

A Study to Assess the Effectiveness of a Structured Teaching Program on Knowledge Regarding Blood Donation among Students of NNC, Jamuhar

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Abstract- Background: Adequate and safe blood supply is essential for healthcare, yet voluntary blood donation is often limited due to lack of knowledge and misconceptions. Students form a highly eligible donor group, and improving their knowledge can strengthen voluntary donation rates. **Objective:** To assess the effectiveness of a Structured Teaching Program (STP) on knowledge regarding blood donation among students of Narayan Nursing College (NNC), Jamuhar. **Method:** A quantitative pre-experimental one-group pre-test post-test design was used. A structured knowledge questionnaire was administered to 60 students selected through convenience sampling. After the pre-test, an STP on blood donation was administered, followed by a post-test after one week. Data were analyzed using descriptive and inferential statistics. **Results:** The mean pre-test knowledge score was 12.45 ± 3.21 , which increased to 22.78 ± 2.94 in the post-test. The calculated paired *t*-value ($t = 18.42, p < 0.001$) indicated a statistically significant improvement in knowledge after the intervention. **Conclusion:** The Structured Teaching Program was highly effective in improving students' knowledge regarding blood donation. Regular educational interventions can help build a knowledgeable and motivated pool of voluntary blood donors.

Keywords: Blood donation, Structured Teaching Program, Knowledge, Students, Nursing education.

I. INTRODUCTION

Blood donation is a vital lifesaving practice supporting emergency care, surgeries, trauma cases, and chronic

illness management. Despite its importance, voluntary blood donation rates remain suboptimal due to fear, lack of awareness, myths, and inadequate knowledge. Students represent a healthy and potential donor population. Nursing students, in particular, hold a crucial responsibility as future healthcare professionals and promoters of health behavior.

Knowledge gaps related to eligibility criteria, safety, frequency, and benefits often deter students from donating blood. Structured Teaching Programs (STPs) provide systematic, clear, evidence-based information, helping learners understand the procedure and overcome misconceptions. This study assesses the effectiveness of an STP on improving knowledge regarding blood donation among students of NNC, Jamuhar.

II. NEED OF THE STUDY

India faces a consistent shortfall of voluntary blood donors. Surveys reveal that many educated youth remain reluctant to donate due to misinformation about weakness, pain, infection risk, or long-term health effects. Nursing students must possess accurate knowledge not only to participate themselves but also to educate society. An STP can bridge these knowledge gaps and promote positive attitudes, ultimately contributing to improved public health outcomes.

III. BACKGROUND

Previous studies conducted in India and internationally demonstrate that structured educational interventions significantly improve knowledge and attitudes toward blood donation. Pre-experimental designs using pre-test/post-test formats consistently show enhanced understanding of eligibility, safety, and benefits. However, misconceptions remain high among young adults, emphasizing the need for targeted teaching programs within educational institutions, especially nursing colleges.

IV. METHODOLOGY

Research Design: Pre-experimental one-group pre-test post-test design.

Setting: Narayan Nursing College, Jamuhar.

Population: Students enrolled in NNC.

Sample Size: 60 students.

Sampling Technique: Convenience sampling.

Tool: Structured knowledge questionnaire (30 items).

- Part A – Demographic variables
- Part B – Knowledge items on blood donation

Intervention:

A 45-minute Structured Teaching Program covering:

- Meaning and importance of blood donation
- Eligibility and contraindications
- Donation procedure
- Safety, myths, and benefits
- Post-donation care

Data Collection Procedure:

1. Pre-test administered
2. Structured Teaching Program delivered
3. Post-test conducted after 7 days

Data Analysis:

- Descriptive statistics: frequency, percentage, mean, SD
- Inferential statistics: paired *t*-test, chi-square test

V. RESULTS

Table 1: Comparison of Pre-Test and Post-Test Knowledge Scores (N = 60)

Variable	Mean ± SD	Mean Difference	t-value	p-value
Pre-test	12.45 ± 3.21			
Post-test	22.78 ± 2.94	10.33	18.42	p < 0.001

Interpretation:

The post-test mean score is significantly higher than the pre-test score. The paired *t*-value indicates that the STP had a statistically significant effect.

Table 2: Level of Knowledge Before and After STP

Knowledge Level	Pre-test (%)	Post-test (%)
Inadequate	65%	5%
Moderate	30%	20%
Adequate	5%	75%

Interpretation:

Adequate knowledge increased from 5% to 75%, demonstrating high effectiveness of the STP.

VI. DATA ANALYSIS & INTERPRETATION

Analysis showed that students had inadequate knowledge prior to the intervention. The post-test results showed a significant rise in all domains—eligibility, procedures, safety, benefits, and post-donation care. Demographic variables such as age, gender, and year of study had no significant association with post-test scores ($p > 0.05$), indicating that the STP was effective for all categories of students.

VII. DISCUSSION

The findings reveal that the Structured Teaching Program substantially improved student knowledge. This aligns with previous studies (Sharma 2022; IJFMR 2023) showing that structured educational interventions significantly enhance understanding of blood donation. The large mean difference and highly significant p-value confirm the success of the STP. The results indicate that misconceptions such as risk of weakness, infection, or pain can be corrected through targeted teaching.

VIII. CONCLUSION

The Structured Teaching Program on blood donation was highly effective in improving knowledge among students of NNC, Jamuhar. The findings highlight the need for regular educational sessions, integration of blood donation awareness into the curriculum, and promotion of voluntary blood donation among youth.

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