



Current scenario: Knowledge of basic life support among doctors and nursing staff in medical college

G.K. Tripathi^{1*}, Puneet Tripathi², Pratap Shankar³, Preet Lakhani³, Sachin Tutu³, Amod Kumar Sachan³, Rakesh Kumar Dixit³

¹ Department of Medicine, Hind Institute of Medical Sciences, Safedabad, Barabanki, UP, India

² Department of Medicine, Hind Institute of Medical Sciences, Attaria, Sitapur, UP, India

³ Department of Pharmacology & Therapeutics, King George's Medical University, Lucknow, Uttar Pradesh, 226003, India.

Received: 10-12-2015 / Revised: 25-12-2015 / Accepted: 30-12-2015 / Published: 01-01-2016

ABSTRACT

A workshop has been conducted on basic skill of Cardio-Pulmonary Resuscitation (CPR) among doctors and nursing staff in medical college. Theoretical aspect was explained through power point presentation whereas practical aspect was demonstrated through skill station. The results were analyzed by using an answer key prepared from BLS manual of American Heart Association (AHA). Out of 117 participants only three participants secured 80-90% marks in pretest whereas rest of secured less than 50% marks. Post workshop assessment was done with same question papers showed 70% candidates securing more than 80%. Hence BLS workshop is essential to improve knowledge and skill of CPR.

Key words: BLS, Knowledge, CPR, Doctors, Nursing staff

INTRODUCTION

Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) are part of Cardio-Pulmonary Resuscitation (CPR) [1, 2]. Basic Life Support (BLS) includes recognition of signs of Sudden Cardiac Arrest (SCA), heart attack, Cardiovascular stroke, foreign body airway obstruction and Automated External Defibrillator (AED) [3]. It is important that people in the community knows BLS skill to save lives and improve the quality of community's health. This becomes more important for doctors and paramedical staff who are facing life threatening situations every time. In this study we showed that hands on skill make an obvious difference to improve skill of BLS among various health sectors.

METHODOLOGY

Study design: It was an interventional study where effect of BLS workshop was evaluated based on the pre training and post training assessment score. Study participants: Medical and para-medical staffs were included in the study.

Intervention: BLS workshop was conducted for three days by BLS and ACLS trained instructors of AHA.

First day 40 doctors, second day 26 nursing staff and third day 51 nursing staff participated for training programme. The training cum workshop was divided in to two sections; one was theoretical part and second was hand on skill.

Theoretical aspect was explained by expert in the field. Power point presentation was used for better visual impact on the participants. Hands on training were also given to the participants. This practical aspect was demonstrated live on normal individuals in medical college. Same training personnel and presentation were used for all three batches of training to maintain same intensity of training.

Evaluation of effect of Training: A questionnaire with 15 questions was prepared to evaluate the knowledge of CPR. The aspect on which they were interrogated like: the abbreviation of BLS, AED and EMS.

Assessment and resuscitation techniques: The question paper was asked to filled by all the participants before the start of the training. The same questionnaire was asked to filled by all participants at the end of training session.

Analysis: The data were entered in to computer and analysed using SPSS software. Pair t test was used to establish statistical significance between pre and post training score. The difference is said to be statistically significant at 95% confidence interval when p value is less than 0.05.

RESULT

Among 120 responders three were excluded as their forms were incomplete. Out of 117 responders 40 were doctors, 77 were nursing staff. Among doctors 5% secured 80% marks in the pretest assessment whereas in the post workshop assessment 63% of them secured 70-90% marks and for nursing staff 3.9% secured 80% in pretest assessment whereas in post test assessment 27% of them secured 70-90% marks (Table-1).

Table 1: Percentage distribution among doctors (n=40) and nursing staff (n=77)

Doctors (n=40)		Nursing staff (n=77)	
Score	Doctors (%)	Score	Staff Nurses (%)
< 70%	4(10.0)	< 70%	52(67.5)
70-89%	25(62.5)	70-89%	21(27.3)
≥ 90%	4(5.2)	≥ 90%	4(5.2)
Total	40(100)	Total	77(100)

Certain questions where majority of candidates failed to answer were: location of chest compression, compression ventilation ratio in child and in adults, depth of chest compression, and correct technique of foreign body removal from an infant. As per the result of Paired t – test, the P value for doctors group is less than 0.01 which is suggestive of that the intervention (training) is highly effective and statistically highly significant. There was marked improvement in the mean scoring of participants after training for BLS as compared to the scoring before training and that is due to the training and skill station.

For the second batch the result of Paired t – test (p value <0.01) is suggestive of that the intervention

(training) is highly effective and made statistically significant difference in the knowledge of the participants. There was marked improvement in the mean scoring of participants after training for BLS as compared to the scoring before training and that is due to the training and skill station.

Same with the third batch, the result of Paired t – test (p value <0.01) is suggestive of that the intervention (training) is highly effective for improvement of BSL knowledge. There was marked improvement in the mean scoring of participants after training for BLS as compared to the scoring before training and that is due to the training and skill station (Table-2).

Table 2: Comparison of Pre workshop and post workshop scores

Batch of workshop	Workshop participants	N	Pre Test mean	Post test mean	Paired t test P value
First batch	Doctors	40	5.3	12.5	<0.01
Second batch	Nursing Staff	26	5.4	9.5	<0.01
Third batch	Nursing Staff	51	6.3	9.8	<0.01

DISCUSSION

This study emphasizes the cognitive approach to the general perception and skill of BLS. Initially many paraclinical doctors show less enthusiasm and did not come forward to respond to questionnaires. Certain questions where majority of candidates failed to answer were:

- Location of chest compression,
- Compression ventilation ratio in child and in adults,
- Depth of chest compression

- Correct technique of foreign body removal from an infant

In our study, the simulation based intervention offers a positively evaluated possibility to enhance skills in recognising and handling emergencies [4-8]. This study also shows that simulation training improves ability to manage medical emergencies. This study emphasizes on the awareness of basic life support among medical, dental, nursing students and doctors [5, 9]. In our study only 3 out of 117 secured 80% marks in pretest. So we have concluded that inclusion of BLS course will increase awareness and application of this valuable

life saving maneuver. Therefore BLS and ACLS training programmes should be mandatory for all medical and paramedical staff. It also showed that knowledge of trained student was found to be better than untrained student [10-11].

CONCLUSION

A formal BLS refresher training is essential for retention of BLS skills and to maintain competency in the technique. In community lay person should be encouraged to participate in such type of workshop. In future scientific laboratory should be established in all medical college for standardization of quality CPR.

REFERENCES

1. Robert A Berg. American heart association guidelines for Cardiopulmonary resuscitation and Emergency Cardiovascular Care Science, Circulation 2010; 122:5685-5705.
2. Vaillancourt C, Stiell IG. Cardiac arrest care and emergency medical services in Canada. Can J Cardiol 2004; 20:1081-1090.
3. Caffrey SL, Willoughby PJ, Pepe PE, Becker LB. Public use of automated external defibrillators. N Engl J Med 2002; 347:1242- 1247.
4. Orlowski JP. Optimum position for external cardiac compression in infants and young children. Ann Emerg Med 1986; 15:667-673.
5. Clements F, McGowan J. Finger position for chest compressions arrest in infants. Resuscitation 2000; 44:43-46.
6. Russeler M, Weinlich M et al. simulation training improves ability to manage medical emergencies. Emerg Med J 2010; 27(10): 734-8
7. Shanta Chandrasekaran et al. Awareness of basic life support among medical, dental, nursing student and doctors. Indian journal of Anaesthesia 2010; 54:121-126.
8. Chenxiu-Zhen, survey of knowledge of CPR in nurses of community-based health services in Hainan Province. Al Ameen J Med Sci 2008; 1(2): 93-98
9. Hassan Zaheer et al. Awareness about BLS (CPR) among medical students: status and requirements. JPMA 2009; 57:59.
10. Graham CA. Cardiopulmonary resuscitation: a survey of undergraduate training in UK medical schools. Journal of accident and emergency medicine 1994; 11:162-165.
11. Asad Abbas et al. Knowledge of first aid and basic life support amongst medical students: a comparison between trained and untrained students. JPMA 2011;