TPM Vol. 32, No. S2, 2025
ISSN: 1972-6325
https://www.tpmap.org/

Open Access

MATERNAL KNOWLEDGE, ATTITUDES, AND PRACTICES IN MANAGING DIARRHOEA AMONG UNDER-FIVE CHILDREN IN RURAL INDIA

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Abstract
Background: Diarrhoea, a preventable yet serious health issue, spreads through contaminated food, water, and poor hygiene, with limited awareness worsening its impact in developing regions. This study assesses maternal knowledge, hygiene practices, and healthcare access in rural India to identify key gaps and guide targeted interventions for better child health outcomes.
Methods: This cross-sectional study was conducted in a rural area of Tiruvallur district, targeting mothers of children under five visiting a health center. Using a pre-tested questionnaire assessing socio-demographic details, knowledge, attitudes, and practices.
Results: The study found that 75.8% of mothers demonstrated good knowledge of diarrhoea management, with 78% exhibiting positive attitudes towards its treatment. Additionally, 65% reported good practices in managing the condition, highlighting strong awareness but gaps in execution.
Conclusion: Strengthening maternal health education is essential for improving diarrhoea prevention and management. Targeted campaigns should address ORS preparation errors, promote zinc supplementation, and reinforce hygiene practices, particularly among lower SES groups. Expanding access to resources and bridging knowledge gaps will be key to reducing diarrhoeal disease burden.

INTRODUCTION

Diarrhoea is characterized by passing three or more loose or watery stools in a single day, or by an increase in stool frequency compared to a person's usual pattern(1,2). Diarrhoea, caused by infections from bacteria, viruses, or parasites, is spread through contaminated water, food, or poor hygiene. It can be prevented with clean water, sanitation, and handwashing. Treatment with oral rehydration solution (ORS) and zinc tablets reduces severity and duration. Despite effective treatments, a lack of awareness in developing countries makes diarrhoea a major global health issue(3–6). Diarrhoea is a preventable and treatable illness but remains a major cause of malnutrition and the third leading cause of death in children under five worldwide. In 2021, it caused 9% of global deaths in this age group, mostly in South Asia and sub-Saharan Africa due to poor sanitation and limited healthcare. However, childhood diarrhoea deaths have dropped by 63% from 2000 to 2021 thanks to better health interventions(1,7).According to the National Family Health Survey, childhood diarrhoea prevalence in India rose from 9% in 2016 to 9.2% in 2020. It remains the third leading cause of mortality among children under the age of five.(8,9)

Risk factors that can make a population more vulnerable to diarrhea can be environmental or behavioral, yet differ among individuals, populations, countries, and geographies(10).Research has shown that poor water, hygiene, and sanitation (WASH) practices, low maternal education, not breastfeeding, and children under 24 months are key risk factors for childhood diarrhoea. A caregiver's lack of awareness about the importance of sanitation and hygiene also contributes significantly to diarrheal diseases. Other factors linked to childhood diarrhoea include the child's age, access to latrines, rural living, handwashing facilities, improper waste disposal, and the source of drinking water(11–14).Severe dehydration and excessive fluid loss are the primary causes of death from diarrhoea, particularly among children. Treatment typically involves oral rehydration salts (ORS), a mixture of clean water, sugar, and salt that helps replenish lost fluids and electrolytes.(1)A mother's understanding of diarrheal diseases and her ability to make informed decisions are crucial in reducing the incidence of the illness and preventing complications in children under the age of five(15).

Given that mothers play a key role in managing childhood diarrhoea, this study was conducted to assess existing knowledge gaps, behavioral attitudes, and practical adherence to diarrhoea prevention and treatment. By identifying demographic disparities, highlighting misconceptions, and evaluating maternal practices, the study aims to provide evidence-based recommendations for targeted health education programs to improve diarrhoea management, reduce preventable deaths, and enhance child health outcomes.

The study aims to evaluate maternal awareness, knowledge, and practices regarding diarrhoea prevention and management in rural India. It identifies gaps in education, hygiene, and healthcare access, assessing socioeconomic disparities and misconceptions to inform targeted interventions. The goal is to enhance maternal and child health outcomes through improved education and community-based programs.

METHODOLOGY

This cross-sectional study was conducted in a rural area of Tiruvallur district. The target population consisted of mothers with children under five years of age who visited the rural health center. Only those who provided informed consent were included in the study. Mothers with psychiatric illnesses, physical disabilities, or those with children who had immunocompromised conditions or were differently abled were excluded from participation. The study spanned a period of 14 months, and a consecutive sampling method was used to select participants.Based on existing literature, and assuming a prevalence of awareness about diarrhoea among mothers to be 74.6%(5), the sample size was calculated using the formula Z^2pq/d^2 at a 95% confidence interval, with a Z value of 1.96. The estimated sample size required was 303 participants.

A pre-tested, pre-structured questionnaire was designed to assess the knowledge, attitudes, and practices of the participants, drawing on content from the IDCF guidelines. The questionnaire was divided into sections including socio-demographic details, knowledge, attitude, and practice questions. The socio-economic status of the participants was classified using the Modified BG Prasad scale. Attitudes were assessed using a five-point Likert scale. The study was initiated after the approval of the institutional ethical committee. The purpose of the study was clearly explained to the participants, and data collection was carried out after obtaining informed consent. Confidentiality of the collected data was strictly maintained. Responses to the knowledge, attitude, and practice questions were scored, and participants were categorized based on their scores. Knowledge was classified as good, average, or poor; attitudes were categorized as positive or negative; and practices were grouped as good or bad.

The data collected was entered into Excel and analyzed using SPSS version 20.0. The results were presented as frequencies and percentages. Descriptive statistics, including the mean and standard deviation, were used to summarize the average age and number of children in the study population. Scoring was done by assigning 1 point for each correct answer and 0 points for incorrect answers. The total scores for knowledge, attitude, and practice were calculated. The relationships between socio-demographic factors and outcome variables, as well as among the outcome variables themselves were also assessed.

RESULTS

A total of 303 participants consented and participated in the study. The study participants were interviewed in the local language and the mother's knowledge, attitude and practice on diarrhoea in under 5 was evaluated. Majority 259(85.5%) of the mothers belonged to the age group of 21-30 years, with 29(9.6%) and 15(4.9%) belonged to <20 years and more than 30 years respectively. About 118(38.9%) were the first time mothers. For the purpose of easy classification those with per capita income above 2260 were considered to be upper class which constituted 100(33%) and rest the lower socioeconomic status. Though 135(44.6%) of the study participants completed their schooling till 12^{th} (higher secondary), there were 11(3.6%) of illiterate, and 24(7.9%) who completed only till the primary school. Graduates contributed to 38(12.5%) of the study participants. The source of water for 117(38.6%) was bore well and dug well while majority 186(61.4%) utilised tap water.

Upon analysis it was found that 283(93.4%) of the mothers were aware regarding the definition of diarrhoea, while only 163(53.8%) were aware about the signs and symptoms to be considered during diarrhoea. Majority of the mothers 237(78.21%) had no knowledge on the danger signs of diarrhoea. Among the study participants 30(9.9%) were aware that lethargy was one among the danger signs, this was followed by 35(11.6%) of mothers stating thirsty and dry mouth, 18(5.9%) severe dehydration, 6(2%) sunken eyes, while none of the participants were aware of the fact that not able to drink water and loss of skin elasticity were also a part of danger signs to look for during diarrhoea.

The terminology 'Oral Rehydration Fluid' (ORS) were familiar with 267(88.1%) of the mothers but only 194(64%) of the mothers were aware regarding the ORS preparation. Among the 194 mothers who were aware of the ORS preparation only 52 participants were ware regarding the correct amount of water to be used and 23 were aware of the fact that ORS can be prepared at home. It was also noted that only 6(1.9%) of the mothers were aware of the fact that zinc supplementation during diarrhoea could be of help and those were the people who were also aware of the fact that the zinc is supplemented free of cost by the government. During diarrhoea 287(94.7%) of the mother believed that physician consultation required during diarrhoea, while 8(2.6%) believed self-medication wouldsuffice. Scoring was done of each question and those with 75% of the cumulative score was stated to have good knowledge (75.8%)

Table 1: Attitude of the mothers of under 5 children towards diarrhoea

Diarrhoea	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Higher incidence in bottle-fed children	49(16.3)	77(25.4)	28(9.2)	137(45.2)	12(3.9)
Higher impact on lower SES	10(3.3)	50(16.5)	58(19.1)	163(53.8)	22(7.3)
Leading cause of death	86(28.4)	82(27.1)	28(9.2)	99(32.7)	8(2.6)
Community health issue	99(32.7)	147(48.5)	11(3.6)	38(12.6)	8(2.6)
Teething is a cause	221(72.9)	59(19.6)	7(2.3)	10(3.3)	6(1.9)
Treatable disease	164(54.2)	132(43.6)	4(1.3)	3(0.9)	0(0.0)
Health Risks associated with Child/Infant Faeces	28(9.3)	72(23.8)	90(29.7)	105(34.6)	8(2.6)
Aggravates with Liquid food	75(24.8)	51(16.8)	43(14.2)	123(40.6)	11(3.6)
Importance of Continued Breastfeeding	132(43.6)	120(39.6)	4(1.3)	31(10.2)	16(5.3)
Cures with Oral rehydration salts	72(23.8)	131(43.2)	50(16.5)	45(14.9)	5(1.6)

The study reveals a significant variation in attitudes toward diarrhoea among participants. A large proportion (72.9%) incorrectly believes that teething causes diarrhoea, 45.2% disagreed that bottle feeding increases diarrhoea risk, while 81.2% acknowledge diarrhoea as a community health issue and only 55.5% perceive it as a leading cause of death. Encouragingly, 97.8% believe diarrhoea is treatable, and 67% recognize the effectiveness of oral rehydration salts (ORS). Continued breastfeeding during diarrhoea is widely supported (83.2%), but 34.6% fail to recognize health risks associated with infant faeces. The understanding of socioeconomic disparities is limited, as 53.8% disagree with the notion that diarrhoea impacts lower socioeconomic groups more severely. (Table 1)

For the purpose of further analysis, the attitude of the mothers on the management of diarrhoea was classified as good (positive) and poor (negative). It was seen that 78% of the study participants had a positive attitude towards management of diarrhoea.

The findings on maternal practices indicate significant gaps in diarrhoea management and prevention. While 299(98.7%) of mothers adhered to hand washing before food handling, only 166(54.8%) did so before ORS preparation, increasing the risk of contamination. While 126(41.6%) of mothers used soap for hand washing, 121(39.9%) relied only on water, which is insufficient to eliminate bacterial contamination. ORS preparation techniques were correctly followed by just 79(26.1%) and boiled water was used by 129(42.6%). Zinc supplementation, an essential element in diarrhoea treatment, was extremely low at 5(1.7%). Encouragingly, 263(86.8%) continued breastfeeding during diarrhoea, but 114(37.6%) practiced bottle feeding. It was determined that 65% of the mothers of under 5 children had good practice with management of diarrhoea

Table2:Association Between Demographic Factors & KAP

Demographic Factor	Good Knowledge (%)	Poor Knowledge (%)	Good Attitude (%)	Poor Attitude (%)	Good Practice (%)	Poor Practice (%)
Age <20	19(65.5)	10(34.5)	22(75.9)	7(24.1)	16(55.2)	13(44.8)
Age 21-30	209(80.7)	50(31.1)	203(78.4)	56(21.6)	170(65.6)	89(34.4)
Age 31-40	12(92.7)	3(20)	12(80)	3(20)	12(80)	3(20)
Lower SES	145(71.4)	58(28.6)	127(62.6)	76(37.4)	112(55.2)	91(44.8)
Upper SES	95(95)	5(5)	89(89)	11(11)	86(86)	14(14)
Illiterate	6(54.5)	5(45.5)	4(36.3)	7(63.7)	4(36.3)	7(63.7)
Graduate	37(97.4)	1(2.6)	35(92.1)	3(7.9)	34(89.5)	4(10.5

The association of demographic factors reveals notable differences in knowledge, attitude, and practice regarding diarrhoea management. Younger individuals (<20 years) show moderate knowledge, attitude and practice. The highest knowledge levels are observed in the 31-40 age group along with 80% adherence to good practices. Socioeconomic status plays a significant role, as individuals in the upper SES group display the highest knowledge, attitude, and practice compared to the lower SES group. Education has a strong impact, with graduates showing good knowledge and practicing proper diarrhoea management, compared to illiterate mothers.

Table 3: Risk factor assessment for poor practice

Practice Factor	Good Practice (%)	Poor Practice (%)	Possible Risk Factor
CorrectORS Technique	26.1	73.9	Lack of knowledge
Hand Washing Before ORS	54.8	45.2	Low hygiene awareness
Zinc Supplementation	1.7	98.3	Limited awareness

The association between knowledge, attitude, and practice regarding diarrhoea management reveals key trends in maternal awareness and behaviour. ORS awareness was high, with 267(88.1%) demonstrating good knowledge, yet this did not fully translate into practice, as only 79(26.1%) followed correct ORS preparation methods. The knowledge onZinc supplementation was extremely low knowledge 6(1.9%) and practice 5(1.7%) and knowledge on physician consultation showed the highest 287(94.7%). Attitude towards breastfeeding during diarrhoea was largely positive, with 252(83.2%) supporting continued breastfeeding, closely aligning with 263(86.8%) of mothers practicing it. However, 126(41.7%) had a poor attitude toward bottle feeding's impact on diarrhoea, and 114(37.6%) continued bottle feeding despite its risks.

DISCUSSION

Environmental and behavioral factors like unsafe water, poor sanitation, inadequate handwashing, and air pollution significantly contribute to diarrhoea prevalence(10). Most respondents belong to the 21-30 age group, making them a priority for hygiene education, as children of younger mothers face higher risks(15–20). Birth order patterns also play a role, with knowledge levels improving in higher-order births, aligning with findings by Saha et al.(17). Educational disparities remain, with 44.6% completing higher secondary education, 12.5% graduating, and 3.6% being illiterate—comparable to previous rural studies(21,22). Literature suggests 22%-60% of rural Indian mothers have only primary-level education or are illiterate, reinforcing the urgency for health literacy campaigns (15–23).Maternal education directly influences diarrhoea management, with over 50% of mothers with secondary education or higher reporting better practices(22,23). Socioeconomic disparities further affect disease prevalence, with 35-50% of the population in lower-income groups per BG Prasad classification(17,19,23). These inequalities impact healthcare access, sanitation, and nutrition, requiring targeted interventions(15,17). Diarrhoea is more common among lower socioeconomic groups(15), necessitating affordable healthcare and sanitation programs. Additionally, 38.6% rely on bore and dug wells, requiring improved water safety measures, filtration systems, and contamination prevention efforts(10).

Awareness of diarrhoea definition is high (93.4%), but symptom recognition remains low (53.8%), highlighting the need for education. Awareness of complications like lethargy is minimal (9.9%). ORS knowledge is relatively high (88.1%), yet only 64% understand proper preparation, risking ineffective treatment(24). Although 81.2% recognize diarrhoea as a community concern, only 55.5% acknowledge its role as a leading cause of death. Misconceptions remain widespread, with 72.9% incorrectly believing teething causes diarrhoea(24), underscoring the need for targeted maternal education.Bottle feeding as a diarrhoea risk is poorly recognized, with 45.2% disagreeing with its association, despite 37.6% using bottles. Proper infant feeding hygiene is crucial(15). Maternal literacy influences health behaviors, including handwashing, stool disposal, and overall hygiene. Continued breastfeeding rates vary, with 86% in Sangma et al.'s study compared to 64% in previous research(15). While WHO guidelines emphasize breastfeeding during diarrhoea(22), 13.2% of mothers reduce or stop breastfeeding, negatively impacting recovery. Suboptimal breastfeeding is a major factor in diarrhoea-specific mortality among children under five(10).

The study reveals disparities in socioeconomic perceptions, with 53.8% failing to recognize that lower-income groups face higher diarrhoea risks. Research suggests wealthier households have lower prevalence rates, emphasizing the need for increased awareness and interventions(21). While 97.8% believe diarrhoea is treatable and 67% recognize ORS effectiveness, only 1.9% are aware of zinc supplementation benefits. Seeking treatment increases ORS and zinc use, emphasizing the role of healthcare accessibility(22). Gaikwad et al. found high ORS awareness (97.6%) but low usage andproper preparation rates (2.1-4.3%)(24). In this study, 58.2% had heard of ORS, but only 11.9% knew it should be given to children with diarrhoea(19).

Diarrhoea management remains inadequate, with only 26.1% correctly preparing ORS. Healthcare-seeking behavior was better in this study compared to previous findings, with only 2.6% failing to seek care(15,22). Hand hygiene before food handling is strong (98.7%), contrasting with prior research (35.3%)(16). However, only 54.8% wash hands before ORS preparation, increasing contamination risks. Water safety varies, with 42.6% using boiled and cooled water, and 15.5% relying on unsafe sources. Infant faecal matter handling remains a concern, with only 33% recognizing the risks, despite sanitation deficiencies increasing diarrhoea risks by 2.438 times(16,22).Zinc supplementation awareness is critically low (1.7%), necessitating urgent education efforts(22). Despite proximity to health facilities, 41.8% lack ORS awareness(19). Poor knowledge of ORS replenishment persists, with only one respondent demonstrating correct dosage understanding(19). Strengthening diarrhoea education programs can improve child health outcomes(23).

The study highlights strengths and gaps in diarrhoea awareness, emphasizing maternal education, hygiene practices, and socioeconomic disparities. While ORS and continued breastfeeding are widely accepted, zinc supplementation and sanitation risks require further promotion. Educational interventions have shown improvement in knowledge and management practices(18,25). Despite positive attitudes, poor practices persist, especially in lower socioeconomic groups, necessitating expanded health education initiatives(23). In urban slums, dehydration risks remain under-recognized, with less than 40% aware of its dangers and only 10% recognizing symptoms(24). Addressing misinformation on diarrhoea, dehydration, ORS, and zinc through structured campaigns can lead to better health outcomes.

Table 4:Policy & Intervention Recommendations

Policy Needs	**Target Group**	**Recommended Action**
ORS & Zinc Awareness	Lower SES, Illiterate mothers	Community health programs
Breastfeeding Promotion	Mothers using bottle feeding	Awareness campaigns
Hygiene Improvement	Families using normal water for handwashing	Subsidized hygiene products

CONCLUSION

Enhancing maternal health education is key to improving diarrhoea prevention and management. While awareness of ORS is high, incorrect preparation methods and low zinc supplementation highlight gaps that require targeted campaigns and practical demonstrations. Hygiene education must reinforce handwashing before ORS preparation, and misconceptions around bottle feeding necessitate guidance on proper sterilization. Younger and lower SES groups exhibit poorer knowledge and practices, emphasizing the need for focused health literacy programs. Although healthcare-seeking behavior is strong, self-care practices should be strengthened alongside medical consultations. Expanding access to hygiene resources, promoting zinc supplementation, and bridging knowledge gaps will be crucial in reducing diarrhoeal diseases

REFERENCE

1. Diarrhoeal disease [Internet]. [cited 2025 May 7]. Available from: https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease
2. National Institute of Diabetes and Digestive and Kidney Diseases [Internet]. [cited 2025 May 7]. Definition & Facts for Diarrhea - NIDDK. Available from: https://www.niddk.nih.gov/health-information/digestive-diseases/diarrhea/definition-facts
3. Datta V, John R, Singh VP, Chaturvedi P. Maternal knowledge, attitude and practices towards diarrhea and oral rehydration therapy in rural Maharashtra. Indian J Pediatr. 2001 Nov;68(11):1035–7.
4. Mangala S, Gopinath D, Narasimhamurthy NS, Shivaram C. Impact of educational intervention on knowledge of mothers regarding home management of diarrhoea. Indian J Pediatr. 2001 May;68(5):393–7.
5. Jagadeesh KV, Narasannavar A, Kamble M, Prakasha S, Raja BY. Knowledge, Attitude and Practice of Mothers in the Management of Diarrhoea among Under-five Children in a Rural area of India. Ethiop J Health Sci. 2024 Jul;34(4):321.
6. Ruchika D. IDCF 2017 Intensified Diarrhoea Control Fortnight 12-24 June 2017.
7. UNICEF DATA [Internet]. [cited 2025 May 7]. Diarrhoea. Available from: https://data.unicef.org/topic/child-health/diarrhoeal-disease/
8. Lakshminarayanan S, Jayalakshmy R. Diarrheal diseases among children in India: Current scenario and future perspectives. J Nat Sci Biol Med. 2015;6(1):24–8.
9. Mallick R, Mandal S, Chouhan P. Impact of sanitation and clean drinking water on the prevalence of diarrhea among the under-five children in India. Child Youth Serv Rev. 2020 Nov 1;118:105478.
10. Behera DK, Mishra S. The burden of diarrhea, etiologies, and risk factors in India from 1990 to 2019: evidence from the global burden of disease study. BMC Public Health. 2022 Jan 13;22(1):92.
11. Workie GY, Akalu TY, Baraki AG. Environmental factors affecting childhood diarrheal disease among under-five children in Jamma district, South Wello zone, Northeast Ethiopia. BMC Infect Dis. 2019 Sep 13;19(1):804.
12. George CM, Perin J, Neiswender de Calani KJ, Norman WR, Perry H, Davis TP, et al. Risk factors for diarrhea in children under five years of age residing in peri-urban communities in Cochabamba, Bolivia. Am J Trop Med Hyg. 2014 Dec;91(6):1190–6.
13. Sadiq K, Mir F, Jiwani U, Chanar S, Nathwani A, Jawwad M, et al. Risk factors for acute diarrhoea in children between 0 and 23 months of age in a peri-urban district of Pakistan: a matched case-control study. Int Health. 2023 May 2;15(3):281–8.
14. UNICEF DATA [Internet]. [cited 2025 May 7]. SDG Goal 6: Clean Water and Sanitation. Available from: https://data.unicef.org/sdgs/goal-6-clean-water-sanitation/
15. Sangma RVN, Rasania SK. Prevalence of Diarrhea Among under-5 Children and Health-Seeking Behavior of Mothers in a Resettlement Colony of Delhi, India: A Community-Based Cross-Sectional Study. Indian J Community Med. :10.4103/ijcm.ijcm_90_24.
16. Ghosh K, Chakraborty AS, Mog M. Prevalence of diarrhoea among under five children in India and its contextual determinants: A geo-spatial analysis. Clin Epidemiol Glob Health. 2021 Oct 1;12:100813.
17. Saha J, Mondal S, Chouhan P, Hussain M, Yang J, Bibi A. Occurrence of Diarrheal Disease among Under-Five Children and Associated Sociodemographic and Household Environmental Factors: An Investigation Based on National Family Health Survey-4 in Rural India. Children. 2022 May;9(5):658.
18. Giri M, Behera MR, Behera D, Mishra B, Jena D. Water, Sanitation, and Hygiene Practices and Their Association With Childhood Diarrhoea in Rural Households of Mayurbhanj District, Odisha, India. Cureus

[Internet]. 2022 Oct 3 [cited 2025 May 14]; Available from: https://www.cureus.com/articles/114498-water-sanitation-and-hygiene-practices-and-their-association-with-childhood-diarrhoea-in-rural-households-of-mayurbhanj-district-odisha-india

19. Prakash U, Banappagoudar S. UTTAR PRADESH JOURNAL OF ZOOLOGY "EFFECTIVENESS OF HEALTH EDUCATION ON KNOWLEDGE REGARDING PREVENTION AND MANAGEMENT OF DIARRHEA AMONG MOTHERS OF UNDER-FIVE CHILDREN IN THE SELECTED RURAL AREA OF JHANSI"-A CROSS-SECTIONAL HUMAN STUDY. 2021 Dec 13;
20. Goyal AK, Agarwal A, Parmar V, Khatri M, Luthra R. A Community-Based Survey on Knowledge and Practices of ORS Usage among Mothers in a Rural Village in Maharashtra. SSR Inst Int J Life Sci. 2024 May;10(4):5856–61.
21. Ghosh K, Chakraborty AS, SenGupta S. Identifying spatial clustering of diarrhoea among children under 5 years across 707 districts in India: a cross sectional study. BMC Pediatr. 2023 May 30;23(1):272.
22. Marbaniang SP. Women Care and Practices in the Management of Childhood Diarrhea in Northeast India. Child Care Pract. 2023 Apr 3;29(2):139–51.
23. Patel S, Mehta VV, Chaudhari NK, Patel ED. A Study of Knowledge, Attitude and Practice among the Mothers Regarding Management of Childhood Diarrhoea. J Indian Med Assoc. 2023;121(6).
24. Gaikwad SG, Biradar DrVS. Knowledge Regarding Diarrhea Among The Mothers Of Under Five Children. J Nurs Pract Res. 2022 Apr 29;2(1):9–13.
25. Upashe Shivaleela P, Shil Rahu. Practices of the mothers of under-five children towards the prevention of diarrhea - A cross-sectional approach. [cited 2025 May 14]; Available from: https://www.indianjournals.com/ijor.aspx?target=ijor:ajner&volume=11&issue=2&article=016