



A Study To Assess The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Prevention Of Accidents Among Mothers Of Under-Five Children At Selected Community Setting, Indore, Madhya Pradesh

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Abstract

Background: Accidents among under-five children are a major public-health concern and a leading cause of morbidity and mortality worldwide. Mothers play a crucial role in accident prevention through adequate knowledge and safe child-rearing practices.

Objectives: (1) To assess the pre-test knowledge of mothers regarding prevention of accidents among under-five children. (2) To evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding accident prevention. (3) To determine the association between post-test knowledge scores and selected demographic variables.

Methods: A pre-experimental one-group pre-test–post-test design was adopted. The study was conducted among 60 mothers of under-five children selected through purposive sampling from a community setting in Indore, Madhya Pradesh. A structured knowledge questionnaire was used for data collection. After pre-testing, an STP covering types of accidents, causes, first aid, and preventive strategies was administered.

Post-test data were collected after seven days. Data were analyzed using descriptive and inferential statistics such as mean, standard deviation, paired *t*-test, and chi-square test.

Results: The mean pre-test knowledge score was 12.35, which increased to 24.80 in the post-test, indicating a marked improvement after the STP. The calculated *t*-value (12.64) was greater than the table value at $p < 0.05$, demonstrating statistically significant improvement. A significant association was observed between post-test knowledge and educational qualification of mothers.

Conclusion: The Structured Teaching Programme was highly effective in improving maternal knowledge regarding accident prevention among under-five children. Health professionals should integrate such educational interventions into community health programs to reduce accidental injuries in early childhood.

Keywords: Structured teaching programme, accident prevention, under-five children, mothers, community setting, Indore.

Introduction

Accidents are among the most preventable yet persistent causes of morbidity and mortality among children under five years of age. Early childhood, characterized by rapid physical growth and curiosity, is a period of increased vulnerability to accidental injuries. According to the World Health Organization (2021), unintentional injuries account for nearly 90 percent of all childhood injury deaths globally, making them one of the leading causes of mortality in children under five years. The major forms of unintentional injuries in this age group include falls, burns, drowning, poisoning, and road traffic accidents, all of which are largely preventable through proper environmental modifications and caregiver supervision.

In developing countries such as India, the problem of childhood accidents is compounded by overcrowded living conditions, unsafe home environments, limited awareness, and inadequate supervision of children. Reports from the Ministry of Health and Family Welfare (2020) indicate that accidental injuries contribute significantly to morbidity and mortality among children, particularly in rural and urban-slum populations. Poor socioeconomic conditions, lack of knowledge about first aid, and cultural practices often hinder effective prevention and prompt management of accidental injuries.

Mothers play a pivotal role in ensuring the safety of their children. As the primary caregivers, they are responsible for supervising their children's daily activities and maintaining a safe environment within the home. However, several studies have shown that mothers often have limited knowledge regarding accident prevention and first aid management. A study by Sharma and Kumari (2022) revealed that more than 65 percent of mothers of under-five children had inadequate knowledge of home safety measures. Similarly,

Nair and Bose (2019) emphasized that most domestic accidents occur in the absence of maternal supervision, suggesting a strong link between maternal awareness and child safety.

Educational interventions such as Structured Teaching Programmes (STPs) are effective tools for improving maternal knowledge and preventive practices. An STP provides organized, evidence-based information through demonstrations, visual aids, and discussions to enhance understanding and retention of safety measures. Research conducted in various community settings has demonstrated that structured educational programs significantly increase mothers' awareness of accident prevention and first aid (Priyanka & Kumari, 2021). These interventions empower mothers to identify potential hazards, modify the environment, and respond appropriately during emergencies.

Indore, one of the rapidly urbanizing districts of Madhya Pradesh, presents a mixed demographic profile comprising both urban and rural populations. In many community areas, overcrowded housing and lack of awareness contribute to a higher risk of domestic accidents among under-five children. Therefore, implementing community-based educational programmes targeting mothers can play a crucial role in reducing such preventable incidents.

The present study was undertaken to assess the effectiveness of a Structured Teaching Programme on knowledge regarding prevention of accidents among mothers of under-five children in selected community settings of Indore, Madhya Pradesh. By identifying the existing level of maternal knowledge and evaluating the impact of an educational intervention, the study aims to strengthen preventive health education and promote safer environments for young children.

Objectives

1. To assess the pre-intervention knowledge of mothers regarding prevention of accidents among under-five children.
2. To evaluate the effectiveness of a Structured Teaching Programme on maternal knowledge.
3. To find an association between knowledge scores and selected demographic variables.

Hypothesis

- H_1 : There will be a significant difference between pre-test and post-test knowledge scores of mothers regarding prevention of accidents among under-five children at $p < 0.05$.
- H_2 : There will be a significant association between post-test knowledge and selected demographic variables such as age, education, and occupation at $p < 0.05$.

MATERIALS AND METHODS

Research Design

A **pre-experimental, one-group pre-test–post-test design** was adopted for the study. This design was selected to evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding prevention of accidents among mothers of under-five children. The same group of participants was assessed before and after the intervention to measure improvement in knowledge.

Setting of the Study

The study was conducted in **Moradhat community areas of Indore, Madhya Pradesh**. These communities were chosen based on accessibility, population density, and the presence of under-five children. The area represents a typical urban–rural mix, providing a suitable environment for community-based health education programmes.

Population

The **target population** consisted of mothers having at least one child below five years of age residing in the selected community areas. These mothers were chosen as they are the primary caregivers and play a crucial role in ensuring home safety and accident prevention.

Sample Size and Sampling Technique

A **sample of 60 mothers** was selected using a **purposive sampling technique**. This method was considered appropriate as it allowed the inclusion of participants who met specific criteria relevant to the study objectives.

Inclusion Criteria

- Mothers having at least one child under the age of five years.
- Mothers who were willing to participate and provide informed consent.
- Mothers available during the period of data collection.

Exclusion Criteria

- Mothers of children above five years of age.
- Mothers who had already attended similar health education programmes related to accident prevention.

Tool for Data Collection

A **structured knowledge questionnaire** was developed by the researcher after an extensive review of literature and expert consultation. The tool consisted of **30 multiple-choice items** covering the following domains:

1. Causes of accidents among under-five children.
2. Preventive measures for common household and environmental hazards.
3. Basic first aid and emergency management.

Each correct answer was awarded one point, while incorrect answers were scored zero. The total possible score ranged from 0 to 30, with higher scores indicating greater knowledge.

Intervention

The **Structured Teaching Programme (STP)** was the key intervention in this study. It was designed to improve mothers' knowledge regarding prevention of accidents among under-five children.

- Duration: **45 minutes**
- Method: **Lecture-cum-demonstration** using **posters, charts, and visual aids**
- Content: Types and causes of childhood accidents, preventive strategies, supervision techniques, and first aid measures.

The session emphasized active participation, discussion, and practical demonstrations to ensure better understanding and retention.

Data Collection Procedure

1. Ethical approval was obtained from the Institutional Ethical Committee.
2. Permission was secured from local community authorities.
3. Pre-test knowledge scores were collected using the structured questionnaire.
4. The STP was administered to the same group of mothers.
5. After **seven days**, a post-test was conducted using the same tool to assess improvement in knowledge.

Plan for Data Analysis

Data were compiled, coded, and analyzed using **SPSS version 29**.

- **Descriptive Statistics:** Mean, standard deviation, frequency, and percentage were used to summarize the data.
- **Inferential Statistics:**
 - *Paired t-test* was applied to determine the significance of difference between pre-test and post-test knowledge scores.
 - *Chi-square test* was used to assess the association between post-test knowledge and selected demographic variables.

A *p*-value of < 0.05 was considered statistically significant.

Data Collection Procedure:

1. Ethical approval and community permission were obtained.
2. Pre-test conducted using the questionnaire.
3. STP administered to the participants.
4. Post-test conducted after seven days using the same tool.

Data Analysis: Descriptive statistics (frequency, percentage, mean, SD) and inferential statistics (paired *t*-test, chi-square) were applied using SPSS-29.

RESULTS

This section presents the findings of the study titled “*A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Accidents Among Mothers of Under-Five Children at Selected Community Setting, Indore, Madhya Pradesh.*” The data were analyzed using descriptive and inferential statistics to assess pre- and post-intervention knowledge levels among mothers.

Step 1: Distribution of Mothers According to Knowledge Levels

The mothers were classified as having *inadequate*, *moderately adequate*, or *adequate* knowledge regarding prevention of accidents among under-five children, both before and after the Structured Teaching Programme (STP).

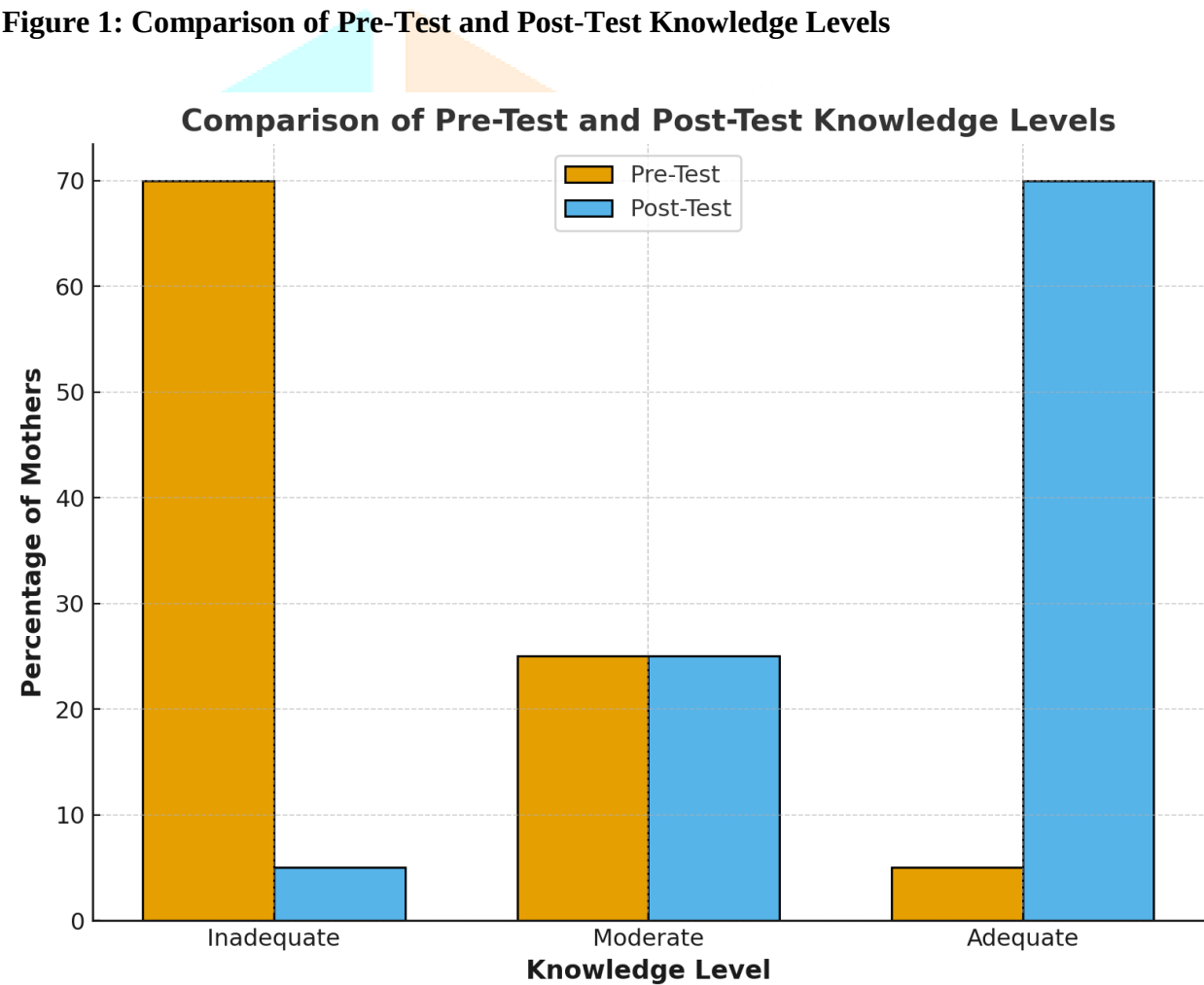
Table 1: Distribution of Mothers According to Knowledge Levels

Knowledge Level	Pre-Test (%)	Post-Test (%)
Inadequate	70	5
Moderate	25	25
Adequate	5	70

Interpretation:

The above table shows that before the intervention, 70% of mothers had inadequate knowledge, whereas after the STP, 70% achieved adequate knowledge. This reflects a substantial improvement following the educational intervention.

Figure 1: Comparison of Pre-Test and Post-Test Knowledge Levels



Description:

The bar chart illustrates that after the implementation of the Structured Teaching Programme, the percentage of mothers with inadequate knowledge dropped sharply from 70% to 5%, while those with adequate knowledge rose from 5% to 70%. This clearly indicates the **positive impact** of the STP in enhancing mothers’ knowledge regarding accident prevention.

Step 2: Comparison of Mean Knowledge Scores

To evaluate the overall effectiveness of the Structured Teaching Programme, the mean and standard deviation of pre-test and post-test knowledge scores were calculated.

Table 2: Comparison of Mean Knowledge Scores (n = 60)

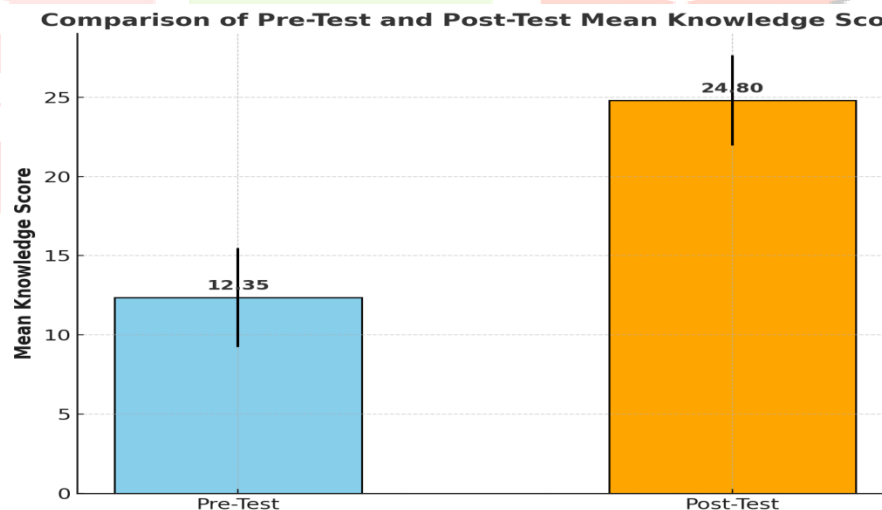
Test	Mean Score ($\pm$ SD)	Mean Difference	t-value	p-value
Pre-Test	12.35 $\pm$ 3.12			
Post-Test	24.80 $\pm$ 2.85	12.45	12.64	< 0.05*

*Significant at $p < 0.05$

Interpretation:

The mean knowledge score increased from **12.35 $\pm$ 3.12** in the pre-test to **24.80 $\pm$ 2.85** in the post-test. The mean difference of **12.45** and the calculated t -value of **12.64 (df = 59, $p < 0.05$)** indicate that the Structured Teaching Programme was **highly effective** in improving the knowledge level of mothers regarding prevention of accidents among under-five children.

Figure 2: Comparison of Mean Pre-Test and Post-Test Knowledge Scores



(Bar chart with error bars — showing mean $\pm$ SD comparison between pre- and post-test)

Description:

This figure demonstrates a marked increase in the post-test mean score compared to the pre-test, indicating a statistically significant improvement in knowledge after the intervention.

Step 3: Association Between Post-Test Knowledge and Selected Demographic Variables

Chi-square analysis was used to determine the association between post-test knowledge scores and selected demographic variables such as age, education, and occupation.

Table 3: Association Between Post-Test Knowledge and Demographic Variables (n = 60)

Demographic Variable	χ^2 value	df	p-value	Result
Age	2.36	2	> 0.05	Not Significant
Education	8.42	2	< 0.05	Significant
Occupation	3.12	2	> 0.05	Not Significant

Interpretation:

The analysis revealed a **significant association** between the educational qualification of mothers and their post-test knowledge scores ($p < 0.05$). However, no significant relationship was found between knowledge and other variables such as age or occupation. This suggests that mothers with higher educational backgrounds were better able to comprehend and retain the information delivered through the Structured Teaching Programme.

Step 4: Summary of Major Findings

1. In the pre-test, 70% of mothers had inadequate knowledge, which reduced to 5% after the intervention.
2. The mean knowledge score improved significantly from 12.35 ± 3.12 to 24.80 ± 2.85 .
3. The calculated t -value (12.64, $p < 0.05$) indicated a statistically significant difference between pre- and post-test scores.
4. Education level of mothers was significantly associated with post-test knowledge scores ($p < 0.05$).
5. The Structured Teaching Programme proved **effective in enhancing maternal knowledge** regarding prevention of accidents among under-five children.

Discussion

The study demonstrates that structured teaching is an effective educational approach for improving awareness among mothers regarding accident prevention. Similar findings were reported by Sharma et al. (2022) and Priyanka & Kumari (2021), who found that STPs significantly enhance knowledge and preventive practices among mothers of under-five children. Continuous health education through community nurses can empower mothers to create a safer home environment.

Conclusion

The Structured Teaching Programme significantly improved the knowledge of mothers regarding prevention of accidents among under-five children. Such interventions should be incorporated into maternal and child health programs at community and primary-health-care levels.

Recommendations

1. Conduct similar studies with larger samples and control groups for broader generalization.
2. Develop audiovisual or digital educational modules for community awareness.
3. Integrate accident-prevention education into routine maternal-child health visits.

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