

A Study to Assess the Effectiveness of Simulation Training Programme on Knowledge and Practice Regarding Cardio Pulmonary Resuscitation (CPR) Among Student Studying at GNSU, Jamuhar, Rohtas

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Abstract: *Simulation is the process of designing a model of a real system and conducting experiment with this model for the purpose of either understanding the behavior of the system or evaluating various strategies for the operation of the system. Simulation in nursing education has become an important element specifically teaching the necessary skills and knowledge to develop competent nurse.*

Objectives: *To Assess the knowledge level regarding CPR among students of GNSU Jamuhar. To Find out the post-test knowledge score regarding CPR among students of GNSU Jamuhar. To Find out the association between post-test knowledge regarding CPR among students of GNSU with the demographical variables.*

Methodology: *A quasi experimental study was with one group pre test and post test design was adopted for the present study . Total 60 students were selected by simple random sampling technique. All students fit to inclusion criteria & consent were taken as study subject, structured questionnaire was used for data collection among students in studying at GNSU, Jamuhar .Data was collected regarding knowledge about Cardiopulmonary resuscitation. Statistics, Data entry & analysis was carried out in Microsoft excel.Statistical analysis was done by using frequency.*

Results: *Out of 60 respondents, Majority 17.%(10) of the participants in socio demographic data are belongs to age group (17-19)years, and 73.%(44) participant belongs to age group (20-22) year of age, and 10%(6) participate belongs to the age group (23-25) year , and 0.00% (0) participate belongs to the age group 26 & above. Majority 47% (28) of the participate are male and 53% (32) are female. Majority 53%(32) students are urban area and 47%(28) students are rural area. Majority 40%(24) participate in the given study is from nuclear family and 57%(34) participate belongs to joint family , and 3% (2) participate belongs to extended family. Majority 5% (3) participate are completed 12 intermediate from stream in commerce ,and 8.33%(5) are art ,and 58.33%(35) are mathematics ,and 28.33%(17) are others. Majority 0.00%(0) participate are course in journalism , and 38%(23) of the participate in agriculture ,and 62%(37) of the participate in BCA ,and 0.00%(0) of the participate in LAW. Percentage wise distribution of students in relation to their previous knowledge about CPR that majority 20%(12) of them were well know about CPR and 80%(48) of them were unknown. The post test knowledge is increased among students after giving simulation training programme form (pre – test) 31% students have adequate knowledge Cardiopulmonary resuscitation.*

Recommendation: *The findings of the present study can be used as a guide of future research. Iterventional study can be undertaken to improve the knowledge and practice about CPR. A study can be conducted in preventing malpractice during CPR procedure.*

Conclusion: *Cardiopulmonary resuscitation was satisfactory among students lack of knowledge & awareness regarding cardiopulmonary. Education regarding cardiopulmonary resuscitation should be included as a part of school curriculum.All students irrespective of their education status should be taught to break their inhibitions about discussing with their regarding cardiopulmonary..*

Keywords: Assess, knowledge, CPR, Simulation

I. INTRODUCTION

Simulation is the process of designing a model of a real system and conducting experiment with this model for the purpose of either understanding the behavior of the system or evaluating various strategies for the operation of the system. (**Simon 2nd edition**). Simulation in nursing education has become an important element specifically teaching the necessary skills and knowledge to develop competent nurse.

Each year, a number of persons suffer with an accident or illness, severe enough to stop their breathing and leads to respiratory arrest. In a small number of these cases, it will even stop their heart beating and leads to cardiac arrest. Sudden cardiac arrest is a major cause of death in developed countries. Sudden death occurs when heartbeat and breathing stops.

The other common causes of sudden death include heart attack, electrical shock, drowning, choking, suffocation, trauma, drug reactions, and allergic reactions. The best chance of ensuring their survival is to give them emergency treatment known as cardiopulmonary resuscitation (CPR)

II. BACKGROUND OF THE STUDY

Cardiopulmonary resuscitation (CPR) is the foundational technique for the emergency treatment of cardiac arrest (CA). The standardized training of CPR has been emphasized more than ever. Common people in developed countries and regions have received popular education of CPR program of Advanced cardiac life support (ACLS) training which was launched jointly by Universal Medical Assistance International Center (2014).

Nurses of health services who have received professional education and training should be able to practice CPR accurately and offer advanced cardiac life support to the patient who suffered an attack of cardiac arrest. This is considered as the basic requirement and qualification of licensed nurses. In the wider community it is an expectation that competence in cardio pulmonary resuscitation (CPR) and Advanced Cardiac Life Support (ACLS) is at a high standard in all hospital medical and nursing staff (**Buck-Barrett and Squire, 2014**).

III. NEED FOR THE STUDY

Recently American Heart Association (AHA-2010) has revised Cardiopulmonary Resuscitation (CPR) guideline in the year 2010. Many changes have been incorporated in the new recommendation to improve the outcome of patient. Some important change and Recommendation which were made are changing the Basic Life Support (BLS) sequence from Airway, Breathing, Circulation (ABC) to Circulation, Airway, Breathing (CAB), hand only CPR, emphasis on high quality CPR and post resuscitation care. Implementation of this new resuscitation guideline has been shown to improve outcomes of patients. American Heart Association (AHA 2010) has expressed needs for training health care provider about the new guideline. The quality of rescuer education and frequency of retraining are critical factors in improving the effectiveness of resuscitation.

As per WHO census statistics mortality due to cardio arrest approximately 4280 out of every one lakh people die every year.

IV. OBJECTIVE OF THE STUDY

- To assess the knowledge level regarding CPR among students of GNSU Jamuhar.
- To find out the post-test knowledge score regarding CPR among students of GNSU Jamuhar.
- To find out the association between post-test knowledge regarding CPR among students of GNSU with the demographical variables.

IV. RESEARCH METHODOLOGY

In this study a quantitative approach was used to assess the level of knowledge regarding Cardio Pulmonary Resuscitation among students. The researcher adopted a non-experimental descriptive research design was applied to assess the level of knowledge regarding Cardio Pulmonary Resuscitation among students. The present study was conducted in 60 students studying in GNSU, ROHTAS.

4.1 Tools

The sample was underwent self structure questionnaire to assess the level of knowledge regarding various steps of Cardio Pulmonary Resuscitation and socio demographic data was used to collect the baseline data of participant. Questionnaire has scoring key for calculating the level of knowledge regarding CPR.

V. RESULTS

Result of the present study was done into 3 sections. Section I deals with the Analysis of socio-demographic data. Section II deals with Analysis of level of knowledge regarding CPR in pre-test and Section III deals with Analysis of level of knowledge regarding CPR in post-test. Result is tabulated in Table No. 1, 2, 3. Table 1 describe that Majority 17.%(10) of the participants in socio demographic data are belongs to age group (17-19)years, and 73.%(44) participant belongs to age group (20-22) year of age, and 10%(6) participate belongs to the age group (23-25) year , and 0.00%(0) participate belongs to the age group 26 & above. Majority 47% (28) of the participate are male and 53% (32) are female. Majority 53%(32) students are urban area and 47%(28) students are rural area. Majority 40%(24) participate in the given study is from nuclear family and 57%(34) participate belongs to joint family , and 3% (2) participate belongs to extended family. Majority 5% (3) participate are completed 12 intermediate from stream in commerce ,and 8.33%(5) are art ,and 58.33%(35) are mathematics ,and 28.33%(17) are others. Majority 0.00%(0) participate are course in journalism, and 38%(23) of the participate in agriculture ,and 62%(37) of the participate in BCA ,and 0.00%(0) ofthe participate in LAW. Percentage wise distribution of students in relation to their previous knowledge about CPR that majority 20%(12) of them were well know about CPR and 80%(48) of them were unknown.

In the present study majority of participant are 31 (51.66%) have poor knowledge, and29 (48.00%) have average level of knowledge in pre-test. No participant have good knowledge and very good knowledge in pre-test.

In the present study majority of participate are (0.00%) have poor knowledge ,and 2(3.33%) have average level of knowledge , and 47(78.33%) have good level of knowledge , and 11(18.33%) have very good knowledge in post-test.

Table 1: Representing frequency and percentage of socio-demographic data.

n=50

Demographic	Frequency	%
1.Age		
a.17-19	10	16.67%
b.20-22	44	73.33%
c.23-25	6	10.00%
d.26 & above	0	0.00%
2.Gender		
a. male	28	46.67%
b. female	32	53.33%
3.Type of residential area		
a. urban	32	53.33%
b. rural	28	46.67%
4.Type of family		
a. nuclear	24	40.00%
b. joint	34	56.67%
c. extended	2	3.33%

5. Completed 12th intermediate

from stream

a. commerce	3	5.00%
b. arts	5	8.33%
c. mathematics	35	58.33%
d. others	17	28.33%

6. Name of course

a. journalism	0	0.00%
b. agriculture	23	38.33%
c. BCA	37	61.67%
d. law	0	0.00%

7. do you have previous

knowledge about CPR

a. yes	12	20.00%
b. no	48	80.00%

Table 2: Representing the knowledge level of CPR among Students of Gopal Narayan Singh University in pre-test.

S.no		f	%
1	poor	31	51.66
2	average	29	48.00
3	good	0	0.00
4	Very good	0	0.00

Table 3: Represents the post-test knowledge score regarding CPR among students at GNSU Jamuhar.

S.no		f	%
1	poor	0	0.00
2	average	2	3.33
3	good	47	78.33
4	Very good	11	18.33

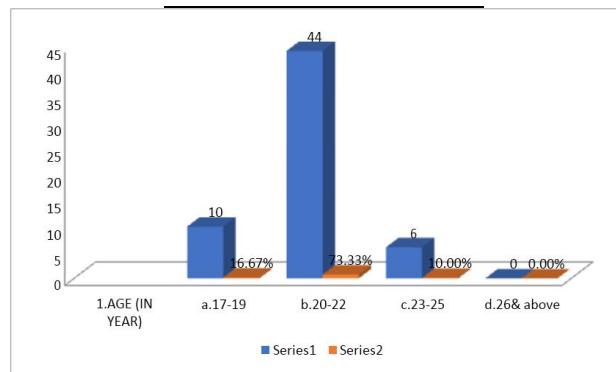


FIG.1 Age Distribution with Percentage
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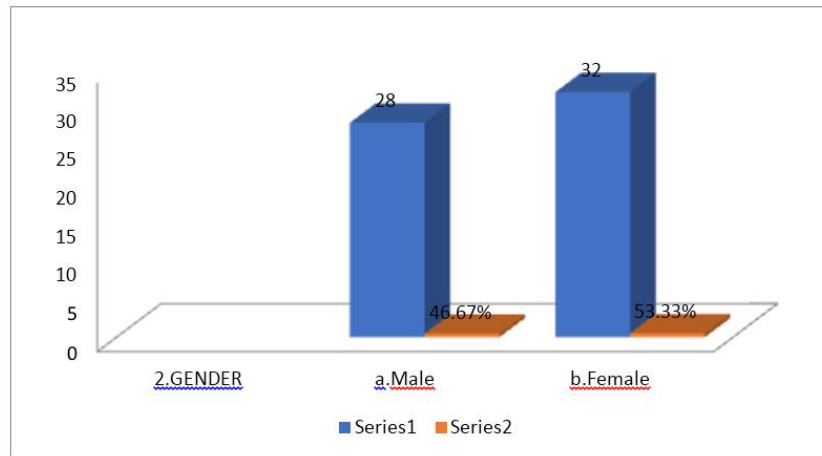


Fig 2 Gender Distribution with Percentage

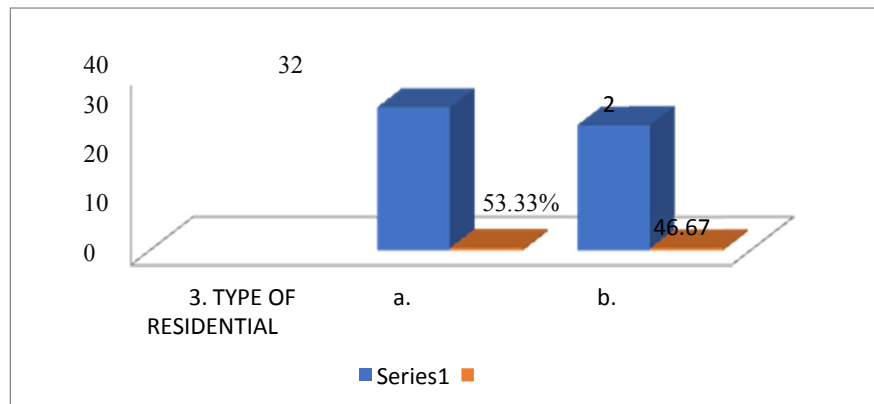


Fig.3 Type of Residential Area Distribution with Percentage

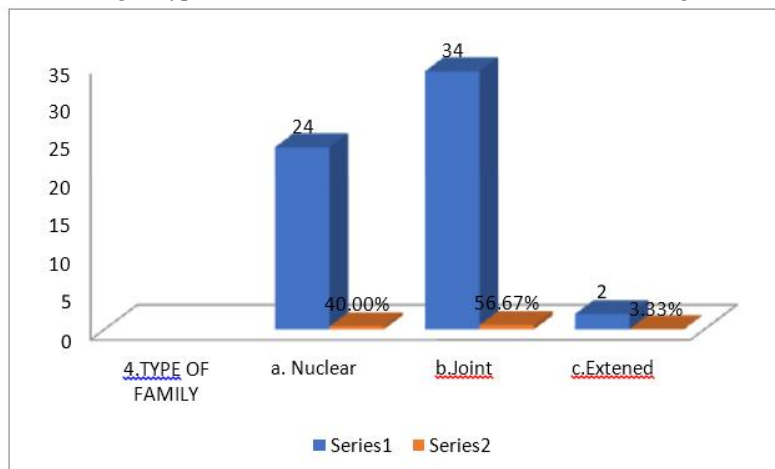


Fig. 4 Type of Family Distribution with Percentage

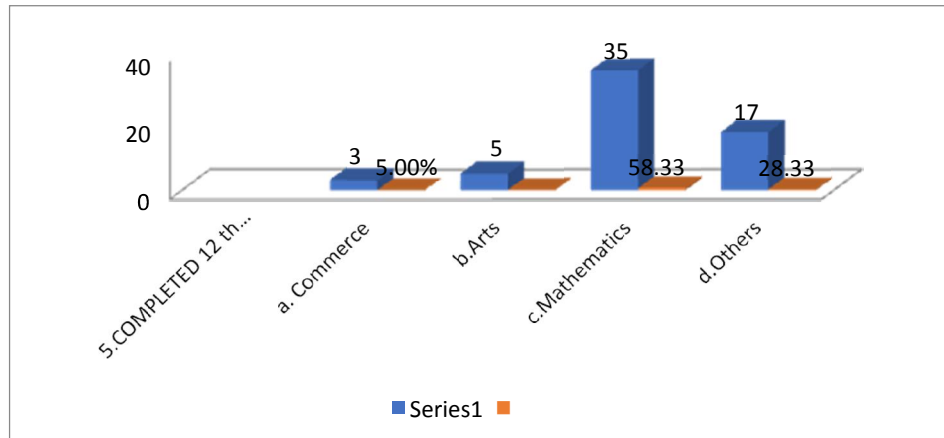


Fig.5 Stream Distribution with Percentage

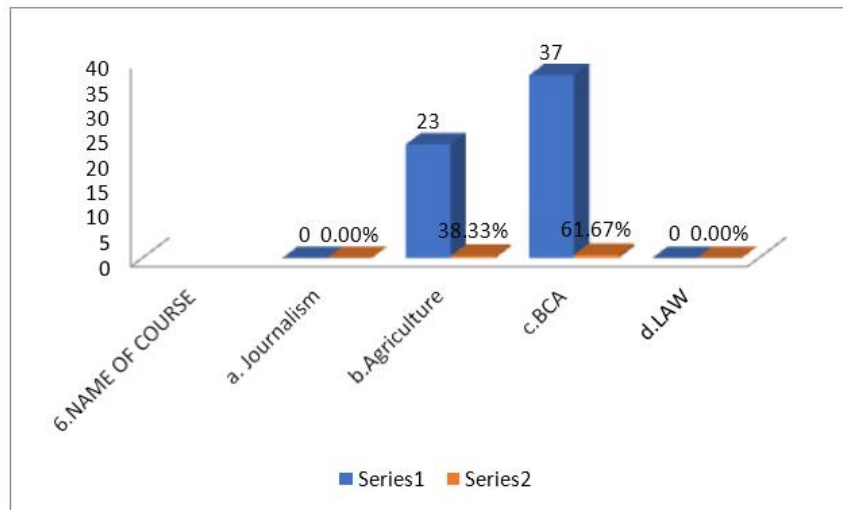


Fig. 6 Course Distribution with Percentage

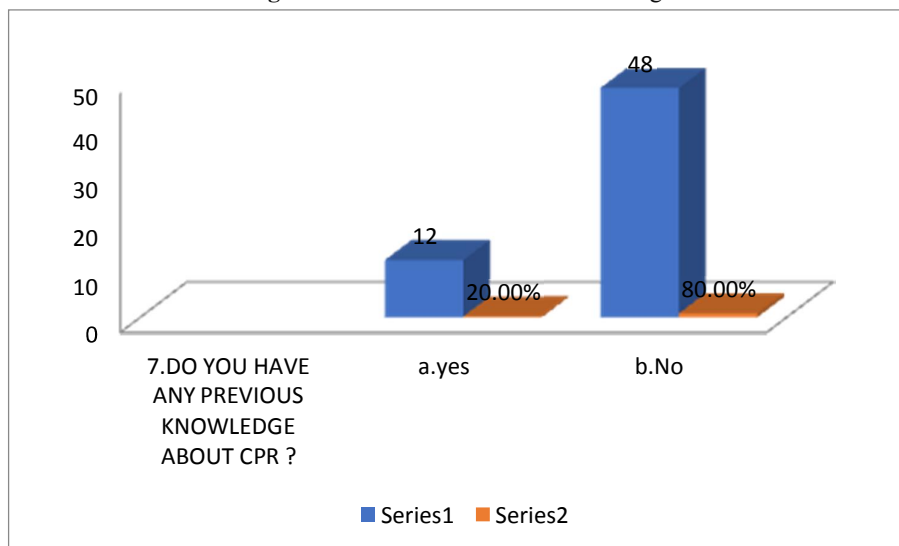


Fig. 7 Knowledge about CPR Distribution with Percentage

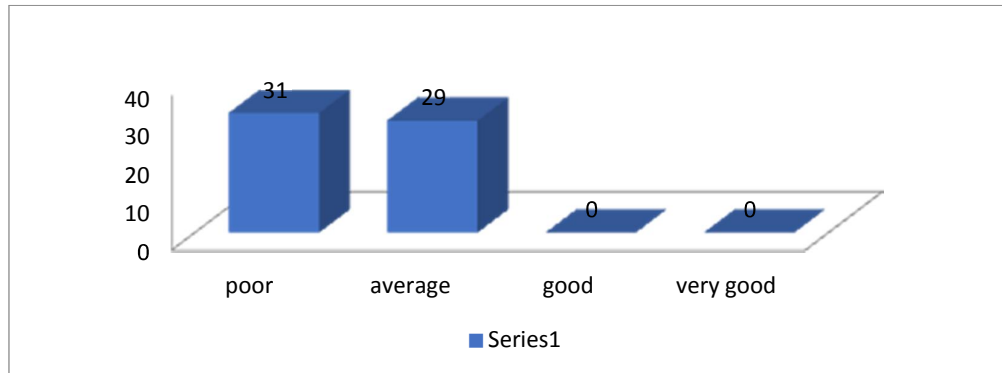


Fig. no. 8 represents the knowledge level of CPR among Students of GopalNarayan Singh University.

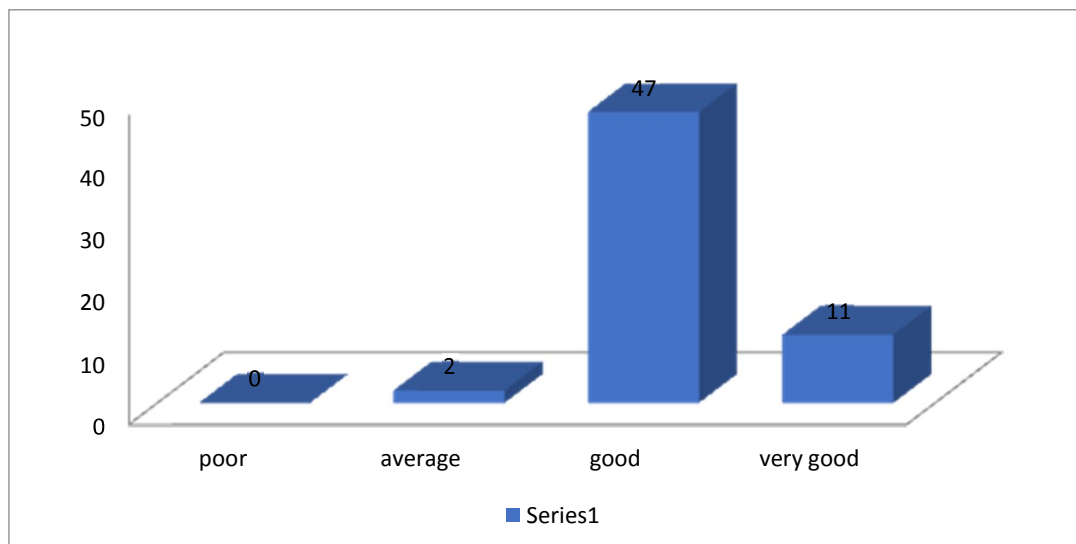


Fig. no 9 Represents the knowledge level after the simulation training programme of CPR among students of Gopal Narayan Singh University.

VI. DISCUSSION

6.1 Major Finding of Socio-Demographic Data

Majority of the participants 73.33% (44) are belongs to age group 20-22 year. This finding was supported by study title A Study to assess the students' knowledge, and practice related to Cardiopulmonary resuscitation (CPR) at Qassim University, Saudi Arabia by Ali Mansour, Ahmad H. Alsagar in 2019. Majority (78.2%) of the respondents were in the age group of 20-22, whilst 12.6% were 17-19 years old.

Majority of the participant 53.33% (32) are female and 46.67% (28) are male.

This finding was supported by study title A Study to Assess the students's knowledge, and practice related to Cardiopulmonary resuscitation (CPR) at Qassim university, Saudi Arabia by Ali Mansour, ahmad H. Alsagar in 2019. There were 589 female respondents which takes up 51.3% whereas only 559 male respondents which takes up 48.7% in this study.

Majority 58.33% (35) sample are from mathematics stream and 28.33% (17) sample are from other stream This finding was supported by study title A Study to Assess the students's knowledge, and practice related to Cardiopulmonary resuscitation (CPR) at Qassim university, Saudi Arabia by Ali Mansour, ahmad H. Alsagar in 2019. Majority of the participant (60%) were from mathematics.

Major finding of level of knowledge

In the present study majority 47 (78.33%) of participant are having good knowledge, and 11 (18.33%) of participant are having very good knowledge.

This finding was supported by study title A Study to Assess the knowledge and attitude towards CPR among junior doctors and medical students in upper Egypt in 2020 by Zeinab Mohammed, Ahmed Arafa. Of the 60 junior doctors that participated in the study, only 18.33% very good knowledge of CPR, but up to 78.33% reported good knowledge towards CPR training. A statistically significant positive correlation was detected between CPR knowledge and attitude towards CPR training among medical students ($r = 0.41, p < 0.001$).

VII. IMPLICATION OF STUDY

Implication in Nursing

The findings of the study have implication for student. The implication have been listed under following heading i.e. nursing service, nursing administration and nursing research

Implication in Nursing Service

Health professional should must know about the procedure regarding CPR. To motivate and encouragement of team and group to follow and practice CPR technique. To coordinate and deliver services and programs. To provide conducive working environment helps to promote practice of CPR. Nurses are educated to train CPR technique to students. Nurses are directed to trained CPR technique in simulation programme.

Implication of Nursing Administration

The nurse administrator can arrange the in-service education program to improve knowledge of the procedure regarding CPR. The nurse administrator should posted the adequate staff nurses in busy ward to assist CPR technique. The nurse administrator should motivate staff to follow CPR technique in rightway

Implication for Nursing Education

Nursing curriculum should educate the nurse for imparting health information regarding CPR. Nurse educator should educate the student nurses about how to do CPR technique. Nurse educator should educate the student nurses how to carry out articles related to CPR.

Implication of Nursing Research

Many more research studies could be done to assist the CPR of highly feasible and less expensive technique in various other conditions and settings. Nurses are encouraged to conduct the interventional study regarding CPR. Adequate allocation of funds, manpower, time, adequate training should provide to the nurses for conducting research regarding ward rotation and shift rotation.

Ethical Consideration

For the present study the investigator has been taken the following ethical consideration. Permission has been taken from authority. Participant consent has taken. Anonymity of withdraw had maintained. Freedom to withdraw from study has been taken consideration.

VIII. CONCLUSION

The finding of the present study can be used as a guide of future research. Interventional study can be undertaken to reduce the mistake during CPR.

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