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A quasi-experimental study to assess the effectiveness of planned teaching programme on knowledge and knowledge on practice of Basic life support among B.Sc nursing second year students in P.G College of nursing Gwalior, Madhya Pradesh, India

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Abstract
A quasi-experimental study was conducted in P.G. College of nursing C.H.R.I, Gwalior (M.P.) to assess the knowledge and knowledge of practice of B.Sc. Nursing second year students regarding BLS. Convenient sampling technique was used to allocate the study subjects. The study was conducted on 60 Bsc nursing second year students. Conceptual framework for the study was adopted from Ludwig Von Bertalanffy (1968) who has given general system model. P.G. College of nursing C.H.R.I, Gwalior (M.P.) was selected for study. Quasi-experimental research design was adopted. Structured questionnaire developed to assess the knowledge and knowledge of practice of B.Sc. Nursing second year students regarding BLS. Tool validated by 4 experts in nursing 2 from medical field 1 language expert. Reliability coefficient was calculated by test and retest method. Data collection was done from 1 April to 17 April 2011. Data has been analysed by using both descriptive and inferential statistics. Descriptive statistics, calculation of percentage, mean, median, standard deviation and inferential statistics-Pearson's chi square test, t-test, was used.

After implementation of planned teaching programme knowledge in experimental group students scored up to 79.175% where as in control group scored 60.33% regarding BLS. After implementation of planned teaching programme regarding each aspects of BLS knowledge of practice scored 88.33% by the students in experimental group where as in control group students score without planned teaching programme is only 47.33% regarding BLS. The mean post test knowledge score of the students (31.7), was higher than their mean pre-test knowledge score (24.4). The mean post test knowledge of practice score of the students (8.8), was higher than their mean pre-test knowledge score (3.5). The 't' value is statistically significant at 0.05 level as the calculated value of 't' (10.79 of knowledge and 7.5 of knowledge of practice) is greater than the table value of 't'(2.05).The study finding revealed that the planned teaching programme was effective to increase the knowledge and knowledge of practice regarding BLS. Post-test knowledge score and knowledge of practice were statistically highly significant. So the planned teaching programme was effective in increasing knowledge and knowledge of practice regarding BLS.

Keywords: quasi-experimental study, BLS (basic life support), knowledge, knowledge of practice, b.sc. nursing second year students, effectiveness, planned teaching programme, convenient sampling, conceptual frame work, inferential statistics, descriptive statistics

Introduction

Everyone has a purpose in life-a unique or special talent to give to others, and when we blend this unique talent with services to others, we experience the ecstasy and exultation of our spirit, which is the ultimate goal of all goals. Despites all the advancements in science and technology, rural India is still unable to assess health care services due to lack of awareness, transportation, illiteracy, poverty, rising cost of medical care and less number of health care professionals.

As cardiac arrest comes quite unpredicted in a remote community, the victims life is at stake due to lack of timely intervention. According to WHO report 75percent of the annual estimated 9.5 million deaths in India occur in homes. Hence it is important that nursing personnel should possess adequate skill and knowledge on cardiopulmonary resuscitation. So that the victim's life can be sustained till he is brought to the hospital when nursing personnel is in community setting.

No statistics are available for the exact number of cardiac arrest that occurs each year. It is estimated that more than 95 percent arrest victims die before reaching the hospital. In cities where defibrillation is provided within 5-7 minutes the survival rate from sudden cardiac arrest is as high as 49percent.

If bystanders BLS was initiated more consistently, if AEDS were more widely available, and if every community could achieve 20percent cardiac arrest is inevitable. If more people react quickly by calling 911 and performing BLS, more lives can be saved.

Today's society is complex and ever changing. As children grow they must learn not only to cope with current demands but also to prepare for the many unexpected event facing tomorrow. Therefore the researchers stet to impart the knowledge and skill on BLS among nursing students because they are the ones who has to manage these cases later in hospitals as they are from nursing field they can do the necessary activity as soon as possible rather than other in the community setting also.

Materials and Methods

The conceptual framework adopted for the study was based on "system model" given by Ludwig Von Bertalanffy (1968).
A review of related research and non-research literature helped the investigator to develop a tool. The literature reviewed further enabled the investigator to develop a conceptual framework, methodology of the study and a plan for data analysis. The study was conducted in 60 students of P.G. College of nursing b.sc nursing 2nd year students of Gwalior in M.P. The tools developed and used for data collection were knowledge and knowledge on practice structured questionnaire.
The content validity of the tool was established by 4 nursing perssonel in medical surgical nursing and 2 doctors.
Reliability of the structured questionnaire was established by

Major findings of the study

- 93.3% of students belongs to 18-20 age group in experimental group, where as it is 100% in control group. 6.7 % of the students are between 21-23 years age group in experimental group, where as it is 0% in control group.
- 16.7% of students are member of NSS in experimental group and control group. 6.7% of students are member of NCC in experimental group, where as it is 16.7% in control group. 3.3% of students are member of Red Cross in experimental group and 10% in control group.73.3% of students not member of any voluntary agency in experimental group, where as it is 56.7% in control group.
- 33.3% of students are getting information from TV in experimental group, where as it is 20% in control group. 30% of students are getting information from newspaper in experimental group, where as it is 56.7% in control group. 36.7% of students are getting information from journal in experimental group, where as it is 13.3% in control group. 0% of students get information from Radio, where as it is 10% in control group.
- 93.3% of students background education is intermediate in experimental group, where as it is 100% in control group. 6.7% of students background information is Bsc, where as it is 0% in control group.
- 100% of students had not attended any BLS programme in past five years in experimental group, where as it is 70% in control group. 05 of students had not attended any BLS programme in past five years in experimental group, where as it is 305 in control group.
- 100% of students had not performed BLS on victim in both experimental and control group.
- There is no association between the demographic variables with the pre-test knowledge score and knowledge on practice score.
- After implementation of planned teaching programme knowledge in experimental group students scored up to 79.175% where as in control group scored 60.33% regarding BLS.
- After implementation of planned teaching programme regarding each aspects of BLS knowledge on practice scored 88.33% by the students in experimental group where as in control group students score without planned teaching programme is only 47.33% regarding BLS.
- The mean post test knowledge score of the students (31.7), was higher than their mean pre-test knowledge score (24.4).
- The mean post test knowledge on practice score of the students (8.8), was higher than their mean pre-test knowledge score (3.5).
- The 't' value is statistically significant at 0.05 level as the calculated value of 't' (10.79 of knowledge and 7.5 of knowledge on practice) is greater than the table value of 't'(2.05).

Discussion

The aim of this study was to find out the effectiveness of planned teaching programme regarding BLS knowledge and knowledge on practice score of students. The major findings of this study revealed that the structured teaching programme had improved the practices of students regarding BLS.

Knowledge and knowledge on Practice of students regarding BLS

Pre-test knowledge score of students regarding BLS shows that 1(3.3%) students scored average and 29 (96.7%) students scored good where as in post-test knowledge score of students regarding BLS shows that 10 (33.3%) students scored good and 20 (66.7%) students scored excellent. Thus PTP had brought about an excellent improvement in the level of knowledge, knowledge on practice regarding BLS among nursing students. Starc B, Pecan M to determine whether our training programme provides the students with adequate skills and knowledge in CPR we analyzed the results of the examinations, tests, questionnaires and interviews of all students who had received CPR training at our Faculty of Medicine in 1994.

Association with pre-test knowledge and knowledge on practice scores of students regarding BLS with selected socio-demographic variables.

There was no significant association found with pre-test knowledge and knowledge on practice score with any of the socio-demographic variables.

Effectiveness of planned teaching programme on knowledge and knowledge on practice regarding BLS among b.sc nursing second year students.

The findings of pre-test and post-test knowledge and knowledge on practice score of students was statistically significant as the 't' value calculated for knowledge was (10.79) and knowledge on practice was (7.5) is greater than the table value (2.05) at 0.05 level of significance. Findings revealed the pre-test knowledge regarding BLS, the mean score was 24.4 standard deviation of 2.8, Post test mean knowledge was 31.7 and standard deviation of 2.5 and the 't' value 10.79 showed high level of significance, and pre-test knowledge on practice mean score was 3.5 and standard deviation of 1.5, post-test mean knowledge on practice score was 8.8and standard deviation of 0.9 and the 't' value 7.5 shows the effectiveness of the planned teaching programme. Brennan RT, Braslow A Effectiveness of CPR performance on a manikin was evaluated immediately after training in public CPR classes by trained independent observers using validated measures and procedures.

Conclusion

The main purpose of this study was to assess the knowledge and knowledge on practice of the students regarding BLS.

Basic life support is commonly known as CPR. CPR is a procedure used to keep the heart pumping and oxygen flowing to heart until emergency care arrives. Teaching of BLS helps to increase knowledge regarding BLS and helps them to gain confidence in performing BLS.

No one was in the excellent category among students, before planned teaching programme was given but 10 in knowledge category and in knowledge on practice category all were in excellent category after PTP was administered. Introducing the structured teaching facilitated them to know and learn to perform BLS correctly which are indicated in the post test scores.

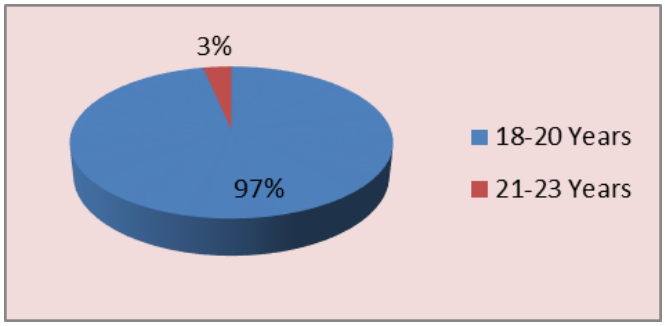

Fig 1: Age Distribution

This Pie diagram shows only 3% of total students are 21-23years of age group and the majority of students are in 18-20years of age group that is 97% among 60 students.

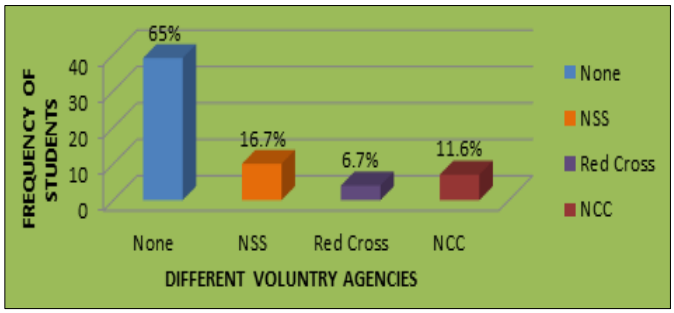

Fig 2: Member of different voluntry agency

This multiple bar diagram shows 65% (39) of students are no member of voluntary agency among the sample, 16.7% (10) of students are member of NSS and 11.6% (7) are member of NCC and 6.7% (4) of Red Cross.

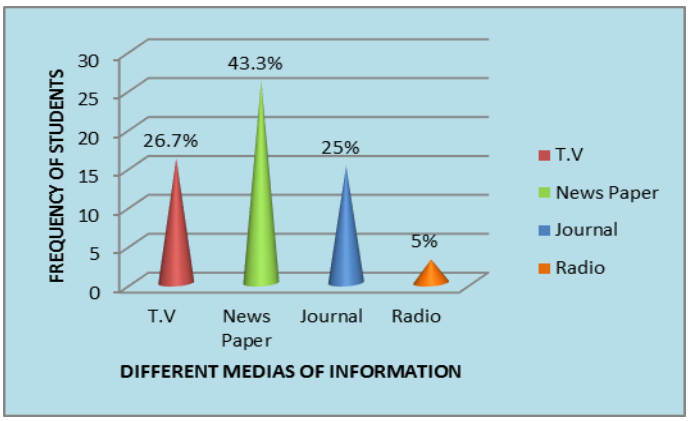

Fig 3: Source of information

This conical diagram shows 26% (16) of students source of information is TV, 43.3% (26) source of information is newspaper, for 25% (15) journal and for 5% (3) radio is the source of information.

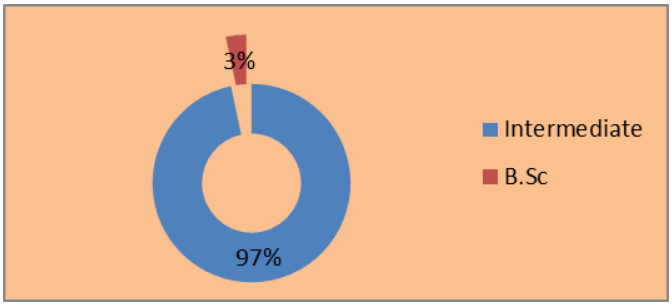

Fig 4: Educational background

This doughnut pie diagram shows 3% (2) of the student's educational background is Bsc and 97% (58) students educational background is intermediate.

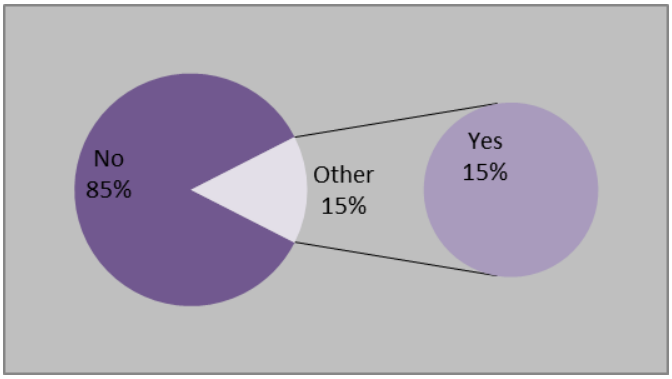

Fig 5: BLS Attended student's ratio in past 5 years

This pie of pie diagram shows 15% (9) of the students had attended BLS programme in past 5 years and 85% (51) of students had not attended BLS programme in past 5 years.

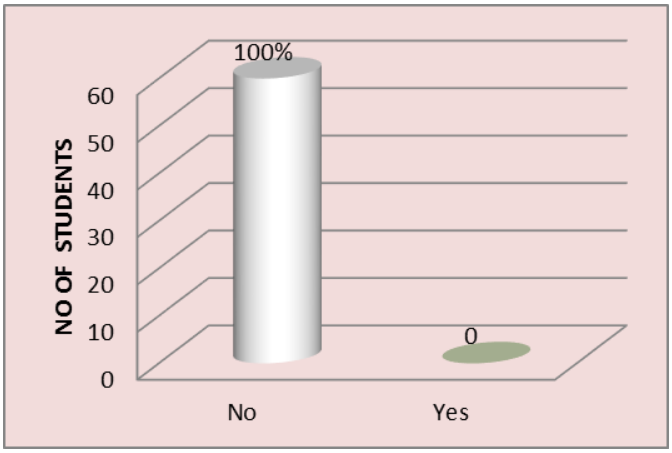

Fig 6: BLS performed student's ratio on victim

This cylindrical bar diagram shows 100% (60) students were not performed BLS on victim.

Table 1: Association of demographic variable with knowledge score the chi-square values are

Demographic Variables	X^2 value for knowledge	X^2 value for knowledge on practice
Age	X^2=0.7517 Table value=5.99 at df=2, NS	X^2=0.04612 Table value=5.99 at df=2, NS
Member of voluntary agency	X^2=3.023 Table value=12.592 at df=6, NS	X^2 =2.4472 Table value =12.592 at df=6, NS
Source of information	X^2=8.16 Table value=12.592 at df=6 NS	X^2=1.7299 Table value= 12.592 at df=6, NS
Educational background	X^2=0.752 Table value=5.99 at df=2 NS	X^2=0.0502 Table value=5.99 at df=2 NS
BLS programme attended in past five year	X^2=1.7504 Table value= 5.99 at df=2 NS	X^2=0.2186 Table value= 5.99 at df=2 NS
BLS performed on victim	X^2=0 NS	X^2=0 NS

By this observation researcher can conclude that there is no association between the variables. For this calculation the researcher calculated the observed minus expected for each row and column based on the pre-test score. Then added all the values of individual variable that value were seen under chi-square 0.05 level of significance at different degree of freedom according to the row and column made. Then value were compared with the table value if the calculated value was more than the table value conclusion was that it is significant.

Percentage of BLS knowledge on practice before and after implementation of planned teaching programme in experimental and control group.

Table 2

	No of questions	Min-max score	Experimental group knowledge on practice		Control group knowledge on practice	
			Mean score	%	Mean score	%
Before PTP	10	0-10	3.53	35.33%	3.6	36%
After PTP	10	0-10	8.83	88.33%	4.73	47.33%

Above table shows, in pre-test, before implementation of planned teaching programme knowledge on practice in experimental group students scored up to 35.33% where as in control group 36% regarding BLS.

In post-test, after implementation of planned teaching programme regarding each aspects of BLS knowledge on practice scored 88.33% by the students in experimental group where as in control group students score without planned teaching programme is only 47.33% regarding BLS.

Difference between pre-test, post-test mean percentage of practice score, before implementation of planned teaching programme, experimental and control group students are having the same level of knowledge on practice on BLS. After implementation of planned teaching programme, experimental group of students are having significantly higher level of knowledge on practice score than in the control group.

Line graph diagram showing pre-test and post-test knowledge score of each students in experimental group.

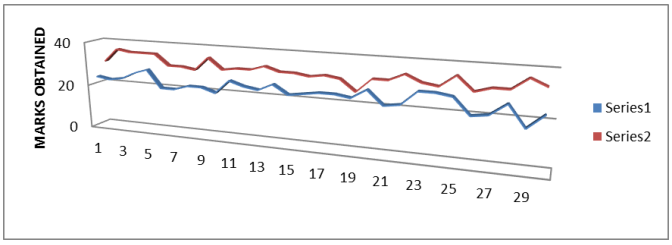

Fig 7: Each students pre and post test knowledge score in experimental group

Line graph diagram showing pre-test and post-test knowledge score of each students in control group.

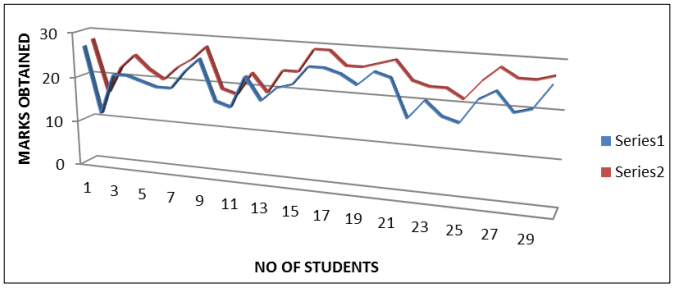

Fig 8: Each students pre and post-test knowledge score in control group

Fig 9. Line graph diagram showing pre-test and post-test knowledge on practice score of each students in experimental group.

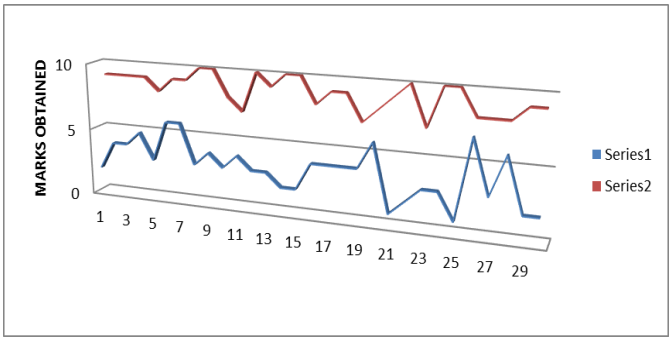

Fig 9: Each students pre and post test knowledge on practice score in experimental group

Fig 10. Line graph diagram showing pre-test and post-test knowledge on practice score of each students in control group.

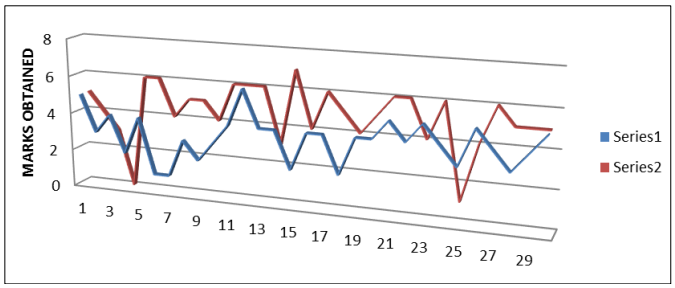

Fig 10: Each students pre and post test knowledge on practice score in control group

hich means the variable has an association.

Cone diagram showing mean, median, mode, SD in experimental group students' knowledge on practice score.

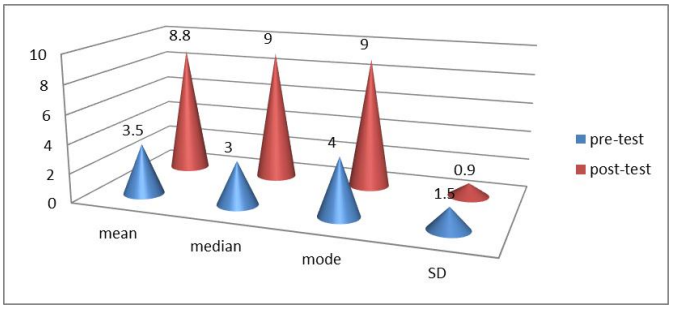

Fig 11: Cone diagram showing mean, median, mode, SD in experimental group students' knowledge on practice score

The distribution of knowledge on practice score of students indicates that the mean, median and mode of post-test knowledge on practice scores is higher than the pre-test knowledge on practice scores in experimental group.
Thus the PTP was effective in enhancing the knowledge on practice of the students regarding BLS

The multiple bar diagram shows the knowledge on practice wise effectiveness of planned teaching programme in experimental group of students regarding BLS in comparison with the control group.

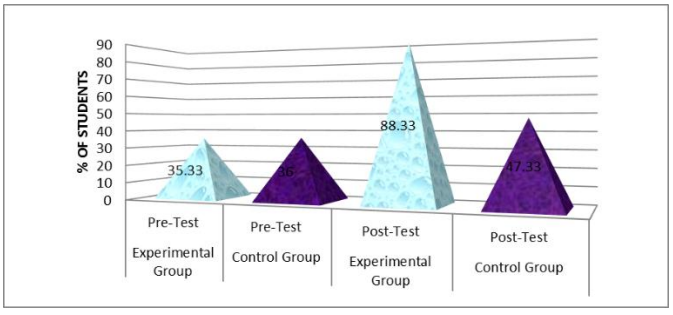

Fig 12: Comparison of percentage of knowledge on practice.

This knowledge on practice wise distribution shows the mean percentage increase in post-test in both experimental group and control group. In experimental group there is a drastic increase in the mean percentage so, its shows the effectiveness of PTP regarding BLS.

Summary

This chapter dealt with the analysis and interpretation of findings of the study. The analysis was organised and presented under various section like sample characteristics, analysis of association between the pre-test score with the selected demographic variables, analysis of the knowledge and practice scores in experimental and control group, comparision of knowledge and knowledge on practice scores in experimental and control group regarding BLS.
Data were analyzed by applying descriptive and inferential statistics. Demographic variables in categorical / dichotomous were given in frequencies with their percentages.
Knowledge and practice score in quantitative form were given in mean and standard deviation. Association between experimental and control group on demographic variables were analysed using Pearson's chi-square. Different aspects of knowledge and knowledge on practice between experimental and control group were analysed using student independent t-test. Pre-test and post-test differences were analysed using student paired t-test.

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