

RESEARCH ARTICLE

ASSESS THE EFFECTIVENESS OF “STRUCTURED TEACHING PROGRAM” ON KNOWLEDGE REGARDING “ADVANCED CARDIAC LIFE SUPPORT” AMONG NURSING STUDENTS OF SARASWATI NURSING INSTITUTE DHIANPURA, KURALI, PUNJAB.

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ABSTRACT

Raising the level of knowledge regarding ACLS among nursing students. Promotion of STP include various determinants regarding ACLS. In the present study a pre-experimental design and pre-test and post-test design was used to find out the effectiveness of Structured Teaching Programme. Total 100 subjects were selected by convenience sampling technique. Structured Teaching Programme developed by the investigator was implemented after 7 days post-test was conducted. Descriptive and inferential statistics was used for data analysis. The results revealed that more than half of the subjects 82(82%) were in the age group of 19-21years. Pre-test knowledge score of the subjects (17.16±3.512) and post-test knowledge score of the subjects (22.7±1.380) was observed. Hence, the knowledge score significantly increased following the implementation of the “Structured Teaching Programme”. The findings also revealed that there was no significant association between socio-demographic variables and pre & post-test.

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INTRODUCTION

“Immediate CPR can be the difference between life and death, doubling or even tripling a person’s chance of survival.”

-Steven Nissen

The heart is the center of cardiovascular system and it is vitally responsible for just about everything that gives body life ranging from the transportation of oxygen to the success of the immune system. Advanced cardiac life support (ACLS) is a group of procedures and techniques that treat immediately life-threatening conditions, including cardiac arrest, shock, stroke, and trauma. The goal of ACLS is to achieve the best possible outcome for individuals who are experiencing a life-threatening event. ¹ The American Heart Association establishes the standards for CPR and is actively involved in teaching BCLS and ACLS to health professionals. AHA protocols are considered to be the GOLD standard ACLS protocols, it gets reviewed every 5 year. The AHA and European Resuscitation Council developed the most recent guidelines in 2020 and 2021, respectively, using the comprehensive review of resuscitation literature review performed by the International Liaison Committee on Resuscitation. CPR alone is not enough to save lives in most cardiac arrest. It is a vital link in the chain of survival that supports the victim until more advanced help is available. ²

CPR stands for cardiopulmonary resuscitation. Cardio Pulmonary Resuscitation is a technique of basic life support for oxygenating the brain and heart until appropriate, definitive medical treatment that can restore normal heart beat and ventilatory action is available. ACLS is built heavily upon the foundation of BLS. It can be provided by, trained medical personnels, including paramedics, and by anyone who knows, how to do it, anywhere, immediately without any other equipment. BLS is performed in the beginning stages of emergency while ACLS is the supportive medical care that healthcare professionals use to continue treatment in the hospital. The goal of advanced cardiovascular life support (ACLS) is to achieve the best possible evidenced outcome for individuals who are experiencing a life- threatening event. ACLS is a series of - based responses simple enough to be committed to memory and recalled under moments of stress. These ACLS protocols have been developed through research, patient case studies, clinical studies, and the opinions of experts in the field. The gold standard in the United States and other countries is the course curriculum published by the International Liaison Committee on Resuscitation (ILCOR). ³ For more than 40 years, CPR training has emphasized the ABCs of CPR, which instructed people to open a victim’s airway by tilting their head back, pinching the nose and breathing into the victim’s mouth, and then giving chest compressions. This approach was causing significant delays in starting chest compressions, which are essential for keeping oxygen-rich blood circulating through the body. Changing the sequence from A-B-C to C-A-B for adults and children allows all rescuers to begin chest compressions right away.

Nurses working in different areas reportedly demonstrated varying levels of CPR competence, and these skills deteriorated over time. Critical care nurses performing ACLS in accident and emergency units, intensive care units, coronary care units, nursery care unit in real life situations with advanced airway measures on a daily basis retained these skills but need updating knowledge and skills. The study aimed to evaluate the nurses’ knowledge and performance toward advanced cardiovascular life support (ACLS) and to find out the association between the knowledge scores of the nurses and their selected demographic variables of age, gender, and the level of education, years of experience, and a structured training program, as well as regular updates in (ACLS).⁴

PROBLEM STATEMENT- A Pre-Experimental Study to Assess the Effectiveness of “Structured Teaching Program” on Knowledge regarding “Advanced Cardiac Life Support” among nursing students of Saraswati Nursing Institute Dhianpura, Kurali, Punjab (2024).

OBJECTIVES

- To assess the pre-test knowledge regarding ACLS among nursing students.
- To develop and implement the structured teaching program regarding ACLS among nursing students.
- To assess the post-test knowledge regarding ACLS among nursing students.
- To compare pre-test and post-test knowledge regarding ACLS among nursing students.
- To find out the association of post-test knowledge score with their selected socio-demographic variables.

METHODOLOGY

A research methodology is a blueprint that researchers select to carry out their research study. It is a concise notation that enables to summarize complex design structure efficiency. It involves mainly the approach, population, sample, sampling technique, time place of data collection, tool and methods of data collection and method of data analysis.

Research approach: Quantitative approach.

Research Design: Pre-experimental research Design.

Setting of the study- Saraswati Nursing Institute, Dhainpura.

POPULATION

Population is the entire set of individuals who meet the sampling criteria.³²

Target Population: In present study, target population included nursing students of 16-24 (above) years.

Accessible Population: In this study, the accessible population consisted of nursing students between the age group of 16-24 (above) years who were studying in Saraswati Nursing Institute, Dhianpura Kurali.

SAMPLE AND SAMPLE TECHNIQUE: A sample is a portion of a population. Sampling involves choosing a subset of the population to represent the complete population.

SAMPLE SIZE:

In this research study, the sample consists of 100 nursing students between the age group of 16-24 (above) years studying in Saraswati Nursing Institute, Dhianpura Kurali.

SAMPLE TECHNIQUE: Convenient sampling technique

CRITERIA FOR SELECTION OF SAMPLE

Inclusion Criteria

- Female students age 16-24 (above) years.

- Female students were selected from the institute of Kurali.
- Female who were willing to participate.

Exclusion Criteria

- Female students who were sick at the time of data collection.
- Female students who were not present at the time of data collection.

DATA COLLECTION TOOLS

TOOL 1: Development of Structured Teaching Programme: Structured teaching programme was created using study topic, review of related research article, non-research literature and objective specified in the blue print.

Following actions were taken to develop the “Structured Teaching Programme”

- Development of blue print of the content.
- Development of STP.
- Content validity of STP.

Development of Blue Print of The Content: A blue print for the objectives and content items relevant in terms of knowledge of ACLS among nursing students, was used for the development of structured knowledge questionnaire. The same was considered for the STP.

Development of Structure Teaching Programme: The STP first version was created with the objectives, criteria checklist, literature review and expert opinions in mind. The following were the key considerations in developing the STP simplicity of language, literacy level of samples.

Content validity of Structure Teaching Programme

- The tool was distributed to subject matter experts together with the first draft of the STP.
- After taking expert opinion into account, the STP final draft was Tool
- Development of socio-demographic data sheet : The above mentioned was a tool constructed by the researcher after an comprehensive literature review from books, journal online resources and other publications. Socio-demographic data includes age, class, occupation of father & mother, source of information, previously witnessed or attended any CPR procedure, class or seminar.

Tool 2: Development of socio-demographic data sheet: The above mentioned was a tool constructed by the researcher after an comprehensive literature review from books, journal online resources and other publications. Socio-demographic data includes age, class, occupation of father & mother, source of information, previously witnessed or attended any CPR procedure, class or seminar.

CONTENT VALIDITY

It refers to how well an instrument constituent parts adequately represent the entire content world. The tool content accuracy was determined by the expert opinion on the relevance of items. These experts were from the various Medical Surgical Nursing. Based on their suggestions, modifications, rearrangement were made in the structured knowledge questionnaire regarding ACLS. The final draft of structured knowledge questionnaire consists of 30 items

PLAN OF DATA ANALYSIS: Research data was organized and arranged in a systematic manner through data analysis, which also involves using the data to test research hypothesis. On the basis of the study objectives, data analysis was planned. A master sheet was created for each section of the tool and the researcher transferred the data. Frequency and percentage calculations in descriptive statistics and percentage were used to analyse the data. Mean, SD, and inferential statistics was used. The comparison between the knowledge score on the pre and post-test was determined using the T test.

RESULTS

Table I. Frequency and percentage distribution of subjects of pre-test as per their socio-demographic variables

S.NO	SOCIO-DEMOGRAPHIC DATA	(n)	Percentage (%)
1.	Age 16-18years 19-21years 22-24 years Above24	10 81 08 01	10% 81% 8% 1%
2.	Class GNM2nd Year B.sc 4rth semester Post Basic 1 st Year B.sc 6 th Semester	57 43 00 00	57% 43% 0% 0%
3.	Occupation of father Medical profession Business Farmer Other jobs	02 19 49 32	2% 19% 49% 32%
4.	Occupation of mother Medical profession Business Housemaker Other jobs	01 02 96 03	1% 2% 96% 3%
5.	Source of Information Mass media Journals/Books Parents Relatives	21 42 35 03	21% 42% 35% 3%
6.	If you have previously witnessed or attended any CPR procedure, class or seminar Yes No	88 12	88% 12%

Table II. Frequency and percentage distribution of subjects of post-test as per their socio-demographic variables

N=100			
S.NO	SOCIO-DEMOGRAPHIC DATA	(n)	Percentage (%)
1.	Age 16-18years 19-21years 21-24 years Above24	08 82 09 01	08% 82% 9% 01%
2.	Class GNM2nd Year B.sc 4th semester Post Basic 1 st Year B.sc 6 th Semester	57 43 00 00	57% 43% 0% 0%
3.	Occupation of father Medical profession Business Farmer Other jobs	4 17 33 46	4% 17% 33% 46%
4.	Occupation of mother Medical profession Business Housemaker Other jobs	06 01 08 85	06% 01% 08% 85%
5.	Source of Information Mass media Journals/Books Parents Relatives	35 44 21 00	35% 44% 21% 0%
6.	If you have previously witnessed or attended any CPR procedure, class or seminar Yes No	100 00	100% 0%

Table III. Pre-Test Level of Knowledge According to the Subjects Regarding ACLS

N=100				
Sr.No	Level of knowledge	Scoring range	Frequency (F)	Percentage (%) N
1.	Poor knowledge	00-10	07	7%
2.	Average knowledge	11-20	78	78%
3.	Good knowledge	21-30	15	15%
	Total	30	100	100%

Table IV: Post- test Knowledge as per the Subjects Regarding ACLS

N=100				
Sr.No	Level of knowledge	Scoring range	Frequency (F)	Percentage (%) N
1.	Poor knowledge	00-10	02	2%
2.	Average knowledge	11-20	12	12%
3.	Good knowledge	21-30	86	86%
	Total	30	100	100%

Table V: Comparison of Pre- test And Post-test Knowledge Regarding ACLS Among Nursing Students

N=100						
Sr. No	Test	Mean $\pm$ SD	Mean Difference	T-value	Df (n-1)	Table Value
1	Pre-test	17.16 $\pm$ 3.512	5.54	12.72	100-1= 99	1.984
2	Post-test	22.7 $\pm$ 1.380				

Table No.V represent comparison of pre-test mean score of the subjects was 17.16 $\pm$ 3.512 whereas post-test score was 22.7 $\pm$ 1.380. T test was applied there was significant difference in pre-test & post-test score. Hence result concluded that ACLS was effective.

Table No.VI Association of Pre-test Knowledge score with their selected socio-demographic variables

N=100						
S. NO.	SOCIO-DEMOGRAPHIC DATA	(n)	Percentage (%)	Calculated Chi square value	Degree of freedom	P-Value
1.	Age 16-18years 19-21years 22-24 years Above24	10 81 08 01	10% 81% 8% 1%	46.742a	48	0.524N.S
2.	Class GNM2ndYear B.Sc 4th semester Post Basic 1st Year B.sc 6th Semester	57 43 00 00	57% 43% 0% 0%	31.264a	16	0.012N.S
3.	Occupation of father Medical profession Business Farmer Other jobs	02 19 49 32	2% 19% 49% 32%	48.445a	48	0.455N.S
4.	Occupation of mother Medical profession Business Housemaker Other jobs	01 02 96 03	1% 2% 96% 3%	132.181a	48	0.000N.S
5.	Source of Information Mass media Journals/Books Parents Relatives	21 42 35 03	21% 42% 35% 3%	68.109a	48	0.030N.S
6.	If you have previously witnessed or attended any CPR procedure ,class or seminar Yes No	88 12	88% 12%	13.240a	16	0.655N.S

Table VII. Association of Post-test Knowledge score with their selected socio-demographic variables

S. No.	SOCIO-DEMOGRAPHIC DATA	(n)
1.	Age 16-18years 19-21years 21-24 years Above24	08 82 09 01
2.	Class GNM2nd Year B.sc 4th semester Post Basic 1st Year B.sc 6th Semester	57 43 00 00
3.	Occupation of father Medical profession Business Farmer Other jobs	4 17 33 46
4.	Occupation of mother Medical profession Business Housemaker Other jobs	06 01 08 85
5.	Source of Information Mass media Journals/Books Parents Relatives	35 44 21 00
6.	If you have previously witnessed or attended any CPR procedure ,class or seminar Yes No	100 00

Table No.VI & VII depicts the association between the pre & post-test variables and socio- demographic variables. The findings revealed that there was no significant association between pre & post-test variables & socio-demographical variables as all the variables were found to be non-significant (<0.05) such as age ($p=0.524$), class ($p=0.012$) etc

CONCLUSION

The findings revealed there was a substantial relationship between pre-test and post-test knowledge score regarding ACLS. Hence, results concluded that STP was found to be effective in enhancing the knowledge of nursing students regarding ACLS at $p<0.05$.

Limitations

- Self-report questionnaires was used that raises the possibility of response bias.
- The sample was not random, which limited the generalizability of results to the underlying population.
- Only knowledge was considered, attitude and practice regarding ACLS was not assessed due to time constraint.
- The STP was not planned based on learning needs of the subjects under study.

Implications: The study findings have several implications for different area such as Nursing practice, Nursing education and Nursing research which are discussed as below:

NURSING EDUCATION

- The nurse can educate the subjects regarding ACLS.
- The nurse can educate the subjects to develop their skills in the preparing programme on ACLS to promote the knowledge.

Nursing Practice: The nursing personnel can organize programme on ACLS in hospital as well as community areas helps to increase the knowledge related ACLS(CPR).

Nursing Research

- Nursing research should be directed towards describing the ACLS practices among students.
- Nursing research should be directed towards exploring the knowledge of the students regarding ACLS.
- Nursing research should be conducted towards the practice and attitude related to ACLS.
- The study will be a valuable resource for future research as the nursing profession becomes more grounded in research..

author Contribution: All the authors contribute to the work.

Conflict of Interest: No conflict of interest.

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