

Assessment of the Knowledge, Attitudes, and Practices of Mothers Regarding Gastroenteritis in Under Five Children in Selected Hospital, Chennai

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Abstract

Gastroenteritis is a widespread and potentially deadly condition in children, accounting for roughly 10% of paediatric deaths globally, or approximately 70 million fatalities each year. The study aimed to assess the Knowledge, Attitudes, and Practices of mothers Regarding Gastroenteritis in under five children in Sree Balaji medical college and hospital, Chennai. Descriptive Cross-sectional design was used for the study. The study was conducted among 140 mothers of under-five children in a Sree Balaji medical college and hospital at Chennai. The samples were selected using a convenient sampling technique who fulfils inclusion criteria. The study shows that most mothers have good knowledge of gastroenteritis management, particularly with oral rehydration (78.57%) and handwashing (92.86%). However, misconceptions about fluid intake during diarrhoea and the seriousness of the condition indicate the need for further public health education. Overall, while proactive practices are common, targeted education on dehydration risks and proper care is essential. The study concluded that the mothers had a moderate understanding of gastroenteritis. While practices like handwashing and oral rehydration were common, inappropriate methods and mixed attitudes persisted. Enhanced education is needed to improve responses and prevent complications in young children.

Keywords: Attitude, Gastroenteritis, Knowledge, Practice.

Introduction

Gastroenteritis is a widespread and potentially deadly condition in children, accounting for roughly 10% of pediatric deaths globally, or approximately 70 million fatalities each year. It is the second leading cause of death worldwide among children. [1-3].

In India, rotavirus is responsible for approximately 11.37 million cases of gastroenteritis in children under the age of five each year. This results in 3.27 million outpatient visits, 872,000 hospitalizations, and an estimated cost of ₹10.37 billion. [3].

Diarrhea remains the fourth leading cause of death among children under five, although its impact has lessened over time. In 2015, it accounted for 9% of childhood deaths, a decline

from 11% in 2008. This reduction reflects global efforts to improve sanitation, healthcare access, and education on disease prevention. [4, 5].

UNICEF estimates that over 700 million cases of diarrhea occur each year in children under the age of five in developing countries. This highlights the significant burden of diarrheal diseases, including gastroenteritis, in regions with limited access to healthcare and sanitation. [6].

A considerable portion of diarrhea-related morbidity and mortality can be mitigated through the implementation of primary preventive measures. Key interventions include the use of clean drinking water, adherence to proper handwashing techniques, exclusive

breastfeeding during the first six months of life, routine immunization, and the safe disposal of waste. Additionally, the utilization of latrines and the maintenance of appropriate hygiene and sanitation practices are essential in reducing the incidence of diarrhea, particularly in vulnerable populations. These preventive strategies play a critical role in public health efforts aimed at decreasing the burden of diarrheal diseases. [7, 8].

Healthcare providers cannot oversell their role in educating mothers. Structured educational interventions have been proved in studies to significantly improve mothers knowledge and reported practices for gastroenteritis management. [9-11]. Studies also have shown that poor hand hygiene and inadequate sanitation practices are prevalent among mothers, which increases the risk of gastroenteritis transmission. [12, 13].

Assessing parents' knowledge, attitudes, and practices concerning gastroenteritis provides critical insights for national program managers aiming to improve disease prevention and management. Families of low social status are a primary focus for gastroenteritis interventions, as their children are at greater risk of mortality and morbidity due to limited access to healthcare and sanitation. However, children from families with intermediate and high social status can also face multiple risk factors, underscoring the need for comprehensive outreach and education across all socioeconomic groups.

Aim of the Study

The study aimed to assess the Knowledge, Attitudes, and Practices of mothers Regarding Gastroenteritis in under five children in Sree Balaji medical college and hospital, Chennai.

Methodology

Study Design and Settings

Descriptive Cross-sectional design was used for the study. The study was conducted among

140 mothers of under-five children in a Sree Balaji medical college and hospital at Chennai. The samples were selected using a convenient sampling technique who fulfils inclusion criteria.

Inclusion criteria

1. Mothers of under-five children in selected hospital.
2. Mothers who are willing to participate in the study

Exclusion Criteria

Mothers who do not understand English and Tamil.

Data Collection

Informed consent was obtained from the mothers. Data was collected using a demographic information, structured knowledge questionnaire regarding gastroenteritis, attitude and practice scale.

Statistical Analysis

The data was entered in Microsoft excel and analysed using SPSS version 26. The analysis was done based on the aim of the study.

Results

The study included 140 mothers, with the majority (35.7%) falling within the 26-30 age range. Most participants had attained secondary education (42.9%), and a large proportion were homemakers (57.1%). In terms of family income, ₹10,000-₹20,000 per month was the most frequently reported range (35.7%). Additionally, most mothers had one or two children (78.6%) and received their information about gastroenteritis primarily from healthcare providers (50%).

The table 1 outlines key knowledge areas in gastroenteritis, with high correct understanding of handwashing for prevention 130 (92.86%) and timely medical care for diarrhoea 120 (85.71%). However, recognizing dehydration in children remains equally understood and

misunderstood (70%). Probiotics use 75 (53.57%) and avoiding certain foods 90 (64.29%) show higher levels of incorrect knowledge.

The table 2 highlights that most agree on visiting a doctor for persistent symptoms (110) and worry about severe dehydration (120). Many feel comfortable with oral rehydration (100), while fewer agree that gastroenteritis isn't serious (30) or that any fluids are fine during diarrhea (40).

The table 3 shows that most parents regularly provide ORS (100), clean water (120), and practice handwashing (130) during gastroenteritis. Many continue feeding (110) and offer extra fluids (100), but fewer avoid fluids (30) or stop solids (40). Over-the-counter medications are rarely given without consulting a doctor (90), while traditional remedies are sometimes used (60).

Table 1. Response of Mother on Knowledge Items Regarding Gastroenteritis (n=140)

Knowledge Items	Correct Knowledge	Incorrect Knowledge
Gastroenteritis is caused by viruses/bacteria	90 (64.29%)	50 (35.71%)
Symptoms of gastroenteritis (vomiting, diarrhea, fever)	100 (71.43%)	40 (28.57%)
Oral rehydration is the best home remedy	110 (78.57%)	30 (21.43%)
Recognizing dehydration in children	70 (50.00%)	70 (50.00%)
Awareness of when to seek medical care	120 (85.71%)	20 (14.29%)
Importance of handwashing to prevent gastroenteritis	130 (92.86%)	10 (7.14%)
Boiled water is safer for children during gastroenteritis	115 (82.14%)	25 (17.86%)
Understanding the role of contaminated food in gastroenteritis	105 (75.00%)	35 (25.00%)
Knowledge of foods to avoid during gastroenteritis (e.g., dairy, fatty foods)	90 (64.29%)	50 (35.71%)
Use of probiotics can help during recovery	75 (53.57%)	65 (46.43%)

Table 2. Response of Mother on Attitude Statement Regarding Gastroenteritis (n=140)

Attitude Statements	Agree	Neutral	Disagree
I feel confident managing my child's gastroenteritis at home	60	50	30
Gastroenteritis is not a serious condition in children	30	40	70
I believe it's important to visit a doctor when symptoms persist	110	20	10
I am comfortable giving oral rehydration solutions at home	100	20	20
I feel anxious when my child gets diarrhoea	80	40	20

Home remedies like ginger and mint are effective for gastroenteritis	70	30	40
I feel more comfortable consulting a doctor even for mild symptoms	90	30	20
I worry that gastroenteritis may lead to severe dehydration	120	15	5
I believe preventing gastroenteritis is better than treating it	110	20	10
It is okay to give any fluids during diarrhea episodes, regardless of content	40	50	50

Table 3. Response of Mother on Practice Statement Regarding Gastroenteritis (n=140)

Practice Statements	Always	Sometimes	Never
I give my child oral rehydration solution (ORS) when they have diarrhea	100	30	10
I consult a healthcare provider when my child has gastroenteritis	90	40	10
I continue feeding my child during a gastroenteritis episode	110	20	10
I avoid giving my child fluids during gastroenteritis episodes	30	50	60
I ensure my child drinks clean, boiled water when they are sick	120	15	5
I frequently wash my hands after handling my sick child	130	8	2
I use traditional medicines or home remedies during gastroenteritis	50	60	30
I give my child extra fluids like soup, rice water, or fruit juices during diarrhea	100	30	10
I stop my child's solid food intake when they have diarrhea	40	50	50
I administer over-the-counter medicines like antibiotics without consulting a doctor	20	30	90

Discussion

The study was conducted on 140 mothers of under-five children to understand their demographic characteristics, Knowledge, Attitudes, and Practices of mothers regarding Gastroenteritis in under five children. The study reveals insightful trends in knowledge, attitudes, and practices regarding gastroenteritis management in children. Most

parents show a solid understanding of key aspects, such as the importance of oral rehydration 110 (78.57%) and handwashing 130 (92.86%) prevent infection. [14, 15].

However, on attitude there are misconceptions, like the idea that any fluids can be given during diarrhoea (40 agree), indicating a need for more education on appropriate hydration methods. While many parents feel

confident managing gastroenteritis at home (60), a significant number (70%) disagree with the notion that it is not serious, reflecting a cautious approach to the illness. There is also strong agreement on consulting healthcare providers when symptoms persist (110), showing a preference for professional care. Practices such as frequent handwashing (130) and continuing feeding during illness (110) demonstrate proactive health measures, though traditional remedies are still sometimes used (60). Overall, while most parents have the knowledge and take appropriate actions, gaps in understanding and certain attitudes suggest a need for further public health education on topics like the risks of dehydration, appropriate fluid intake, and when to seek medical care. This is consistent with recommendations from health authorities that also stress that professional care is necessary when home management is not successful. [16].

Additionally, probiotics are getting notice for their use in managing gastroenteritis. Current studies have shown that particular strains of probiotics, for example *Lactobacillus rhamnosus* can effectively reduce duration and intensity of symptoms of gastroenteritis. [17, 18].

A related study by Acaye Ivan et al. revealed a significant prevalence of gastroenteritis, with 16.7% of participants affected. The study also highlighted a concerning gap in awareness, as only 25.0% of caregivers could correctly describe and define the illness. Attitudes toward gastroenteritis were largely dismissive, with 43.7% of caregivers perceiving the condition as mild and self-resolving. Furthermore, caregiver practices were found to be insufficient, with 56.5% of those caring for affected children failing to maintain regular handwashing habits. [19].

A study by Bethelhem et al. found that 36.6% of respondents had good knowledge, and 55.5% had a favorable attitude towards home-based diarrhea management. Illiteracy was

significantly linked to lower knowledge levels (AOR = 0.123, 95% CI: 0.027-0.554). Being a mother (AOR = 3.085, 95% CI: 1.071-8.890) and having a monthly income below 2000 birr (AOR = 0.248, 95% CI: 0.069-0.892) were significantly associated with the attitude of mothers or caregivers towards managing diarrhea at home. [20].

Conclusion

The assessment of knowledge, attitudes, and practices of mothers revealed that although mothers had a moderate understanding of gastroenteritis, there were notable deficiencies in their knowledge regarding its causes, symptoms, and proper management. While practices like handwashing and administering oral rehydration solutions were relatively common, many caregivers still resorted to inappropriate approaches, such as inconsistent feeding or reliance on home remedies. Attitudes towards the illness were mixed, with a significant number of mothers perceiving gastroenteritis as a minor issue, underscoring the need for enhanced education and awareness to improve their response and prevent potential complications in children under five.

Further research is necessary to evaluate the effectiveness of public health education in addressing misconceptions about gastroenteritis and to determine whether targeted interventions can enhance parental knowledge and practices, particularly in preventing severe dehydration and ensuring the use of appropriate treatments. Additionally, studies could explore the influence of cultural beliefs on the use of home remedies and their impact on the management of gastroenteritis. Such investigations may provide valuable insights into how cultural factors affect health-seeking behaviors and contribute to better tailored public health strategies.

Conflict of Interest

No conflicts of Interest.

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I would like to specially thank my guide that was always supportive, always telling me what

References

- [1]. Muhsen, K., Kassem, E., Rubenstein, U., et al., 2019, No evidence of an increase in the incidence of norovirus gastroenteritis hospitalizations in young children after the introduction of universal rotavirus immunization in Israel. *Human Vaccines & Immunotherapeutics*, 15(6), 1284-1293. <https://doi.org/10.1080/21645515.2019.1599522>
- [2]. Oppong, T. B., Yang, H., Amponsem-Boateng, C., Kyere, E. K. D., Abdulai, T., Duan, G., & Godfrey, O., 2020, Enteric pathogens associated with gastroenteritis among children under 5 years in sub-saharan Africa: A systematic review and meta-analysis. *Epidemiology and Infection*, 148. <https://doi.org/10.1017/s0950268820000618>
- [3]. Avcu, G., Şahbudak, Z., Aydemir, Ş., Vardar, F., & Saz, E. U., 2016, Prevalence of bacterial agents in children with acute gastroenteritis in the pediatric emergency department of Ege University School of Medicine. *Çocuk Enfeksiyon Dergisi/Journal of Pediatric Infection*, 10(2), 49-53. <https://doi.org/10.5152/ced.2016.2301>
- [4]. John, J., Sarkar, R., Muliylil, J., Bhandari, N., Bhan, M. K., & Kang, G., 2014, Rotavirus gastroenteritis in India, 2011-2013: Revised estimates of disease burden and potential impact of vaccines. *Vaccine*, 32 Suppl 1, A5-A9. <https://doi.org/10.1016/j.vaccine.2014.03.004>
- [5]. Gollar, L. H., & Avabratha, K. S., 2018, Knowledge, attitude, and practice of mothers of under-five children regarding diarrheal illness: A study from coastal Karnataka. *Muller Journal of Medical Sciences and Research*, 9, 66-70.
- [6]. Abbasi, A., et al., 2021, Demographic attributes of knowledge, attitude, practices, and One Health perspective regarding diarrhea in Pakistan. *Frontiers in Public Health*, 9, 731272. <https://doi.org/10.3389/fpubh.2021.731272>

I must do and something I should not do. Having their expertise and their insight helps us get through this project to its end.

- [7]. UNICEF, 2021, Diarrhoea: Why children are still dying and what can be done. *New York, USA*.
- [8]. Shah, D., Choudhury, P., Gupta, P., et al., 2012, Promoting appropriate management of diarrhea: A systematic review of literature for advocacy and action: UNICEF-PHFI series on newborn and child health, India. *Indian Pediatrics*, 49(8), 627-649. <https://doi.org/10.1007/s13312-012-0134-1>
- [9]. Said, D. A., Ahmed, G. E. N., Zoromba, M., & Mohammed, B. A., 2021, Effect of educational guidelines about preventive measures of acute gastroenteritis on mothers' knowledge and reported practices. *Egyptian Journal of Health Care*, 12(3), 1358-1368. <https://doi.org/10.21608/ejhc.2021.195940>
- [10]. Abuaish, M., Mirza, G., Al-Zamzami, W., & Atiyah, M., 2022, The effect of a structured gastroenteritis discharge management plan on compliance, prognosis, and parents' satisfaction. *Cureus*. <https://doi.org/10.7759/cureus.23240>
- [11]. Pasi, R., & Ravi, K., 2020, Level of knowledge of mothers (18-35 years of age) of under-5 children regarding ORS therapy. *Journal of Family Medicine and Primary Care*, 9(9), 4747. https://doi.org/10.4103/jfmpc.jfmpc_853_20
- [12]. Durduran, Y., Kandemir, B., Pekcan, S., & Evci, R., 2019, The factors related with behaviors and approaches of mothers in avoiding children from gastroenteritis. *Journal of Pediatric Infectious Diseases*, 14(4), 186-193. <https://doi.org/10.1055/s-0039-1692671>
- [13]. Lakshminarayanan, S., & Jayalakshmy, R., 2015, Diarrheal diseases among children in India: Current scenario and future perspectives. *Journal of Natural Science, Biology, and Medicine*, 6(1), 24-28. <https://doi.org/10.4103/0976-9668.149073>
- [14]. Bok, K., & Green, K. Y., 2012, Norovirus gastroenteritis in immunocompromised patients. *New England Journal of Medicine*, 367(22), 2126-2132. <https://doi.org/10.1056/nejmra1207742>

- [15]. Oppong, T., Yang, H., Amponsem-Boateng, C., Kyere, E., Abdulai, T., Duan, G., & Godfrey, O., 2020, Enteric pathogens associated with gastroenteritis among children under 5 years in sub-saharan Africa: A systematic review and meta-analysis. *Epidemiology and Infection*, 148. <https://doi.org/10.1017/s0950268820000618>
- [16]. Panatto, D., Amicizia, D., Giacchino, R., Tacchella, A., Natalizia, A. R., Melioli, G., & Gasparini, R., 2011, Burden of rotavirus infections in Liguria, Northern Italy: Hospitalisations and potential savings by vaccination. *European Journal of Clinical Microbiology & Infectious Diseases*, 30(8), 957-964. <https://doi.org/10.1007/s10096-011-1180-7>
- [17]. Ogilvie, I., Khoury, H., Goetghebeur, M., Khoury, A. C. E., & Giaquinto, C., 2012, Burden of community-acquired and nosocomial rotavirus gastroenteritis in the pediatric population of western Europe: A scoping review. *BMC Infectious Diseases*, 12(1). <https://doi.org/10.1186/1471-2334-12-62>
- [18]. Konca, Ç., Tekin, M., Çoban, M. Z., Kahramaner, Z., Tuegut, M., Akgün, S., & Bülbül, M., 2014, Prevalence of rotavirus in children with acute gastroenteritis, seasonal distribution, and laboratory findings in the southeast of Turkey. *Journal of Pediatric Infection*, 8(1), 7-11. <https://doi.org/10.5152/ced.2014.1549>
- [19]. Acaye, I., 2023, Knowledge, attitudes, and practices of parents regarding gastroenteritis in children under the age of five attending FRRH Fort Portal City. *IDOSR Journal of Experimental Sciences*, 9(3), 102-110. <https://doi.org/10.59298/IDOSR/JES/111.1.10108>
- [20]. Shewangizaw, B., et al., 2023, Knowledge and attitude on home-based management of diarrheal disease among mothers/caregivers of under-five children at a tertiary hospital in Ethiopia. *The Pan African Medical Journal*, 44(38). <https://doi.org/10.11604/pamj.2023.44.38.34431>