



Research Article

**EFFECT OF STRUCTURED TEACHING PACKAGE ON KNOWLEDGE OF FIRST AID SKILLS
AMONG NURSING STUDENTS IN NURSING COLLEGE OF NORTHERN INDIA:
A QUASI EXPERIMENTAL STUDY**

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ABSTRACT

Introduction: Early first aid assistance aims to “preserve life, alleviate suffering, prevent further illness or injury and promote recovery. Nursing staff happens to be the first contact for all the emergencies reaching the hospitals ranging from primary care to tertiary care. Present study aimed at assessing the basic knowledge of nursing students regarding first aid skills and subsequently the effect of structured teaching package on it.

Methodology: - We conducted a quasi experimental cohort study in the month of December 2017 on nursing students of Sister Nivedita Government Nursing College Shimla, Himachal Pradesh. A self designed, structured, self administered questionnaire was used for data collection.

Results: - There were a total of 170 female nursing students included in our study. In the pretest, knowledge regarding first aid skills was found to be poor among majority of the participants, which increased significantly after the intervention (p value < 0.05).

Conclusion: - This study results highlight the need for sensitization of nursing students so that they can provide first aid spontaneously as and when required in the real life scenario Further assessment of knowledge of first-aid should be done periodically to know any gaps in the knowledge and measure should be taken to fulfill that.

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INTRODUCTION

First aid is defined as the assistance provided instantly to an injured person until the arrival of professional help. It has its main focus on physical injury or illness but in addition to that it also deals with other initial care. Early first aid assistance aims to “preserve life, alleviate suffering, prevent further illness or injury and promote recovery. First aid can be provided by any person with basic first aid knowledge, irrespective of the level of medical knowledge. However, it is of utmost importance for the medical professionals to have proper knowledge and the required skill to provide first aid.

The significance of training healthcare professionals in first aid at a very early stage in their career is now acknowledged worldwide. At some point in a medical curriculum students are taught how to handle emergencies in a hospital emergency setting where drugs and other necessities are available. But the adequate knowledge required for handling an emergency without hospital setting at the site of the accident or emergency may not be sufficient. Nursing staff happens to be the first contact for all the emergencies reaching the hospitals ranging from primary care to tertiary care. Urgency with which a

particular emergency is to be tackled or a particular procedure is to be initiated, are of utmost importance for nursing staff. Hence sagacity of the nursing staff about first aid would be an important deciding factor in the final outcome of patient's condition. This knowledge could have a conclusive effect on the morbidity and mortality due to a specific condition requiring first-aid.

The evidence is insufficient regarding the knowledge of first-aid skills among the nursing students in our setup. Keeping this in mind, this study aimed at appraising the basic knowledge of nursing students of Government nursing college, Shimla regarding first aid and the effect of a structured teaching package on it.

MATERIALS & METHODS

Study Design: A Quasi experimental study

Study Area & Duration: This study was conducted in the month of December 2017 among nursing students of the Sister Nivedita Government Nursing College, Shimla, Himachal Pradesh.

Sample Size & Sampling Technique: We included all 170 students of First, Second and Third year of B.Sc. Nursing course from the above said college.

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Study Tools

Data Collection Tool: We collected data using a structured, self designed, self administered, anonymous, pretested questionnaire. It was a closed ended, multiple choice based questionnaire with four options, out of which only one option was correct. All the options were exhaustive and mutually exclusive. It included basic socio demographic information of participants and questions regarding knowledge of First-aid skills.

Intervention Tool: Intervention was a teaching session of one hour which included a PowerPoint based presentation including text and videos regarding all the relevant topics of the first-aid. At the end of the teaching session a question and answer session was conducted for thirty minutes. During this session all the queries of the participants were cleared.

Strategy: After explaining the purpose of the study and obtaining informed consent, we administered the pretest questionnaire to the students. All the questions and their options were explained to them and students were asked to tick the most appropriate option. After the pretest, we administered the intervention tool following which we immediately conducted the post-test using the same questionnaire.

Data Analysis: Data was collected, entered and cleaned for errors in Microsoft excel 2007. The data was analyzed using Epiinfo ver.7.2.0. Qualitative variables were presented in frequencies and percentages whereas the quantitative variables were expressed in means and standard deviations. We applied paired t test for comparison of mean pre and post test score. McNemar test was used to compare differences in pretest and post frequencies of good and poor score. A two tailed p value of < 0.05 was taken as statistically significant.

RESULTS

There were a total of 170 female nursing students included in our study. Mean age of the study participants was 19.27 years (SD 1.22 years) ranging between 17 and 22 years. The majority of the study participants had a rural background(74%) .Most of the study participants did not have a previous first-aid training at any point of time in their life (84%). Comparison of the Pre test score was done based on Subjects in Sr. Secondary, Locality of residence of the students before joining the course and the year in the course. (Table 1)

Table 1 Comparison of pre test scores according to different variables (n=170)

Characteristics	Number (%)	Mean ± SD	P value
Subjects in Higher secondary			
1.Medical	167(98.2)	8.28±2.5	0.338
2.Others	3 (1.8)	9.67±1.5	
B.Sc. year			<0.001
1st	59(34.7)	6.56±1.8	
2nd	57(33.5)	8.54±1.8	
3rd	54(31.7)	10.0±2.5	
Locality			0.38
Rural	126(74.1)	8.4±2.5	
Urban	44(25.9)	5.4±2.3	

The mean score (SD) in 1st, 2nd & 3rd years as 6.56(1.8), 8.54(1.8)10.0(2.5) respectively (p<0.001). The students who had taken Medical as their subject in the senior secondary had

a mean score (SD) of 8.28(2.5) while those from background other than medical had a mean score of 9.67(1.5).

Figure 1 shows the percentage pretest score in different categories of first-aid knowledge. Category of Animal bite had the score of 39% where as percentage score in the category of General & Life saving maneuvers was 59%.

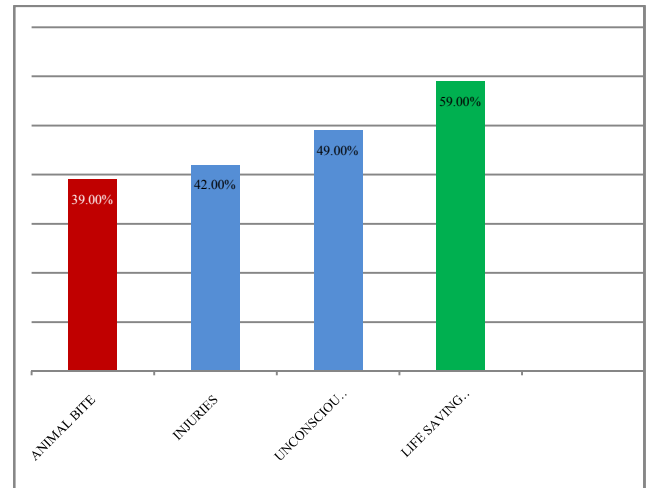


Figure 1 Showing percentage pretest score in different categories of first-aid knowledge

Table 2 shows the comparison of pretest and the posttest scores in different categories of first aid knowledge. (n=170)

Table 2 Comparison of pretest and post test scores of the first aid knowledge

Category	Pre-Test Score Mean± SD	Post-Test Score Mean± SD	P Value
Animal Bite	1.96±0.9	3.46±0.9	<0.001
Injury	2.51±1.2	4.46±0.8	<0.001
Epilepsy & Unconscious	1.46±0.9	1.77±0.8	0.001
General & Life Saving Maneuvers	2.37±0.7	3.39±0.7	<0.001
Total	8.31±2.48	13.09±2.05	<0.001

Mean Pretest score came out to be 8.31, where as the Mean Posttest score came out to be 13.09 (p value <0.001).

Table 3 shows the comparison between the participants having good knowledge or poor knowledge before the interventional teaching package was delivered, and after the intervention.

Table 3 Comparison of participants having good and poor knowledge before and after the interventional teaching package.

Knowledge Category	Poor No.(%)	Good No.(%)
Pre Test	170(100%)	0(0%)
Post Test	126(74.12%)	44(25.88%)

Before the intervention none of the participants had good knowledge about first aid. However after the intervention it was seen that 25.88% of the participants had good knowledge. This difference in the knowledge was found to be significant.

DISCUSSION

There was a strong evidence that the first aid knowledge increased with increase in seniority during the B.Sc. course (p<0.001). The same observation was also seen in a study done by Joseph N *et al* (2014) in Mangalore city of South India.

This could be due to the reason that the senior students have more practical knowledge due to the repeated exposure to the clinical postings and theoretical learning during the course. However there was weak evidence that the knowledge among our study participants varied with respect to area of residence.

It was found that majority of the participants had poor baseline knowledge about the basic first aid skills. Similar findings were also seen in a study conducted by Vishma et.al (2014) in south India on the nursing students. In another study conducted by Vineet Kumar *et al* (2017), results had also shown that the health educators (nursing graduate) posted in schools of Himachal Pradesh possessed poor knowledge regarding first aid skills. Similarly in a study conducted on BLS among medical, dental and nursing students in Tamilnadu by Chandrasekaran *et al*, had results, saying that the study group severely lacked in the awareness regarding BLS. The reason behind that could be attributed to the fact that a very little emphasis is given on the basic first aid in the nursing curriculum. There is an urgent need to develop a comprehensive or Emergency Medical System for India with enrollment of medical and nursing students in that system as it was also highlighted in other studies.

In the study it was seen that the participants had scored least in the sub category of Animal bite where as the best scoring subcategory was Life saving maneuvers & General. This could be due to the reason that the participants had less exposure to animal bite cases as compared to other sub categories.

After the intervention, knowledge of nursing students improved, and this improvement was statistically significant, that was present in all sub categories. The proportion of the study participants from poor to good knowledge had also increased significantly. Similar findings were also seen in a study done by Vineet Kumar *et al* (2017).

CONCLUSION & RECOMMENDATION

This study results highlight that awareness vis-à-vis first aid knowledge is below desirable standard. In light of this, there is need for sensitization of nursing students so that they can provide first aid spontaneously as and when required in the real life scenario. Further assessment of knowledge of first-aid should be done periodically to know any gaps in the knowledge and measure should be taken to fulfill that.

Limitations

This study only assessed the knowledge of first aid skills among nursing students, but not the practical skills. Assessment of practical skills would have further helped in understanding the difficulties faced by students in rendering first aid during emergencies. This could be an area for future research studies. Moreover, as the study was performed in one nursing college, the findings in this study cannot be generalized to all colleges in different parts of India. As our study design was the Quasi experimental study, our hypothesis could be strengthened by using a more robust study design such as Randomized Control Trials.

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