

Child Safety and Accident Prevention: A Study on Mothers' Knowledge and Practices in Bengaluru Communities

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Abstract

Accidents are a leading cause of morbidity and mortality among under-five children globally. Mothers play a pivotal role in ensuring child safety and preventing accidents within home environments. This descriptive study aimed to assess the knowledge and practice of mothers regarding child safety and accident prevention in selected community areas in Bengaluru, India. A total of 60 mothers of under-five children were selected through Non-Probability Convenient Sampling technique. Data was collected using a structured questionnaire to evaluate their knowledge and a checklist to assess their practice. The findings revealed that while the majority of mothers had an adequate level of knowledge regarding child safety, but there were significant gaps in the practical implementation of safety measures. The vast majority of mothers (86.6%) were categorized as having good practices concerning child safety and accident prevention. Meanwhile, 11.7% exhibited acceptable practices, and 1.66% were found to have poor practices. The correlation analysis, reveals that there was no significant relationship between knowledge and practice regarding child safety and accident prevention among mothers of under-five children. The computed correlation coefficient ($r = 0.001$) was less than the table value, leading to the acceptance of the null hypothesis, which stated that there is no relationship between knowledge and practice. Factors such as education level, socio-economic status, previous experience of accidents, and other basic variables were found to have no influence on knowledge and practice. The study underscores the need for targeted educational interventions to further more improve maternal knowledge and enhance the practice of safety measures to prevent childhood accidents.

Keywords: Accidents, Child safety, Knowledge, Mothers, Practice.

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1. INTRODUCTION

1.1 The Value of Children

Children are truly the treasures of our future. As the late Prime Minister Jawaharlal Nehru wisely observed, the health and vitality of a nation lie in its youth. When we invest in nurturing and protecting our children, we are essentially investing in the future of our society.

1.2 Accidents: A Major Concern for Young Children

Tragically, accidents remain one of the leading causes of death among children aged 0 to 4 years. According to the World Health Organization's report from 2000, falls are particularly prevalent in this age group, ranking 12th among the top causes of mortality for both genders. The report highlights that children in Southeast Asia bear a significant burden of illness, with India standing at an alarming eleventh place. Defined by the WHO as unintentional incidents resulting in harm

due to external forces, accidents significantly contribute to childhood morbidity and mortality.

1.3 Developmental Dynamics of Pre-Schoolers

Preschoolers represent a unique stage of life, filled with wonder and challenges. This period is crucial for intellectual and physical development, yet it often tests the patience of both children and their caregivers. Young children are caught in a delicate balance between a desire for independence and their reliance on adults. They are naturally curious, but their understanding of safety is still developing, which can lead to risky situations. Here, mothers play an essential role, guiding their little explorers to ensure their curiosity doesn't lead them into danger.

1.4 The Scope of Childhood Injuries

Research conducted at Amity University in Punjab reveals a startling statistic: around four million

preschoolers sustain injuries each year, primarily due to falls, poisoning, drowning, and burns. Various factors contribute to these accidents, especially as toddlers become more mobile. Their boundless energy and eagerness to explore often outpace their awareness of potential hazards. Consequently, injuries can have severe repercussions, sometimes resulting in long-term disabilities or even fatalities.

1.5 The Critical Role of Caregivers

Mothers, as primary caregivers, are pivotal in creating safe environments for their children. They are tasked with reducing the risks of accidents and shielding their young ones from harm. Since children are inherently more vulnerable to accidents than adults, the strategies employed for their safety must differ significantly. For example, poisoning can result from exposure to common household substances, while falls—one of the most frequent causes of injury—can often be prevented with simple safety measures.

1.6 Research Objectives and Focus

This study will employ a quantitative research design to gather data on mothers' knowledge and practices regarding child safety through structured surveys. To capture a diverse range of experiences, the sample will include mothers of children under five from various socioeconomic backgrounds.

Key areas of investigation will encompass:

- Understanding common safety hazards and accidents that children face.
- Identifying preventive measures mothers can adopt to mitigate risks.
- Exploring the practices mothers implement to keep their children safe at home and in different settings.
- Recognizing the challenges mothers encounter in applying safety measures.

1.7 Aiming for Insightful Outcomes

Through this research, we aim to shed light on the current practices of mothers regarding child safety. Our ultimate goal is to gain a deeper understanding of their knowledge and practices, enabling us to develop strategies that enhance child safety and prevent accidents effectively.

2. MATERIAL AND METHODS

2.1 Research Approach

A quantitative approach was chosen. This approach allowed for the objective quantification of the collected data and facilitated the drawing of reliable conclusions.

2.2 Research Design

The study utilized a descriptive research design. This design was chosen to describe the current knowledge and practices of mothers of under-five children concerning child safety and accident prevention.

2.3 Variables

- Study variables: Knowledge and practice of mothers regarding child safety and accident prevention.
- Attribute variables: Baseline characteristics including: Age, Educational status, Religion, Family structure, Socio-economic status, Previous exposure to the topic, Source of information

2.4 Setting of the Study

The study was conducted in Anekal Taluk, Bengaluru. This location was selected based on geographical proximity, feasibility, availability of participants, and the familiarity of the investigator with the setting.

2.5 Population

The population for this study comprised mothers of under-five children residing in Anekal Taluk, Bengaluru.

2.6 Sample and Sampling Technique

Mothers who met the inclusion criteria were selected through Non-Probability Convenient Sampling technique.

2.7 Criteria for Selection of Sample

- Inclusion criteria: Mothers who were available during the data collection period.
- Exclusion criteria: Mothers who were not willing to participate in the study.

2.8 Sample Size

The study sample consisted of 60 mothers of under-five children residing in Anekal Taluk, Bengaluru.

2.9 Development of Tools

The tool consisted of the following sections:

- Section A: Baseline Variables This section contained 7 items, including age, educational status, religion, family structure, socio-economic status, previous exposure to the topic, and source of information.
- Section B: Structured Knowledge Questionnaire This section comprised 17 items to assess the knowledge of mothers regarding child safety and accident prevention.

Scoring key:

- Correct answer: 1 point, Wrong answer: 0 points, Maximum score: 17

Interpretation:

- $\leq 50\%$: Inadequate knowledge, 51%-75%: Moderately adequate knowledge, 75%: Adequate knowledge
- Section C: Modified Likert Scale This section contained 10 statements related to child safety and accident prevention, scored on a 5-point

Likert scale. Positive items were scored directly, while negative items were reverse scored.

Scoring:

- Strongly agree: 5 points, Agree: 4 points, Neutral: 3 points, Disagree: 2 points, Strongly disagree: 1 point, Maximum score: 50

Interpretation:

- ≤ 50%: Poor practice, 51%-75%: Acceptable practice, 75%: Good practice

3. RESULTS AND DISCUSSION

3.1 RESULTS

Baseline data of Mothers of Under-Five Children

The demographic profile of the participants reveals that the majority (60%) were between the ages of 24-28 years, while only 6.6% were in the younger age group of 18-23 years. Regarding educational

qualifications, 38.3% of the participants had completed Higher Secondary or were graduates, whereas 11.7% were illiterate. The majority (76.7%) identified as Hindu, and a small percentage (5%) identified as Christian. In terms of family structure, 86.4% lived in nuclear families, and 10% came from joint families. Socio-economic status data indicated that 90% of the mothers belonged to middle-class families, and 8.3% were from lower-class families.

When asked about their prior knowledge of child safety and accident prevention, 56.7% reported that they had received some information, while 43.3% had no prior knowledge. Sources of information varied, with 20.83% receiving details from journals and magazines and 25% from friends and colleagues.

Knowledge Scores

Mean and Standard deviation of knowledge scores of mothers (n=60).

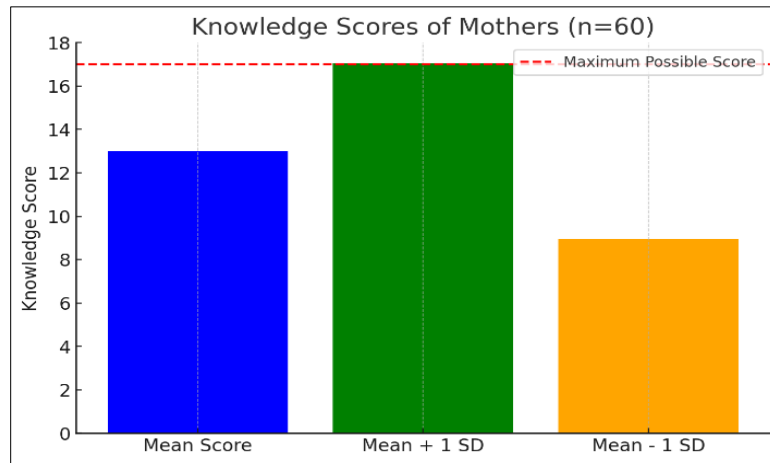


Fig. 1: knowledge scores of mothers

The data showed that the mean knowledge score of mothers concerning child safety and accident prevention was 13.01, with a standard deviation of ±4.041.

Level of Knowledge

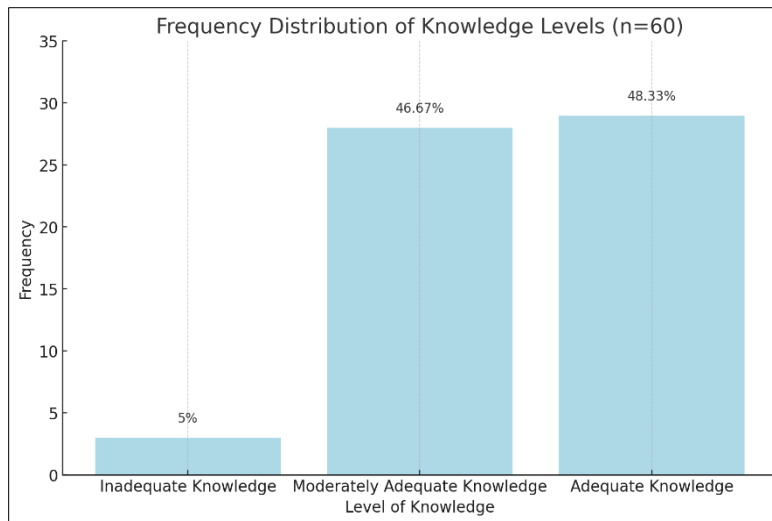


Fig. 2: Frequency and percentage distribution of level of knowledge

Nearly half of the mothers (48.33%) had adequate knowledge about child safety and accident prevention, while 46.67% had moderately adequate knowledge, and 5% had inadequate knowledge.

Practice Scores

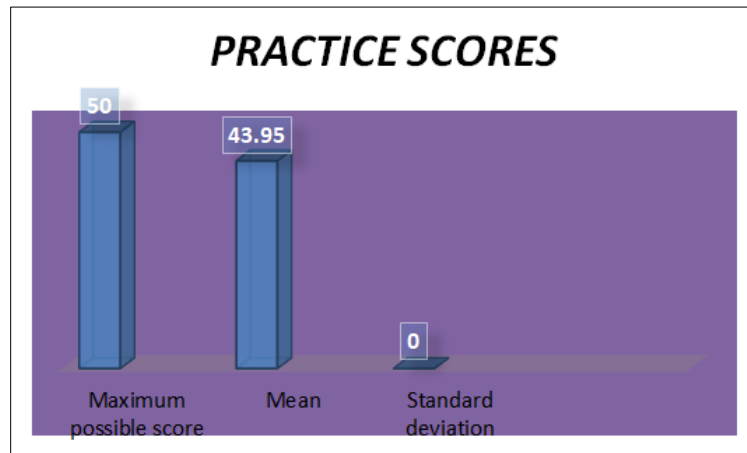


Fig. 3: Mean and Standard deviation of practice scores of mothers

The mean practice score for mothers regarding child safety and accident prevention was 43.95, with a standard deviation of ±5.612.

Quality of Practice (n=60)

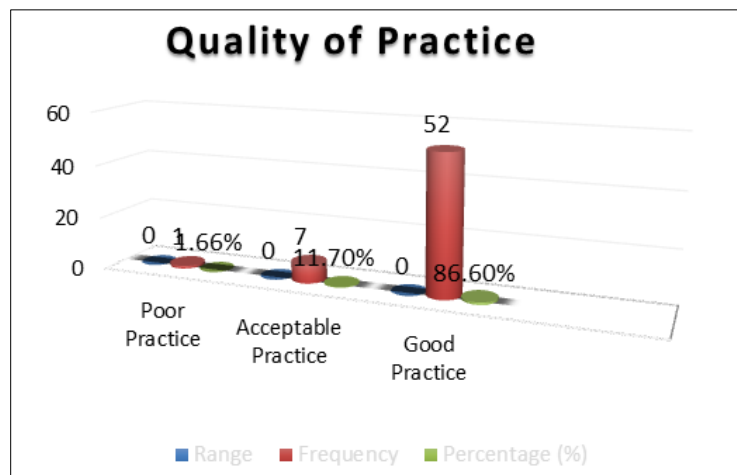


Fig. 4: Frequency and percentage distribution of quality of practice

The vast majority of mothers (86.6%) were categorized as having good practices concerning child safety and accident prevention. Meanwhile, 11.7% exhibited acceptable practices, and 1.66% were found to have poor practices.

Relationship between Knowledge and Practice

The correlation analysis, reveals that there was no significant relationship between knowledge and practice regarding child safety and accident prevention among mothers of under-five children. The computed correlation coefficient ($r = 0.001$) was less than the table value, leading to the acceptance of the null hypothesis, which stated that there is no relationship between knowledge and practice.

Association of Findings with Selected Baseline Variables

The association between knowledge and selected baseline variables was not significant in terms of age, educational status, family structure, or socio-economic status. Therefore, the null hypothesis that there is no significant association between knowledge and these variables was accepted. However, a significant association was found with religion and the source of information ($p < 0.05$), leading to the rejection of the null hypothesis for these variables.

Association of Practice with Baseline Variables

No significant association was found between practice and variables such as educational status, religion, family structure, or prior exposure to child

safety topics. Thus, the null hypothesis was accepted for these factors. However, significant associations were found with age, socio-economic status, and the source of information ($p < 0.05$), leading to the rejection of the null hypothesis for these variables.

DISCUSSION

To Assess the Level of Knowledge Regarding Child Safety and Prevention of Accidents among Mothers of Under-Five Children

The findings of the study revealed that 48.33% of mothers demonstrated adequate knowledge, 46.67% had moderately adequate knowledge, and 5% displayed inadequate knowledge. The mean score for knowledge was 13.01, with a standard deviation of ± 4.041 . These results suggest that a majority of mothers have a satisfactory understanding of child safety and accident prevention.

However, a small percentage of mothers exhibited inadequate knowledge, highlighting the need for targeted educational interventions in areas where mothers may have limited access to child safety information.

To Assess the Practice of Mothers Regarding Child Safety and Prevention of Accidents

The results indicated that 86.6% of mothers had good practice in child safety, while 11.7% demonstrated acceptable practice, and 1.66% had poor practice. The mean score for practice was 43.95, with a standard deviation of ± 5.612 .

This result is significant because it shows that knowledge does not always translate directly into practice. Despite a small portion of mothers having inadequate knowledge, many demonstrated safe practices, which could be attributed to cultural norms, peer influence, or experiential learning.

To Find the Correlation between Knowledge and Practice Regarding Child Safety and Prevention of Accidents

The study utilized the correlation coefficient to determine the relationship between knowledge and practice. The results showed an r -value of 0.001, which was less than the table value, indicating no correlation between the knowledge and practice of mothers regarding child safety. As the calculated r -value was lower than the critical value, the null hypothesis (H_{03}), stating that there is no relationship between knowledge and practice, was accepted.

This finding suggests that having knowledge about child safety does not necessarily result in its practical application.

To Find the Association between Knowledge and Selected Baseline Variables

The findings showed that no significant association was found between knowledge and variables such as age, education, family structure, socio-economic status, and previous exposure to child safety information. However, significant associations were identified between religion and source of information.

This suggests that religion and the means through which mothers receive information can influence their knowledge levels. For instance, certain religious or community groups may offer more focused health education initiatives or may have better access to healthcare services, contributing to higher knowledge scores.

To Find the Association between Practice and Selected Baseline Variables

The results showed no significant association between practice and variables such as education, religion, family structure, and previous exposure to child safety information. However, significant associations were found between age, socio-economic status, and source of information.

This indicates that older mothers, those from higher socio-economic backgrounds, and those with better information sources are more likely to engage in good safety practices. Age and experience may contribute to better judgment and decision-making in child safety, while socio-economic factors could provide better access to safety resources and information. The association with the source of information further emphasizes the role of accessible and reliable information in influencing behavior.

4. CONCLUSION

The study aimed to assess the knowledge and practices regarding child safety and accident prevention among mothers of under-five children in selected community areas of Bengaluru. The findings revealed that 48.33% of mothers had adequate knowledge, 46.67% had moderately adequate knowledge, and 5% displayed inadequate knowledge, with a mean score of 13.01 and a standard deviation of ± 4.041 . Additionally, the study showed that 86.6% of mothers had good practices, while 11.7% exhibited acceptable practices, and 1.66% demonstrated poor practices, with a mean score of 43.95 and a standard deviation of ± 5.612 .

These results suggest that while the majority of mothers possess adequate knowledge and practice regarding child safety, a small portion remains at risk due to insufficient awareness and practices. This calls for further educational efforts to ensure that all mothers, regardless of their background, are equipped with the necessary knowledge and skills to prevent accidents among their children.

Author Contribution

Authors were the sole researcher for this study. The author was responsible for:

- ¹Conceptualizing the research problem.
- ^{1,2,3}Designing the study and developing the methodology.
- ¹Conducting data collection and interacting with the selected primary schools.
- ²Analysing the data and interpreting the results.
- ^{1,2}Writing and revising the research manuscript.

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Competing Interest: NA

Ethical Clearance: NA

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