

Knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district.

¹ Ms. Divya Chaudhari, ² Dr. Rani Shetty,

¹ PhD Scholar, ² Research Guide

¹Child health Nursing,

¹ Maniba Bhula Nursing College, Uka Tarsadia University.

Maniba Campus, Gopal Vidhyaanagar, Bardoli Mahuva Road, Tarsadi-394350, Taluka: Mahuva, District: Surat, Gujarat, India.

Abstract :

Introduction: Functional constipation is one of the most common gastrointestinal disorders among infants and young children. It is characterized by infrequent bowel movements, painful defecation, stool withholding behavior, hard stools, and difficulty in passing stools without any identifiable organic cause. The condition significantly affects the physical, psychological, and social well-being of children and places considerable stress on parents, especially mothers who are the primary caregivers.

Statement: A study to assess the knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district.

Objectives: 1.To assess the knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district. 2.To correlate the knowledge with practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district. 3.To find out the association of knowledge and practice of mothers regarding functional constipation and its management among under five children with their selected socio demographic variables.

Methodology: A Cross sectional survey design was adopted and mothers of under five children were selected by convenience sampling technique. Sample size was 203. Data were collected by using structured questionnaires, checklist and self-reporting technique was used for data collection.

Result: The findings of the study revealed that the majority of mothers (89.7%) had a moderate level of knowledge regarding functional constipation and its management among under-five children, while only 10.3% had poor knowledge. In contrast, the practice assessment showed that a large number of mothers (83.7%) reported poor practices, while only 16.3% had moderate practice levels. Low negative correlation was identified between knowledge and practice scores of mothers regarding functional constipation and its management among under-five children ($r = -0.009$). The obtained p-value ($p = 0.899$) was not statistically significant, indicating that there was no significant relationship between mothers' knowledge and their practices.

Conclusion: The study concluded that the majority of mothers had a moderate level of knowledge regarding functional constipation and its management among under-five children; however, most of the mothers reported poor management practices. The findings indicate a gap between knowledge and its practical application. Furthermore, there was no statistically significant correlation between knowledge and practice scores, suggesting that increased knowledge alone may not lead to improved practices. Therefore, there is a need for structured health education programs, awareness campaigns, and practical training interventions to enhance mothers' skills in the prevention and management of functional constipation, thereby promoting better health outcomes among under-five children.

Key words: Functional Constipation, Under-Five Children, Constipation Management, Knowledge, Practice.

INTRODUCTION

Constipation is one of the most common gastrointestinal problems in children and is increasingly recognized as a significant public health concern. It is generally defined as infrequent bowel movements (less than three per week) or difficulty in passing stools, and may present with symptoms such as hard stools, painful defecation, and fecal incontinence. Studies report that approximately 0.5% of school-aged children have reduced bowel frequency, while up to 20% may exhibit at least one symptom of constipation, highlighting its widespread occurrence in the paediatric population¹

NEED OF THE STUDY.

Functional constipation is one of the most common gastrointestinal disorders in childhood, with more than 95% of cases classified as functional constipation

according to the Rome IV criteria. Although functional constipation is rarely life-threatening, it significantly affects a child's physical, emotional, and social well-being, leading to pain, anxiety, low self-esteem, behavioral problems, and reduced quality of life. It also creates considerable psychological and emotional burden on parents, thereby affecting family functioning². Evidence shows that treatment outcomes remain suboptimal, as only about 50% of children recover within 6–12 months, while nearly 40% continue to experience symptoms after treatment, and approximately one-third may persist into adulthood³. This highlights the chronic and relapsing nature of the condition and the need for early and effective management strategies.³

Despite the availability of health information, many mothers may have misconceptions regarding the causes, prevention, and treatment of constipation. Lack of awareness and inappropriate management practices may contribute to delayed treatment and increased risk of complications. Assessing mothers' knowledge and practices can help identify existing gaps and guide the development of educational interventions aimed at improving child health outcomes.

PROBLEM STATEMENT: A study to assess the knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district.

OBJECTIVES:

- 1.To assess the knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district.
- 2.To correlate the knowledge and practice of mothers regarding functional constipation and its management among under five children in selected community areas of Surat district.
- 3.To find out the association of knowledge and practice of mothers regarding functional constipation and its management among under five children with selected socio demographic variables.

MATERIAL AND METHODS: Quantitative research approach with survey research design was used for the Community based study at Surat district, Gujarat. Sample size was 203 calculated by power analysis. The Study period was 2nd March 2026 to 11 March 2026. Ethical approval was obtained from the institutional ethics committee of the college and from medical officer Sarbhon. Consent was obtained from the mother.

Using Convenience sampling technique, Mothers of under-five age children who gave consent for data collection and who were able to communicate in Gujarati and English were included in the study. Tool was designed under three sections which included socio demographic data, Structured knowledge questionnaire, practice checklist. Data was collected using the Self reporting technique.

STATISTICAL ANALYSIS : The data were analyzed using the statistical software IBM SPSS 22.0 version . Descriptive statistics were used to describe the characteristics of variables.

RESULT: Findings of the demographic variables of mothers: The socio-demographic data revealed that 102 (50.2%) mothers were aged 18–25 years, while 96 (47.3%) were aged 26–30 years, indicating that the majority of mothers were young adults in their reproductive years. Only 5 (2.5%) mothers belonged to the 31–35 years age group. Regarding educational status, 131 (64.5%) mothers had primary education, whereas 72 (35.5%) had secondary education. suggesting a relatively low educational background among the study participants. In terms of occupation, the vast majority of mothers 193 (95.1%) were laborers, while 10 (4.9%) were homemakers, indicating that most participants were engaged in manual work and may have limited time for childcare and health education activities. With respect to dietary habits, 170 (83.7%) mothers consumed a mixed diet, whereas 33 (16.3%) followed a vegetarian diet, reflecting the common dietary pattern in the study area. Regarding family type, 166 (81.8%) mothers belonged to joint families, while 37 (18.2%) lived in nuclear families, indicating that joint family systems predominated among the participants.

Demographic variables of children: The distribution of children according to age showed that 171 (84.2%) children were 4 years old, followed by 24 (11.8%) children aged 3 years and 8 (3.9%) children aged 2 years. This indicates that the majority of the study participants were in the older preschool age group. Regarding gender, 189 (93.1%) children were female, whereas 14 (6.9%) were male, demonstrating a predominance of female children in the study sample. With respect to birth order, 144 (70.9%) children were the oldest child in the family, while 59 (29.1%) were middle children. No children were reported as the youngest child, suggesting that most participants were either first-born or middle-born children. Concerning the number of siblings, 83 (40.9%) children had more than two siblings, 62 (30.5%) were single child, and 58 (28.6%) had one sibling. This finding indicates that a considerable proportion of children belonged to larger families. Regarding the primary caregiver, 193 (95.1%) children were reared by grandparents, while only 10 (4.9%) were reared by their parents. No children were reported to be cared for by other caregivers. This suggests that grandparents played a major role in child-rearing among the study population.

Table 1: Distribution of mothers level of knowledge regarding functional constipation and its management

N=203

Level of knowledge	Grading	Frequency	Percentage
Poor	0-8	21	10.3
Moderate	9-14	182	89.7

As reported in table 1, findings revealed that **182 (89.7%) mothers had a moderate level of knowledge** regarding functional constipation and its management among under-five children, whereas **21 (10.3%) mothers had poor knowledge**. None of the mothers achieved a high level of knowledge. The majority of mothers demonstrated a moderate level of knowledge regarding functional constipation and its management, indicating a need for structured health education and awareness programs to improve their understanding and promote effective management practices for under-five children.

Table 2: Range, Mean, SD, Median and mean percentage of knowledge score regarding functional constipation and its management among under five children

N=203

Range	Mean	SD	Median	Mean percentage
6-14	10.63	1.50	11.00	53.2

The table no:2 revealed that mean score of knowledge regarding functional constipation and its management among under-five children is 10.63 ,with a range of **6 to 14**, **standard deviation of 1.50**, and **median score of 11.00**. The **mean percentage score was 53.2%**, indicating that mothers possessed a moderate level of knowledge about functional constipation and its management. Therefore, there is a need to provide health education and awareness programs to improve mothers' knowledge and help them manage functional constipation more effectively in under-five children.

Table 3: Distribution of mothers according to their level of practice regarding functional constipation and its management

N=203

Level of Practice	Grading	Frequency	Percentage
Poor	0-8	170	83.7
Moderate	9-14	33	16.3

It is evident from table no:3 that findings showed that **170 (83.7%) mothers had poor practice** regarding the management of functional constipation in under-five children, while only **33 (16.3%) mothers had moderate level of practice**. None of the mothers demonstrated a good level of practice. This indicates that although some mothers may have basic knowledge about functional constipation, most were not following appropriate practices to prevent or manage the condition in their children. As 193(95.1%)of the mothers are labourers and will be away from their children during working hours, mothers hardly get time to implement desired practices related to good bowel function.

Table 4: Range, Mean, SD, Median and mean percentage of practice score regarding functional constipation and its management among under five children

N=203

Range	Mean	SD	Median	Mean percentage
5-10	7.52	1.03	8.00	37.6

This table is indicates that the practice scores of mothers regarding functional constipation and its management ranged from 5 to 10, with a mean score of 7.52, standard deviation of 1.03, and median score of 8.00. The mean percentage score was 37.6%, which shows that the overall level of practice was poor. The mean and median values being close to each other suggest that most mothers had similar practice levels, and the low standard deviation indicates only small differences among the participants. Overall, the findings show that mothers were not following adequate practices for the prevention and management of functional constipation in under-five children, highlighting the need for practical guidance and health education programs to improve their day-to-day management practices. Training is required for the caretakers of the children, while mothers are at work.

Table 5: Correlation of the knowledge and practice of mothers regarding functional constipation and its management among under five children

N=203

Variables	Mean	SD	r value	p value	Type of correlation
Knowledge	10.63	1.50	(-0.009)	0.899 (NS)	Low negative
Practice	7.52	1.03			

NS- Not Significant

The table 5 is indicating that the **mean knowledge score was 10.63 ± 1.50** and the **mean practice score was 7.52 ± 1.03** . The correlation coefficient ($r = -0.009$) indicates that there was **inverse correlation between mothers' knowledge and their practice** regarding functional constipation and its management. The **p-value of 0.899**, which is greater than r value, shows that the relationship was **not statistically significant**. This means that having better knowledge did not necessarily result in better practices among the mothers. Overall, the study suggests that knowledge alone was not enough to improve practice, and mothers may require practical training, motivation, and continuous guidance to effectively manage functional constipation in under-five children. It is important that mothers should spend adequate time with their children to implement healthy habits so as to prevent constipation among them.

Table 6: Association of knowledge score with selected demographic variables.

The association analysis showed that mothers' age was significantly associated with their knowledge regarding functional constipation and its management ($\chi^2 = 15.186$, $p < 0.001$). Mothers aged 26–30 years had better knowledge levels compared to those in other age groups. Similarly, the age of the child was also significantly associated with mothers' knowledge ($\chi^2 = 6.937$, $p = 0.031$), indicating that mothers of older children, especially 4-year-old children, had better knowledge regarding functional constipation and its management.

Other variables such as such as, education ($p = 0.790$), occupation ($p = 0.971$), diet ($p = 0.322$), type of family ($p = 0.484$), gender of the child ($p = 0.683$), birth order of the child ($p = 0.286$), number of siblings ($p = 0.878$), and person rearing the child ($p = 0.971$) were not significantly associated with knowledge level, as all p-values were greater than 0.05. This means that these factors did not have a significant influence on mothers' knowledge regarding functional constipation and its management.

Association of Practice score with selected demographic variables:

The association analysis showed that dietary pattern, age of the child, and gender of the child were significantly associated with mothers' practice regarding functional constipation and its management. Mothers' dietary pattern had a highly significant associate with practice ($\chi^2 = 11.703$, $p < 0.001$), indicating that dietary habits influenced how mothers managed functional constipation. The age of the child was also significantly associated with practice ($\chi^2 = 6.579$, $p = 0.037$), suggesting that mothers of different age groups of children followed different management practices. Similarly, gender of the child showed a significant association with practice ($\chi^2 = 7.816$, $p = 0.005$), indicating differences in practices based on whether the child was male or female.

However, age of the mother ($p = 0.346$), education ($p = 0.061$), occupation ($p = 0.742$), type of family ($p = 0.994$), birth order of the child ($p = 0.132$), number of siblings ($p = 0.373$), and person rearing the child ($p = 0.742$) were not significantly associated with practice levels, as all p-values were greater than 0.05. This means that these factors did not have a significant influence on mothers' practices regarding functional constipation and its management.

Overall, the findings indicate that mothers' dietary habits, the child's age, and the child's gender influenced practice levels, whereas other socio-demographic factors did not show any significant relationship with the management practices of functional constipation among under-five children.

Discussion:

Demographic Characteristics of Mothers and Under-Five Children

The present study revealed that the majority of mothers (50.2%) were aged 18–25 years, followed by 47.3% aged 26–30 years.

Regarding educational status, 64.5% of mothers had primary education and 35.5% had secondary education.

In the present study, 95.1% of mothers were labourers and only 4.9% were homemakers.

The findings also showed that 83.7% of mothers consumed a mixed diet.

The majority of mothers (81.8%) belonged to joint families.

Among the children, 84.2% were aged 4 years, and 93.1% were female.

The present study also found that 70.9% of children were the oldest child in the family, while 40.9% had more than two siblings.

A notable finding of the present study was that 95.1% of children were reared by grandparents.

Knowledge of Mothers:

In the present study, out of 203 mothers, 182 (89.7%) had a moderate level of knowledge and 21 (10.3%) had poor knowledge regarding functional constipation and its management among under-five children. None of the mothers demonstrated a high level of knowledge. The mean knowledge score was 10.63 ± 1.50 , with a mean percentage score of 53.2%, indicating a moderate level of knowledge. These findings are consistent with the study conducted by Albraa J. Khayyat et al. (2023) titled "Parents' Knowledge, Attitude, and Practice Related to Childhood Constipation in Makkah, Saudi Arabia." In their study involving 796 parents, the authors reported varying levels of knowledge regarding childhood constipation. Only 11.1% of participants were able to correctly define constipation, although 63.6% recognized it as a symptom rather than a disease. Furthermore, a large proportion of participants identified functional constipation (81.3%) and organic constipation (88.4%) as possible causes. Despite awareness of certain aspects of constipation, the study highlighted important deficiencies in parents' overall understanding of the condition.⁴ The findings of the present study are comparable with those of the study conducted by Ms. Ruth Grace Mallela, titled "A Study to Assess the Knowledge on Constipation among the Mothers of Infants Attending S.V.R.R.G.G.H., Tirupati, with a View to Develop an Information Booklet." The study reported that among 100 mothers of infants, 70% had a moderate level of knowledge, 28% had inadequate knowledge, and only 2% had an adequate level of knowledge regarding constipation⁵. Another similar study was conducted by Kenyir Koyu et al. on "Knowledge and Attitude Regarding Home Management of Constipation among the Mothers of Under-Five Children Attending the Paediatric OPD in Selected Hospitals of Kamrup (M), Assam." The study included 120 mothers of under-five children. The findings revealed that 73 (60.8%) mothers had adequate knowledge, 44 (36.7%) had moderate knowledge, and only 3 (2.5%) had inadequate knowledge regarding the home management of constipation⁶. These findings indicate that the majority of mothers possessed an adequate level of knowledge about constipation management at home. Although both studies assessed mothers' knowledge related to constipation, the findings differ, with Kenyir Koyu et al. reporting a higher proportion of mothers with adequate knowledge. These differences may be attributed to variations in the study setting, educational background of the participants, exposure to health education programmes, and the tools used to assess knowledge. Nevertheless, both studies emphasize the importance of strengthening health education interventions to improve mothers' knowledge and promote effective home management of functional constipation among under-five children.

Practice of mothers among under five children

The present study assessed the practice of mothers regarding functional constipation and its management among under-five children. The findings revealed that the majority of mothers, 170 (83.7%), had poor practice, while only 33 (16.3%) had moderate practice. None of the mothers demonstrated a good level of practice. The mean practice score was 7.52 ± 1.03 , with a median score of 8.00 and a mean percentage score of 37.6%, indicating an overall low level of practice regarding the prevention and management of functional constipation. The findings of the present study are supported by the study conducted by Albraa J. Khayyat et al. (2023) titled "Parents' Knowledge, Attitude, and Practice Related to Childhood Constipation in Makkah, Saudi Arabia." In their study, parents demonstrated inconsistent practices regarding the management of childhood constipation. Only 27.9% of participants recommended providing high-fiber foods as the initial home treatment for constipation, while 42.8% recognized that an enema is

an effective intervention for fecal impaction. Regarding dietary management, 71.7% of parents recommended increasing fruit intake and 68.8% suggested vegetables as part of the child's diet to relieve constipation. Although many parents were aware of the importance of dietary modifications, the overall practice related to evidence-based management of childhood constipation remained suboptimal⁴. The findings of the present study are in contrast with the study conducted by Aureen Ruby D'Cunha entitled "Understanding Childhood Constipation through the Prism of the Caretaker." The study reported a mean practice score of 10.36 ± 1.992 . Regarding the level of practice, 26% of the caregivers had good practice, 72% had average practice, and only 2% had poor practice related to the management of childhood constipation⁷.

Correlation of knowledge and practice

The findings of the present study showed a negative correlation between knowledge and practice ($r = -0.009$, $p = 0.899$), indicating that mothers' knowledge regarding functional constipation was not significantly associated with their management practices. Therefore, the non-significant correlation observed in the present study ($r = -0.009$, $p = 0.899$) indicates that improving mothers' knowledge alone may not be sufficient to enhance management practices. Practical demonstrations, behavior modification strategies, regular follow-up, and continuous health education are essential to bridge the gap between knowledge and practice.

Association of knowledge:

The association analysis showed that mothers' age was significantly associated with their knowledge regarding functional constipation and its management ($\chi^2 = 15.186$, $p < 0.001$). Mothers aged 26–30 years had better knowledge levels compared to those in other age groups. Similarly, the age of the child was also significantly associated with mothers' knowledge ($\chi^2 = 6.937$, $p = 0.031$), indicating that mothers of older children, especially 4-year-old children, had better knowledge regarding functional constipation and its management.

Association of practice:

The association analysis showed that dietary pattern, age of the child, and gender of the child were significantly associated with mothers' practice regarding functional constipation and its management. Mothers' dietary pattern had a highly significant association with practice ($\chi^2 = 11.703$, $p < 0.001$), indicating that dietary habits influenced how mothers managed functional constipation. The age of the child was also significantly associated with practice ($\chi^2 = 6.579$, $p = 0.037$), suggesting that mothers of different age groups of children followed different management practices. Similarly, gender of the child showed a significant association with practice ($\chi^2 = 7.816$, $p = 0.005$), indicating differences in practices based on whether the child was male or female.

Conclusion: Study conclude that there is a need for structured health education programs, practical demonstrations, counselling, and continuous follow-up by healthcare professionals to improve mothers' management practices. Since the majority of children were cared by grandparents, It is important to give education and training to them also. Enhancing both knowledge and practical skills can contribute to the early identification, prevention, and effective management of functional constipation among under-five children, thereby promoting better child health outcomes

Recommendation:

1. Health education programs should be organized regularly to improve mothers' as well as caregiver knowledge and practices regarding functional constipation and its management among under-five children.
2. Community health nurses should provide individualized counselling to mothers and caregivers on dietary modifications, adequate fluid intake, toilet training, and healthy bowel habits.
3. Practical demonstrations and educational materials such as pamphlets, booklets, and audiovisual aids should be used to enhance mothers' as well as care givers management practices.
4. Educational sessions on childhood functional constipation and its management should be incorporated into maternal and child health education programs.
5. Nursing students should be trained to educate and counsel parents regarding prevention and management of functional constipation during community postings.

Limitation:

- This study is community based study limited to selected areas with Surat District, Gujarat.

The findings may not be generalized.

Conflict of interest:

There was no conflict of interest reported.

Source of funding: Self-funded

Ethical Clearance: The permission was obtained from Medical officer Sarbhon . Surat District Gujarat. The researcher had taken consent from parents who met the inclusion criteria. The researcher obtained ethical clearance from the ethics committee of Maniba Bhula nursing college .

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