

# Preventing Home Accidents in Young Children: A Knowledge Assessment of Rural Mothers in Kuppam

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**Abstract:** This study sought to determine the parameters associated with the knowledge levels of mothers of children under five in rural Kuppam, Andhra Pradesh, as well as to evaluate their knowledge of preventing home accidents. A convenience sample strategy was used to pick 35 moms for a descriptive cross-sectional study. A self-structured questionnaire with questions on knowledge and demographics was used to gather data. The findings showed that just 8.6% of mothers had adequate awareness on preventing home accidents, while 68.6% had poor knowledge and 22.9% had moderate understanding. The general level of knowledge remained poor even though a significant percentage of people (91.4%) participated in health education programs. Demographic factors like age, education, occupation, income, family structure, and access to healthcare services did not significantly correlate with knowledge levels. The survey highlights a significant knowledge gap among moms about how to prevent accidents at home in remote areas. To raise awareness and give moms the skills they need to protect their kids from avoidable home mishaps, focused and efficient educational programs are crucial.

**Keywords:** Home Accidents; Knowledge; Under-Five Children; Rural Mothers; Prevention Strategies

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## I. INTRODUCTION

The arrival of a newborn is undoubtedly a moment of profound joy. Nevertheless, young children, especially those under five, are uniquely susceptible to environmental dangers(1,2). Their natural inquisitiveness, while endearing, sadly puts them at increased risk from burns, drownings, accidental falls, and even poisoning. Organizations like the WHO and UNICEF have consistently drawn attention to the widespread issue of childhood injuries, urging the implementation of preventative strategies. Indeed, within India, while communicable diseases and malnutrition receive significant attention, accidents persist as a major cause of mortality among those aged one to nineteen (3,4). Tragically, domestic accidents contribute substantially to this grim statistic, representing what some have called a "modern-day epidemic," with the WHO estimating almost 830,000 child fatalities globally each year(5,6).

Studies indicate that parental awareness is key; children of parents with inadequate knowledge face higher accident rates. For instance, a study in Nepal found 58% of parents

had inadequate awareness of accident causes, and a JIPMER study in Puducherry found 63% of mothers had inadequate knowledge about accident prevention(7,8). These findings underscore the urgent need for targeted interventions to improve child safety by enhancing parental knowledge, particularly in rural areas where access to information and resources may be limited(9). This study was prompted by the critical need to understand the knowledge levels of mothers in rural Kuppam regarding home accident prevention to inform such interventions(10–12).

## II. MATERIALS AND METHODS

### A. Research Approach and Design

A quantitative descriptive cross-sectional was done to Assess the Knowledge Regarding Prevention of Home Accidents Among Mothers.

### B. Setting and Population

The study was conducted in selected rural areas of Kuppam, Andhra Pradesh, India, chosen to represent typical rural family living conditions.

### C. Sample Size and Sampling Technique

A sample size of 35 mothers was determined using Cochran's formula ( $Z=1.96$  for 95% confidence level,  $p=0.017$  expected prevalence of adequate knowledge,  $E=0.05$  margin of error, yielding an initial  $n \approx 26$ ), with an additional 10% to account for potential non-responses. A convenience sampling technique was used.

### D. Inclusion and Exclusion Criteria

Inclusion criteria were mothers with children under five years living in the selected rural areas who were permanent residents and willing to give informed consent. Mothers unable to understand or respond in Telugu, Tamil, or English were excluded.

### E. Data Collection Tool

A self-structured questionnaire, developed by the researchers, was used. It consisted of two sections: Section A: Demographic variables (e.g., age of mother, education level of parents, occupation, family income, number of children, type of housing, previous experience with home accidents, access to healthcare, participation in health education programs).

Section B: 20 multiple-choice questions to assess knowledge regarding the prevention of home accidents. Each correct answer was scored 1, and incorrect 0. Knowledge was categorized as: Inadequate (0-10 marks, 0-50%), Moderate (11-15 marks, 51-75%), and Adequate (16-20 marks, >75%).

### F. Validity and Reliability

Content validity was established through expert consultation. Reliability was tested using Cronbach's Alpha on a pilot study of 10 mothers, yielding an  $\alpha$ -value of 0.71.

### G. Ethical Considerations

Having secured ethical clearance from the Institutional Research Committee and the Human Ethics Committee at

PESIMSR, Kuppam, we also obtained formal permission from PES College of Nursing's Principal and local officials. Prior to gathering data, each participant furnished informed written consent.

### H. Data Collection and Analysis

Demographic information and knowledge levels were described through frequency and percentage calculations. Subsequently, associations between knowledge and demographics were explored via Chi-square tests in SPSS. Statistical significance was established when  $p$ -values fell below the 0.05 threshold, offering insightful correlations..

## III. RESULTS

### A. Demographic Profile of Participants

A total of 35 mothers participated. A slight majority (51.4%) were aged  $\leq 28$  years. Regarding parental education, 48.6% of fathers had primary education, while 37.1% of mothers had completed secondary education. Farming/labor was the predominant occupation for fathers (51.4%), and 54.3% of mothers were homemakers. Most families (57.1%) had a monthly income of  $\leq ₹10,000$ . The majority of mothers (51.4%) had two children. The largest group of youngest children (40.0%) were aged 3-5 years. A significant number (45.7%) lived in pucca houses. Nuclear families were slightly more prevalent (51.4%). A majority (60.6%) reported previous experience with home accidents involving children. Most mothers (68.6%) had healthcare facilities within 1 km, and a large majority (91.4%) had participated in health education programs. Media (42.9%) was the most common source of health information.

### B. Knowledge Regarding Prevention of Home Accidents

The findings revealed that 24 mothers (68.6%) had inadequate knowledge, 8 mothers (22.9%) had moderate knowledge, and only 3 mothers (8.6%) demonstrated adequate knowledge regarding the prevention of home accidents.

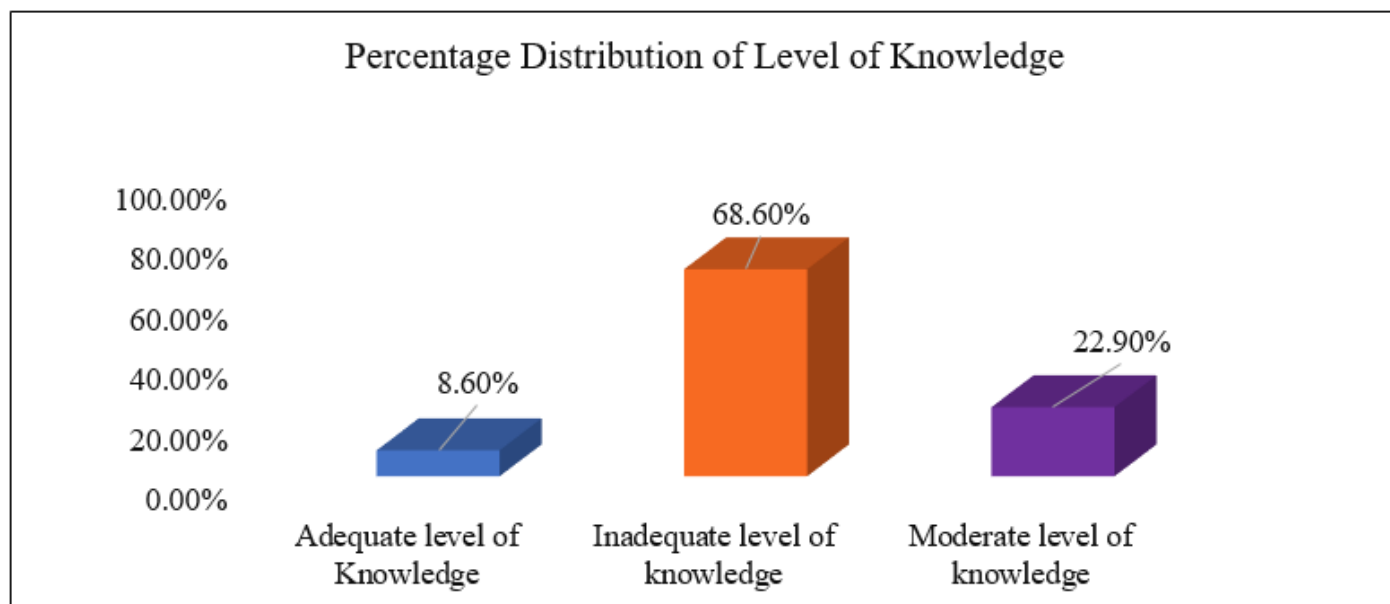


Fig 1 Percentage Distribution of Level of Knowledge

### C. Association between Knowledge Level and Demographic Variables

The Chi-square test revealed no statistically significant association between the level of knowledge regarding prevention of home accidents and any of the selected demographic variables, including age of the mother, education level of parents, occupation of parents, family income, number of children, age of the youngest child, type of housing, type of family, previous experience with home accidents, access to healthcare facilities, participation in health education programs, and sources of health information (all p-values > 0.05).

## IV. DISCUSSION

This study highlights a significant deficiency in knowledge regarding home accident prevention among mothers of under-five children in the rural areas of Kuppam. The finding that over two-thirds (68.6%) of mothers possessed inadequate knowledge is a cause for concern, especially considering that a vast majority (91.4%) reported participation in health education programs. This suggests that either the existing health education programs are not effectively addressing home accident prevention, or the information is not being retained or understood sufficiently to translate into adequate knowledge.

The lack of statistically significant association between mothers' knowledge levels and various demographic factors (age, education, occupation, income, previous experience, healthcare access) is noteworthy. This implies that the knowledge gap is widespread across different socio-demographic strata within this rural community. It cannot be assumed that mothers with higher education or better income will inherently possess more knowledge on this specific topic without targeted education. This finding contrasts with some studies that show an association between education and knowledge but aligns with others where general education does not always translate to specific health-preventive knowledge. The high reported previous experience with home accidents (60.6%) further emphasizes the relevance and urgency of effective prevention strategies, as it indicates a high prevalence of such incidents.

The results strongly indicate that universal, rather than demographically targeted, educational interventions focusing on practical and culturally appropriate home safety measures are needed. The content and delivery methods of current health education programs should be reviewed and revised to ensure they effectively impart crucial knowledge on preventing common home accidents like falls, burns, poisoning, and drowning.

## V. CONCLUSION

The study concludes that there is a significant knowledge gap regarding the prevention of home accidents among mothers of under-five children in the studied rural areas of Kuppam. Despite participation in health education, most mothers demonstrated inadequate knowledge.

Demographic factors did not significantly influence knowledge levels. There is a pressing need for targeted, effective, and accessible educational interventions to empower mothers with the necessary knowledge and skills to create safer home environments and prevent accidental injuries in young children. Strengthening community health initiatives and integrating comprehensive child safety education into routine maternal and child health services are strongly recommended.

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