

# Effectiveness of BLS Training in improving the Knowledge and skills among Medical Interns

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## Abstract :

**Introduction :** This study was conducted among interns in medical college undergoing BLS training and who were previously not familiar with the BLS training skills. The main objective of this study was to assess the effectiveness of BLS training programme in improving cogitative skills of interns in medical college.

**Methodology :** The study population included 91 intern medical students who were unfamiliar with the basic life support skills. The participants were given the study material in advance and were advised to self study the material which was followed by a pre-test .The BLS training was later followed by a standard objective structured clinical examination (OSCE) to assess the acquired basic knowledge and skills.

**Result :** The mean pretest score was 75.09 % and the mean post test score was 93.17%. However, statistically applied test shows significant difference between pre and post test scores of the participants at 5% level. Also the enhancement of BLS knowledge was higher among males compared to females, with a non significant difference in BLS knowledge enhancement between either gender.

**Conclusion :** The present BLS teaching programme was successful in enhancing the knowledge of interns and providing them with the basic skills necessary for resuscitation.

**Keywords :** BLS Training, Knowledge enhancement, Medical Internship, OSCE.

## Introduction :

Basic life support (BLS) is the foundation for saving lives following cardiac arrest. Fundamental aspects of BLS include immediate recognition of sudden cardiac arrest (SCA) and activation of the emergency response system, early cardiopulmonary resuscitation (CPR), and rapid defibrillation with an automated external defibrillator (AED).<sup>1</sup> Qualified performance of BLS can only be achieved by sufficient practical training which is mandatory for both laypersons and medical experts.<sup>2</sup> Several studies have demonstrated that CPR quality is not satisfactory in some hospitals, and the healthcare providers have limited knowledge about CPR, particularly appropriate thoracic compression and avoidance of continuous hyperventilation.<sup>3</sup> Several methods of BLS training have been established in the past and there is no conclusive evidence for the best training method. Hence, the aim of this study is to evaluate the present BLS training programme 's effectiveness in improving the knowledge among medical college interns.

## Methodology :

The study was conducted in S.S Institute of medical sciences and research centre , Davangere. The study population included 91 intern medical students who were previously not familiar with the basic life support skills. The participants were given the study material upon their registration to the course and were advised to self study the material and this was followed by a pre-test to assess their knowledge levels. The BLS training was divided into a theoretical and a practical part based on 2010 AHA guidelines. The theoretical part included lectures and video demonstrations, while psychomotor skills were imparted via hands on skills practice on the mannequins by trained and certified BLS instructors. Upon completion of the training programme, interns were re-assessed for their BLS skills based on an objective structured clinical examination (OSCE).

The data was analysed anonymously and expressed as mean,  $\pm$  S.D and percentage. Student 't' test and paired 't' test were used for statistical analysis and P-values<0.05 were considered statistically significant.

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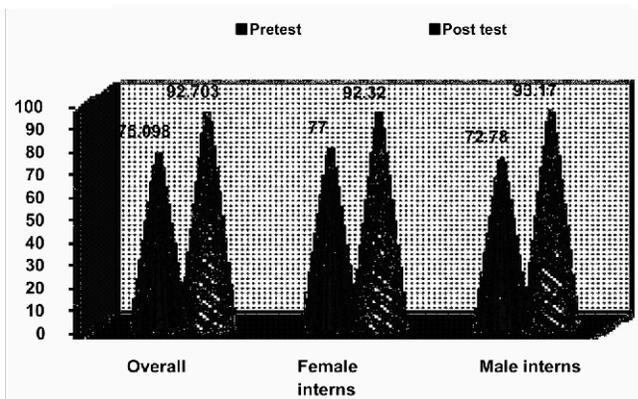
**BLS Knowledge Among Interns (N=91)**

Test	Scores(%)		Subject scores(%)		Mean Difference (%)	SD	Paired 't' test
	Min	Max	Mean	SD			
Pre test	24	82	75.09	13.96	17.6	14.30	11.74*
Post test	90	95	92.70	4.01			

\*Significant at 5% level (p<0.05)

Table 1 shows the Pre and post scores of the BLS participants. The mean pretest score was 75.09 %, with a minimum score of 24% and maximum of 82%. The mean post test score was 92.7%, with a minimum score of 90% and maximum of 95%. (Fig.1) The mean difference in BLS knowledge score was 17.6%. However, statistically paired 't' test applied shows significant difference between pre and post test scores of the participants at 5% level with a 't' value 11.74.

**Fig. 1 Graph comparing the mean Pre-test and Post-test scores in Male & Female interns**



**Discussion :**

In the current study, the effectiveness of the BLS training programme as a successful tool in enhancing the knowledge of the medical interns has been evaluated. The influence of adequate knowledge on the accuracy and quality of CPR has been shown in various studies.<sup>5</sup> In our study, the pre existing knowledge of interns regarding the basic life skills was less, prior to participation in the BLS workshop.

A study done in Pakistan among 61 medical students showed some scattered knowledge about BLS. A larger study done in South India concluded that awareness of BLS among students, doctors and nurses of medical, dental, homeopathy and nursing colleges is very poor.<sup>3</sup>

A similar study conducted in a tertiary care hospital in South India among the undergraduates and postgraduate medical, dental and nursing students, also stressed the need to include basic life support training at all levels as the awareness among students was below average.<sup>4</sup>

Asmita Chaudhary et al in their study analysing the BLS knowledge among medical and paramedical staff reported that only 3 out of 117 participants had secured 80-90% marks in pretest and post workshop assessment showed 70% candidates securing more than 80%.<sup>7</sup> In our study, 53 out of the total 91 participants scored between 80-90 % in pre-test and 100 % participants secured more than 80% in post-test, thus indicating the effectiveness of the BLS workshop in enhancing the pre existing knowledge among the participants.

It is common notion among the public and patients to expect even first-year medical students to be capable of handling emergencies. However, the present curriculum does not provide medical intervention skills to first-year medical students. Sushma Pande et al in their study to evaluate retention of knowledge and skills imparted to first-year medical students through basic life support training if BLS skills, has recommended that BLS skills be learnt right from the first-year medical curriculum along with the basics sciences of the cardiovascular and respiratory systems, followed by re-enforcement of the skills every year thereafter, which would lead to a more fruitful outcome.<sup>8</sup>

Unfortunately structured teaching of BLS/ALS is lacking in medical curriculum. It is also a fact that after graduation training of resuscitation skills is difficult. Busy residency schedules and lack of resources act as barriers. Doctors still are expected to learn resuscitation skills in the clinical setting, where there is little opportunity to correct poor techniques.<sup>6</sup>

**Conclusion :**

The present BLS training programme was effective in enhancing the knowledge of resuscitation among the interns and it is mandatory that the BLS programme be included in the present medical curriculum.

**References :**

1. American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science 2010;112:5685-5705
2. Sasa Sopka, Henning Biermann, Rolf Rossaint, Steffen Rex, Michael Jager, Max Skorning, Nicole Heussen and Stefan K Beckers. Resuscitation training in small-group setting – gender matters. Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine 2013, 21:30
3. Afzalimoghaddam M, Talebideloi M, Talebian MT, Farahmand Sh. Evaluation of the Effectiveness of Basic Life Support Training on the Knowledge and Skills. Patient Saf Qual Improv. 2014; 2(2):73-6
4. Akshatha Rao Aroor, Rama Prakash Saya, Nazir Rahim Attar, Ganesh Kumar Saya and Manikandan Ravinanthanan. Awareness about basic life support and emergency medical services and its associated factors among students in a tertiary care hospital in South India. J Emerg Trauma Shock. 2014 Jul-Sep; 7(3): 166–9.
5. Isbye DL, Meyhoff CS, Lippert FK, Rasmussen LS. Skill retention in adults and in children 3 months after basic life support training using a simple personal resuscitation manikin. Resuscitation. 2007 Aug;74(2):296-302
6. Avabratha KS, Puranik G, Shenoy KV, Rai BS. A Study of the Knowledge of Resuscitation among Interns. Al Ameen Journal of Medical Sciences. 2012;5(2):152-56.
7. Asmita Chaudhary, Heena Parikh and Viral Dave. Current Scenario: Knowledge Of Basic Life Support In Medical College. Natl J Med Res. 2011; 1(2): 80-2
8. Sushma Pande , Santosh Pande , Vrushali Parate , Sanket Pande , Neelam Sukhsohale . Evaluation of retention of knowledge and skills imparted to first-year medical students through basic life support training. Advances in Physiology Education Mar 2014, 38 (1)42-5

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