

## **“Evaluate the Effectiveness of Planned Teaching Programme regarding Basic Life Support (BLS) among Intern (B.Sc Nursing) Student at Selected Nursing College, Bhubaneswar, Odisha.”**

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**Abstract:** Heart disease is the world's largest killer claiming 17.5 million lives every year. About every 29 seconds, an Indian dies of heart problem. As many as 20,000 new heart patients develop every day. In India 9 crore Indian suffer from heart disease and 30% more are at high risk. Sudden Cardiac arrest is a major public health problem. Basic Life Support (BLS) is the provision of treatment designed to maintain adequate circulation and ventilation to the patient in cardiac arrest, without the use of drugs on specialist equipment. A structured knowledge questionnaire was prepared for the assessment of knowledge. Pre test was done on 1<sup>st</sup> day and planned teaching program was given on same day. On day 7<sup>th</sup> post test was done with same questionnaire. Post test knowledge score was more than pre test knowledge score. Pre test Mean-9.12, Median-9 SD-1.97 and Post test Mean – 13.4, Median-13 SD-2.89. "t" value was 13.9 which is greater than the tabulated value at (p=0.001) level of significance and which highly significant. There is no significant association between the knowledge of student with age, gender and previous knowledge regarding Basic life support, as the Chi square value 0.46, 0.94 and 0.05 which is less than the tabulated value. There is significant association between the knowledge of students with the education qualification as the Chi square value is 1.04 which is more than the tabulated value at (p=0.001) level of significance

**Keywords:** Basic Life Support, Cardiac arrest, Effectiveness, planned teaching programme, nursing

### **I. Introduction**

According To WHO, Heart disease is the world's largest killer claiming 17.5 million lives every year. About every 29 seconds, an Indian dies of heart problem. As many as 20,000 new heart patients develop every day. In India 9 crore Indian suffer from heart disease and 30% more are at high risk. Sudden Cardiac arrest is a major public health problem. Basic Life Support (BLS) is the provision of treatment designed to maintain adequate circulation and ventilation to the patient in cardiac arrest, without the use of drugs on specialist equipment. Basic Life Support (BLS) includes recognition of signs of Sudden Cardiac Arrest (SCA), heart attack, stroke and Foreign Body Airway Obstruction (FBAO) and Cardio Pulmonary Resuscitations (CPR).<sup>8</sup>

#### **1.1 Background**

According Brendan Drochetry, The most important aspect in Basic Life Support (BLS) are ABC, is nothing but the airway, breathing & circulation. Failure of the circulation for three to four minutes will lead to irreversible cerebral damage. For every minute that passes after a patient goes into Cardiac arrest their chance of survival decreases by 7 to 10 percent until a defibrillation arrives (Metcalte – Smith). A patient who has suffered sudden Cardiac arrest must receive effective treatment rapidly. When delivered promptly, resuscitation can save the lives of many patients in Cardiac arrest. Basic life support acts to slow down the deterioration of the brain and heart until defibrillation and/or Advanced Cardiac Life Support (Ruck & Erc). Prompt recognition of Cardio Pulmonary arrest and prompt Instigation of Basic Life Support can double the patient's chance of survival.<sup>3</sup>

According to Hamilton R, BLS is the fundamental technique for the emergency treatment of Cardiac arrest. The standard training of Cardio pulmonary resuscitation has been emphasized more than ever. Common people in developed countries have received popular education of CPR programme of BLS training. CPR and BLS training is mandatory for student nurses and is important as nurses often first discover the victims of cardiac arrest in hospital. In this context the training of nursing students to improve the knowledge and competency in BLS is having almost significant. It is because in future they are the one who is assessing and providing the needed care for the patient at the earlier stage.<sup>1</sup>

According Bhutani V k, While BLS competency is considered a fundamental skill for health care workers, the evidence suggest that retention of BLS knowledge and skills is generally poor (Brown et al 2006 and Buck Barret and Squire 2004) studies have also identified in the quality of BSL performed by health care providers (Wilk et al 2005) and (Nyman and Sihvenen 2000). Often chest compression is performed inadequately with

slow rates of compression and inadequate depth of compression (Abellor et al 2007). DeRegge et al (2008) found that after a relatively short time following training the student nurses BLS skill were poor.<sup>2</sup>

## 1.2 Purpose

Education change is necessary to meet the demands of current health care environment. Learning objectives should focus on the best practice outcome and should emphasize what the health care provider is expected to do after the educational activity is over. Regulating agencies and consumer hold health care personnel accountable for high quality, safe patient care. Educational activities should provide the skill and knowledge that enable nurse to meet this goal. The new nursing generation needs to grow in proper and time provision of essential care to their patients. For that, nursing student need necessary knowledge and skill by repeated training and practice

## 1.3. Objectives

- To assess the existing knowledge of Intern (B.Sc Nursing) students regarding Basic Life Support.
- To evaluate the effectiveness of planned teaching programme on BLS among Intern (B.Sc Nursing) students.
- To find out the association between the levels of knowledge and demographic variables.

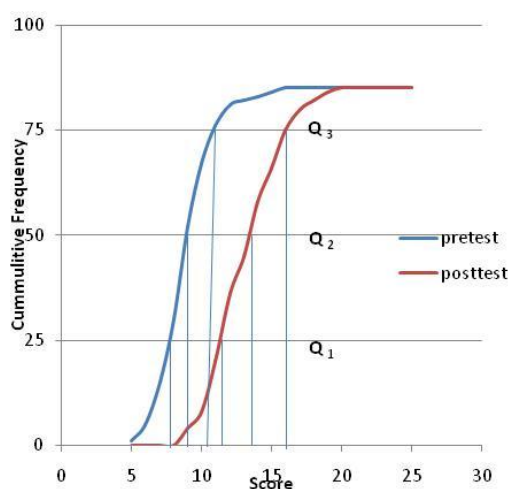
## II. Methodology

The research design was one group pre test and post test design with evaluative research approach. Study was conducted in nursing College Of Bhubaneswar, Odisha in 2012. The study population was the Intern B.Sc Nursing Student and convenient sampling technique was used for the study. Ethical consideration taken from SUM nursing college principal and informed consent was taken from intern B.Sc nursing student.

A structured close ended knowledge questionnaire used to assess knowledge and question was subdivided into two sections; related to socio demographic variables and knowledge regarding basic life support. Pretest was conducted on 1<sup>st</sup> day and planned teaching programme on BLS provided to the student on same day .After 7days post test was conducted.

## III. Result

The curve shows that, the curve of the post test scores lies to the right of the pretest score over the entire range, showing that the posttest score are the consistently higher than the posttest score. In the pretest 25<sup>th</sup>, 50<sup>th</sup> & 75<sup>th</sup> percentile score were 8, 9 &10 respectively where as it was 12<sup>th</sup>, 13<sup>th</sup> & 15<sup>th</sup> for the posttest respectively. It seems that the difference of 25<sup>th</sup> percentile between the pre and post test was higher when compare to the 50<sup>th</sup> and 75<sup>th</sup> percentile (Fig No-1).



**Fig- 1 Figure shows comparison of pre and post test percentile of knowledge scores of the intern B.Sc Nursing student on Basic Life Support (BLS)**

**TABLE-1**  
**Area Wise Comparison of Mean, SD and mean Percentage of Pre Test and Post Test Knowledge Scores of the Student on BLS**

Area	Max. score	Pre Test			Post test			Difference in mean %
		Mean	SD	Mean%	Mean	SD	Mean%	
Theoretical knowledge on BLS	12	5	1.53	41.7%	6.75	1.77	56.25%	14.55%
Technique of BLS	8	3.24	1.28	40.5%	4.98	1.33	62.25%	21.75%
Post resuscitation complication of BLS	2	0.84	0.79	42%	1.58	0.60	79%	37%
Overall	22	9.08	1.97	42.5%	13.4	2.97	89.6%	47.1%

Overall comparison of mean, SD and mean percentage of pre and post test knowledge scores on Basic life support reveals that the overall pretest mean % of knowledge score was 42.5% whereas in post test it was 89.6% depicting difference of 47.1% revealing that the PTP was effective on knowledge of the student on BLS.

**TABLE-2**  
**Comparison of pre and post test knowledge scores of student on BLS**

N=85

Area	't' value	Level of significant
Theoretical knowledge on BLS	10	Highly significant
Technical Knowledge on BLS	13.3	Highly significant
Post Resuscitation Complication Of BLS	11.3	Highly significant

Comparison of pre and post test knowledge scores of student analyze the difference in knowledge scores on different facts of Basic Life Support shows highly significance difference between the overall score values of pre test and post test and area wise pre and post test score values. It seems that the PTP was highly effective related Basic Life Support.

**TABLE-3**  
**Associate between the pre test knowledge scores demographic variables of the students**

Demographic variables	df	Table value	X <sup>2</sup> value	Level of significance
Gender	1	0.39	0.73	Not significant
Education qualification	1	0.24	1.4	Not significant
Previous knowledge	1	0.0180	5.6	Highly significant

No Significant association was found between the pre and post test knowledge scores values of students when compared to their gender and education qualification but highly significant association was found between the pre and post test knowledge scores when compared to previous knowledge regarding BLS.

#### IV. Discussion

Highly significant association was found between the overall knowledge scores of pre and post test and area wise score values. ( $p < 0.001$ ), (table no; 2). Significant association was found between post test and pre test knowledge scores of students when compared to demographic variable that is previous knowledge. But no significant association was found between post test and pre test knowledge scores of students with demographic variables that is gender and education qualification. (table no; 3).

#### V. Conclusion

One group pretest and post test design with Evaluative Research approach was used to collect data from 85 B.Sc nursing students in selected college of Bhubaneswar through convenient sampling to assess the effectiveness of planned teaching programme regarding basic life support .data was collected from 10<sup>th</sup> Oct

2012 .the collected data were analyzed and the findings showed that a highly significant difference found between pre and post test knowledge scores revealing that PTP was effective for B.Sc Nursing students.

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### **References**

#### **Journal papers:**

- [1] Hamilton R, *Assessment of Knowledge and Skill Retention Following Cardio Pulmonary Resuscitation Training*, new ham university hospital NHS trust, Calcutta. Aug 2005; 288-955.
- [2] Acheson A, Brown, Bhutani VK et al. *The Effect of By-Stander CPR on Survival of Out-Of-Hospital Cardiac Arrest Victims*. Am Heart J 1985; 932-937.
- [3] Brendan Docherty. *Basic Life Support and AED*. *Clinical Manager Cardiology and Critical Care*. 2003, August: 56-59.
- [4] Pam Moule. *Evaluation of the Basic Life Support CD-ROM, Its effectiveness as learning tool and user experiences*. Educational Technology & Society. 2002, 1436-4522
- [5] Chaudhary A, Parikh H, Dave V. *Current Scenario: Knowledge Of Basic Life Support In Medical College*. Natl J Med Res. (2011), [cited August 16, 2013]; 1(2): 80-82.
- [6] *Awareness of basic life support among medical, dental, nursing students and doctor*, *Indian Journal of Anaesthesia*. Mar-Apr 2010; 54(2):121PMC.
- [7] Wik L, Steen PA, Bircher NG. *Quality Of Bystander Cardiopulmonary Resuscitation Influences Outcome After Pre hospital Cardiac Arrest*. Resuscitation 1994; 28: 195-203.
- [8] *Cardiopulmonary resuscitation: statement by the Ad Hoc Committee ,Cardiopulmonary Resuscitation of the Division of Medical Sciences*, National Academy of Sciences, National Research Council. *Cardiopulmonary Resuscitation*. JAMA1966; 198:372,379. Available from, <http://www.expresshealthcaremgmt.com/20041215/criticare06.shtml>.
- [9] *American Heart Association Guidelines for CPR &Emergency Cardiovascular Care Circulation* 2005; 112:1V1-203.
- [10] *World Health Organization Statistical Information System (WHOSIS). Cardiovascular Disease Statistics*. 2009. Available From, <http://www3.who.int/whosis/menu.cfm>
- [11] *Asian Journal of Nursing Education And Research (AJNER) Volume 02, Issue 01, March 2012*. Available From, <http://www.anvpublication.org/ajner.htm>.

#### **Books:**

- [12] *Kothari C.R Research Methodology*, 2nd Edition, New Delhi, New Age International Private Limited, 2009
- [13] Bassvanthappa BT, *Nursing Research*, 2<sup>nd</sup> Edition, New Delhi, Jaypee Brothers Medical Publishers, Private Limited, 2007.
- [14] Singh Meherban, *Medical Emergency for Adults*, 4th Edition, New Delhi, N.K. Sagar Publication, 2007.
- [15] Denis K Polit &Chery Tatano Beck, *Nursing research*, 8th Edition, New Delhi, Lippincott William &Wilkins, 2008, Pp 757.