



EFFECTIVENESS OF A PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING SELECTED FIRST AID CONDITIONS AMONG HIGHER SECONDARY SCHOOL STUDENTS IN A RURAL AREA OF VADODARA

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ABSTRACT

Background: First aid refers to the immediate assistance provided to an injured or ill person before professional medical care becomes available. Higher secondary school students may encounter emergencies such as bleeding, burns, fractures, fainting, choking, poisoning, snake bites, road traffic injuries and other accidents. Adequate knowledge of first aid can help students respond appropriately and reduce the risk of complications. However, the present study identified a substantial gap in students' baseline knowledge regarding first aid.

Aim: The study aimed to assess the effectiveness of a planned teaching programme on knowledge regarding selected first aid conditions among higher secondary school students in a rural area of Vadodara.

Methods: A quantitative research approach and quasi-experimental one-group pre-test and post-test design were adopted. The study was conducted among 100 higher secondary school students in a selected rural area of Vadodara. Participants were selected using non-probability convenience sampling. Data were collected using a structured self-administered knowledge questionnaire. A pre-test was conducted, followed by administration of the planned teaching programme and a post-test. Descriptive statistics, paired *t*-test and chi-square test were used for analysis. The reliability of the structured questionnaire was reported as 0.966 using the Karl Pearson formula.

Results: In the pre-test, 66% of students had poor knowledge, 21% had average knowledge and 13% had good knowledge. The mean pre-test knowledge score was 6.70 ± 5.10 . Following the planned teaching programme, 61% of students had average knowledge, 29% had good knowledge and only 10% had poor knowledge. The mean post-test knowledge score increased to 11.69 ± 3.97 . The mean difference between pre-test and post-test scores was 4.99, with a calculated paired *t*-value of 7.04 at 99 degrees of freedom ($p < 0.05$), demonstrating a statistically significant improvement in knowledge.

A statistically significant association was found between pre-test knowledge and age, mother's education, father's occupation and previous knowledge of first aid. No significant association was found with gender, class, father's education, mother's occupation or source of information.

Conclusion: The planned teaching programme was effective in improving knowledge regarding selected first aid conditions among higher secondary school students. The findings support the importance of structured first aid education within school health programmes, particularly in rural settings.

Keywords: First Aid, Planned Teaching Programme, Knowledge, Higher Secondary School Students, Rural Area, Vadodara, School Health.

Introduction

First aid is the initial assistance given to a person experiencing sudden illness or injury before professional medical treatment becomes available. It serves as an important link between the occurrence of an emergency and definitive medical care. Appropriate first aid measures may include controlling bleeding, managing burns, immobilizing fractures, providing assistance during choking, managing fainting and providing basic life-saving support.

Adolescence is a developmental period characterized by increased physical activity, curiosity and participation in sports, travel and social activities. Consequently, higher secondary school students may be exposed to falls, cuts, burns, road traffic incidents, poisoning and other emergencies. Such events may occur in classrooms, laboratories, playgrounds, during travel or outside the school environment. Immediate and appropriate first aid can reduce complications while awaiting professional medical assistance.

The thesis identified an important gap in formal first aid education among school students. In the study sample, 69% of students reported that they had no previous knowledge of first aid care, while only 31% reported previous knowledge. Social media was the most frequently reported source of information (79%), followed by newspapers (18%) and first aid training (3%).

The need for structured first aid education is particularly relevant in rural areas, where immediate professional medical assistance may not always be readily accessible. Educating students can potentially improve their preparedness and ability to respond appropriately during emergencies.

Therefore, the present study was undertaken to evaluate whether a planned teaching programme could improve knowledge regarding selected first aid conditions among higher secondary school students in a rural area of Vadodara.

Objectives

1. To assess the pre-test level of knowledge regarding selected first aid conditions among higher secondary school students.
2. To assess the post-test level of knowledge following the planned teaching programme.
3. To evaluate the effectiveness of the planned teaching programme by comparing pre-test and post-test knowledge scores.
4. To determine the association between pre-test knowledge scores and selected demographic variables.

3. MATERIALS AND METHODS

Research Approach

A quantitative research approach was adopted to assess the effectiveness of the planned teaching programme.

Research Design

A quasi-experimental, one-group pre-test and post-test design without a control group was used.

Design:

Pre-test → Planned Teaching Programme → Post-test

Setting

The study was conducted in selected higher secondary schools in a rural area of Vadodara.

Participants and Sampling

The target population consisted of school-going students in the selected rural area of Vadodara.

A total of **100 higher secondary school students** participated in the study. Non-probability convenience sampling was used. Students who were studying at the higher-secondary level, could read, write and understand Gujarati or English, and were present during data collection were included.

Data Collection Tool

Data were collected using a structured self-administered questionnaire. The questionnaire consisted of:

- **Section A:** Socio-demographic information.
- **Section B:** Knowledge questionnaire regarding selected first aid conditions.

The demographic variables included age, gender, class, parents' education, parents' occupation, previous knowledge regarding first aid and source of information.

Validity and Reliability

The content validity of the tool was established through consultation with five nursing experts. The reported reliability coefficient of the structured knowledge questionnaire was **0.966**, indicating high reliability according to the thesis.

Data Collection Procedure

The data collection was conducted in four stages:

1. Selection of 100 students.
2. Administration of the pre-test.
3. Administration of the planned teaching programme.
4. Administration of the post-test using the self-administered questionnaire.

Data Analysis

Descriptive statistics including frequency, percentage, mean and standard deviation were used. A paired *t*-test was used to compare pre-test and post-test knowledge scores, while the chi-square test was used to determine associations between pre-test knowledge and selected demographic variables.

4. RESULTS

4.1 Demographic Characteristics

Among the 100 participants, the largest proportion (57%) were aged 16.1–17 years. Males constituted 59% and females 41% of the sample. Students from the 11th standard represented 51%, while 49% were from the 12th standard.

Regarding previous first aid knowledge, **69% had no previous knowledge**, whereas only 31% reported previous knowledge. Social media was the predominant source of first aid information, reported by 79% of students.

Table 1. Pre-test and Post-test Knowledge Levels

Knowledge Level	Pre-test n (%)	Post-test n (%)
Poor	66 (66%)	10 (10%)
Average	21 (21%)	61 (61%)
Good	13 (13%)	29 (29%)
Total	100 (100%)	100 (100%)

The pre-test results demonstrated that 66% of students had poor knowledge. After the intervention, the proportion with poor knowledge decreased to 10%, while average knowledge increased to 61% and good knowledge increased to 29%.

Table 2. Comparison of Mean Pre-test and Post-test Knowledge Scores

Test	Mean	SD
Pre-test	6.7	5.1
Post-test	11.69	3.97

The mean knowledge score increased from **6.70 ± 5.10** before the intervention to **11.69 ± 3.97** after the intervention. The mean improvement was **4.99 points**. The calculated paired *t*-value of **7.04** was statistically significant at the 0.05 level.

These findings indicate that the planned teaching programme produced a statistically significant improvement in students' knowledge regarding selected first aid conditions.

5. ASSOCIATION WITH DEMOGRAPHIC VARIABLES

The study examined the association between pre-test knowledge and selected demographic characteristics using the chi-square test.

Significant associations were identified with:

- **Age:** $\chi^2 = 24.63, p < 0.05$
- **Mother's education:** $\chi^2 = 15.63, p < 0.05$
- **Father's occupation:** $\chi^2 = 23.47, p < 0.05$
- **Previous knowledge of first aid:** $\chi^2 = 15.04, p < 0.05$

No significant association was found with gender, class, father's education, mother's occupation or source of information.

6. DISCUSSION

The present study demonstrated a substantial improvement in knowledge regarding first aid following implementation of the planned teaching programme. Before the intervention, two-thirds of the students had poor knowledge, whereas after the intervention, the majority demonstrated average or good knowledge.

The baseline finding of inadequate knowledge is consistent with the literature reviewed in the thesis. Jagtap and Gupta (2022) reported that 58.1% of school children lacked essential first aid knowledge. Kumar and Shah (2022) reported inadequate knowledge among 71.4% of school children. Similarly, Singh and Khandelwal (2022) found that 63.2% of school children did not possess sufficient first aid knowledge.

The effectiveness of structured educational interventions has also been demonstrated in previous studies reviewed in the thesis. Patel and Chouhan et al. (2021) reported improvement from 53.3% inadequate knowledge in the pre-test to 75% adequate knowledge after structured skills training. Salah Uddin and Firdaus (2021) reported an increase in good knowledge from approximately 8.1% before intervention to 69.5% after intervention among rural secondary school students.

The present study similarly demonstrated that a structured educational intervention can improve students' knowledge. The statistically significant increase in the mean score from 6.70 to 11.69 further supports the effectiveness of the intervention.

7. CONCLUSION

The study identified a clear knowledge deficit regarding selected first aid conditions among higher secondary school students in the selected rural area of Vadodara.

The planned teaching programme was found to be effective in improving students' knowledge. The mean knowledge score increased from 6.70 ± 5.10 in the pre-test to 11.69 ± 3.97 in the post-test, with a statistically significant paired *t*-value of 7.04 ($p < 0.05$).

The findings suggest that structured first aid education can be an important component of school health education. Incorporating age-appropriate first aid education into school programmes may improve students' preparedness to respond to common emergencies.

8. IMPLICATIONS FOR NURSING PRACTICE AND SCHOOL HEALTH

The findings have several implications:

Nursing Education

Nursing students and educators can incorporate school-based first aid education into community health nursing activities.

School Health Programmes

Schools can conduct regular first aid awareness and educational sessions for students and teachers.

Community Health Nursing

Community health nurses can act as educators and facilitators in school-based first aid programmes, particularly in rural communities.

Health Promotion

First aid education can promote confidence, preparedness and responsible health behaviour among adolescents.

Future Research

Future studies may evaluate not only knowledge but also practical first aid skills and long-term retention of knowledge.

9. LIMITATIONS

The study had the following limitations:

1. The study was limited to higher secondary school students in a selected rural area of Vadodara.
2. Only students who were available and willing to participate during data collection were included.
3. A non-probability convenience sampling technique was used.
4. The study used a one-group pre-test and post-test design without a control group.

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