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Original Article

Knowledge and Practices of Mothers Regarding Prevention of Diarrheal Diseases in Under-Five Children

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Abstract

Background: Diarrheal diseases remain a leading cause of morbidity and mortality among under-five children, particularly in low- and middle-income countries. Mothers play a vital role in prevention through hygiene practices, safe water use, and early management of diarrhea.

Materials & Methods: A descriptive cross-sectional study was conducted among 60 mothers of under-five children in a Kanth CHC, Shahjahanpur. Data were collected using a structured questionnaire and practice checklist, and analyzed using descriptive and inferential statistics.

Results: The findings revealed that 65% of mothers had adequate knowledge, while only 48.3% demonstrated good practices regarding prevention of diarrheal diseases. A significant association was found between mothers' education level and knowledge scores ($p<0.05$).

Conclusions: Although the majority of mothers had satisfactory knowledge, their preventive practices were inadequate. Targeted community-based health education programs are recommended to improve mothers' practices in diarrheal disease prevention.

Keywords: Mothers, Diarrheal diseases, Under-five children, Knowledge, Preventive practices.

Introduction

Diarrheal diseases are among the most common causes of morbidity and mortality in under-five children worldwide[1]. According to the World Health Organization (WHO), diarrhea is the second leading cause of death among children under five, responsible for approximately 525,000 deaths annually[2]. Most diarrheal episodes are preventable through safe drinking water, sanitation, hygiene, breastfeeding, and appropriate complementary feeding[3].

In India, diarrheal diseases continue to be a significant public health problem, contributing to nearly 13% of under-five mortality[4]. The National Family Health Survey (NFHS-5) reports that the prevalence of diarrhea among under-five children in India is about 7.7%, with higher rates in rural areas[5]. Despite advancements in public health measures, poor sanitation, contaminated water supply, and inadequate awareness among caregivers remain major risk factors[6].

Mothers are the primary caregivers for young children and play a crucial role in the prevention and management of diarrheal diseases[7]. Their knowledge and practices related to hand hygiene, safe food preparation, exclusive breastfeeding, oral rehydration therapy (ORS), and timely healthcare seeking are key determinants in reducing diarrhea-related morbidity and mortality[8].

Several studies have shown that although mothers may have some awareness about diarrhea prevention, gaps exist between knowledge and actual practices[9].

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In particular, the use of unsafe drinking water, improper disposal of child feces, and delayed initiation of ORS are common challenges[10]. Strengthening mothers' knowledge and promoting effective practices through health education is vital for achieving Sustainable Development Goal 3 (SDG-3), which emphasizes reducing under-five mortality[11].

Therefore, this study was undertaken to assess the knowledge and practices of mothers regarding prevention of diarrheal diseases in under-five children in a community setting. Findings from this study may help in planning targeted health education interventions to improve maternal practices and ultimately reduce the burden of diarrheal diseases.

Objectives

1. To assess the knowledge of mothers regarding prevention of diarrheal diseases in under-five children.
2. To assess the practices of mothers regarding prevention of diarrheal diseases in under-five children.
3. To find the association between mothers' knowledge and practices with selected demographic variables.

Hypotheses

- **H_0:** There is no significant association between mothers' knowledge and practices regarding prevention of diarrheal diseases and their selected demographic variables.
- **H_1:** There is a significant association between mothers' knowledge and practices regarding prevention of diarrheal diseases and their selected demographic variables.

Materials and Methods

- **Study Design:** Descriptive cross-sectional design.
- **Setting:** Selected rural community in Kanth CHC , Shahjahanpur.
- **Population:** Mothers of under-five children.
- **Sample Size:** 60 mothers selected using purposive sampling technique.
- **Inclusion Criteria:** Mothers with at least one under-five child, available at the time of study, and willing to participate.
- **Exclusion Criteria:** Mothers whose children had chronic gastrointestinal conditions.
- **Tool for Data Collection:**
  - **Section A:** Demographic proforma (age, education, occupation, family income, source of water, sanitation facilities).
  - **Section B:** Structured questionnaire to assess knowledge (20 items on causes, prevention, ORS, hygiene).
  - **Section C:** Practice checklist (10 items on hand washing, water storage, feeding practices, ORS preparation).
- **Scoring System:**
  - Knowledge: Poor (0–6), Average (7–12), Good (13–20).
  - Practices: Poor (<5), Fair (5–7), Good (8–10).
- **Data Collection Procedure:**
  - Informed consent obtained.
  - Questionnaire administered through face-to-face interviews.
  - Observation checklist used for selected practices (e.g., handwashing, water storage).
- **Data Analysis:**
  - Descriptive statistics: frequency, percentage, mean, standard deviation.
  - Inferential statistics: chi-square test for associations.
- **Ethical Considerations:** Approval obtained from Institutional Ethics Committee. Written informed consent taken from participants. Confidentiality and anonymity maintained.

Results

Table 1: Demographic Profile of Mothers (n=60)

Variable	Categories	Frequency	Percentage (%)
Age (years)	20–25	18	30.0
	26–30	22	36.7
	>30	20	33.3

Variable	Categories	Frequency	Percentage (%)
Education	Illiterate	8	13.3
	Primary	14	23.3
	Secondary	20	33.3
	Graduate & above	18	30.0
Source of water	Piped water supply	34	56.7
	Hand pump/well	26	43.3
Sanitation facility	Toilet at home	42	70.0
	Open defecation	18	30.0

Table 2: Knowledge of Mothers Regarding Prevention of Diarrheal Diseases (n=60)

Knowledge Level	Score Range	Frequency	Percentage (%)
Poor Knowledge	0–6	12	20.0
Average	7–12	9	15.0
Good	13–20	39	65.0

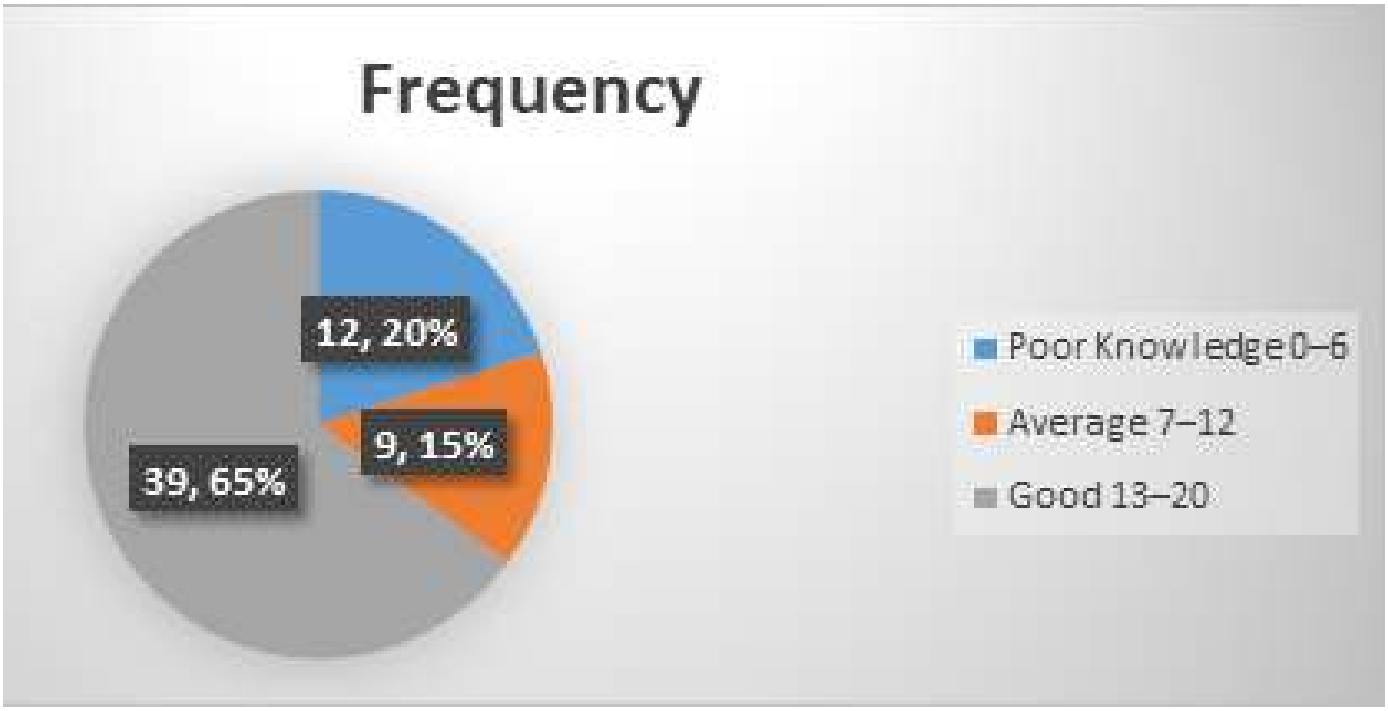

Figure 01: Knowledge of Mothers Regarding Prevention of Diarrheal Diseases

Table 3: Practices of Mothers Regarding Prevention of Diarrheal Diseases (n=60)

Practice Level	Score Range	Frequency	Percentage (%)
Poor Practice	<5	10	16.7
Fair Practice	5–7	21	35.0
Good Practice	8–10	29	48.3

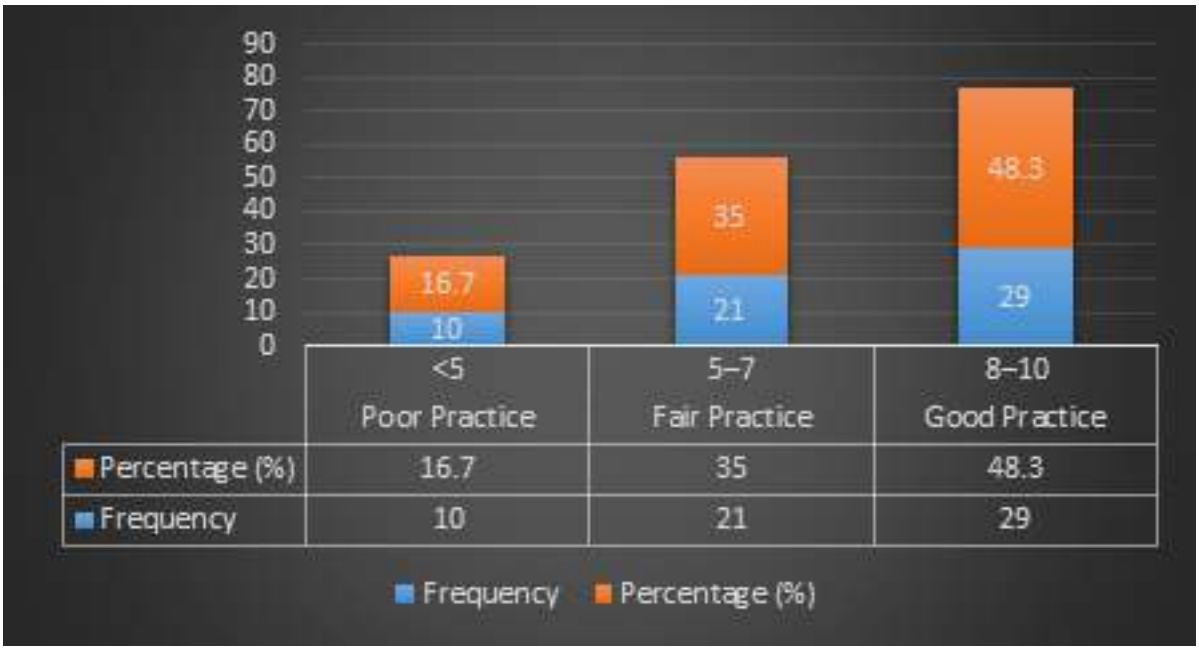

Figure 02: Practices of Mothers Regarding Prevention of Diarrheal Diseases

Table 4: Association between Knowledge and Education Level of Mothers (n=60)

Education Level	Poor/Average Knowledge (n=21)	Good Knowledge (n=39)	x^2 - value	p-value
Illiterate/Primary	15	7	7.82	<0.05*
Secondary & Above	6	32		

*p<0.05 significant

Discussion

The present study revealed that although 65% of mothers had good knowledge regarding prevention of diarrheal diseases, only 48.3% demonstrated good practices. This indicates a gap between awareness and implementation.

Similar findings were reported by Das et al.[12], where mothers had satisfactory knowledge but poor practices in diarrheal disease prevention. The significant association between maternal education and knowledge aligns with studies by Singh et al.[13], which highlighted education as a predictor of health awareness.

Despite availability of piped water, unsafe storage practices and poor handwashing were observed, consistent with a study by WHO/UNICEF[14]. This highlights the need for practical demonstrations in community health programs.

The study recommends strengthening health education at community level, focusing on safe water handling, ORS preparation, and sanitation practices to bridge the knowledge–practice gap.

Conclusions

The study concludes that while mothers of under-five children had good knowledge regarding prevention of diarrheal diseases, their preventive practices were not satisfactory. Educational interventions, community awareness programs, and demonstration-based training are needed to improve mothers' practices and reduce diarrhea-related morbidity and mortality in children.

Recommendations

1. **Health Education Programs:** Mothers should regularly participate in community-based awareness and health education programs that emphasize the causes, prevention, and home management of diarrheal illnesses.
2. **Promotion of Hygiene Practices:** Mothers should receive instruction and encouragement on how to properly wash their hands with soap at important moments, such as before feeding, after urinating, or after cleaning their infant.
3. **Safe Water and Sanitation:** Community

health nurses should promote the use of safe drinking water (boiling or filtering) and hygienic food preparation techniques. Proper sanitation facilities should be encouraged in order to reduce the amount of open defecation.

4. **ORS and Home Fluids:** To help women avoid dehydration during diarrheal episodes, demonstration programs should be held to teach them how to properly prepare and use ORS and home-based fluids.
5. **Breastfeeding Support:** The significance of exclusive breastfeeding for the first six months and continuing to nurse during episodes of diarrhea should be emphasized in postnatal and community health initiatives.
6. **Immunization:** Community health outreach should be used to raise awareness of the rotavirus vaccine and its role in avoiding diarrheal illnesses.
7. **Community Involvement:** Engage Accredited Social Health Activists (ASHAs), anganwadi workers, and community leaders to promote healthy behaviors and act as role models for families.
8. **Policy Implications:** More mother-focused instructional modules added to national initiatives like the Intensified Diarrhea Control Fortnight (IDCF) could greatly lower morbidity and death among children under five.

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Conflicts of interests: There is no conflict of interest

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