

AN APPROACH TO EARLY INCEPTION OF BASIC LIFE SUPPORT PROGRAM IN 3RD SEMESTER MBBS STUDENTS

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ABSTRACT

BACKGROUND

The objectives of this study were- 1. To know how effective inception of 'Basic life support training' will be in 3rd semester MBBS students and its output efficacy. 2. To know the efficacy of early inception of basic life support training.

MATERIALS AND METHODS

The study was done on 120 MBBS students of 3rd semester in Andhra Medical College, Visakhapatnam. Basic life support workshop was conducted, and CPR skills were demonstrated both theoretically and practically with the support of DR. NTR UHS and American Heart Association material A/V based Program. A pretest and Post test was conducted to evaluate the outcome after the program.

RESULTS

The pretest results of the students was 10.64 ± 2.46 (Mean \pm SD) and posttest are 18.28 ± 1.06 (Mean \pm SD) and was compared using paired t test with a p value of <0.0001 which is highly statistically significant.

CONCLUSION

The above study confirms that BLS training can be introduced early in the MBBS curriculum which can be useful for undergraduates during their internship rather keeping it in the tenure of internship.

KEYWORDS

Cardiopulmonary resuscitation, Basic life support.

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BACKGROUND

The life of an individual is influenced by various factors including the condition of health, education, occupation, and socioeconomic status. Among the various factors, the condition of health influences the life of an individual to a greater extent. There are various systemic conditions of health like myocardial infarction, congestive cardiac failure, and stroke which may cause even death of an individual. There are different ways by which the occurrence of death of an individual may be prevented. They include the instructions given and medications prescribed by health professionals, diet, and physical exercises. In addition to these ways, basic life support (BLS) in case of medical emergencies is most important.

Basic life support (BLS) is the medical procedures and skills which are used to save the victim from the life-

threatening emergencies until the medical care is provided at the hospital. BLS procedures include cardiopulmonary resuscitation (CPR), bleeding control, artificial ventilation, and basic airway management.¹

As recommended by the American Heart Association (AHA, 2004), the students and teachers should be given training regarding the BLS.² The General Medical Council states that preregistration house officers should have training in BLS before they begin their first posting and they should receive advanced life support training during the 1st year.³

In Andhra Pradesh, India the BLS training was introduced into MBBS curriculum during the internship by Dr. NTR University of Health Sciences (Dr. Ntruhs), the present study was done to know how it can be introduced early in their curriculum, probably in IIIrd semester as they have the basic knowledge of anatomy and physiology. This program meets the current recommendations from the October 2015 Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care issued by the American Heart Association (AHA).

MATERIALS AND METHODS

The study was done on 120 first year MBBS under Graduates of Andhra Medical College, Visakhapatnam, Andhra Pradesh, India. Selection of students was done on their own interest

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for inculcating knowledge on attending emergencies, although out of 194 students who attended an introduction class for Life support Training Lecture, out of which 120 students were selected randomly for special practical and workshop training.

A 20 multiple choice questionnaire pretest was kept and neither marks nor the correct answers were revealed. Later these 120 students were trained in BLS, Cardio Pulmonary resuscitation skills were demonstrated both theoretically and practically with the support of Dr. NTRUHS and American Heart Association material A/V based Program.

The Training session workshop was divided into 1. Theoretical part, 2. Hand on skills. The theoretical part was explained by expert AHA faculty trained from regional training centre Dr. NTRUHS and having minimum of 3 years' experience of conducting regular sessions on BLS Program using AHA videos and self-designed Power point presentations.

The hands-on training was shown and followed by practice session by the students on manikins. Later an evaluation of practice session was conducted using a viva questioner for practice skills.

Later the same 20 multiple choice questionnaire posttest was conducted. The answers were evaluated, unanswered questions were considered as zero. The mean values and standard deviations were calculated, both pretest and posttest values were statistically evaluated by paired t test, a Value of p <0.05 was taken as significant. All the calculations were made using graph pad online statistical calculator and MS excel.

RESULTS

After collecting the data from 120 students mean and standard deviations of both pre and posttest were calculated both were then analysed for their significance with paired t test.

Out of 120 students 76 (63.3%) are males and 44 (36.7%) are females, though their number varies our concern is to know their awareness and knowledge of BLS irrespective of their gender.

	Males	Females	P value
Pre test	10.44 ± 2.05	10.09 ± 2.03	P =0.3676
Post test	18.053 ± 1.02	18.203 ± 1.04	P = 0.4424

Table 1. Comparison of Mean and Standard Deviation Values of Pretest and Post Test Scores of Males and Females

Table 1 reveals that males pretest values (10.44 ± 2.05) are slightly more than that of females (10.09 ± 2.03). There is no significant difference in the pretest values of males and females with a p value equal to 0.3676 (P <0.05 is significant).

Table 1 also reveals that males posttest values (18.053 ± 1.02) are slightly less than females posttest values (18.203 ± 1.04). There is no significant difference in posttest values of male and female with a p value equal to 0.4424 (P <0.05 is significant).

	Pre-test (Mean ±SD)	Post-test (Mean ±SD)	P value (t test)
Males	10.44 ± 2.05	18.053 ± 1.02	P <0.0001
Females	10.09 ± 2.03	18.203 ± 1.04	P <0.0001
Males ± Females	10.64 ± 2.46	18.28 ± 1.06	P <0.0001

Table 2. Comparison of Mean and Standard Deviation Values of Pretest and Post Test Scores in Males, Females and Combined

Table 2 reveals that post test scores are more than pretest scores in males. There is a significant difference in the scores with the training with a p value of <0.0001 (P <0.05 is significant) which is highly statistically significant.

Table 2 also reveals that post test scores are more than pretest scores in Females. There is a significant difference in the scores with the training with a p value of <0.0001 (P <0.05 is significant) which is highly statistically significant.

Table 2 also shows the mean and standard deviations of pretest (10.64 ± 2.46) and posttest (18.28 ± 1.06) in both females and males and their significance is evaluated by t test which showed a Probability value P< 0.0001 (P <0.05 is significant) which is highly statistically significant.

DISCUSSION

Although inevitable tragedies occur in hospitals, the doctors should be aware of such incidents in terms of patient assessment, how and when to manage them, which would likely reduce such uneventful things. Hence, all the medical academic institutions should give an immense value in training all the students and faculties in the simple procedures collectively known as BLS.

Theoretical knowledge with practical demonstrations and regular practice with up to date recommendations is essential in maintaining the competence of BLS providers. Medical under graduates should be taught how to handle emergency as it affects their quality of life and also affects the effectiveness of their management of patients.

According to Dr. NTRUHS guide lines medical under graduates of Andhra Pradesh should get their BLS training completed in internship. They have to get their certificate of completion to get their MBBS degree to be registered. It is a good step towards BLS training, but it can be introduced still early as soon as they finish their MBBS first year.

This study was done to know the efficacy of early inception of BLS training in IIIrd semester, which had a positive outcome. A total number of 120 students were selected randomly, who volunteered for the study. According to the present study there was a significant improvement in their knowledge after a training session. Even though they were IIIrd semester students they understood the basics of BLS .There were so many similar studies in support of our study.

Similar study done by Srinivas⁴ among dental, medical, and nursing students, he found that medical students were poor and dental students were poorer in terms of knowledge about the individual components of BLS. Hence, inclusion of BLS in their academic curriculum and hands-on courses to

improve their practical skills is recommended for the students of both the profession at an early stage to decrease the mortality and morbidity.

Kumar et al.⁵ had studied the knowledge according to separate components such as indication, signs of successful CPR, response to emergency situation, and perception toward BLS. Final-year medical students are in a better position to do the guesswork showing lack of knowledge. Training improves the knowledge and skills only if training is introduced at the beginning of curriculum rather than in final year.

As found by Chaudhary,⁶ there was a significant improvement in the knowledge and skills among the medical and paramedical staffs after the end of BLS training session as compared to that of pre training and showed that BLS training is essential for the retention of skills and to maintain the competency in the same.

Both the studies done by Chandrasekaran et al.⁷ and Alanazi et al.⁸ recommended BLS training not only in the UG curriculum but also for high-school and college students as the younger students can grasp the knowledge and help the people with emergency situation.

Roshana et al.⁹ in their study showed inadequate knowledge of BLS among medical, dental, and paramedical staffs despite their positive attitude toward it, resulting in fear of being inefficient to further harm the victim while performing the resuscitation. In their study, the knowledge of trained personnel was better than those of untrained one, forcing the periodic reinforcement by refreshing training to attain adequate CPR skill and to maintain competency in the teaching.

This study also revealed a critical issue that the average health personnel in our centre lack adequate knowledge in CPR/BLS which should be addressed promptly. Since prior CPR training and clinical exposure influence the retention of knowledge there is need for all health care professionals to have some standard of CPR/BLS training and assessment.

Newly qualified doctors are expected to take part in resuscitation from their first day. The General Medical Council states that preregistration house officers should have training in basic life support before they begin their first post and that they should receive advanced life support training during the first year.¹⁰ However, it places no obligation on medical schools or trusts to provide a defined standard of resuscitation training. The Royal College of Physicians has stated that advanced life support should be taught in the undergraduate course and that preregistration house officers should be "capable of instituting" advanced life support.¹¹

In 2010, AHA has changed the sequence of BLS for adults and paediatric patients (excluding newborn) steps from "A-B-C" to "C-A-B." Because of updating of guidelines from 5 years, repetitive training courses are needed to ensure the changes.

CONCLUSION

It is inevitable in medical practices to have emergencies. So, the medical students should be trained before they

encounter their first emergency in their internship. It is possible only when they are trained early in their under graduation rather than in their internship. By having a good BLS skills they can save many lives. It is also recommended to have regular renewal training sessions.

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