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A Study to Assess the Attitude and Perceived Barriers of B.Sc. Nursing Students Toward Promoting Home Accident Prevention Practices Among Mothers of Under-Five Children in Selected Nursing Colleges of North Goa District

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Abstract

Under-five children are highly vulnerable to unintentional home injuries due to their natural curiosity and developmental status. While nursing students play a major role in counseling caregivers during community postings, they face numerous challenges. This descriptive cross-sectional study assessed the attitude and perceived barriers of 126 B.Sc. Nursing students in selected Nursing colleges of North Goa District. Data were collected using a demographic performa, a 25-item Likert attitude scale, and a 15-item barriers checklist, and analyzed using descriptive and inferential statistics in SPSS version 20.0. It was observed that 55.56% of the students held a favorable attitude, 33.33% had a moderate attitude, and 11.11% had an unfavorable attitude. Regarding barriers, 75.40% reported moderate barriers, 21.43% reported low barriers, and 3.17% reported high barriers. The top three highly severe barriers identified were a lack of time during busy clinics (62.70%, mean rank 1.68), low maternal literacy and understanding (57.94%, mean rank 1.91), and a lack of community awareness (50.00%, mean rank 2.06). Pearson Chi-square analysis showed no statistically significant association ($p > 0.05$) between attitude or barrier levels and demographic variables like year of study or previous training. These findings indicate that operational and structural constraints in clinical settings affect all students uniformly. This study highlights the immediate need to integrate practical communication training into the nursing curriculum and to provide standardized, local-language teaching materials to students to support their health promotion activities.

Keywords: Attitude, Perceived Barriers, B.Sc. Nursing Students, Under-Five Children, Home Accident Prevention, Goa.

Introduction

Unintentional childhood injuries are a major global public health concern, causing thousands of preventable deaths and permanent disabilities every year.[2] Children under five years of age represent a highly vulnerable group because of their developmental stage.[4] During this early period, children rapidly develop their motor and sensory skills, starting to crawl, stand, run, and explore their environment.[6] This natural desire to explore, combined with their complete lack of physical coordination and inability to

perceive danger, places them at a very high risk of accidental injuries.[8] Their small physical stature also prevents them from seeing above obstructions, and they are prone to copying adult actions without understanding the consequences.[6]

Although the home is commonly believed to be the safest place for young children, research shows that more than half of all pediatric domestic injuries occur within the household or in its immediate surroundings.[10] Common domestic accidents include accidental falls from beds, stairs, or rooftops; burns and scalds from hot food, tea, or cooking pots placed on floor-level stoves; poisoning from medicines, household detergents, and kerosene; choking on small objects like coins and toy parts; cuts from knives or scissors; and drowning in buckets or bathroom water storage containers.[6] In developing countries like India, these domestic accidents are very common because of crowded houses, low socio-economic status, and a general lack of child safety awareness.[14]

Mothers are the primary caregivers for under-five children and spend the most time with them.[16] Therefore, their safety precautions and first aid practices are the most important factors in reducing household hazards.[16] However, several descriptive studies conducted in different parts of India show that mothers often possess average or inadequate knowledge regarding home safety measures and basic first aid.[19] Gaps in maternal safety practices are common, especially regarding the safe storage of household chemicals, the use of socket covers, and drowning prevention.[19] To address this problem, structured and persistent educational programs must be provided directly to mothers in their communities.[16]

B.Sc. Nursing students are key health educators who are regularly posted in rural and urban communities during their training.[17] During these postings, students interact closely with mothers during home visits, outpatient departments, and immunisation clinics.[17] They are ideally placed to conduct risk assessments and guide caregivers on household childproofing.[17] However, nursing students often face significant field challenges, such as heavy workload, language differences, and a lack of teaching aids, which can restrict their clinical effectiveness.[1] To improve maternal health education, it is essential to understand the attitudes of nursing students and identify the specific barriers they perceive while promoting home safety.[1]

Need for the Study

Goa is recognized as one of the most progressive small states in India, showing excellent health indicators such as a high literacy rate and low maternal mortality.[28] The infant mortality rate in Goa has declined to 6 deaths per 1000 live births in the recent National Family Health Survey (NFHS-5).[29] Even with these achievements, children under five years of age in the state face significant nutritional and safety vulnerabilities.[28] The prevalence of childhood stunting has increased to 25.8% and child wasting is at 19.1%, indicating persistent underlying socio-economic and developmental risks among young children.[28] Furthermore, injuries and falls represent more than 10% of the total disease burden (DALYs) in Goa, making them a significant contributor to pediatric disability and morbidity.[28]

In the public health system of India, maximum resources are directed toward immunisation and infectious disease control, while the prevention of unintentional domestic injuries receives very little policy attention.[14] This neglect is also reflected in community practices, where mothers often rely on traditional beliefs, social media, or unverified advice for child safety rather than evidence-based methods.[32] Nursing students posted in rural and urban health centers can bridge this gap by providing structured maternal counseling.[17] However, nursing education programs often treat child safety as a theoretical topic, leaving students poorly prepared to handle real-world challenges in the community.[17]

There is a paucity of research examining the readiness, attitudes, and field challenges of undergraduate

nursing students who are expected to educate mothers on child safety.[17] While many studies have assessed the knowledge and practice of mothers regarding home accidents, very few have focused on the educational providers.[17] Assessing the attitude and identifying the specific clinical barriers perceived by B.Sc. Nursing students during their postings in North Goa is essential.[1] The findings will help nursing colleges design better field training methods and prepare appropriate visual aids to make student-led safety promotion more effective in the community.[1]

Objectives of the Study

1. To assess the level of attitude of B.Sc. Nursing students toward promoting home accident prevention practices among mothers of under-five children in selected nursing colleges of North Goa District.
2. To assess the level of perceived barriers among B.Sc. Nursing students in promoting home accident prevention practices.
3. To identify the top perceived barriers faced by B.Sc. Nursing students in promoting home accident prevention practices among mothers.
4. To find the association between the attitude levels of B.Sc. Nursing students and selected demographic variables like year of study and previous training.
5. To determine the association between the perceived barrier levels of B.Sc. Nursing students and selected demographic variables.

Hypotheses

- H01: There is no statistically significant association between the attitude levels of B.Sc. Nursing students and selected demographic variables (age, gender, year of study, professional qualification, monthly family income, residence, previous training, and community posting experience) at the 0.05 level of significance.
- H02: There is no statistically significant association between the perceived barrier levels of B.Sc. Nursing students and selected demographic variables at the 0.05 level of significance.

Research Design and Procedures

A descriptive cross-sectional survey design was selected for this study. The study was conducted in selected nursing colleges of North Goa District, which contain a mix of rural, semi-urban, and urban clinical training areas. The target population consisted of undergraduate B.Sc. Nursing students. The sample size comprised 126 students who met the inclusion criteria and provided written informed consent. A non-probability purposive sampling technique was used to select the participants.

Data were collected using a structured research tool developed by the researchers, which was validated by pediatric and community health nursing specialists. The tool was divided into three sections:

- Section A: Demographic Performa: This section collected personal details using 7 items, including age, gender, year of study, monthly family income, residence, history of previous formal training on child accident prevention, and community posting experience in months.
- Section B: Attitude Scale: This section evaluated the attitude of the students using a 25-item 5-point Likert scale. Out of 25 statements, 20 were positive and 5 were reverse-scored statements (Items 4, 7, 9, 12, 16, 20, and 24). The total score ranged from 25 to 125. The attitude levels were categorized as Favorable (Good) Attitude (score 76–125), Moderate Attitude (score 51–75), and Unfavorable (Poor) Attitude (score 25–50).

- Section C: Perceived Barriers: This section consisted of a checklist of 15 potential barriers faced by students during community health promotion. Students ticked the barriers they encountered and ranked their top 3 barriers (ranks 1, 2, 3). The total barriers score was categorized descriptively into Low (<5 barriers), Moderate (5–9 barriers), and High (≥10 barriers). Individual barrier severity was assessed using percentage frequency and the mean rank score (where a lower mean rank indicates higher severity).

Ethical permission was obtained from the participating nursing institutions. The data collection was carried out in April 2026. Coded questionnaires were distributed to ensure anonymity. Data analysis was conducted using SPSS version 20.0, utilizing both descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (Pearson Chi-square test).

Results

Table 1: Demographic Characteristics of B.Sc. Nursing Students
N = 126

Demographic Variable	Category	Frequency	Percentage
Age (in Years)	18-20	81	64.29
	21-23	40	31.75
	>23	5	3.97
Gender	Female	102	80.95
	Male	24	19.05
Year of Study	1st Year	32	25.40
	2nd Year	27	21.43
	3rd Year	41	32.54
	4th Year	26	20.63
Monthly Family Income	<20,000 INR	46	36.51
	20,000 - 40,000 INR	55	43.65
	>40,000 INR	25	19.84
Residence	Rural	48	38.10
	Semi-urban	31	24.60

Demographic Variable	Category	Frequency	Percentage
	Urban	47	37.30
Formal Training Received	No	51	40.48
	Yes	75	59.52
Community Posting Experience	None	25	19.84
	<6 Months	66	52.38
	>6 Months	35	27.78

The data in Table 1 shows that most of the participants were female (80.95%) and aged between 18–20 years (64.29%). Regarding residence, 38.10% were from rural areas and 37.30% were from urban areas. It was observed that 59.52% had received some previous formal training on child safety, and 52.38% had less than 6 months of community posting experience.

Table 2: Level of Attitude and Level of Perceived Barriers among B.Sc. Nursing Students
N = 126

Variable	Level	Score Range	Frequency	Percentage
Attitude Level	Favorable	76-125	70	55.56
	Moderate	51-75	42	33.33
	Unfavorable	25-50	14	11.11
Barrier Level	Low	<5 barriers	27	21.43
	Moderate	5-9 barriers	95	75.40
	High	≥10 barriers	4	3.17

The analysis in Table 2 reveals that 55.56% of the students held a favorable attitude, while 33.33% had a moderate attitude and 11.11% had an unfavorable attitude. Regarding barriers, three-quarters of the students (75.40%) reported a moderate level of perceived barriers, which shows that nursing students face considerable challenges in daily clinical and community practice.

Table 3: Frequency, Mean Ranks, and Severity of Perceived Barriers among B.Sc. Nursing Students
N = 126

S.No	Perceived Barrier	Ticked (n)	Percentage (%)	Mean Rank Score	Severity Category
1	Lack of time during busy clinics	79	62.70	1.68	High Severity
2	Mothers' low literacy/understanding	73	57.94	1.91	High Severity
3	Lack of training/confidence	63	50.00	2.17	Moderate Severity
4	No community awareness	63	50.00	2.06	Moderate Severity
5	No IEC materials available	61	48.41	1.70	High Severity
6	Heavy workload priorities	57	45.24	2.21	Moderate Severity
7	Mothers' resistance/cultural beliefs	50	39.68	2.11	Moderate Severity
8	Language barriers with mothers	43	34.13	1.91	Moderate Severity
9	No follow-up mechanism	43	34.13	2.00	Moderate Severity
10	No institutional policy support	42	33.33	2.29	Moderate Severity
11	Rural access/transport issues	41	32.54	1.88	Moderate Severity
12	Competing immunization priorities	40	31.75	2.05	Moderate Severity
13	Inadequate knowledge myself	39	30.95	1.90	Moderate Severity

S.No	Perceived Barrier	Ticked (n)	Percentage (%)	Mean Rank Score	Severity Category
14	Large family size overwhelms	32	25.40	2.00	Moderate Severity
15	Lack of supervisor encouragement	29	23.02	2.00	Moderate Severity

The findings in Table 3 show that "Lack of time during busy clinics" was the most common barrier, chosen by 62.70% of the students, with a high severity mean rank of 1.68. "Mothers' low literacy/understanding" was the second most common barrier (57.94%, mean rank 1.91). "No IEC materials available" was selected by 48.41% of the students, but it had a very low mean rank score of 1.70, placing it in the High Severity category. This shows that a lack of pictorial teaching materials is a critical systemic gap that severely restricts the students' ability to counsel mothers effectively.

Table 4: Association of Demographic Variables with Attitude Levels
N = 126

Demographic Variable	Category	Favorable (n)	Moderate (n)	Unfavorable (n)	Chi-Square ($\chi 2$)	p-value
Age (in Years)	18-20	41	28	12	4.153	0.386
	21-23	26	12	2		
	>23	3	2	0		
Gender	Female	57	34	11	0.062	0.970
	Male	13	8	3		
Year of Study	1st Year	24	6	2	11.364	0.078
	2nd Year	13	13	1		
	3rd Year	22	13	6		
	4th Year	11	10	5		
Monthly Income	<20,000 INR	27	15	4	8.646	0.071

Demographic Variable	Category	Favorable (n)	Moderate (n)	Unfavorable (n)	Chi-Square (χ2)	p-value
	20,000 - 40,000	34	13	8		
	>40,000 INR	9	14	2		
Residence	Rural	30	14	4	5.266	0.261
	Semi-urban	20	8	3		
	Urban	20	20	7		
Formal Training	No	30	16	5	0.395	0.821
	Yes	40	26	9		
Posting Experience	<6 Months	34	25	7	2.696	0.610
	>6 Months	22	8	5		
	None	14	9	2		

Table 5: Cross tabulation of Demographic Variables with Perceived Barrier Levels
N = 126

Demographic Variable	Category	High (n)	Low (n)	Moderate (n)	Chi-Square (χ2)	p-value
Age (in Years)	18-20	3	16	62	0.709	0.950
	21-23	1	10	29		
	>23	0	1	4		
Gender	Female	4	22	76	1.002	0.606
	Male	0	5	19		
Year of Study	1st Year	3	6	23	7.387	0.287

Demographic Variable	Category	High (n)	Low (n)	Moderate (n)	Chi-Square ($\chi 2$)	p-value
	2nd Year	0	6	21		
	3rd Year	0	11	30		
	4th Year	1	4	21		
Monthly Income	<20,000 INR	3	8	35	4.701	0.319
	20,000 - 40,000	1	15	39		
	>40,000 INR	0	4	21		
Residence	Rural	2	7	39	2.365	0.669
	Semi-urban	1	8	22		
	Urban	1	12	34		
Formal Training	No	1	10	40	0.635	0.728
	Yes	3	17	55		
Posting Experience	<6 Months	1	16	49	6.646	0.156
	>6 Months	3	8	24		
	None	0	3	22		

The Chi-square tests show that all the computed p-values are greater than the 0.05 significance level. Therefore, both null hypotheses H01 and H02 are accepted, indicating that demographic factors such as the year of study or previous formal training do not have a statistically significant association with the attitude or perceived barrier levels of the nursing students.

Discussion

The results of the study show that B.Sc. Nursing students from North Goa District Nursing colleges generally have a highly positive attitude toward their professional responsibility in promoting child safety. It was observed that 55.56% of the students held a favorable attitude, while 33.33% showed a moderate attitude. This positive attitude is similar to the findings of other community-based studies in India, where future nurses consistently express a strong sense of duty to counsel mothers during their field postings.[17] However, the presence of moderate barriers among 75.40% of the students shows that their positive

attitude is heavily constrained by real-world operational challenges in the community.

A major finding of this study is the complete lack of statistically significant association between the demographic variables (such as academic year of study or previous formal training) and the students' attitude or barrier levels. Usually, one would expect that senior nursing students (3rd and 4th years) or those who had received previous formal training would have a highly favorable attitude and report fewer barriers. However, the data shows that senior students faced the same level of barriers and held similar attitudes as their junior counterparts.

This lack of difference points to several structural limitations in nursing education and the clinical practice environment. First, it shows that the nursing curriculum treats child safety and home accident prevention as an isolated, theoretical topic (often confined to a single lecture) rather than a continuous, integrated practical skill.[13] Consequently, academic seniority does not automatically translate into higher clinical confidence or a better understanding of how to manage field-level barriers.[35] Second, the structural barriers in community settings are so dominant that they affect all students uniformly, regardless of their seniority or previous training.[27] When a 4th-year student enters a crowded, fast-paced primary health center (PHC) clinic, the immediate clinical priorities—such as immunizations, documentation, and maternal health checkups—completely consume the limited time available.[27]

This is reflected in the fact that "Lack of time during busy clinics" was selected as the most severe barrier by 62.70% of the students, with a mean rank of 1.68. In such a highly demanding environment, students are forced to prioritize routine clinical tasks over detailed safety counseling.[27] Furthermore, the lack of standardized teaching aids is a severe bottleneck.[27] "No IEC materials available" was ticked by 48.41% of the students and received a very low mean rank of 1.70, indicating high severity. Without colorful, simple, and language-appropriate charts, leaflets, or flashcards, students must rely entirely on verbal counseling.[27] Simple verbal instructions are often passive and easily forgotten by mothers who are distracted by crying children or their own household chores.[39] The lack of teaching aids makes the educational session highly dry and unengaging, reducing the students' motivation to perform safety counseling.[27]

The study also highlighted "Mothers' low literacy/understanding" (57.94%, mean rank 1.91) and "No community awareness" (50.00%, mean rank 2.06) as highly severe barriers. Although Goa has a high overall literacy rate, there is a substantial population of migratory workers in the industrial and construction sectors.[28] These families often live in congested housing and may have low literacy or different language backgrounds, creating subtle communication and language barriers (34.13% ticked). This makes it difficult for nursing students to explain safety hazards using standard medical terms.[27]

These findings can be linked to Protection Motivation Theory (PMT), which explains how individuals adopt protective behaviors in response to perceived threats.[41] PMT posits that mothers will take preventive actions only if they perceive the threat of home accidents to be severe and likely, and if they feel confident in their ability to perform the safety measures (self-efficacy).[41] Nursing students, as educators, must be trained not just to warn mothers about household hazards but to actively build their self-efficacy.[41] This requires structured, conversational communication skills, which are currently neglected in the curriculum.[4]

Conclusion

This study concludes that B.Sc. Nursing students from North Goa District Nursing colleges generally hold a positive and favorable attitude toward promoting home accident prevention among mothers of under-five children. However, this positive attitude is severely restricted by moderate, systemic barriers in the field. The most severe barriers include a lack of time in busy clinics, a lack of pictorial or written IEC

materials, and low maternal literacy or understanding in the community.

The fact that academic seniority (year of study) and previous training did not significantly reduce these perceived barriers shows that the challenges are structural and institutional rather than personal. Nursing colleges and healthcare administrators must take active steps to integrate practical communication and child safety teaching into the daily routine of community postings, ensuring that students are well-equipped with the necessary materials and institutional support.[17]

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