



# **Title of the study: A study to assess the effectiveness of educational intervention on knowledge and practice regarding basic life support among 1st semester students of Selected Nursing colleges of IUST, Awantipora.**

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## **Abstract**

Cardiac arrests are the most serious emergencies with grave consequences, immediate Resuscitation can double or triple the chances of survival. Knowledge and practice of Basic Life Support (BLS) increase the chances of survival of the patient. The aim of the study was to assess the effectiveness of educational intervention on knowledge and practice regarding basic life support among 1st semester students of Selected Nursing colleges of IUST, Awantipora. Self-structured questionnaire and observation checklist, was used. simple random sampling technique was used to collect the data from 40 1st semester students of BSc nursing

Results revealed that in Pre-test (57.5%) had moderate knowledge, 42.5% had inadequate knowledge, and 0% had adequate knowledge about basic life support and (80%) had poor practice,( 20%) had inadequate practice, and ( 0%) had good practice and in Post-test (85.0%) had adequate knowledge,( 15.0% ) had Moderate knowledge, and ( 0%) had Inadequate knowledge about basic life support and 4693(72.5%) had good practice,( 27.5% ) had average practice, and ( 0%) had poor practice

The study concluded that study subjects were lacking knowledge and practice about basic life support before educational intervention.

**Keywords: Assess, Knowledge, practice, 1st semester BSc nursing students, Basic life support.**

## INTRODUCTION

When the heart stops beating, it is called cardiac arrest. It is a medical emergency that, in the absence of prompt medical attention, will cause cardiac death in a matter of minutes<sup>1</sup>.

In over 50% of cases, there are no warning signs or symptoms before cardiac arrest. This may manifest as something new or getting worse: Chest discomfort, exhaustion, blackouts, fainting, wooziness, weakness, and vomiting.<sup>2</sup>

Adult cardiopulmonary arrest can have a variety of reasons, which vary with age and demographic. coronary artery disorders are thought to be the cause of 75% of cardiac arrest events. The differences in age related risks for other characteristics of coronary heart disease (CHD) between males and females are correlated with the risk for cardiopulmonary arrest.<sup>1</sup>

Without the use of medications or specialized technology, basic life support (BLS) is the provision of care intended to sustain adequate circulation and ventilation to the patient experiencing cardiac arrest. Recognising the symptoms of sudden cardiac arrest (SCA), heart attack, stroke, and foreign body airway obstruction (FBAO) is part of basic life support (BLS), as is performing cardiopulmonary resuscitation (CPR).<sup>3</sup>

Typically, nurses are the first people to notice a cardiac arrest in a hospital and call for help. Therefore, in order for nurses to participate in cardiac arrest manoeuvres more effectively, they need to have up-to-date technical knowledge and practical skills established. Given their significance on the healthcare team, nurses are thought to have the fundamental knowledge and training required to conduct CPR. Since unexpected death can be significantly avoided with prompt CPR, it is recognised as a critical medical practise.<sup>4</sup>

### Objectives of Study:

1. To assess the pre-test knowledge score and practice regarding basic life support among ist semester students of Selected Nursing colleges of Islamic University Of Science And Technology Awantipora Kashmir
2. To assess the post-test knowledge score and practice regarding basic life support among ist semester students of Selected Nursing colleges of Islamic University Of Science And Technology Awantipora Kashmir
3. To assess the effectiveness of educational intervention on knowledge and practice regarding basic life support among ist semester students of Selected Nursing colleges of Islamic University Of Science And Technology Awantipora Kashmir
4. To associate pre-test knowledge score and practice regarding basic life support among ist semester students of Selected Nursing colleges of Islamic University Of Science And Technology Awantipora Kashmir with their selected Demographic variables I.e.,age, gender, education of parents, occupation of parents, information source.

## Hypothesis:

**H1:-**There is significant increase in the mean post-test knowledge score as compared to mean post-test knowledge score regarding basic life support among 1st semester students of Selected Nursing colleges of IUST at 0.05% level of significance.

**H2:-**There is significant association between the pre-test knowledge score regarding basic life support with their selected demographic variables (i.e.,age, gender, education of parents, occupation of parents, information source) among 1st semester students of Selected Nursing colleges of IUST at 0.05% level of significance.

## Operational Definitions:

**Assess:-** In this study, assess refers to evaluate the level of knowledge score among 1st semester students of Selected Nursing colleges of IUST before and after educational intervention and practice using self-structured questionnaire.

**Effectiveness:-** In this study, effectiveness refers to the extent to which educational intervention has achieved the desired outcomes in terms of gain in the knowledge of basic life support evidenced by post-test knowledge score.

**BSc Nursing 1st semester Students:-**In this study, it refers to the BSc. Nursing 1st semester students of Selected Nursing colleges of IUST.

**Knowledge:-**In this study, it refers to the ability to give correct answer to the questions regarding basic life support as elicited by the structured questionnaire devised by investigators.

**Basic life support:-**In this study, it refers to the type of care that first-responders, healthcare providers and public safety professionals provide to anyone who is experiencing cardiac arrest, respiratory distress or an obstructed airway.

**Practice:-**In this study, it refers to the ability to carry out the practice on cardiopulmonary resuscitation.

**Educational intervention:-**In this study, it refers to the systematic structured lecture given by the researcher to help students of Selected college to gain knowledge regarding basic life support.

## Delimitations:-

The study was delimited to the 1st semester students of nursing colleges who are studying at Islamic University of science and technology (IUST),Awantipora, pulwama, Kashmir.

## REVIEW OF LITERATURE

**1.Alzahrani AH, Alnajjar MF, and Bakhsh AA (2019)<sup>11</sup>** conducted a retrospective study to evaluate the prevalence, risk factors and outcomes of sudden cardiac arrest (SCA) in a teaching hospital in Jeddah, Saudi Arabia .The results showed a prevalence of 7.76 instances/1000 adult hospital admissions for SCA, with a total of 429 cases meeting the inclusion criteria. The average age of these was 58.4 years, and 36.6% of them were male and over the age of 65. Only 3.5% of cardiac arrests occurred outside of hospitals.

**Rachana B , Ravindra P , Sahu AK, Mathew R , Wilson W (2021)<sup>12</sup>** conducted a prospective observational study to assess the prehospital care received by the patients presenting to the Emergency Department with OHCA in a tertiary care hospital in India and to predict the factors that could influence their outcome. The results showed that 30.7% (n = 63) of the

patients experienced cardiac arrest while traveling, while 56.6% (n = 116) of the patients experienced cardiac arrest at home. Notably, only 9.8% of the patients (n = 20) received bystander CPR, and of those, 7.3% (n = 15) received it while being carried in the ambulance. Two of the 20 patients received rescue breaths in addition to chest compressions, while the other 18 received hands-only CPR.

5. **Arif A, Riaz C (2020)**<sup>13</sup> conducted a descriptive cross sectional study to assess the knowledge and practice of nurses regarding basic life support at Allied Hospital Faisalabad, Pakistan. 50 staff nurses with more than a year of experience in their respective departments were chosen as a sample. Data were gathered using a well-designed research questionnaire with 22 items (based on demographic information, nurse knowledge and practise about BLS). The research revealed that (34%) individuals have adequate knowledge, while (66%) have insufficient understanding. Only (48%) of participants have strong BLS practise, while (52%) have poor BLS practise.

6. **Sachdeva S (2020)**<sup>14</sup> conducted a study to assess knowledge and practice of basic life support among nurses working in tertiary care hospital, New Delhi, India. For the data collection, 112 nursing officers were chosen. The findings revealed subject-level skill and average knowledge. The respondents who worked in the emergency rooms and intensive care units, however, performed and knew more than those who worked in other areas. With regards to factors like clinical setting and BLS in-service training, both knowledge and skill were substantially related (p 0.05). The findings vehemently reinforce the requirement for ongoing basic life support training for medical workers.

7. **A. Ahmad, N. Akhter, R. K. Mandal et. al,(2019)**<sup>15</sup> conducted a cross sectional study on Knowledge of basic life support among the students of Jazan University, Saudi Arabia. The results showed that roughly 28% of the participants had previously undergone BLS training as part of their academic program and had higher BLS knowledge than the other participants (mean score: 10.41). In comparison to students taking health science-related courses, emergency medical services students chose the highest mean knowledge score (11.5), while nursing students chose the lowest score (6.58).

## Research Methodology

Quantitative research approach was found to be appropriate to assess the effectiveness of educational intervention on knowledge and practice regarding basic life support among ist semester students of Selected Nursing colleges of Islamic University of science and technology (IUST), Awantipora, pulwama, Kashmir. Pre-experimental one group pre-test post-test research design was selected for the present study .The present study was conducted at Nursing colleges of IUST, Awantipora, pulwama, kashmir. The criteria for selecting this setting was feasibility and availability of sample. The target population were the students who were studying in ist semester at Nursing colleges of IUST, Awantipora ,pulwama during the period of data collection.

**Inclusion criteria:** was Students who were Studying in BSc Nursing 1st semester ,Available on the day of data collection ,Willing to participate in the study

**Exclusion criteria** was Students who were Studying in BSc Nursing 4th year,3rd year, 3rd semester and 2nd semester students, not available on the day of data collection. , not willing to participate in the study.

**VARIABLES UNDER STUDY:** were In the present study the independent variable was educational intervention regarding basic life support. The dependent variable was knowledge and practice regarding basic life support .Demographic variable selected for the present study were age, gender, education of parents, occupation of parents, information source.

## DATA COLLECTION PROCEDURE

The primary data collection period run from 10 June 2023 to 25 June 2023. Prior to gathering data,

The investigators welcomed the study participants, and explained the study's objectives to them after receiving administrative approval from the parent institution. They were made aware that their anonymity and secrecy would be preserved, as well as the privacy and confidentiality of the information acquired. The study subjects' informed written consent was collected to verify their desire to take part. To gauge student's knowledge of basic life support, a self-structured questionnaire was used. For one student, it took 15 to 20 minutes to finish the questionnaire. The results of the data were recorded in the master data sheet and analysed using descriptive and inferential statistics.

## ETHICAL CONSIDERATION

The researchers received approval from the parent organisation (ISLAMIC UNIVERSITY OF A

SCIENCE AND TECHNOLOGY) before beginning their research project, and the study was deemed to be ethically exempt.

## ANALYSIS AND INTERPRETATION

**Table 1: Frequency and percentage distribution of study participants according to age and gender.**

N=40

Age in years	Percentage	Frequency
18-19 Years	20.0%	8
20-21 Years	<b>40.0%</b>	16
22-23 Years	35.0%	14
24-25 Years	2.5%	1
Above 25 Years	2.5%	1
<b>Gender</b>		

<b>Male</b>	8	20.0%
<b>Female</b>	32	<b>80.0%</b>



**Table 2: Frequency and percentage distribution of research participants according to their education of father and mother and occupation of father and mother**

N=40

Education Of Father	Frequency	Percentage (%)
8 <sup>th</sup> pass	3	7.5%
10 <sup>th</sup> pass	12	30.0%
12 <sup>th</sup> pass	12	30.0%
Diploma	1	2.5%
Graduate	11	27.5%
Illiterate	1	2.5%
Education Of Mother	Frequency	Percentage(%)
Graduate	0	0%
Illiterate	24	60.0%
7 <sup>th</sup> pass	2	5.0%
8 <sup>th</sup> pass	4	10.0%
10 <sup>th</sup> pass	3	7.5%
Occupation Of Father	Frequency	Percentage
Employee	24	60.0%
Businessman	9	22.5%
Labour	5	12.5%
Farmer	2	5.0%
Occupation Of Mother	Frequency	Percentage (%)
Housewife	39	97.5%
Employee	1	2.5%

**Table –3: Frequency & Percentage distribution of study participants according to pretest knowledge score .**

N=40

Score Level	Frequency	Percentage (%)
Inadequate Knowledge (0-14)	17	42.5%
Moderate Knowledge (15-26)	23	57.5%

Adequate Knowledge (27-40)	0	0%
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Maximum Score=40 Minimum Score=0

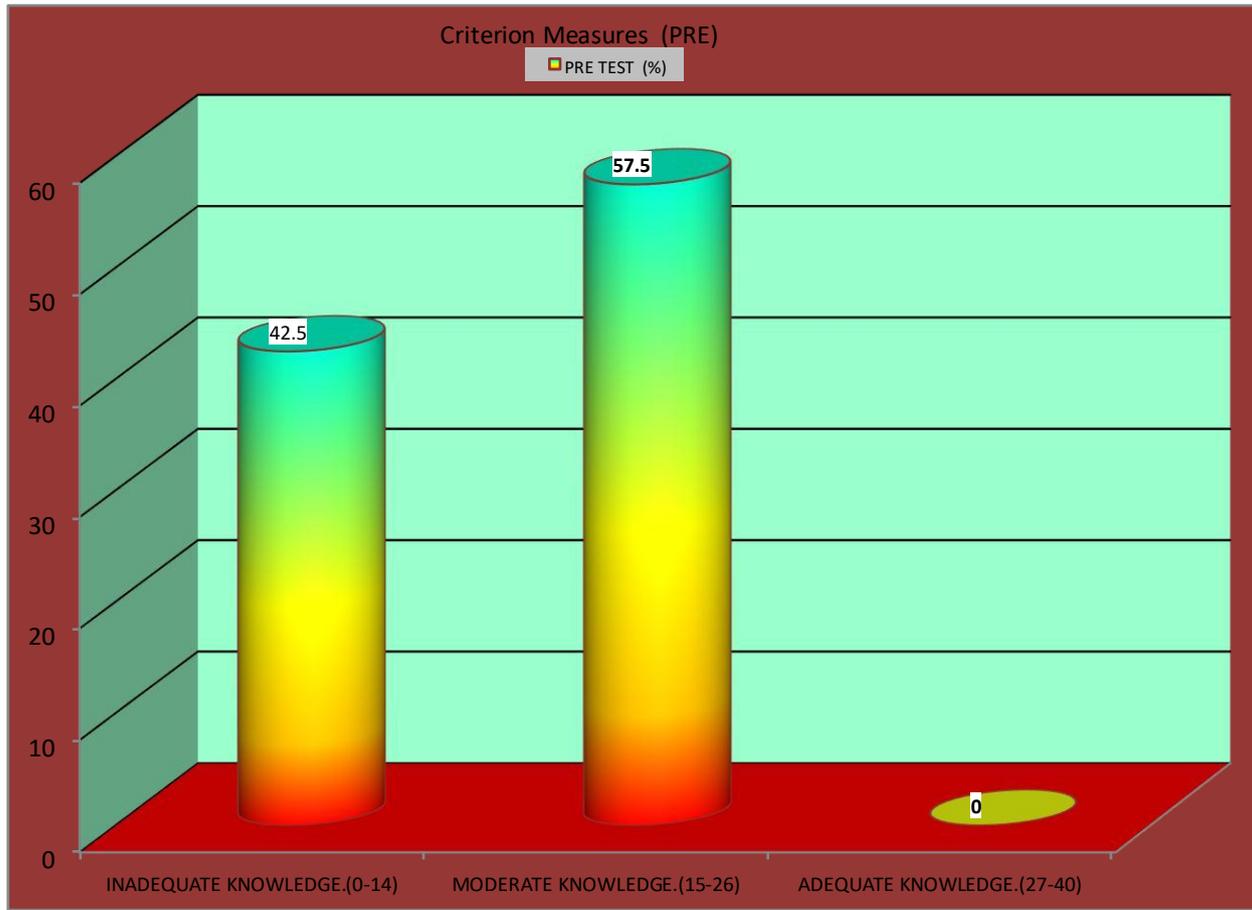


Fig:1 The information in table 12 and figure 10 demonstrates that most study participants (57.5%) 23 had moderate knowledge, 42.5% (17) had In adequate knowledge, and 0% had adequate knowledge about basic life support in pre test.

Table –4 : Descriptive statistics of pre-test level of knowledge

Descriptive Statistics	Mean	S.D	Median Score	Maximum	Minimum	Range	Mean%
Pretest Knowledge	15.03	2.154	15	20	11	9	37.60

Maximum= 40 Minimum= 0

Represents the descriptive statistics of pretest level of knowledge. It was found that the mean value was 15.03, median score was 15, maximum score was 20, minimum score was 11, range of score was 9 and mean percentage was 37.60 %.

Table –5: Frequency & Percentage distribution of post-test level of knowledge

Score level (N=40]	Frequency	Percentage(%)
<b>INADQUATE KNOWLEDGE. (0-14)</b>	0	0%
<b>MODERATE KNOWLEDGE.(15-26)</b>	6	15%
<b>ADEQUATE KNOWLEDGE.(27-40)</b>	34	<b>85%</b>

Maximum Score=40 Minimum Score=0

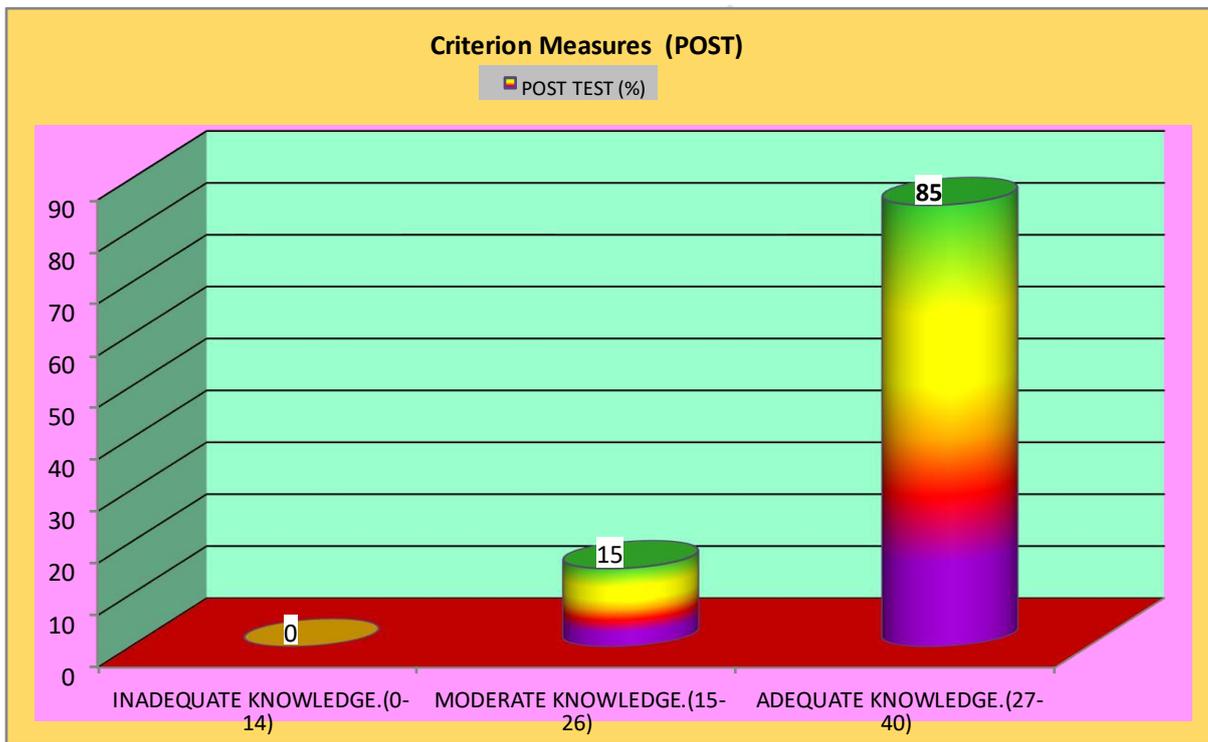


Fig: 2 The information in table 5 and figure 2 demonstrates that most study participants (85.0%) 34 had adequate knowledge,( 15.0% ) 6 had Moderate knowledge, and ( 0%) 0 had Inadequate knowledge about basic life support in post test.

Table –6: Descriptive statistics of post-test level of knowledge

Descriptive Statistics	Mean	S.D	Median Score	Maximum	Minimum	Range	Mean%
<b>POSTTEST KNOWLEDGE</b>	28.98	2.496	29	33	24	9	72.40

Represents the descriptive statistics of post-test level of knowledge. It was found that the mean value was 28.98, median score was 29, maximum score was 33, minimum score was 24, range of score was 9 & mean percentage was 72.40 %

### Comparison of frequency & percentage distribution of study subjects according to pre-test and post-test level of knowledge

Maximum Score=40 Minimum Score=0

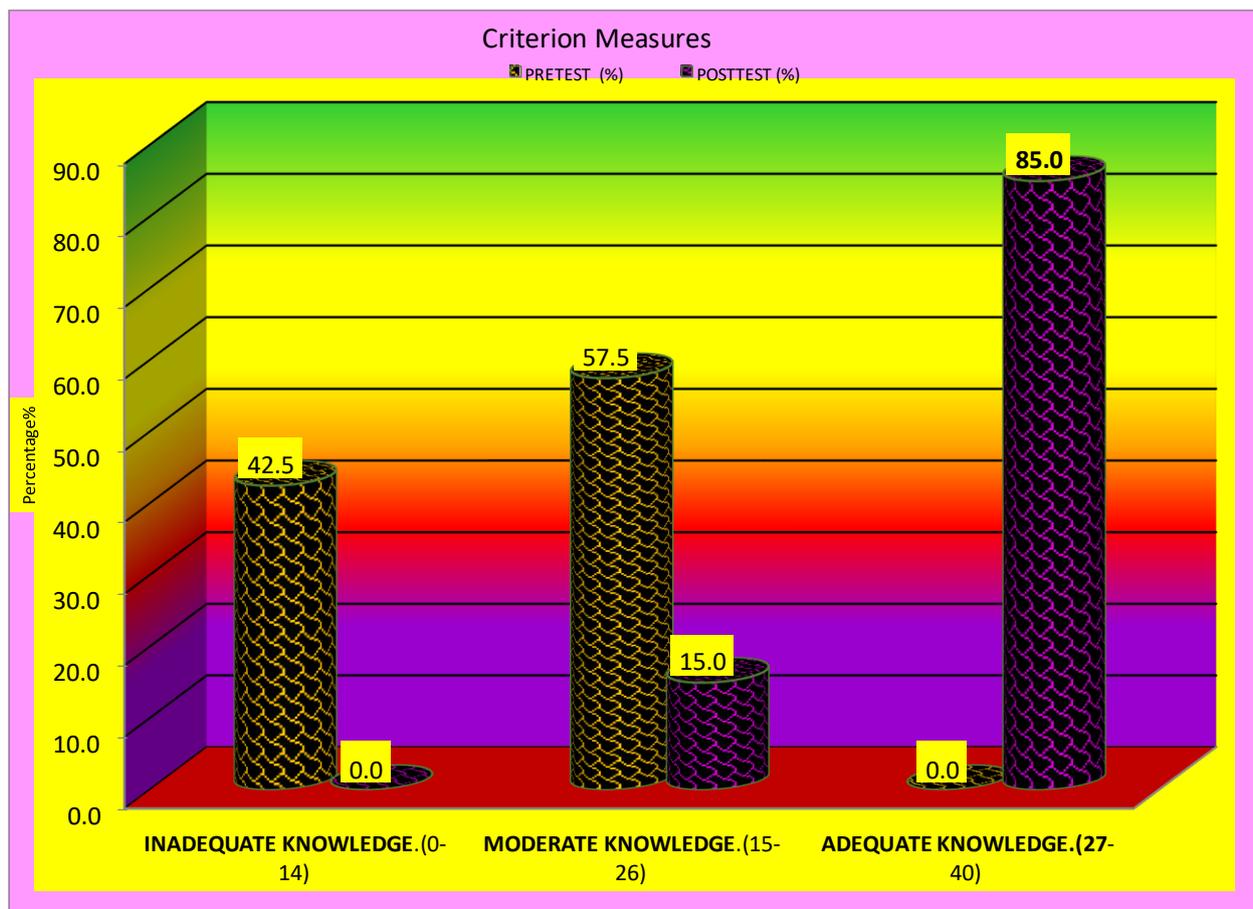
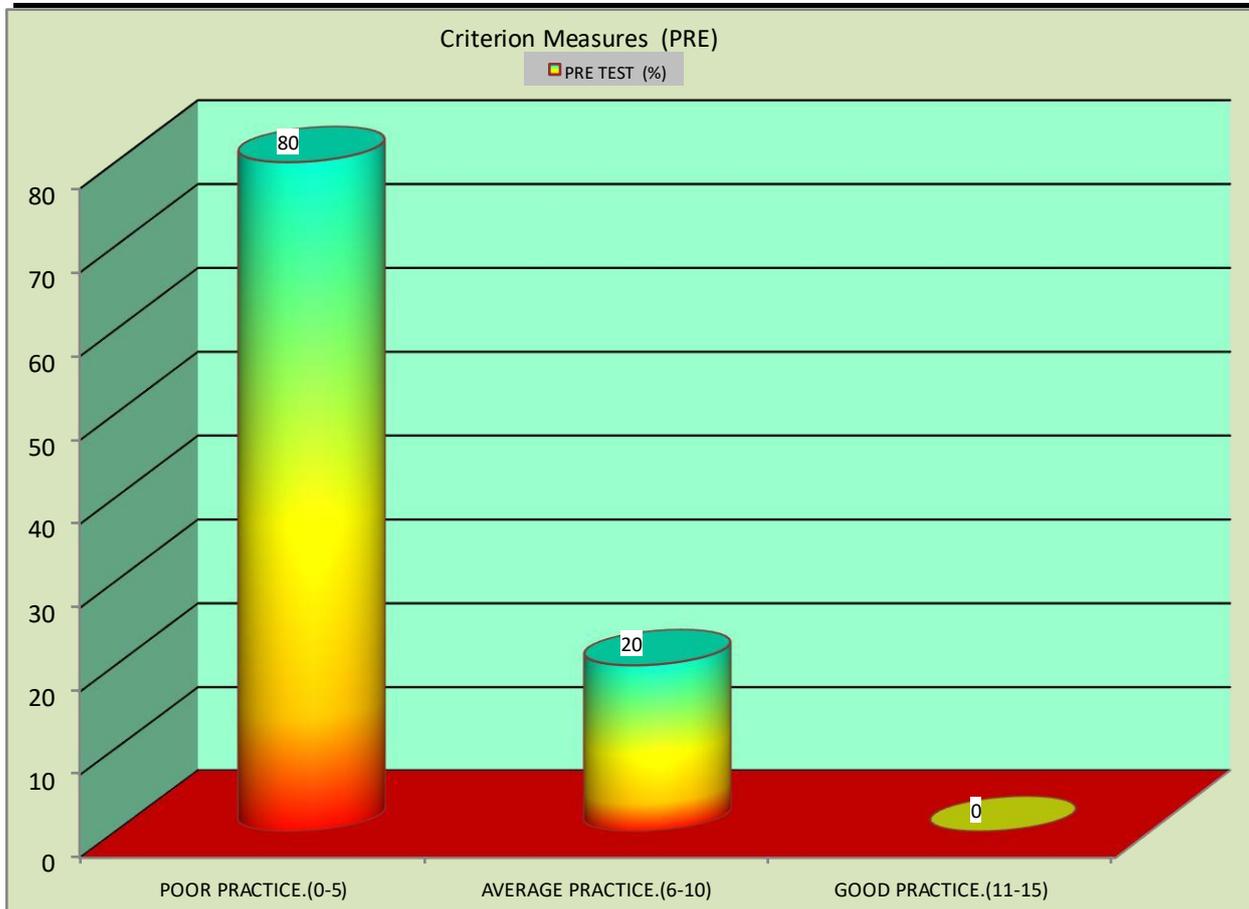


Figure no. 3:Diagram representing comparison of percentage distribution of pre-test and post-test level of knowledge

Table 7: Frequency and Percentage distribution of study subjects according to pre-test level of Practice

N=40

Score Level	Frequency	Percentage(%)
Poor Practice	32	80%
Average Practice	8	20%
Good Practice	0	0%



**Figure no.4: Diagram showing the frequency and percentage distribution of pre-test Practice**

The information in table no.20 and figure no. 19 demonstrates that most study participants (80%) 32 had poor practice, 20% (8) had In adequate practice, and 0% had good practice about basic life support in pre test.

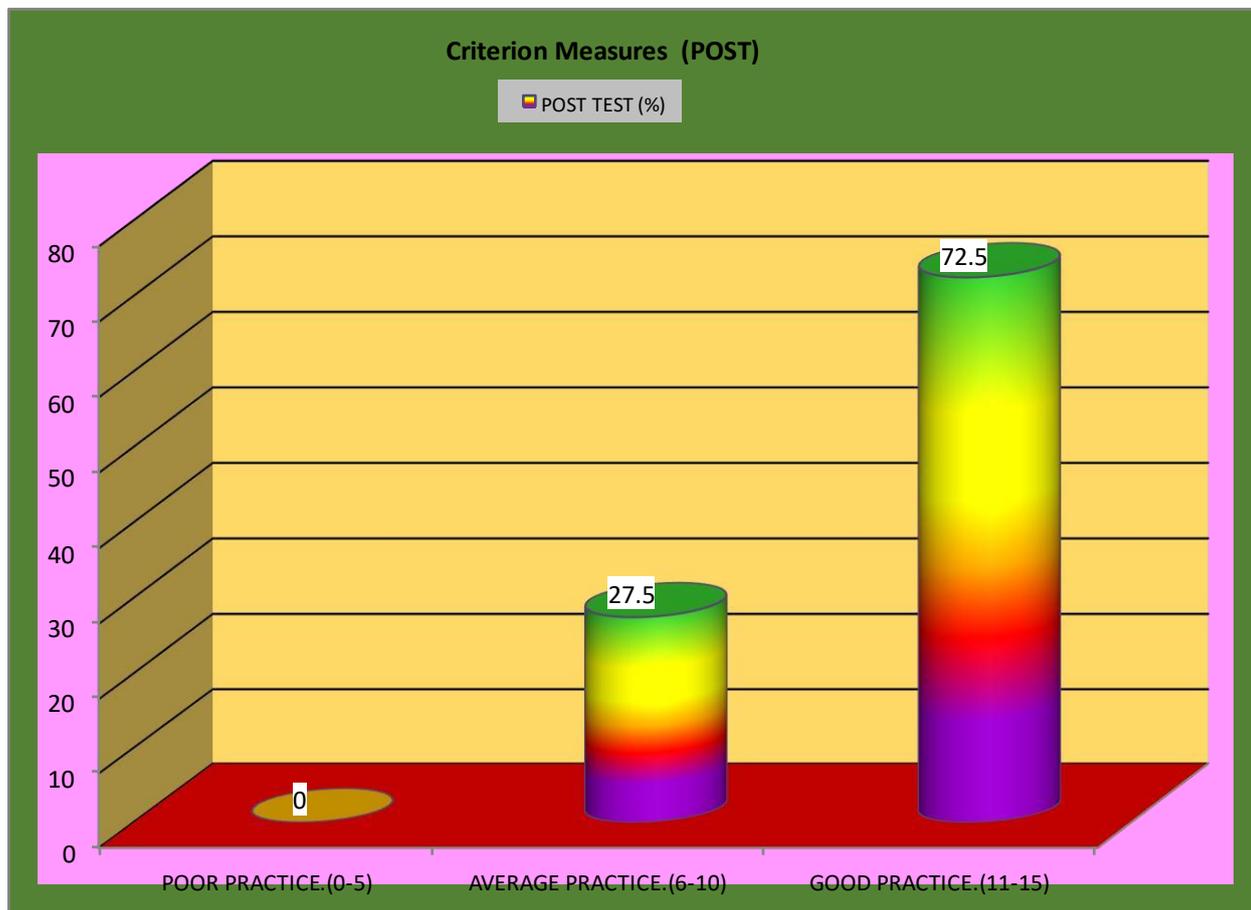
**Table 8: Descriptive statistics of pre-test level of Practice**

Descriptive Statistics	Mean	S. D	Median Score	Maximum	Minimum	Range	Mean%
Pre-Test Practice	4.33	1.492	4	8	2	6	28.80

**Table 21:** Represents the descriptive statistics of pretest level of Practice. It was found that the mean value was 4.33, median score was 4, maximum score was 8, minimum score was 2, range of score was 6 and mean percentage was 28.80 %.

**Table 9: Frequency & Percentage distribution of study subjects according to post-test level of Practice**

Score Level	Frequency	Percentage (%)
Poor Practice	0	0%
Average Practice	11	27.5%
Good Practice	29	72.5%



**Fig 5: Diagram representing percentage distribution of post-test level of Practice**

The information in table 9 and figure 5 demonstrates that most study participants (72.5%) 29 had good practice,( 27.5% ) 11 had average practice , and ( 0%) 0 had poor practice about basic life support in post test.

**Table 11: Descriptive statistics of post-test level of Practice**

Descriptive Statistics	Mean	S. D	Median Score	Maximum	Minimum	Range	Mean%
Post-Test Practice	11.25	1.354	11	15	8	7	75.00

Represents the descriptive statistics of post-test level of Practice. It was found that the mean value was 11.25, median score was 11, maximum score was 15, minimum score was 8, range of score was 7& mean percentage was 75.00%

# Comparison of frequency & percentage distribution of pre-test and post -test level of Practice

## Practice

Maximum=15 Minimum=0

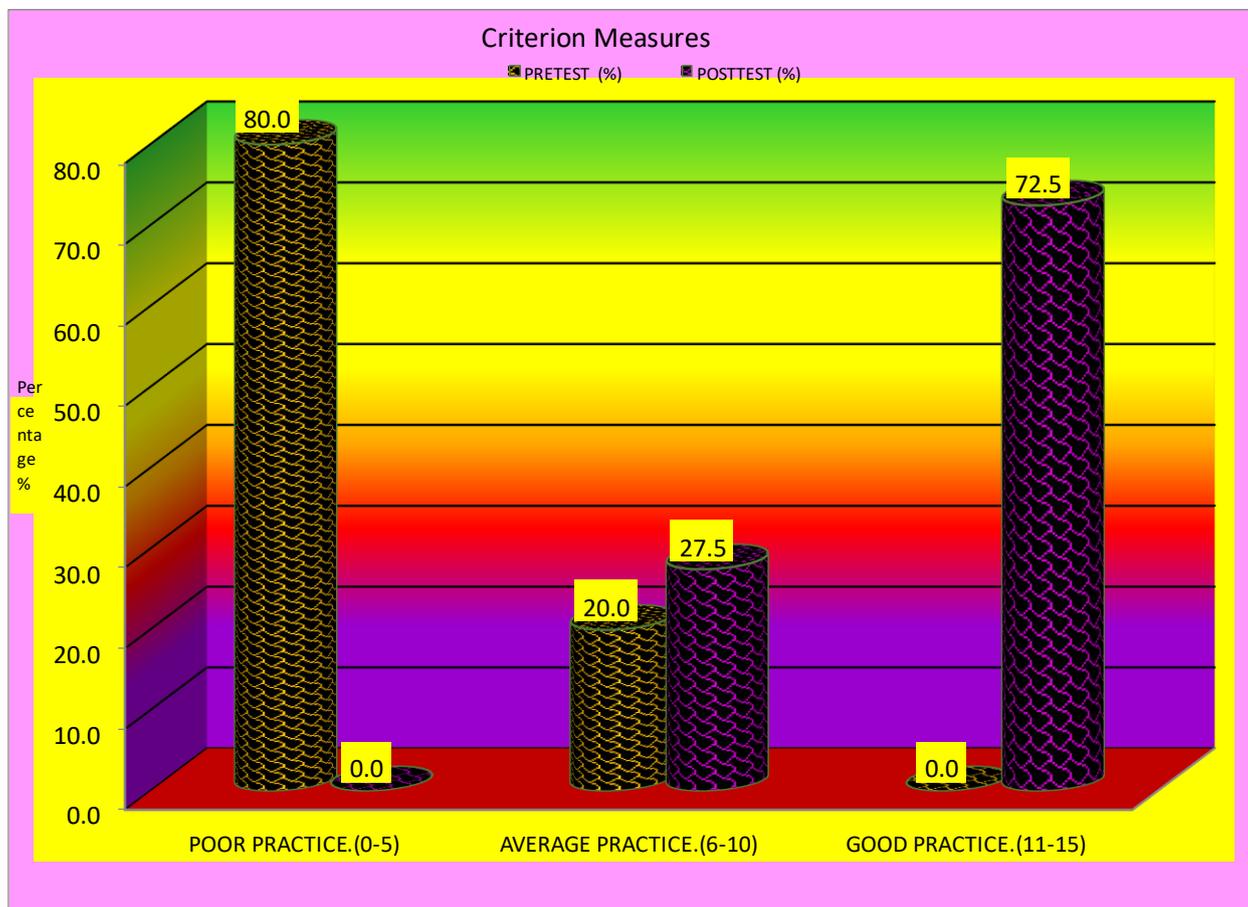


Figure no. 6 Diagram representing comparison of percentage distribution of pre-test and post-test level of Practice.

Table 12: Comparison of descriptive statistics of pre-test and post-test Scores of Practice

Paired Test	T	Mean±S.D	Mean%	Range	Mean Diff.	Paired T Test	P Value	Table Value at 0.05
Pre-Test Practice		4.33±1.492	28.80	2-8	6.920	27.521 *Sig	<0.001	2.02
Post-Test Practice		11.25±1.354	75.00	8-15	6.920	27.521 *Sig	<0.001	2.02

**Table 13: Association of pre-test knowledge score with selected demographic variables**

**ASSOCIATION OF PRETEST KNOWLEDGE SCORES WITH SELECTED SOCIODEMOGRAPHIC VARIABLES.**

Variables	Opts	AD EQ UA TE KN OW LED GE	MO DE RAT E KN OW LED GE	INA KN DE QU LED ATE GE	Chi Test	P Value	df	Table Value	Result
Age In Years	18-19 Years	0	4	4	1.673	0.796	4	9.488	Not Significant
	20-21 Years	0	9	7					
	22-23 Years	0	8	6					
	24-25 Years	0	1	0					
	Above 25 Years	0	1	0					
Gender	Male	0	3	5	1.637	0.201	1	3.841	Not Significant
	Female	0	20	12					
Education of Father	8th Pass	0	2	1	5.031	0.412	5	11.070	Not Significant
	10th Pass	0	8	4					
	12th Pass	0	4	8					
	Diploma	0	1	0					
	Graduate	0	7	4					
	Illiterate	0	1	0					
Education of Mother	Graduate	0	0	0	3.293	0.510	4	9.488	Not Significant
	Illiterate	0	15	9					
	7th Pass	0	1	1					

	8th Pass	0	1	3					
	10th Pass	0	1	2					
	12th Pass	0	5	2					
Occupation of Father	Employee	0	13	11	2.296	0.513	3	7.815	Not Significant
	Businessman	0	7	2					
	Labour	0	2	3					
	Farmer	0	1	1					
Occupation of Mother	Housewife	0	23	16	1.388	0.239	1	3.841	Not Significant
	Employee	0	0	1					
Information Source	Telephone	0	21	12	4.659	0.199	3	7.815	Not Significant
	Television	0	0	1					
	Newspaper	0	0	2					
	Other Source	0	2	2					

## RESULTS AND DISCUSSION

Pretest results showed that most study participants (57.5%) had moderate knowledge, 42.5% had inadequate knowledge, and 0% had adequate knowledge about basic life support. and most study participants (80%) had poor practice ,20% had inadequate practice,and 0% had good practice.

The findings of the present study were correlated with the findings of similar other study conducted by **Arif A, Riaz C (2020)** to assess the knowledge and practice of nurses regarding basic life support at Allied Hospital Faisalabad, Pakistan. The research revealed that (34%) individuals have adequate knowledge, while (66%) have insufficient understanding. Only (48%) of participants have strong BLS practise, while (52%) have poor BLS practise.

Post test results showed that most study participants (85.0%) had adequate knowledge,(15.0%) had Moderate knowledge, and (0%) had Inadequate knowledge about basic life support. and most study participants (72.5%) had good practice,(27.5%) had average practice,and (0%) had poor practice.

The findings of above study are correlated with findings of study conducted by **Fadzli A, Yahaya R, at al(2018)** on effectiveness of modified basic life support module on knowledge, attitude, and performance of cardiopulmonary

resuscitation among university students at Kuala Terengganu, Malaysia. According to the study, 64.8% of the individuals could effectively compress the chest.

There was no significance association between the knowledge and practice regarding basic life support among 1st semester students of selected Nursing colleges of IUST with their demographic variables (Age In Years, Gender, Education of Father, Education of Mother, Occupation of Father, Occupation of Mother, Information Source.) at 0.05 level of significance.

### Summary of the key findings

#### Findings pertaining to the description of demographic factors

- The majority of study participants (40.0%) 16 belonged to the 20-21 year age group, (35.0%) 14 of study participants belonged to the 22-23 year age group, (20.0%) 8 of study participants belonged to 18- 19 year age group, (2.5%) 1 of study participants belonged to the 24- 25 year age group and (2.5%) 1 of study participants belonged to the above 25 year age group.
- The majority of study participants (80.0%) 32 were females and only ( 20%) 8 of the study participants were males.
- Majority study participants father I;e 30.0% (12) were (10th pass) and 30.0% (12) were (12th pass ) followed by I;e 27.5% (11) were (graduate) ,7.5 % (3) were ( 8th pass),2.5% (1) were (diploma)and 2.5% (1) were (illiterate).
- Majority study participants mother I;e 60.0% (24) were (illiterate) ,17.5% (7) were (12th pass) , 10% (4) were ( 8th pass) ,7.5% (3) were (10th pass) ,5.0% (2) were (7th pass) and 0% (0) were (graduate).
- Majority of study participants father I;e 60.0% (24) were (employee),22.5% (9) were (businessman),12.5% (5) were (labour) and 5.0% (2) were ( farmer).
- Majority of study participants mother I;e 97.5 % (39) were housewife and only 2.5 % (1) were employee.
- The majority of study participants I;e 82.5% (33) were having ( telephone) as information source ,10.0% (4) were having (other source) as information source,5.0% (2) were having (newspaper) as information source and 2.5% (1) were having (television) as information source.

#### Findings related to the students knowledge and practice on basic life support :

- The study findings indicated that 57.5% study participants had moderate knowledge, 42.5% had inadequate knowledge, and 0% had adequate knowledge about basic life support.
- The study findings indicated that 80% had poor practice ,20% had inadequate practice,and 0% had good practice.
- The study findings indicated that 85.0% study participants had adequate knowledge, 15.0% had Moderate knowledge, and 0% had Inadequate knowledge about basic life support.
- The study findings indicated that 72.5% study participants had good practice,27.5% had average practice,and 0% had poor practice.

- The mean pretest knowledge score was  $15.03 \pm 2.154$  and the post test score was  $28.98 \pm 2.496$  with the mean difference 13.950 which was high and statistically significant.
- The mean pretest practice score was  $4.33 \pm 1.492$  and the post test score was  $11.25 \pm 1.354$  with the mean difference 6.920 which was high and significantly significant.

Hence the educational intervention on knowledge and practice regarding basic life support improved among 1st semester students of Selected Nursing colleges of IUST.

### Findings related to association of knowledge and practice level with selected demographic variables:

The study's findings showed that there was no significant correlation between the study subjects' level of knowledge and their chosen demographic characteristics i.e age, gender, education of parents, occupation of parents and information source.

### Conclusions:

Based on the study's findings, the following deductions were made.

The study subjects were lacking knowledge and practice regarding basic life support, before educational intervention their knowledge scores were 57.5% study participants had moderate knowledge, 42.5% had inadequate knowledge, and 0% had adequate knowledge and after educational intervention knowledge scores were 85.0% study participants had adequate knowledge, 15.0% had Moderate knowledge, and 0% had Inadequate knowledge.

80% study participants had poor practice, 20% had inadequate practice, and 0% had good practice and after educational intervention 72.5% study participants had good practice, 27.5% had average practice, and 0% had poor practice.

The educational intervention proved to be effective.

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