

IMPACT OF AN EDUCATIONAL INTERVENTION ON FINAL YEAR NURSING STUDENTS' KNOWLEDGE AND CONFIDENCE REGARDING BASIC LIFE SUPPORT: A QUASI EXPERIMENTAL STUDY

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Keywords

Basic Life Support (BLS), Cardiopulmonary Resuscitation (CPR), Nursing Students, Educational Intervention, Knowledge, Confidence.

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Abstract

Background: Basic Life Support (BLS) is a vital life-saving skill required for managing cardiac arrest and other emergencies. Nursing students often have inadequate knowledge and confidence in performing BLS due to limited practical exposure.

Objective: To assess the impact of an educational intervention on final year nursing students' knowledge and confidence regarding Basic Life Support.

Materials and Methods: A quasi-experimental pre-test and post-test study design was conducted among 65 final year nursing students at Saida Waheed FMH College of Nursing, Lahore. Convenience sampling

The technique was used. Data were collected using a structured questionnaire assessing knowledge (19 items) and confidence (Likert scale). An educational workshop was conducted, followed by post-test evaluation. Data were analyzed using SPSS version 27, applying descriptive statistics and inferential tests with significance set at $p \leq 0.05$.

Results: The findings showed a significant improvement in both knowledge and confidence after educational intervention. Pre-test results indicated low levels of knowledge and confidence, whereas posttest scores demonstrated a marked increase, with the majority of students achieving high knowledge and confidence levels.

Conclusion: Educational intervention significantly improves nursing students' knowledge and confidence regarding BLS. Incorporating structured training programs into nursing curricula is recommended to enhance emergency preparedness.

1.INTRODUCTION

1.1 Background:

Cardiopulmonary resuscitation (CPR) is a critical and life-saving procedure used to reverse cardiac arrest, both in clinical and community settings. It requires both theoretical understanding and practical competence, and all healthcare

professionals are expected to master this skill. Without timely and effective Basic Life Support (BLS), most cases of reversible cardiac arrest end in death (AHA Cardiac Arrest Statistics, 2020).

Nursing students are introduced to the theoretical foundation and basic skills of BLS during their education; however, practical training is often

inadequate. Students with insufficient exposure to BLS practice may experience anxiety, lack of confidence, and reduced ability to respond effectively in emergencies. Research has consistently shown that structured BLS training significantly enhances nursing students' knowledge, skills, confidence, attitudes, and self-efficacy. 5,6,8-11

The growing complexity of healthcare is essential to equip nursing students with the knowledge and skills to manage emergencies such as cardiac arrest. Since nurses are often the first responders in both hospital and community settings, they play a vital role in initiating lifesaving interventions promptly. However, nurses are often the first responders in both hospital and community settings; they play a vital role in initiating life-saving interventions promptly. Moreover, a study conducted in Pakistan also indicated that medical undergraduate students with no prior course training had poor knowledge as compared to the students with prior training.

Similarly, previous studies in Pakistan showed poor knowledge of BLS among practicing doctors, dentists, and nurses among the big institutions of the largest city of Pakistan. (Irfan B, Zahida I, Khan MS, Khan OA, Zaidi S, Awan S et al, 2019) Therefore, the lack of BLS skills often becomes one of the reasons why students or future healthcare providers become incompetent and cannot perform well in emergency situations. Some graduated physicians were expected to perform poor BLS techniques as the achievement of BLS knowledge and attitude was not emphasized in medical schools. (Abbas A, Bukhari SI, Ahmad F. 2011)

Therefore, strengthening BLS training is essential to improving the success rate of BLS and reducing mortality in emergencies (Aroor et al., 2014).

This study aims to contribute toward enhancing the quality and accessibility of standardized BLS training for healthcare students.

1.2 Problem Statement:

Since nursing students are frequently the first responders in an emergency, such as a cardiac arrest, they must have basic life support (BLS) skills. In these cases, the patient's survival is highly

contingent upon the timely and accurate application of BLS procedures. Nevertheless, several research suggests that many nursing students, including those who are about to graduate, do not have the required knowledge and confidence to carry out BLS. This deficiency has the potential to have a detrimental impact on the standard of care and patient safety in medical facilities. Well-designed training programs are an example of an educational strategy that is thought to be successful in raising awareness and readiness for giving BLS.

However, several nursing schools place a low priority on providing regular and helpful BLS training. To ascertain how teaching strategies impact nursing students' knowledge of BLS throughout their last year, it is necessary to do a quasi-experimental investigation.

1.3 Significance:

Basic Life Support is a thorough training course in medical emergencies, with cardiopulmonary resuscitation as a major component, Students who regularly participate in BLS training have more CPR expertise and competence than their classmates who are not BLS certified, according to research (Yunus M, Mishra A, Karim H, Raphael V, Ahmed G, Myrthong C., 2015).

The significance of this study is that it highlights the urgent necessity of improving nursing students' understanding of Basic Life Support (BLS) throughout their final year of training. The research will examine the effects of an instructional program to see whether structured training can actually boost students' understanding.

1.4 Research Objective:

1. To assess the impact of educational intervention on final year nursing students' knowledge and confidence regarding basic life support (BLS).
2. To compare the knowledge and confidence levels before and after the intervention for the effectiveness of the educational session.

1.5 Research Question:

1. What is the impact of educational

intervention on final year nursing students' knowledge and confidence regarding basic life support (BLS)?

2. How to compare the knowledge and confidence levels before and after the intervention for the effectiveness of the educational session?

1.6 Research Hypothesis:

Null Hypothesis (H_0):

The academic intervention has no noticeable effect on the knowledge or confidence of graduating nursing students when it comes to basic life support.

Alternative Hypothesis (H_1):

The instructional intervention significantly increases the understanding and confidence of graduating nursing students in Basic Life Support.

1.7 KEY TERMS DEFINITIONS:

Knowledge: A theoretical or practical understanding of a subject, as well as the skills, facts, and information gained through experience or education.

Basic Life Support: The basic collection of skills and procedures utilized to give quick, life-saving care to someone who is experiencing a life-threatening emergency, such as cardiac arrest or choking, until professional medical assistance arrives. In this we can use cardiopulmonary resuscitation (CPR) and defibrillation.

2. LITERATURE REVIEW

Basic Life Support (BLS) refers to the set of critical interventions performed during cardiac and respiratory distress to sustain life. Basic life support primarily focused on maintaining airway patency, supporting breathing, and establishing circulation throughout the body. These interventions are typically carried out by a specialized group of Health Care Workers (HCWs) known as the Rapid Response Team. Patients in Cardiac ICUs and CCUs are at high risk of cardiac or respiratory emergencies due to their critical health status. In such cases, the Rapid Response Team (RRT)—comprising physicians, respiratory therapists, nurses, and assistants—plays

a crucial role in delivering Basic Life Support (BLS) to rescue patients. Nurses, often the first to detect early signs of deterioration. However, inadequate BLS education and training during their graduation can hinder their effectiveness to perform as an RRT team member. This review draws literature from databases like PubMed, CINAHL, and Google Scholar to explore BLS competency among final year nursing students, and the effectiveness of educational intervention on students' knowledge and skills.

A cross-sectional study conducted at Rwamagana Campus, University of Rwanda in East Africa by Dushimumuremyi, using a structured questionnaire to assess the knowledge and skills of nursing students who are graduated. Results revealed low overall knowledge, with most students only answering the compression-to-ventilation ratio correctly. Theoretical skill assessments also showed poor performance. These findings highlight the urgent need for targeted training, seminars, and lectures. (Dushimumuremyi, 2023).

Another, pre-experimental quantitative study was conducted at Vinayaka Mission's College of Nursing, Karaikal, India by Ravivarman and Kamala through purposive sampling to assess nursing students' knowledge of Basic Life Support (BLS). Initially, most had moderate knowledge, with few showing adequacies after post-teaching over half demonstrated adequate understanding, and none remained at an inadequate level. The study confirmed significant improvement in BLS knowledge. (Ravivarman & Kamala, 2021)

In addition, a Quasi-Experimental study was conducted in the school of nursing and midwifery, Monash University, Clayton, Australia by Basil George. Using pre-test and post-test design to assess the first-year nursing students' knowledge and confidence to perform Basic Life Support (BLS). Results show that there is a lack of knowledge and confidence in pre-tests while mostly students have maximum knowledge in post-tests. This study suggests an online video recorded lecture can increase under-graduated students' nurses' knowledge and confidence to perform BLS. (Basil George et al, 2021).

Moreover, A Quasi-Experimental study was

conducted in public and private institutes of nursing education in Sousse, Tunisia in North Africa by S Bdiri Gabbouj. Using convenience sampling to assess the effect of stimulation-based education of adult Basic Life Support, Cardiopulmonary Resuscitation (BLS-CPR) on the level of knowledge and skills among nursing students. Results show mean posttest knowledge and skills were higher in the intervention group as compared to the control group. (S Bdiri Gabbouj et al, 2025).

Additionally, A Quasi-Experimental study was conducted in P.G. College of nursing C.H.R.I Gwalior, Madhya Pradesh, India by Ludwig Von Bertalanffy. Convenient sampling technique was used to assess the knowledge and knowledge of practice of B.Sc. nursing second year students regarding Basic Life Support. After implementation of a planned teaching program, the mean posttest knowledge of practice score was higher than their mean pre-test knowledge score.

Similarly, A Descriptive, cross-sectional study was conducted in Mansoura University, Egypt by Baklola Mohamed. By using convenience sampling to assess Basic Life Support awareness and knowledge among undergraduate students. Results show there is a significant gap in Basic Life Support knowledge and training among undergraduate students. These findings underscore the need for mandatory CPR training to enhance students' preparedness and competence (M Baklola et al 2023).

Furthermore, A Quasi-Experimental study was conducted in Allama Iqbal Medical College Lahore by Liaqat, using convenient sampling techniques on nursing students' knowledge and skills regarding knowledge and skills of Basic Life Support such as Neonatal Resuscitation interventions. Results showed that there was a significant lack of knowledge and skills of nursing students regarding BLS interventions. However, after educational intervention, nursing students acquire significant levels of knowledge and skills. This study suggests that educational interventions should be promoted to enhance knowledge and skills level in nursing students regarding BLS. (Liaqat et al., 2021).

However, a cross-sectional study was conducted in

Tertiary Care Hospitals of KP by Khan, using structured questionnaires to assess the knowledge and practices about BLS of health care professionals, mostly nurses. Despite having basic and simple questions, most of them were marked incorrectly, showing that only a quarter of samples contained excellent knowledge while others contained moderate to low level of knowledge. (Khan et al., 2023).

Moreover, a cross-sectional study was conducted at Jinnah Sindh Medical University (JSMU) by Inam. A self-administered organized questionnaire was used in order to assess the knowledge and skill level of undergraduate medical students. Results showed that about half of samples contain adequate knowledge levels regarding BLS interventions, while despite having adequate knowledge levels, their skills were below average. However, there were only a few undergraduates that had performed CPR on real patients. (Inam et al., 2025).

Nationally, existing studies have focused on practicing nurses and other healthcare professionals, or medical undergraduates. However, to our knowledge, few comprehensive studies has specifically assessed BLS knowledge and practical skills among nursing undergraduates in Pakistan. This study aims to fill that gap by evaluating the knowledge and skills of final year nursing students to perform BLS interventions effectively.

3.MATERIAL AND METHODS

3.1: Study Design

A quantitative quasi-experimental pre-test post-test design was used.

3.2: Study Population

Final Prof. Students of Bachelor of Science in Nursing.

3.3: Study Setting

This study was conducted at Saida Waheed FMH College of Nursing, Lahore.

3.4: Study Duration

The duration of study was 5 months after the synopsis approval.

3.5: Sample Size

Sample size of students was estimated by using 95% confidence level and 5% margin of error by using SOLVIN'S formula.

$$n = N / (1 + Ne^2)$$

n = required sample size,

N = The total population,

e = The margin of error

N = 79, e = 0.05

by putting the value in formula

$$n = 79 / (1 + 79(0.05)^2)$$

$$n = 79 / 1.1975$$

$$n = 65.97$$

$$n = 65$$

The calculated size is 65 students.

3.6: Sampling Technique

The sample was gathered using the convenient sampling method.

3.7: Sample Selection Criteria

3.7.1: Inclusion Criteria

- Students of final Prof. BSN
- Students who was willing to give consent for study

3.7.2: Exclusion criteria

- Students who was not willing to give consent for study
- Students on leave

3.8: Data Collection Procedure

Data Collection Tool:

Participants' knowledge and confidence to perform BLS was measured by using a questionnaire adopted. (George et al., 2023).

The questionnaire is divided into three parts

Part 1 consists of demographic data that includes their name, age, gender and previous training in BLS.

Part 2 consists of 19 questions based on the ARC guideline to evaluate knowledge regarding BLS.

Part 3 measured confidence to perform BLS which has 6 questions by using a 5-item Likert scale that

includes strongly disagree (1), somewhat disagree (2), neither agree nor disagree (3), somewhat agree (4), and strongly agree (5).

A physical workshop of 90 minutes was arranged to educate students by using multimedia and demonstrations given after conducting pre-tests.

Ethical Considerations:

- The study was guided by the ethical principles of the World Medical Association (WMA) declaration of Helsinki.
- Ensured privacy and confidentiality of participants.
- Informed written consent for induction was taken prior to data collection Voluntary.
- The study was approved by the Institutional Ethical Review Committee of FMH system
- Ensure no harm to the participants

Data Analysis:

Data was analyzed using SPSS version 27.0. Descriptive statistics were used to report the knowledge percentage of students' The pre, post and follow-up test scores for knowledge and confidence were compared. Moreover, knowledge and confidence was assessed using Median Cutoff

Point to categorize scale into three levels,

Mild Knowledge : score 19-40

Moderate Knowledge : score 41-60

High Knowledge : score 61-80

Moreover, the classification of Confidence was,

Mild Confidence : score 1-10

Moderate Confidence : score 11-20

High Confidence : score 21-30

4. RESULTS

This chapter outlines the results of the quasi-experimental study carried out to assess the impact of an educational intervention on final-year nursing students' knowledge and confidence regarding Basic Life Support (BLS). The findings are organized into three main sections: participants' demographic profile, comparison of pre-test, post-test and follow-up knowledge scores, and comparison of pre-test, post-test and follow-up confidence levels. All participants completed all three evaluation phases of the study (pre-test, post-

test and follow-up test) with no drop-rate.

Demographic Profile of Students

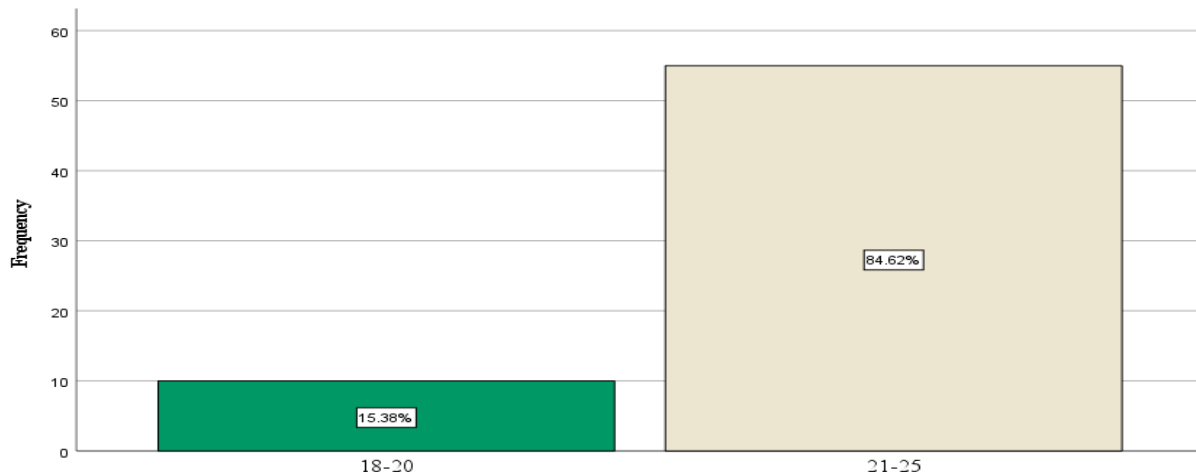


Figure 1: Age of Participants

Figure 1: A vertical bar chart illustrating the age distribution of the nursing students. The majority of participants fall into the 21–25 years

age group (84.6%), while a smaller proportion belongs to the 18–20 years age group (15.4%).

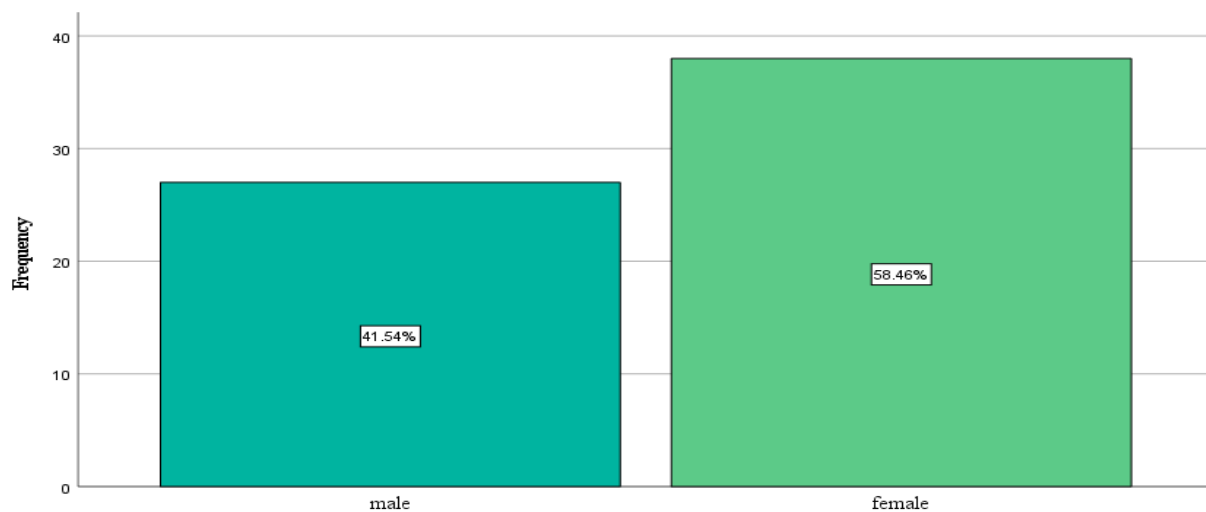


Figure 2: Gender of Participants

Figure 2: A vertical bar chart comparing the gender distribution of the participants. Females represent a larger proportion of the sample at 58.46% (38 participants), while males constitute 41.53% (27 participants).

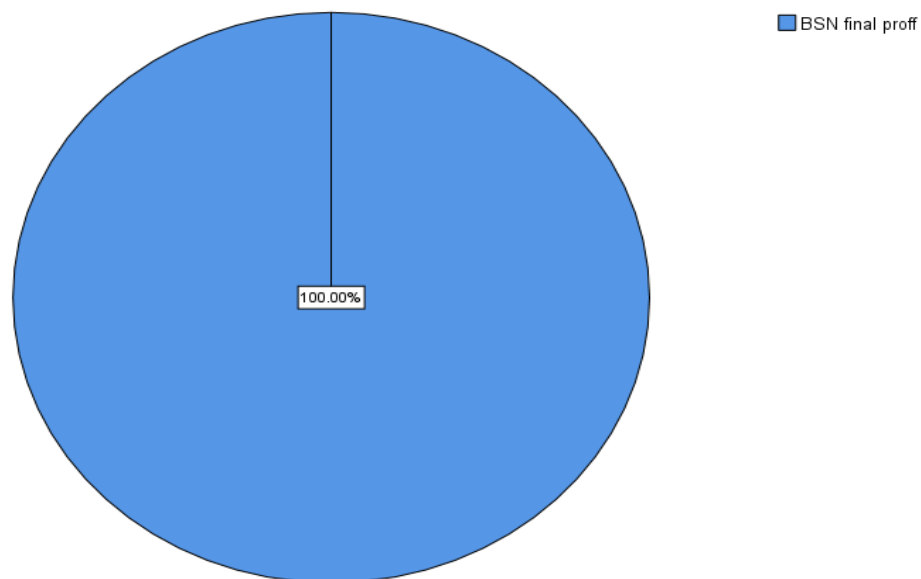


Figure 3: Discipline Year of Participants

Figure 3: A pie chart depicting the academic year/discipline of the study participants. It shows that 100.00% of the sample consists of final-year Bachelor of Science in Nursing (BSN final prof) students.

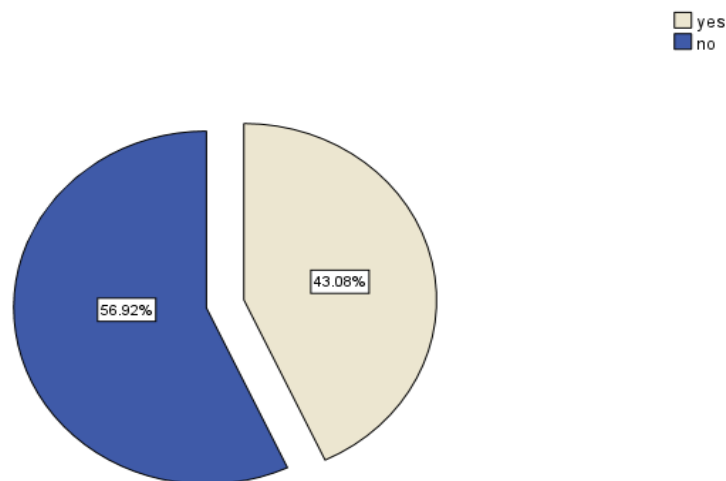


Figure 4: Previous History of BLS training?

Figure 4: A pie chart displaying the participants' previous exposure to Basic Life Support training. It shows that 43.1% of students had received prior BLS training before entering the study, whereas the remaining 56.9% had no prior BLS training

Questionnaire Profile of Participants:

Table 1: Frequencies of students' knowledge about BLS in pre, posttest and follow-up.

Sr #	Variables	Pretest (%)	Posttest (%)	Follow-up test (%)
1.	Correct BLS sequence according to ARC (Australian Resuscitation Council) guidelines?			
	DRSABCD (check danger, check response, send for help, open airway, check breathing, give compression, attach an AED)	30(46.2%)	53(81.5%)	53(81.5%)
	CAB (give compressions, open airway, check breathing)	2(3.1%)		
	ABCDS(clear airway, check breathing, give compressions, attach an AED,send for help)	24(36.9%)	2(3.1%)	2(3.1%)
	DRABCD (check danger, check response, clear airway, check breathing, give compressions, attach an AED)	9(13.8%)	10(15.4%)	10(15.4%)
2.	Recommended placement of AED(automated external defibrillator) pad for a patient with an implanted pacemaker?			
	Directly over the pacemaker	3(4.6%)	4(6.2%)	4(6.2%)
	Avoid placement over the pacemaker	3(4.6%)	54(83.1%)	54(83.1%)
	On the back	31(47.7%)	2(3.1%)	2(3.1%)
	On the abdomen	28(43.1%)	5(7.7%)	5(7.7%)
3.	Recommended position for a pregnant woman requiring CPR (cardiopulmonary resuscitation)?			
	1. Left lateral tilt	15(23.1%)	46(70.8%)	46(70.8%)
	2. Supine position	36(55.4%)	4(6.2%)	4(6.2%)
	3. Prone position	9(13.8%)	11(16.9%)	11(16.9%)
	4. Sitting position	5(7.7%)	4(6.2%)	4(6.2%)
4.	Correct chest compression depth for performing CPR in an adult?			
	1. At least 2 inches	13(20.0%)	39(60%)	39(60%)
	2. 1-2 inches		15(23.1%)	15(23.1%)
	3. Less than 1 inch	19(29.2%)		
	4. More than 3 inches	33(50.8%)	11(16.9%)	11(16.9%)

5.	Rescuer action immediately after the delivery of the AED shock?			
	1. Start CPR		36(55.4%)	36(55.4%)
	2. Check pulse	19(29.2%)	17(26.2%)	17(26.2%)
	3. Check breathing	25(38.5%)	9(13.8%)	9(13.8%)
	4. Wait for EMS	21(32.3%)	3(4.6%)	3(4.6%)
6.	Ratio of compressions to ventilation, with one rescuer, according to ARC?			
	1. 30:2	3(4.6%)	53(81.5%)	53(81.5%)
	2. 15:2	3(4.6%)	2(3.1%)	2(3.1%)
	3. 20:2	7(10.8%)	4(6.2%)	4(6.2%)
	4. 10:2	52(80.0%)	6(9.2%)	6(9.2%)
7	Preparation of skin site for the AED pads for appropriate shock delivery?			
	Dry the chest if wet		48(73.8%)	
	Leave chest wet	31(47.7%)		
	Apply gel	1(1.5%)	13(20.0%)	
	Shave chest	33(50.8%)	4(6.2%)	4(6.2%)
8.	Commence external chest compressions according to ARC BLS guidelines?			
	As soon as possible if unresponsive and not breathing normally	8(12.3%)	49(75.4%)	49(75.4%)
	After checking pulse	6(9.2%)	5(7.7%)	5(7.7%)
	After AED analysis	10(15.4%)	4(6.2%)	4(6.2%)
	After calling EMS	41(63.1%)	7(10.8%)	7(10.8%)
9.	Response when finding a patient unresponsive and breathing normally?			
	1. Start CPR	9(13.8%)	4(6.2%)	5(7.7%)
	2. Check for pulse	31(47.7%)	4(6.2%)	4(6.2%)
	3. Place in recovery position	10(15.4%)	56(86.2%)	55(84.6%)
	4. Monitor	15(23.1%)	1(1.5%)	1(1.5%)
10.	Hand position when performing chest compressions?			

	Center of chest, lower half of sternum	2(3.1%)	55(84.6%)	55(84.6%)
	Upper part of sternum	4(6.2%)	1(1.5%)	1(1.5%)
	Left side of chest	4(6.2%)	1(1.5%)	1(1.5%)
	Right side of chest	55(84.6%)	8(12.3%)	8(12.3%)
11.	Correct rate of chest compressions in an adult?			
	1. 100-120 per minute	4(6.2%)	52(80.0%)	52(80.0%)
	2. 60-80 per minute	9(13.8%)	3(4.6%)	3(4.6%)
	3. 80-100 per minute	15(23.1%)	2(3.1%)	2(3.1%)
	4. More than 120 per minute	37(56.9%)	8(12.3%)	8(12.3%)
12.	Safe practice while using an AED?			
	Ensure no one is touching the patient during shock	2(3.1%)	53(81.5%)	53(81.5%)
	Touch patient during shock	4(6.2%)	1(1.5%)	1(1.5%)
	Use AED on wet surfaces without precautions		4(6.2%)	4(6.2%)
	Use on children without pediatric settings	59(90.8%)	7(10.8%)	7(10.8%)
13.	Initial response when you find the patient collapsed on the bathroom floor?			
	Check responsiveness	4(6.2%)	39(60.0%)	37(56.9%)
	Start CPR immediately	21(32.3%)	4(6.2%)	4(6.2%)
	Call EMS(emergency management system) first	4(6.2%)	13(20.0%)	14(21.5%)
	Check for injuries	36(55.4%)	9(13.8%)	10(15.4%)
14.	Assessment of when patient's chest does not rise and fall during ventilation?			
	1. Reposition airway	5(7.7%)	46(70.8%)	46(70.8%)
	2. Increase ventilation volume	1(1.5%)		
	3. Stop ventilations	23(35.4%)	12(18.5%)	11(16.9%)
	4. Continue as it is	36(55.4%)	7(10.8%)	8(12.3%)
15.	A pulse check is performed prior to chest compressions?			
	1. True	1(1.5%)	53(81.5%)	52(80%)
	2. False	1(1.5%)	3(4.6%)	3(4.6%)

	3. Only in children	7(10.8%)	5(7.7%)	5(7.7%)
	4. Only in adults	56(86.2%)	4(6.2%)	5(7.7%)
16.	For defibrillation, when all clear, when should a shock be delivered?			
	1. When AED advises shock	12(18.5%)	40(61.5%)	40(61.5%)
	2. After 2 minutes of CPR	7(10.8%)	13(20.0%)	13(20.0%)
	3. After checking pulse	17(26.2%)	4(6.2%)	4(6.2%)
	4. After breathing check	29(44.6%)	8(12.3%)	8(12.3%)
17.	Next step once the airway is opened for an unresponsive patient?			
	1. Check for breathing	30(46.2%)	26(40.0%)	24(36.9%)
	2. Start CPR	6(9.2%)	18(27.7%)	18(27.7%)
	3. Check pulse	12(18.5%)	5(7.7%)	5(7.7%)
	4. Give rescue breaths	17(26.2%)	16(24.6%)	18(27.7%)
18	Recommended practice after 2 mins when 2nd rescuer is ready to take over?			
	Continue CPR without switching	11(16.9%)	10(15.4%)	10(15.4%)
	Switch or rotate rescuers to minimize fatigue	12(18.5%)	52(80.0%)	51(78.5%)
	Stop CPR and wait for further instructions signs of improvement	24(36.9%)	1(1.5%)	1(1.5%)
	Only switch rescuers if the patient shows	18(27.7%)	2(3.1%)	3(4.6%)
19.	Treat the patient as unconscious if a patient is not responding but groaning?			
	True	15(23.1%)	36(55.4%)	35(53.8%)
	False	19(29.2%)	5(7.7%)	5(7.7%)
	Only if the patient is also not breathing	11(16.9%)	15(23.1%)	15(23.1%)
	Only if the patient has a history of seizures	20(30.8%)	9(13.8%)	10(15.4%)

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	After checking pulse	6(9.2%)	5(7.7%)	5(7.7%)
	After AED analysis	10(15.4%)	4(6.2%)	4(6.2%)
	After calling EMS	41(63.1%)	7(10.8%)	7(10.8%)
9.	Response when finding a patient unresponsive and breathing normally?			
	1. Start CPR	9(13.8%)	4(6.2%)	5(7.7%)
	2. Check for pulse	31(47.7%)	4(6.2%)	4(6.2%)
	3. Place in recovery position	10(15.4%)	56(86.2%)	55(84.6%)
	4. Monitor	15(23.1%)	1(1.5%)	1(1.5%)
10.	Hand position when performing chest compressions?			
	Center of chest, lower half of sternum	2(3.1%)	55(84.6%)	55(84.6%)
	Upper part of sternum	4(6.2%)	1(1.5%)	1(1.5%)
	Left side of chest	4(6.2%)	1(1.5%)	1(1.5%)
	Right side of chest	55(84.6%)	8(12.3%)	8(12.3%)
11.	Correct rate of chest compressions in an adult?			
	1. 100-120 per minute	4(6.2%)	52(80.0%)	52(80.0%)
	2. 60-80 per minute	9(13.8%)	3(4.6%)	3(4.6%)

	3. 80-100 per minute	15(23.1%)	2(3.1%)	2(3.1%)
	4. More than 120 per minute	37(56.9%)	8(12.3%)	8(12.3%)
12.	Safe practice while using an AED?			
	Ensure no one is touching the patient during shock	2(3.1%)	53(81.5%)	53(81.5%)
	Touch patient during shock	4(6.2%)	1(1.5%)	1(1.5%)
	Use AED on wet surfaces without precautions		4(6.2%)	4(6.2%)
	Use on children without pediatric settings	59(90.8%)	7(10.8%)	7(10.8%)
13.	Initial response when you find the patient collapsed on the bathroom floor?			
	Check responsiveness	4(6.2%)	39(60.0%)	37(56.9%)
	Start CPR immediately	21(32.3%)	4(6.2%)	4(6.2%)
	Call EMS(emergency management system) first	4(6.2%)	13(20.0%)	14(21.5%)
	Check for injuries	36(55.4%)	9(13.8%)	10(15.4%)
14.	Assessment of when patient's chest does not rise and fall during ventilation?			
	1. Reposition airway	5(7.7%)	46(70.8%)	46(70.8%)
	2. Increase ventilation volume	1(1.5%)		
	3. Stop ventilations	23(35.4%)	12(18.5%)	11(16.9%)
	4. Continue as it is	36(55.4%)	7(10.8%)	8(12.3%)
15.	A pulse check is performed prior to chest compressions?			
	1. True	1(1.5%)	53(81.5%)	52(80%)
	2. False	1(1.5%)	3(4.6%)	3(4.6%)
	3. Only in children	7(10.8%)	5(7.7%)	5(7.7%)
	4. Only in adults	56(86.2%)	4(6.2%)	5(7.7%)
16.	For defibrillation, when all clear, when should a shock be delivered?			
	1. When AED advises shock	12(18.5%)	40(61.5%)	40(61.5%)
	2. After 2 minutes of CPR	7(10.8%)	13(20.0%)	13(20.0%)
	3. After checking pulse	17(26.2%)	4(6.2%)	4(6.2%)
	4. After breathing check	29(44.6%)	8(12.3%)	8(12.3%)
17.	Next step once the airway is opened for an unresponsive patient?			
	1. Check for breathing	30(46.2%)	26(40.0%)	24(36.9%)
	2. Start CPR	6(9.2%)	18(27.7%)	18(27.7%)
	3. Check pulse	12(18.5%)	5(7.7%)	5(7.7%)

	4. Give rescue breaths	17(26.2%)	16(24.6%)	18(27.7%)
18	Recommended practice after 2 mints when 2nd rescuer is ready to take over?			
	Continue CPR without switching	11(16.9%)	10(15.4%)	10(15.4%)
	Switch or rotate rescuers to minimize fatigue	12(18.5%)	52(80.0%)	51(78.5%)
	Stop CPR and wait for further instructions signs of improvement	24(36.9%)	1(1.5%)	1(1.5%)
	Only switch rescuers if the patient shows	18(27.7%)	2(3.1%)	3(4.6%)
19.	Treat the patient as unconscious if a patient is not responding but groaning?			
	True	15(23.1%)	36(55.4%)	35(53.8%)
	False	19(29.2%)	5(7.7%)	5(7.7%)
	Only if the patient is also not breathing	11(16.9%)	15(23.1%)	15(23.1%)
	Only if the patient has a history of seizures	20(30.8%)	9(13.8%)	10(15.4%)

Table 1 evaluates the frequency and percentage distribution of final-year nursing students' correct and incorrect responses across 13 core knowledge items regarding Basic Life Support (BLS), tracked across three evaluation phases: Pretest, Posttest, and Follow-up. At baseline (Pretest), the participants demonstrated a critical lack of theoretical and practical BLS knowledge. For instance, only 4.6% correctly identified the 30:2 compression-to-ventilation ratio, merely 6.2% knew the correct adult compression rate of 100–120 per minute, and a small minority (4.6%) recognized the need to avoid placing AED pads directly over an implanted pacemaker. Additionally, baseline scores revealed widespread misconceptions, such as 90.8% selecting unsafe AED practices on children without pediatric settings and 50.8% incorrectly identifying chest compression depth. Following the 90-minute

structured educational workshop, the Posttest results demonstrated a substantial improvement across all metrics. Correct responses for the Australian Resuscitation Council (ARC) DRSABCD sequence rose from 46.2% to 81.5%, correct placement of AED pads avoiding pacemakers increased to 83.1%, knowledge of proper left lateral tilt positioning for pregnant CPR recipients improved from 23.1% to 70.8%, and recognition of placing unresponsive, normally breathing patients in the recovery position surged from 15.4% to 86.2%. Crucially, the Follow-up test scores revealed near-perfect retention of this newly acquired knowledge, with identical or minimally varied response percentages compared to the immediate Posttest—such as 81.5% maintaining correct DRSABCD sequence knowledge, 80.0% retaining compression rate knowledge, and 84.6% retaining proper hand placement techniques.

Table 2: Mean difference of Pretest, Posttest and Follow-up knowledge

This table Demonstrates the knowledge regarding BLS in the pre, post-test and follow-up test among final year nursing students through workshop. All 19 question means were low in pretest ranging

from 1.18 to 2.93 which indicate low knowledge of students regarding BLS. Post test score was considerably high ranging from 2.83 to 3.61, with a mean difference of 0.08 to 2.43.

Four of the highest gains in the questions were, “A pulse check is performed prior to chest compressions?” (MD=+2.43). The reported mean score for the second question was “Safe practice while using an AED?” (MD=+2.32). Further improvement shows in the question “Hand position when performing chest compressions?” (MD=+2.31) and “Ratio of compressions to ventilation, with one rescuer, according to ARC?” (MD=+2.23).

At the follow-up assessment, overall knowledge retention remained strong, with mean scores ranging between 2.73 and 3.58. The mean differences between the post-test and follow-up evaluations demonstrated minimal score decay across all items. Specifically, Item 13 post-test mean of 3.12 decreased slightly to a follow-up mean of 3.04 (Mean Difference = -0.08), while

Item 14 remained nearly identical, moving from 3.30 at post-test to 3.29 at follow-up (Mean Difference = -0.01) to indicate virtually complete retention. Similarly, Item 15 shifted slightly from 3.61 to 3.58 (Mean Difference = -0.03), and Item 16 demonstrated perfect retention with identical post-test and follow-up scores of 3.30 (Mean Difference = 0.00). The remaining items showed small downward shifts: Item 17 moved from 2.83 to 2.73 (Mean Difference = -0.10), Item 18 adjusted from 3.07 to 3.04 (Mean Difference = -0.03), and Item 19 decreased from 3.04 to 3.00 (Mean Difference = -0.04). Overall, these slight negative mean differences across items indicate minor natural knowledge decay over time, while the close proximity of follow-up scores to post-test scores highlights high overall maintenance of the concepts taught.

Table 3: Frequencies of confidence to perform BLS in Pretest, Posttest and Follow-up.

Sr #	Variables	Pre test	Post test	Follow-up test
1.	Confidence to identify a person requiring BLS			
	a) Strongly disagree	32(49.2%)	5(7.7%)	8(12.3%)
	b) Somewhat disagree	11(16.9%)		
	c) Neither agree nor disagree	8(12.3%)	3(4.6%)	2(3.1%)
	d) Somewhat agree	14(21.5%)	15(23.1%)	13(20.0)
	e) Strongly agree		42(64.6%)	42(64.6%)
2	Confidence to open the airway of an unconscious patient?			
	a) Strongly disagree	32(49.2%)	4(6.2%)	5(7.7%)
	b) Somewhat disagree	14(21.5%)	9(13.8%)	8(12/3%)
	c) Neither agree nor disagree	11(16.9%)	6(9.2%)	5(7.7%)
	d) Somewhat agree	5(7.7%)	15(23.1%)	14(21.5%)
	e) Strongly agree	3(4.6%)	31(47.7%)	33(50.8%)
3	Confidence to perform cardiopulmonary ventilations on an adult at the required rate			
	a) Strongly disagree	34(52.3%)	2(3.1%)	2(3.1%)
	b) Somewhat disagree	12(18.5%)	7(10.8%)	7(10.8%)
	c) Neither agree nor disagree	9(13.8%)	10(15.4%)	10(15.4%)

	d) Somewhat agree	8(12.3%)	22(33.8%)	19(29.2%)
	e) Strongly Agree	2(3.1%)	24(36.9%)	27(41.5%)
4	Confidence to perform effective chest compressions on an adult			
	a) Strongly disagree	37(56.9%)	3(4.6%)	3(4.6%)
	b) Somewhat disagree	12(18.5%)	2(3.1%)	3(4.6%)
	c) Neither agree nor disagree	9(13.8%)	8(12.3%)	8(12.3%)
	d) Somewhat agree	7(10.8%)	26(40.0%)	23(35.4%)
	e) strongly agree		26(40.0%)	28(43.1%)
5.	Confidence to correctly use AED			
	a) Strongly disagree	40(61.5%)	2(3.1%)	3(4.6%)
	b) Somewhat disagree	10(15.4%)	8(12.3%)	9(13.8%)
	c) Neither agree nor disagree	8(12.3%)	13(20.0%)	14(21.5%)
	d) Somewhat agree	4(6.2%)	20(30.8%)	16(24.6%)
	e) Strongly Agree	3(4.6%)	22(33.8%)	23(35.4%)
6.	Confidence to correctly perform BLS following the DRSABCD flow chart			
	a) Strongly disagree	38(58.5%)	2(3.1%)	6(9.2%)
	b) Somewhat disagree	9(13.8%)	6(9.2%)	3(4.6%)
	c) Neither agree nor disagree	11(16.9%)	6(9.2%)	5(7.7%)
	d) Somewhat agree	6(9.2%)	15(23.1%)	14(21.5%)
	e) strongly Agree	1(1.5%)	36(55.4%)	37(56.9%)

Table 3 illustrates the distribution of nursing students' self-reported confidence levels in performing Basic Life Support (BLS) evaluated at three stages: pre-test (prior to the educational intervention), post-test (immediately following hands-on practice), and follow-up.

- **Pre-Test baseline:** Before the intervention, the majority of participants demonstrated lower levels of confidence, with most students selecting "Strongly Disagree," "Disagree," or "Neutral/Somewhat Agree" regarding their confidence to perform BLS skills. Only a negligible percentage (1.5%, n=1) reported feeling strongly confident.
- **Post-Test improvement:** Following the educational intervention and practical hands-on simulation, a substantial shift was observed toward higher confidence categories. A major proportion of the participants (55.4%, n=36) expressed strong agreement ("Strongly Agree") with being confident in performing BLS skills, alongside an additional 23.1% (n=15) reporting "Somewhat Agree."
- **Follow-up retention:** During the follow-up assessment, confidence levels remained high, with 56.9% (n=37) maintaining "Strongly Agree" and 21.5% (n=14) selecting "Somewhat Agree," indicating sustained confidence over time.

Overall, these findings demonstrate a marked and statistically significant increase in nursing students' confidence to perform BLS following the structured educational intervention and hands-on practice.

Table 4: Mean difference of confidence in Pre-test, Post-test and Follow-up

Sr #	Questions	Pre test Mean± SD	Post test Mean± SD	Follow-up test Mean ± SD	Mean d/f of pre and post test	Mean d/f of Post and Follow-up
1.	Correct BLS sequence according to ARC (Australian Resuscitation Council) guidelines?	2.81±1.17	3.47±1.11	3.47±1.11	0.66	0.00
2.	Recommended placement of AED (automated external defibrillator) pad for a patient with an implanted pacemaker?	1.70±0.76	2.87±0.62	2.87±0.62	1.17	0.00
3.	Recommended position for a pregnant woman requiring CPR (cardiopulmonary resuscitation)?	2.93±0.82	3.41±0.98	3.41±0.98	0.48	0.00
4.	Correct chest compression depth for performing CPR in an adult?	1.89±1.14	3.26±1.10	3.26±1.10	1.37	0.00
5.	Rescuer action immediately after the delivery of the AED shock?	1.96±0.78	3.32±0.88	3.32±0.88	1.36	0.00
6	Ratio of compressions to ventilation, with one rescuer, according to ARC?	1.33±0.77	3.56±0.96	3.56±0.96	2.23	0.00
7	Preparation of skin site for the AED pads for appropriate shock delivery?	1.96±0.99	3.41±1.01	3.41±1.01	1.45	0.00
8	Commence external chest compressions according to ARC BLS guidelines?	1.70±1.07	3.47±1.01	3.41±1.01	1.77	0.00
9	Response when finding a patient unresponsive and breathing normally?	2.47±1.00	2.83±0.54	2.80±0.59	0.36	0.00
10	Hand position when performing chest compressions?	1.27±0.71	3.58±1.01	3.58±1.01	2.31	0.00
11	Correct rate of chest compressions in an adult?	1.69±0.93	3.52±1.03	3.52±1.03	1.83	0.00
12.	Safe practice while using an AED?	1.21±0.69	3.53±1.01	3.53±1.01	2.32	0.00
13.	Initial response when you find the patient collapsed on the bathroom floor?	1.89±1.06	3.12±1.16	3.04±1.19	1.23	-0.08
14.	Assessment of when patient's chest does not rise and fall during ventilation?	1.61±0.86	3.30±1.11	3.29±1.14	1.69	-0.01
15.	A pulse check is performed prior to chest compressions?	1.18±0.52	3.61±0.87	3.58±0.93	2.43	-0.03
16.	For defibrillators, when all clear, when should a shock be delivered?	2.03±1.14	3.30±1.04	3.30±1.04	1.27	0.00

17.	Next step once the airway is opened for an unresponsive patients?	2.75±1.28	2.83±1.20	2.73±1.22	0.08	-0.10
18.	Recommended practice after 2 minutes when 2nd rescuer is ready to take over?	2.24±1.04	3.07±0.53	3.04±0.59	0.83	-0.03
19.	Treat the patient as unconscious if a patient is not responding but groaning?	2.44±1.15	3.04±1.16	3.00±1.18	0.6	-0.04

Sr #	Variables	Pre test Mean± SD	Post test Mean± SD	Follow-up Test	Mean d/f between pre and post	Mean d/f between post and follow-up
1.	Confidence to identify a person requiring BLS	2.06±1.22	4.36±1.12	4.24±1.32	2.3	-0.12
2.	Confidence to open the airway of an unconscious patient	1.96±1.18	3.92±1.30	3.95±1.33	1.96	0.03
3.	Confidence to perform cardiopulmonary ventilations on an adult at the required rate	1.95±1.20	3.90±1.11	3.95±1.13	1.95	0.05
4	Confidence to perform effective chest compressions on an adult	1.78±1.05	4.07±1.03	4.07±1.07	2.29	0.00
5	Confidence to correctly use an AED	1.76±1.16	3.80±1.13	3.72±1.21	2.04	-0.08
6	Confidence to correctly perform BLS following the DRSABCD flow chart	1.81±1.11	4.18±1.13	4.12±1.29	2.37	-0.06

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The table demonstrates the comparison of confidence in performing BLS among final year nursing students in the pre and posttest of workshop after giving hand zone practice. The mean score in the pretest was low ranging from **1.76 to 2.06**. While the posttest mean was considerably high ranging from **3.80 to 4.36**.

The four largest mean gains from pre-test to post-test were observed in "Confidence to correctly perform BLS following the DRSABCD flow chart" (MD=+2.37), "Confidence to identify a person requiring BLS" (MD=+2.30), "Confidence to perform effective chest compressions on an adult" (MD=+2.29), and "Confidence to correctly use an AED" (MD=+2.04).

At the follow-up assessment, participants maintained high levels of self-reported confidence across all domains, with mean scores ranging from **3.72 to 4.24**. Comparisons between post-test and follow-up scores demonstrated overall strong retention of confidence over time, with mean differences remaining minimal across items (MD ranging from -0.12 to +0.05). Minor decreases were noted in general BLS confidence (MD=-0.12), chest compressions (MD=-0.08), and AED use (MD=-0.06). Conversely, slight continued improvements were observed in identifying a person requiring BLS (MD=+0.03) and placing an unconscious breathing victim in the recovery position (MD=+0.05), while confidence following the DRSABCD flowchart showed perfect retention (MD =0.00).

Table 5: Knowledge Level of Participants Pre-Test

Pre-Test Knowledge Score		
	Frequency	Percent
Mild Knowledge (19-40)	53	81.5%
Moderate Knowledge (41-60)	10	15.4%
High Knowledge (61-80)	2	3.1%

Table 5 illustrates the knowledge level of participants before any intervention. The results show that prior to any intervention, 81.5% of participants acquired a mild level of knowledge.

While, few participants (15.4%) had a moderate level of knowledge. Moreover, a very small portion of participants (3.1%) had a high level of knowledge.

Table 6: Knowledge Level of Participants Post-Test

Post-Test Knowledge Score		
	Frequency	Percent
Mild Knowledge (19-40)	3	4.6%
Moderate Knowledge (41-60)	13	20%
High Knowledge (61-80)	49	75.4%

Table 6 highlights the knowledge level of participants after 90 minutes of physical workshop. The results show that after intervention, there was a significant change in knowledge level of participants. After

intervention, almost 75.4% of participants acquire a high level of knowledge. On the other hand, 20% and 4.6% of participants acquire moderate and mild level of knowledge respectively.

Table 7: Follow-up Knowledge Level of Participants

Follow-up Knowledge Score		
	Frequency	Percent
Mild Knowledge (19-40)	4	6.2%
Moderate Knowledge (41-60)	14	21.5%
High Knowledge (61-80)	47	72.3%

Table 7 highlights the knowledge level of participants after 2 months of intervention, to

assess the retention of knowledge in participants. The results show that when follow-up data was

collected after 2 months, the mild changes in knowledge level was seen, with 72.3% of participants acquiring a high level of knowledge. Moreover, 21.5% and 6.2% of participants acquire moderate and mild level of knowledge respectively.

The overall results highlight that before any workshop, only a small percentage of participants

demonstrated a high level of knowledge, but after workshop and educational intervention, there was a high number of participants (75.4%) who had high knowledge. However, when follow-up data was collected, a mild reduction in the number of participants was seen that had a high level of knowledge.

Table 8: Confidence Level of Participants Pre-Test

Pre-Test Confidence Level		
	Frequency	Percent
Mild Confidence (1-10)	37	56.9%
Moderate Confidence (11-20)	24	36.9%
High Confidence (21-30)	4	6.2%

Table 8 illustrates the pre-test confidence levels of nursing students regarding Basic Life Support prior to the educational intervention. The majority of participants demonstrated a **mild level of confidence** (56.9%, n = 37), followed by 36.9% (n = 24) who had a **moderate level of confidence**.

Only a small proportion of participants (6.2%, n = 4) reported a **high level of confidence** prior to attending the workshop. These baseline findings highlight a widespread lack of self-assurance among final-year students in performing emergency BLS procedures.

Table 9: Confidence Level of Participants Post-Test

Post-Test Confidence Level		
	Frequency	Percent
Mild Confidence (1-10)	3	4.6
Moderate Confidence (11-20)	12	18.5
High Confidence (21-30)	50	76.9

Table 9 presents the post-test confidence levels of participants following the implementation of the educational workshop. Following the intervention, a substantial majority of the students (76.9%, n = 50) achieved a **high level of confidence**. Meanwhile, 18.5% (n = 12) demonstrated a **moderate level of confidence**, and

only 4.6% (n = 3) remained at a **mild level of confidence**. This marked shift from predominantly mild baseline confidence to post-intervention high confidence indicates that the training effectively enhanced the students' self-efficacy in BLS management.

Table 10: Follow-Up Confidence Level of Participants

Follow-Up Confidence Level		
	Frequency	Percent
Mild Confidence (1-10)	4	6.2%
Moderate Confidence (11-20)	14	21.5%
High Confidence (21-30)	47	72.3%

Table 10 presents the confidence levels of nursing students regarding Basic Life Support evaluated at the 3-month follow-up post-intervention. The data demonstrate that a substantial majority of participants (72.3%, $n = 47$) maintained a **high level of confidence**. Additionally, 21.5% ($n = 14$) retained a **moderate level of confidence**, while only 6.2% ($n = 4$) reported a **mild level of confidence**. Although there was a slight decrease compared to the immediate post-test confidence levels (76.9%), these findings confirm strong long-term self-efficacy and confidence retention following the educational training.

5: DISCUSSION

This chapter presents the discussion of the findings regarding the effectiveness of an educational intervention on final year nursing students' knowledge and confidence to perform basic life support at Saida Waheed FMH College of Nursing, Lahore. The results are analyzed by comparing the Pre, post-test and follow-up score after giving an educational workshop. Additionally, this chapter also acknowledges the study's limitations and suggests direction for future research to further enhance the knowledge and confidence in nursing students while performing BLS. This study explains two aspects: the knowledge about BLS and the confidence to perform it.

The demographic characteristics of the participants provide important context for understanding the findings of the study. In this study 58.46% and 41.53% were female and male participants respectively. Similarly, these variables were supported by a study conducted in western Uganda. In Uganda study, 65.6% were female and 34.4% were male participants (Munezero et al., 2018). Most of the participants 84.6% were in

the 21-25-year age group which is similar to the study that was conducted in Karachi where 80% of the total participants fall in the 20-30-year age group (Imran et al., 2023).

Knowledge of students regarding BLS

The discussion shows the overall knowledge of students before and after the educational intervention, along with a comparison to similar quasi-experimental studies. The pre-test findings indicated that most students (81.5%) had limited knowledge of Basic Life Support (BLS), while 15.4% demonstrated moderate knowledge and 3.1% had good knowledge. Following the intervention, there was a marked improvement, with only 4.6% remaining at a mild level, 20% achieving moderate knowledge, and a substantial 75.4% demonstrating excellent knowledge. This significant shift clearly reflects the effectiveness of educational intervention in enhancing students' understanding of BLS concepts. These findings are consistent with a similar study conducted at P.G. College of Nursing, C.H.R.I., Gwalior, Madhya Pradesh, India, where pre-test scores showed that only 3.3% of students had average knowledge while 96.7% had good knowledge; however, post-test results revealed further improvement, with 33.3% achieving good scores and 66.7% reaching an excellent level, indicating a notable enhancement in both knowledge and practice following a Planned Teaching Program (PTP).

Furthermore, when examining specific knowledge areas, students initially demonstrated limited understanding of key BLS components, including pulse assessment prior to chest compressions, correct hand positioning during compressions, and the appropriate compression-to-ventilation ratio for a single rescuer. After the intervention,

there was a significant improvement in all these areas, as reflected by increased mean scores and correct responses. This suggests that the educational program not only improved theoretical knowledge but also enhanced practical comprehension of essential life-saving techniques. Similar trends have been reported in other studies, where structured training sessions and hands-on demonstrations effectively corrected misconceptions and strengthened skill-based learning. Overall, the findings confirm that structured educational interventions play a crucial role in significantly improving students' knowledge and competency, effectively bridging existing knowledge gaps. The consistency of these results with previous quasi-experimental and workshop-based studies further emphasizes the importance of continuous educational programs in both academic and clinical settings.

Confidence of students regarding BLS:

The study findings show that the overall confidence level of BSN students in performing Basic Life support (BLS) improved to a greater extent after an educational intervention. The present study demonstrated a marked improvement in nursing students' confidence across all components of Basic Life Support, including identifying a person requiring BLS, airway management, performing ventilation, effective chest compressions, correct AED usage. The pre- test mean score was poor ranging from 1.7 to 2.06, showing limited confidence to perform BLS, while the post test results shows a significant improvement in mean scores ranging 3.80 to 4.36. that tells how the training sessions or workshops improve students self -confidence to perform BLS. Another study was conducted in an Australian university in 2021 to compare the confidence level of first year nursing students before and after watching an online video lecture. Students' confidence scores improved from 17.0 (SD: 6.3) to 24.5 (SD: 4.4) in the pre -test and post-test, respectively. Indicating that educational interventions significantly enhance the students confidence in performing BLS skills(George et al. 2023).

In contrast, a study conducted by Aloush S. M. et

al. (2017) reported comparatively limited improvement in students' confidence across similar BLS skills. Although participants demonstrated better theoretical understanding after training, many students remained uncertain about airway management, chest compression performance, and AED application. Unlike the current findings, confidence related to independent clinical performance remained moderate rather than high. The mean scores increased from 2.9 ± 0.9 before training to 3.1 ± 0.8 after training, reflecting a smaller mean difference of approximately 0.7. Unlike the present study, confidence in independent clinical performance remained at moderate level rather than high. The discrepancy between findings may be explained by variation in training delivery methods, as the present study utilized structured hands-on workshops that allowed repeated skill practice, whereas the contrasting study involved less intensive practical exposure. These results highlight that active skill-based learning plays a crucial role in strengthening confidence in life-saving procedures.

Outcomes and Utilizations:

● Theoretical knowledge regarding BLS procedures must be improved.

- Confidence level must be enhanced while performing CPR. airway management and AED usage
- For handling emergency situations nursing students must be better prepared
- Structured BLS workshops must be included in nursing curriculum
- Patient safety must be improved through better emergency response skills.

Recommendations:

- ★ Recommend periodic refresher sessions (e.g., brief Hands-on booster sessions every 3 to 6 months) to mitigate the knowledge decay identified in our follow-up assessment.
- ★ Suggest future studies extend the follow-up duration (e.g., to 6 or 12 months) and assess actual clinical skill execution during real resuscitation events or high-fidelity simulations

- ★ BLS training sessions should be conducted for nursing students regularly.
- ★ Before graduation BLS certification should be mandatory.
- ★ Hands-on practice and simulation based training should be increased.
- ★ Updated international resuscitation guidelines should be followed in workshops.

Implications for Future Research:

To enhance generalizability future studies should include larger sample sizes and multiple institutions. Between different teaching methods such as stimulation-based learning, online modules, and blended approaches are suggested for comparative studies

Limitations of the study:

- Study conducted in a single institution
- Generalizability limits with convenience sampling method
- Follow up is for short duration
- Results can be influenced if participants who are volunteer for the study may already be interested in learning BLS
- Knowledge and self-reported confidence mainly focused during assessment
- While a 3-month follow-up was conducted, Long term retention (6 months or 1 year) assessment was not assessed in this study.

Strengths of the study:

- A pre and post quasi experimental design is used
- Educational intervention is structured and guideline based
- Both knowledge and confidence variables are assessed
- SPSS used while performing statistical analysis
- Participants confidentiality maintained and must obtain ethical approval

Conclusion:

The quasi-experimental study evaluates the effectiveness of an educational intervention on final year nursing students' knowledge and

confidence regarding Basic Life Support (BLS). The findings explain a significant improvement in both knowledge and confidence scores after the implementation of the educational workshop. Pre-test results showed insufficient knowledge and low confidence levels among students; however, post test results revealed marked improvement across most variables. However, follow-up assessment reveals minute decay in knowledge and confidence of participants, Therefore, the conclusion of the study is that educational intervention is effective in enhancing BLS related knowledge and confidence among nursing students, however to prevent knowledge and confidence decay after interval of time, hands-on booster sessions should be conducted. Overall, there was an increase in participants' knowledge and confidence level after educational intervention

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