the causes of a condition that is disheartening, in spite of the considerable efforts undertaken in the last few years to encourage appropriate home-based management of children's diarrhoea. Reducing childhood mortality requires effective management of diarrhoea, both at home and in the healthcare institutions.

Key words: Home remedies, diarrhoea, children

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Introduction

Diarrhoea is one of the most common ailments of children and third most common cause of paediatric mortality or death (8.6%), next to prematurity & low birth weight (29.8%) and pneumonia (17.1%).[1] The morbidity and mortality due to diarrheal diseases has steadily decreased in present times, but it still takes a heavy toll on children. Much of our victory over diarrheal diseases has been due to better health awareness of laymen as well as a progress and dissipation of medical knowledge.[2]

Despitethe wealth of resources and health education imparted to parents regarding diarrheal diseases, in most cases, the first resource that people use in case of acute diarrhoea in children are often home remedies. This is because in many cases, common people do not have adequate access to doctors and hospitals or avoid them for fear of high cost, inadequate service or even harassment. In many cases, these home remedies are scientifically valid and culturally appropriate and help to combat the severity of diarrhoea. In some cases however, they are quite harmful and aggravate the disease condition.[3]

The present study is based on the different varieties of home remedies used in treatment of diarrhoea among children, use of low cost material in the preparation of their remedies and health care seeking attitude of mothers in terms of occurrence of diarrhoea among their children in the rural Pilkhuwa, Hapur, Uttar Pradesh.

Objective

- The objective of the present study is to document and analyse the different varieties of home remedies used in the treatment of diarrhoea in children aged less than 15 years of age.
- The study also aims to bring out the use of locally available low-cost materials in the preparations of these remedies.
- The study tries to expose both beneficial as well as harmful practices if any in the home treatment of diarrhoea.
- To reveal the supplementation of home remedies with commonly available medicines and the use of local healthcare facilities.

Review of literature

In July of 2021 the Ministry of Health and Family Welfare released an article on high death rates in children. They set out some special steps/interventions related to reduction of child mortality. [1]

Subitha Lakshminarayanan and Ramakrishnan Jayalakshmy in 2015 studied diarrheal diseases among children in India. They came to the conclusion that a focus on comprehensive diarrheal disease control strategy through improved case management, addressing social determinants of health and health promotion regarding preventive practices like breastfeeding is crucial to reduce the burden of diarrhoea among children in India. [2]

In 2005, A Baqui, R Heinzen, M Santosham and R Black, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA studied the Global Burden of Diarrhoea and Epidemiological Trends. They found that approximately 2 million deaths are due to diarrhoea and repeated episodes of diarrhoea result in malnutrition, which again puts the child at an increased risk of recurrent infections, including diarrhoea. [3]

Mishra et al in 2015 have investigated plant based remedies in the treatment of diarrhoea. Herbal remedies are quite common in rural settings in our country for diarrhoea treatment in the initial stage. [4]

Gitanjali and Weera surya in 2011 have explored the benefits of using zinc with ORS in the treatment of diarrhoea. [5] In 2011, Chaitali Bajait and Vijay Thawani conducted a study on the role of zinc in pediatric diarrhea. They came to the conclusion that oral zinc administration reduces stool output along with its frequency and duration thus concluding that oral zinc supplementation is a simple and effective management of acute diarrhea. In 2010 Shinjini Bhatnagar, Seema Alam and Piyush Gupta conducted a study on Management of Acute Diarrhea. They studied the new technical advances - low osmolarity ORS and Zinc.[6]

Okoh et al in 2014 have studied the home management of diarrhoea in a Nigerian population. The study explored the home preparation of sugar-salt-solution and ORS and also awareness of the benefits of zinc supplementation. Hand washing, breast feeding and feeding practices were also explored.[7]

Margaret Bentley in 1988 studied the household management of childhood diarrhoea in rural North India. She found both positive and negative diarrhoea management behaviours. She found a reluctance to use ORS as it did not immediately stop diarrhoea.[8] Fayaz Ahmed and his co-workers have studied home management of diarrhoea in under five children in Kashmir in 2009. They have studied feeding restrictions and use of ORS during these episodes. [9] Shah and his co-workers in 2011 studied home-based management of acute diarrhoeal disease in an urban slum of Aligarh, India. Their study highlighted that the mothers' knowledge is not adequate. They felt the need to educate mothers and caretakers regarding early home-based case management of childhood diarrhoea. This may substantially decrease morbidity and mortality due to diarrhoea.[10]

Tribble D.R. in 2017 has studied the common antibiotics used in the treatment of diarrhoea and the dose in which they are usually prescribed.[11]

Behera and Mishra in 2022 have studied the burden of diarrhoea and the importance of hand washing, breast feeding and safe disposal of stools in the home management of diarrhoea.[12]
Nandita Saha in 2021 has studied the management of diarrhoea with home available fluid among mothers of under five children in ICDS centre. She found that there was a positive correlation between knowledge and stated practice. Significant association was found between knowledge and demographic variables. [13]
In 2020 Obidimma EzezikaI,Apira Ragunathan, Yasmine El-Bakri, Kathryn from the University of Toronto conducted a systematic review on the barriers and facilitators to implementation of oral rehydration therapy in low and middle income countries that revealed a) availability and accessibility of oral rehydration therapy (ORT), b) awareness and education among communities, c) strong partnership engagement strategies, and d) adaptable design to enhance acceptability facilitate the implementation. It can be used tobuild knowledge on how to adapt ORT to national and local settings.[14]
In an audit carried out by P. H. Rao and S. G. Kabra on the Use of Drugs and Cost of Treatment of Diarrhea in Secondary Level Government Hospitals in Maharashtra it was revealed that average number of drugs prescribed per prescription for treatment of diarrhoea was 3.7. It is quite high and thus should be controlled at an early stage. This makes home remedies an important aspect of diarrhoea management and my reduce the need for expensive and often unnecessary prescription drugs.[15]
In a study conducted by S K Bhattacharya on the progressin the prevention and control of diarrhoeal diseases since independence, majority of childhood diarrhoeas are caused by V. cholerae, Shigellae dysenteriae type 1, rotavirus and enterotoxigenic Escherichia coli (E. coli) which have a high morbidity and mortality.Vaccines against these organisms are essential for the control of epidemics. An appropriate budgetary allocation is essential for the control of childhood diarrhoeal diseases in India.[16]
In a study conducted by Terefe Dodicho," Knowledge and Practice of Mothers/Caregivers on Home Management of Diarrhea in Under Five Children in Mareka District, Southern Ethiopia" showed that ORS (56.4%), breast milk (33.8%), salt sugar solution (3.1%) and rice water (2.6%) were the preferred fluids by the mothers to manage diarrhea.[17]
In 2010 in an article published by WHO on First steps for managing an outbreak of acute diarrhoea advised a) Rehydration with ORS or IV solution depending on the severity b) Maintaining hydration and monitoring frequently the hydration status c) Giving antibiotics for severe cholera cases and for shigella cases.[18]
In 2004 in a WHO/UNNICEF joint statement on Clinical management of acute diarrhoea recommended a) mothers to continue feeding during diarrhoeal episodes b) prevent dehydration through early administration of increased amounts of appropriate fluids available at home and ORS solution c) provide children with 20mg per day Zinc supplementation for 10 to 14 days.[19]
In 2009 in an article published by UNICEF and WHO titled "Diarrhoea: Why children are still dying and what can be done" revealed diarrhoea's status as the second leading killer of children under five. The prevention package highlights five main elements

a) Rotavirus and measles vaccinations, b) promotion of early and exclusive breastfeeding and vitamin A supplementation, c) promotion of hand washing with soap, e) improved water supply quantity and quality, including treatment and safe storage of household water, and f) community-wide sanitation promotion.[20]

In the Report of the fourteenth meeting of the Technical Advisory Group of the Diarrhoeal Diseases Control Programme, WHO reported that 87% of all ORS available in developing countries corresponded to WHO/UNICEF formula.[21]
World Health Organization in 2008 has issued a guide which shows how to conduct formative research in the context of introducing zinc in diarrhoeal disease programme. It was originally designed to assist a multicentre zinc study coordinated by the International Clinical Epidemiology Network (INCLEN) between 2002 and 2004.[22] World Health Organization and UNICEF in 2006 have released revised recommendations for the management of diarrhoea aimed at dramatically reducing the number of deaths due to diarrhoea. These new recommendations take into account two significant recent advances: demonstration of the increased efficacy of a new formulation for ORS containing lower concentrations of glucose and salt, and success in using zinc supplementation in addition to rehydration therapy in the management of diarrhoeal diseases.[23]
Some trials also included randomised placebo-controlled design with the subjects aged between one month and five years who received daily elemental zinc dose ranging from 5 to 45 mg. Children receiving zinc in these trials had a significantly faster recovery than children receiving placebo .Zinc treatment also resulted in a 20% reduction in the risk of acute episodes.[24] World Health Organization in 2005 has released a manual for physicians and other senior health workers for the treatment of diarrhoea. The manual describes the principles and practices of treating infectious diarrhoea, especially in young children.[25]

Materials and methods

The present study is a descriptive study.Observers planned to interview a population of 140 subjects who were mothers having children of less than 15 years of age and who were attending various outpatient clinics of the hospital and medical college from July 2023 to September 2023. Observers were to elicit a history of episodes

of diarrhoea in their children since birth and ask them about the methods of care adopted by them during such episodes. In the course of detailed interviews with the mothers, observers were trying to bring out the different factors in the home treatment of diarrhoea using a questionnaire broadly under the following heads –

a) Drugs used – this includes non prescription drugs and indigenous medicines side by side with medications provided by hospitals, healthcare facilities and quack remedies.

b) Homemade oral rehydration solutions and other drinks –

c) Dietary changes – including breastfeeding and weaning, safe drinking water.

d) Education status of mothers -

- INCLUSION CRITERIA :-

Mothers who have children of less than 15 years of age

- EXCLUSION CRITERIA :-

Mothers of adolescents who are more than 15 years of age

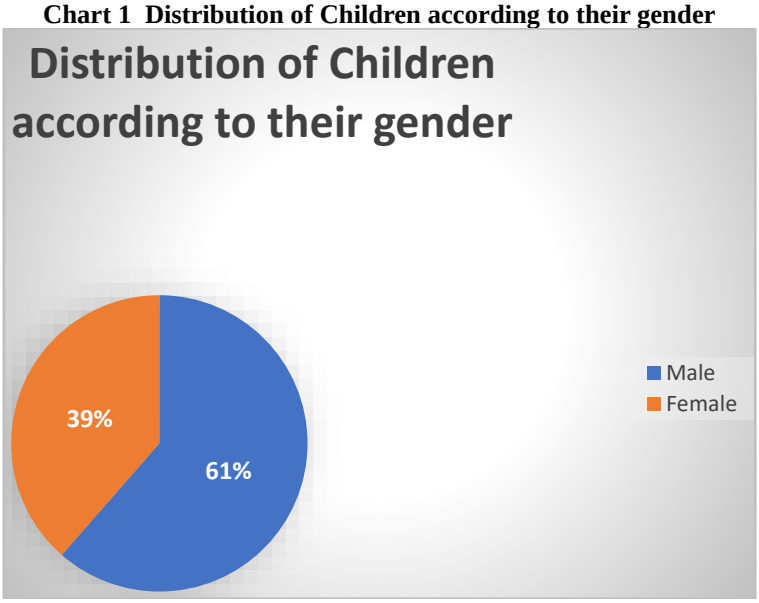
Results

Total 140 mothers with children having diarrhoeal diseases treated both in outdoor or indoor clinics in the Department of paediatrics, Rama Medical College Hospital and Research Centre, Hapur were studied. Following observations were derived as noted down in the tables. It is observed that among the 140-patients, majority 83(58.9%) were under 5 years of age, 23(16.3%) were in the 6 to10 year age group and 34 (24.1%) were in the 11 to15 year age group.(Table 1)

Table: 1 Distribution of Children according to their age

Age of Children	Frequency	Percent
1month -5 years	83	58.9
6 years – 10 years	23	16.3
11 years -15 years	34	24.1
Total	**140**	**100**

Chart 1 Distribution of Children according to their gender



Out of 140 children 86 (61%) were male were as 54 (39%) were female.

Table 2 Distribution of Mothers according to their age and Education

Maternal Age	< 30 years	20-30 years	> 30 years	Total

	13 (9%)	95 (68%)	32 (23%)	140
Education	Higher secondary or above	Primary or Secondary	Illiterate or those who can write name	
	36 (26%)	50(36%)	54 (38%)	140
socioeconomic status	High category	Lower middle category	low socioeconomic category	
	39 (28%)	75 (54%)	26 (18%)	140

Among mothers of children 13 (9%) mothers were very young i.e. under 20 years of age group, 95 mothers(68%) were in the age group of 20-30years, 32 mothers(23%) were above 30yrs of age(table 2). In the education category 36 (26%) mothers were higher secondary or above educated, 50(36%) had primary or secondary education, rest 54 (38%) were illiterate or only could write their names. (Table 2)
In socioeconomic status category, 39(28%) belonged to high and, 75 (54%) belonged to lower middle class category and remaining 26 (18%) were from low socioeconomic category.(Table 2)

Table: 3 Distribution of Mothers according to their Knowledge

Knowledge of mothers	**Good Knowledge**	**Average Knowledge**	**Poor Knowledge**
Do you know what is diarrhoea?	53(38%)	59(42%)	28(20%)
What are the causes of diarrhoea?	67(47%)	51(36%)	24(17%
Do you know the risk factors of diarrhoea?	67(48%)	59(42%)	14(10%)
Do you Know about the role of breastfeeding in relation to diarrhoea?	59(42%)	52(37%)	29(21%)
What do you Know about bottle feeding?	60(43%)	46(33%)	34(24%)
What are the types of diarrhoea?	25(18%)	60(43%)	85(61%)

Among 140 mothers,53(38%) mothers had good knowledge about "definition of diarrhoea" while59(42%)and 28(20%) mothers had average to poor knowledge respectively. 67(47%) of mothers answered correctly about the aetiology of diarrhoea, 51(36%) mothers answered partially correctly and remaining 24(17%) did not answer anything or answered wrongly. About risk factors of diarrhoea, 67(48%) mothers had good knowledge, 59(42%) of mothers had average and 14(10%) had poor knowledge. Regarding role of breastfeeding in relation to diarrhoea,59(42%) mothers had good knowledge, 52(37%) mothers had average knowledge and rest 29(21%)% were having poor knowledge. About knowledge regarding bottle feeding in relation to diarrhoea, 60(43%) mothers had good knowledge,46(33%) mothers had average knowledge and rest 34(24%) were having poor knowledge. About types of diarrhoea, 25(18%)mothers had good knowledge, 60(43%) mothers had average knowledge and rest 85(61%) were having poor knowledge(Table 3)

Table: 4 History of Home remedy taken

History of Home remedy taken		
	No. of mothers	Percent
Home remedy taken	20	15
Home remedy not taken	120	85

Total	**140**	**100**

Out of 140 mothers, 20 mothers revealed that at the time of sickness, they start giving home remedies to their children whereas 120 mothers went for prescription drugs (Table 4).

Table: 5 Distribution of Fluid intake during diarrhoea

Distribution of Fluid intake during diarrhoea			
		No. of mothers	**Percent**
	Normal	104	74.5
	Increased	36	25.5
	Total	140	100

Out of 140 mothers 104 mothers were revealed that they do not increase the fluid intake during the period of diarrhoea, whereas 36 mothers increased the fluid intake during the diarrhoeal period in their children. (Table 5)

Table: 6 Distribution Home made ORS administered (Shikanji)

Distribution Home made ORS administered (Shikanji)			
		No. of mothers	**Percent**
	Yes	120	85.1
	No	20	14.2
	Total	140	100

Out of 140 mothers, 120 mothers revealed that they started providing homemade ORS to their children whereas 20 mothers provided Commercial ORS with Zn solution. (Table 6)

Table: 7 Distribution Medicines used for diarrhoea

Distribution of Medicines used for diarrhoea			
		No. of mothers	**Percent**
	Yes	64	46
	No	76	54
	Total	**140**	**100**

Out of 140 mothers, 64 mothers revealed that they had started using medicines after episodes of diarrhoea among their children whereas 76 mothers had not started any medications.(Table 7)

Table: 8 Distribution of Quack remedies

Quack remedies			
		No. of mothers	Percent
	Yes	10	7.1
	No	130	92.2
	Total	**140**	**100**

Out of 140 mothers, 10 mothers accepted that they started giving remedies from quack health service providers whereas 130 did not. (Table 8)

Table: 9 Distribution Prescription drugs from healthcare facilities

Prescription drugs from healthcare facilities			
		No. of mothers	Percent
	Yes	105	74.5
	No	35	24.8
	Total	141	100

Out of 140 mothers, 105 mothers revealed that they provided prescribed drugsto their children whereas 35 did not. (Table 9)

Table: 11 Distribution of Indigenous / herbal medicines

Indigenous / herbal medicines		
	No. of mothers	Percent
No	122	86.5
Yes	18	12.8
Total	**140**	**100**

According to Table 11, out of 140 mothers, 122 mothers revealed that they provided indigenous or herbal medicines to their children whereas 18 mothers did not.

Discussion:

This study, which reflects the mothers' knowledge, attitude, and practice regarding prevention and management of diarrhoea in children, is based on an analysis of 140 mothers whose children attend the Rama Medical college Hospital and Research Centre, Hapur, Uttar Pradesh The study shows that among the 140-patients, majority 83(58.9%) were under 5 years of age, 23(16.3%) were in the6 to10 year age group and 34 (24.1%) were 11 to15 year age group, Among mothers of children, 13 (9%) of mothers were very young, i.e. under 20 years of age, 95 mothers(68%) were in the age group of 20-30 years, 32 mothers (23%) were above 30yrs of age. In the education category, 36 (26%) mothers were having higher secondary or above education, 50(36%) were having primary or secondary education, rest 54 (38%) were illiterate or only could write their names. In socioeconomic status category, 39(28%) belonged to high and, 75 (54%) belonged to lower middle class category and remaining 26 (18%) were from low socioeconomic category. Similar study by Sadasiba Padhy et al observed social determinants in this study and showed that 86(28.7%) mothers were higher educated, 120 (40%) were having primary or secondary education, rest 94 (31.3%)were illiterate or only could write their names. In the socioeconomic status category, 32 (10.3%) belonged to upper and upper middle category, 205 (68.3%) belonged to lower middle class category and remaining 63 (21.3%) were from lower socioeconomic category. (27)

53(38%) of mothers had good knowledge about "definition of diarrhoea", while 59(42%) and 28(20%) of mothers had average to poor knowledge respectively.A study by Neelma Kunwar et al showed that 72% of them others knew the correct definition of diarrhoea which is higher than this study. (28) 15% mothers revealed that at the time of diarrhoeal episodes they start giving home remedies, 74.5%, mothers revealed that they do not increase the fluid intake during the period of diarrhoea, 85.1% mothers revealed that they started providing homemade ORS to their children, 46% mothers revealed that they started using medicines after episodes of diarrhoea, 7.1% mothers accepted that they started giving remedies from quacks, 74.5% mothers revealed that they provided prescribed drugs to their children and 86.5 % mothers revealed that they provided indigenous or herbal medicines to their children. According to this study, mothers with high school or higher education demonstrated improved attitude and knowledge of the diarrheal illness procedures for controlling and preventing diarrhoea. Mothers from higher socioeconomic backgrounds have better attitudes and practices for managing and preventing diarrhoea, as well as better knowledge of the condition. According to a study by

Christopher S. Yilgwan et al. on the incidence of diarrheal illness and risk factors, mothers' poor socioeconomic position and lack of education are directly correlated with the prevalence of diarrhoea. (29)

Conclusion:

The study emphasizes how inadequate mothers' knowledge and care-seeking behaviours are. The issue may be better managed if mothers and other healthcare providers, who are the target population, received accurate health education about all the guidelines for managing diarrhoeal episodes at home.

It is crucial that medical professionals prescribe ORS for any instance of diarrhoea. An episode of diarrhoea may be managed at home and the risk could be decreased if people were properly informed on the use of ORS, as well as readily available fluids and zinc, as suggested by the Integrated Management of Neonatal and Childhood Illness (IMNCI) which is the Indian adaptation of the WHO-UNICEF generic Integrated Management of Childhood Illness (IMCI) strategy. It demands a thorough examination of the causes of a condition that is disheartening, in spite of the considerable efforts undertaken in the last few years to encourage appropriate home-based management of children's diarrhoea. Mothers' knowledge of health, illness, and preventative services serves as a gauge for the advancement of the family, the community, and the nation. Ignorance may result in the inappropriate use of the health services that the community has to provide. Adopting healthy behaviours by the mother can improve the living conditions and lower the illness and mortality rate of children under five. Given that mothers are the major caregivers for their children, their understanding of disease causes, signs, and symptoms, as well as preventive and control, is crucial in reducing the morbidity and mortality associated with diarrhoea.

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