



High Fidelity Simulation and Its Role in Improving Cardiac Life Support Competencies among B.Sc. Nursing Students in Selected Index Nursing College, Indore

“A Experimental Investigation”

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ABSTRACT: Experimental study to assess effectiveness of high fidelity simulation and its role in improving cardiac life support competencies among B.sc nursing students in selected Index Nursing college Indore in the year 2023. To assess mean pre-test knowledge score of B.sc nursing students regarding cardiac life support competencies. To assess mean pre-test skill score regarding cardiac life support among B.sc nursing students. Quantative research will be used. Pre experimental one group pre-test post-test research design were used. independent variable is the simulation competencies. Dependent Variable is the clinical competence of B.sc nursing students on cardiac life support. Convenience sampling used to facilitate maximum participation within the data collection period. Sample of this study consisted of 50 nursing students. mean post-test skill score 17.82 is apparently higher than the mean pre-test skill score (3.68), the dispersion of post test score (SD±1.86) is higher than pre-test score (SD±1.59) and the paired t value ($t_{49}=55.54$ $p\leq 0.05$) is greater than tabulated t value ($t_{49}=1.677$ $p\leq 0.05$) There were no significant association between knowledge with selected demographic. There were no significant association between score skill with selected demographic. High fidelity Simulation can be recommended as an effective training strategy among B.Sc nursing students.

Key word: High Fidelity Simulation, Cardiac Life Support, Competencies.

- 1. INTRODUCTION:** Successful cardiopulmonary resuscitation is the first step in bringing someone back to life after a cardiac arrest. Successful cardiopulmonary resuscitation at the site by health team members has a role in lowering fatality rates caused by cardiac arrest. Simulation experiences that are extremely realistic and provide a high level of interactivity and realism for the learner, and can apply to any mode or method of simulation (e.g., human, manikin, task trainer, or virtual reality).
- 2. PROBLEM STATEMENT:** “A Experimental Study To Assess Effectiveness Of High Fidelity Simulation And Its Role In Improving Cardiac Life Support Competencies Among B.Sc. Nursing Students In Selected Index Nursing College Indore In The Year 2023”
- 3. OBJECTIVES :**
 - To assess mean pre-test knowledge score of B.sc nursing students regarding cardiac life support competencies.
 - To assess mean pre-test skill score regarding cardiac life support among B.Sc nursing students.
 - To determine the effectiveness of simulation and its role in improving cardiac life support competencies among B.sc nursing students.

4. To determine the effectiveness of skill scores simulation and its role in improving cardiac life support competencies among B.sc nursing students.
5. To find out association between pre-test knowledge score with selected demographic variables.
6. To find out association between pre-test skill score with selected demographic variables.

4. HYPOTHESIS :

- H₁** : The mean pre-test knowledge scores will be significantly higher than post-test knowledge score of B.sc Nursing students regarding high fidelity simulation and its role in improving cardiac life support competencies at 0.05 level of significance.
- H₂** : The mean pre-test skill scores will be significantly higher than post test skill score of B.sc Nursing students regarding High fidelity simulation and its role in improving cardiac life support competencies at 0.05 level of significance.

4. RESEARCH METHODOLOGY: Quantative research will be used. Pre experimental one group pretest post test research design were used. independent variable is the simulation competencies. Dependent Variable is the clinical competence of B.sc nursing students on cardiac life support. extraneous variables includes the demographic characteristics of the subjects namely age, sex, year of study, exposure to information, sources of information. The setting chosen for the study was Advance lab of Index nursing college Indore . target population for this study was the nursing students from nursing college in Indore .Convenience sampling used to facilitate maximum participation within the data collection period. Sample of this study consisted of 50 nursing students . Structured opinionnaire and observational checklist was used. Section-I This describe socio demographic variables. It compares 3 items for obtaining information regarding age, sex studying. Section -II It consists of items observational checklist .

5.DATA ANALYSIS AND INTERPRETATION:

Table 1:Comparison between Mean, Standard deviation and ‘t’ value of pre-test and post-test knowledge score

(N= 50)

KNOWLEDGE SCORE	MEAN	SD	MEAN DIFFERENCE	t – VALUE	Result
PRETEST	6	2.36	8.86	34.86	S
POST TEST	14.86	1.51			

Paired t value $49=34.86, P \leq 0.05$

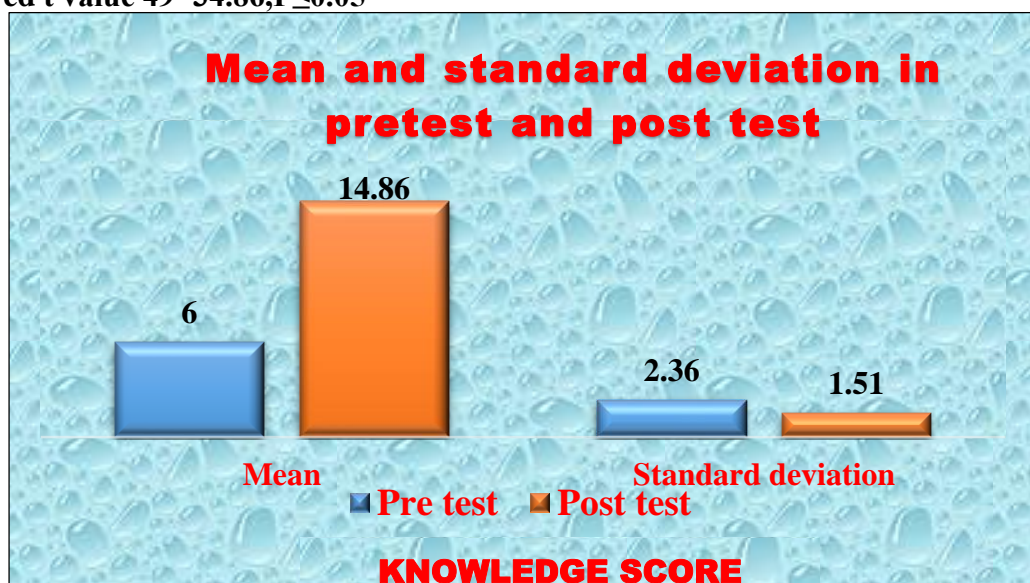


Figure 1 : Bar-diagram representing mean and standard deviation in pretest and post-test knowledge score.

INTERPRETATION: The data presented in table no.1 shows that the mean post test knowledge score 14.86 is apparently higher than the mean pre test knowledge score (5) ,the dispersion of post test score($SD\pm 1.51$) is lesser than pre test score ($SD\pm 2.36$) and the paired t value ($t_{49}=34.86$ $p\leq 0.05$) is greater than tabulated t value ($t_{49}=1.677$ $p\leq 0.05$) shows there is significance difference between pre test and post test knowledge score , research hypothesis is accepted This indicated that high fidelity simulation is effective in increasing knowledge score regarding role in improving cardiac life support competencies among B.sc nursing students.

Table 2: Comparison between Mean, Standard deviation and 't' value of pre-test and post-test practice score.

PRACTICE SCORE	MEAN	SD	MEAN DIFFERENCE	t - VALUE	Result
PRETEST	3.68	1.59	14.14	55.54	S
POST TEST	17.82	1.86			

Paired t value 49 = 55.54 , $P\leq 0.05$

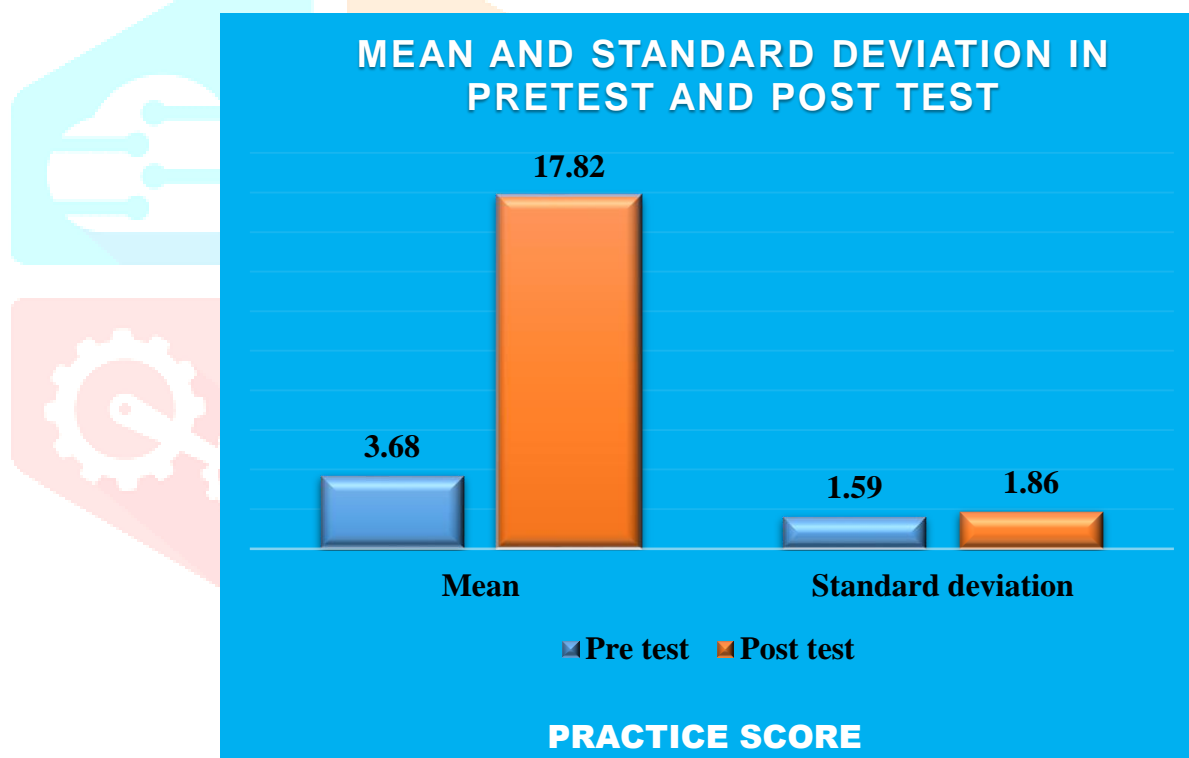


Figure :- 2. Bar-diagram depicting Comparison between Mean ,Standard deviation and't' value of pre-test and post-test practice score.

INTERPRETATION

The data presented in table no. 4.12 shows that the mean post test skill score 17.82 is apparently higher than the mean pre test skill score (3.68) ,the dispersion of post test score ($SD\pm 1.86$) is higher than pre test score ($SD\pm 1.59$) and the paired t value ($t_{49}=55.54$ $p\leq 0.05$) is greater than tabulated t value ($t_{49}=1.677$ $p\leq 0.05$) shows there is significance difference between pre test and post test practice score ,thus null hypothesis is rejected and research hypothesis is accepted . This indicated that high fidelity simulation is effective in increasing skill score regarding role in improving cardiac life support competencies among B.sc nursing students.

The computed chi-square value between pre-test knowledge score and the demographic variables to find out the association between pre-test knowledge score and demographic variable. Chi square value checked on significance level at <0.05 level. There were no significant association between knowledge with selected demographic. There were no significant association between score skill with selected demographic.

6. CONCLUSION: High fidelity Simulation can be recommended as an effective training strategy among B.SC nursing students. Simulation on was improving effectiveness of High fidelity simulation and its role in improving cardiac life support competencies of the students' self-efficacy and attitudes and decreasing their anxiety.

7.NURSING ADMINISTRATION:

- Nurses should be given the administrative assistance they need to create and implement teaching materials, such as simulations of cardiac life supports competencies.
- Nursing administrators should work with the government to implement rules that ensure the availability of suitable facilities for teaching CLS competencies simulation.
- Administrators should implement an in-service education program for nurses so that they may increase their expertise and apply it to patients.
- Institutes should conduct periodic inspections to ensure that students have proper knowledge of the BLS process.
- Administrative assistance should be provided for the production of such teaching materials, which are driven by simulation, etc.

8. NURSING RESEARCH:

The findings of the study add to the corpus of knowledge in nursing. In the future, the investigators can utilize the findings and technique as reference materials. It identifies the areas that deserve more investigation. Other researchers undertaking more research in the same topic can use the ideas and recommendations. Further research may be undertaken on this area to have a more comprehensive understanding of low and CPR simulation among B.sc nursing students. A behavior change message that will effectively raise awareness of low and simulation.

9.RECOMMENDATIONS:

The following recommendations are made on the basis of the findings of the study:

- A similar study can be undertaken on a large scale for making a more valid generalization.
- A comparative study can be arranged between knowledge and practice.
- A similar study can be arranged for b.sc nursing students working in specialist hospitals or multispecialist hospitals in different settings.
- An experimental study can be conducted to evaluate effectiveness of self-instructional module in terms of knowledge and attitude of nursing students.
- Periodical assessment of nursing officers who work into hospitals, knowledge and attitude regarding CPR procedure.
- A similar study can be undertaken with a descriptive survey research design

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