

Awareness about basic life support among undergraduate interns of Medical, Dental, and Physiotherapy College of Maharishi Markandeshwar University, Mullana, Ambala

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ABSTRACT


Background: Basic life support (BLS) is all about the prompt recognition of a victim of cardiac arrest or any foreign body obstruction and managing it with cardiopulmonary resuscitation and defibrillation. **Objectives:** To estimate the extent of awareness about BLS among the undergraduate interns of medical, dental, and physiotherapy College of Maharishi Markandeshwar University, Mullana, Ambala. **Materials and Methods:** The current study cross-sectional analytical study included the medical interns (MIs), dental interns (DIs), and physiotherapy interns (PIs) of Maharishi Markandeshwar University, Mullana, Ambala. The assessment was done on the basis of a questionnaire containing 20 basic multiple choice questions related to BLS. The students were given 1 h time to attempt the questions and then the assessment was done. The students were graded on the performance based on scores (in percentage) classified as: 90-100 outstanding, 80-89 excellent, 70-79 as very good, 60-69 as good, 50-59 as satisfactory, and <50 as poor. **Results:** Out of the total 234 interns participated in the study 108 were MIs, 72 were DIs, and 54 were PIs. The mean score of MIs was $48.92\% \pm 4.11\%$, the mean score of DIs was $40.67 \pm 3.67\%$, and mean score of PIs was $32.45\% \pm 3.09\%$ ($P < 0.05$). **Conclusion:** We concluded that there is poor knowledge and awareness about BLS and cardiopulmonary resuscitation among the interns and hence shows the need for compulsory training in this field.

KEY WORDS: Basic Life Support Awareness among Medical Interns; Basic Life Support Awareness among Dental Interns; Basic Life Support Awareness among Physiotherapy Interns

INTRODUCTION

Basic life support (BLS) is all about the prompt recognition of a victim of cardiac arrest or any foreign body obstruction and managing it with cardiopulmonary resuscitation and defibrillation.^[1] Early support of ventilation and circulation

restores the blood and oxygen supply to the vital organs such as brain and heart. Basic knowledge and skill of cardiopulmonary resuscitation (CPR) aids in the survival of the patient till the patient reaches the hospital and receives advanced medical treatment. While in some of the cases of cardiac arrest the CPR itself ensures the patient survival.^[2,3] Being lifesaving procedure knowledge of BLS is crucial among the health-care professionals and students. Cardiac arrest is a common cause of death worldwide, and about 70% out of hospital cases of cardiac arrest occur at home, and sadly only 50% survive to hospital discharge. Cardiac arrest can affect individuals of any age. Ideally, it is important that every individual should have the basic knowledge of BLS to save the precious lives.^[4] At least the doctors, nurses, paramedical staff, medical, and paramedical

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students are expected to know about it, as they frequently face such life-threatening situations. The findings of the previous studies in the literature suggest a lack of awareness about this important life-saving procedure among the medical, paramedical students, residents, practicing doctors, nurses, paramedical staff, and technical staff.^[4-6] As interns are the first health-care providers in casualty and emergency medical department their knowledge about BLS is very crucial. To assess preparedness of the fresh graduates in various streams of health care in various regions to face the emergency situations is the prime need of the hour. The students of health science colleges are the building stones of future health-care industry hence their knowledge of BLS is very crucial. The lack of professional training has been identified as the main reason behind poor knowledge.^[7] Based on the results recommendations can be formulated to design the curriculum so as to include professional training of BLS in the dental, medical and physiotherapy syllabus so that our fresh graduates can be trained to deal with such emergencies. We conducted this study as there are no data available about BLS awareness among the medical interns (MIs), dental interns (DIs), and physiotherapy interns (PIs) from any North Indian university. Hence, we conducted this study to estimate the awareness of BLS among interns of Medical, Dental, and Physiotherapy College of Maharishi Markandeshwar University, Mullana, Ambala.

MATERIALS AND METHODS

This study cross sectional analytical study included the MIs, DIs, and PIs of Maharishi Markandeshwar University, Mullana, Ambala. The assessment was done on the basis of a questionnaire containing 20 basic questions related to BLS. The students were given 1 h time to attempt the questions and then the assessment was done. The questions were related to the basic knowledge and skill of CPR. The questionnaire included knowledge based questions such as full form of abbreviations basic life support (BLS), automated external defibrillator (AED), emergency medical services (EMS), steps in BLS, assessment of arterial pulse and respiration. The skill-based questions included the technique of CPR in victims of various age groups such as rate and depth of compression. The students were graded on the performance based on scores (in percentage) classified as: 90-100% as outstanding, 80-89% as excellent, 70-79% as very good, 60-69% as good, 50-59% as satisfactory, and <50% as poor. The answer key was prepared using the American Heart Association BLS manual.^[8]

RESULTS

A total of 234 interns participated in the study. Out of the total interns who participated in the study, 108 were MIs, 72 were DIs, and 54 were PIs. The mean score of MIs was 48.92 ± 4.11 , the mean score of DIs was 40.67 ± 3.67 , and mean score of PIs was 32.45 ± 3.09 (Table 1). The difference was statistically significant $P < 0.05$. The mean scores of

either group were poor, i.e. <50%. None of the students scored above 90% in either of the groups. Only 8.97% of MIs and 2.77% of DIs could get a score between 80% and 89%. Among the PIs no student could score above 80% (Table 2).

DISCUSSION

The results of our study showed that the interns of dental, medical, and Physiotherapy college were severely lacking about the knowledge of BLS and CPR. The PIs scored the least marks followed by the DIs and then the MIs. The mean scores of either group were poor, i.e., <50%. None of the students scored above 90% in either of the groups. Only 8.97% of MIs and 2.77% of DIs could get a score between 80% and 89%. Among the PIs no students could score above 80%. The least exposure of the PIs to the emergencies was probably the reason for their worst performance.

Chandrasekaran et al. conducted a research study on students, practicing doctors and nursing staff of medical, dental, nursing, and homeopathy college about the awareness of BLS. They found that out of 1054 participants 894 (84.52%) scored <50% marks. They concluded that awareness of BLS among students, doctors and nurses of medical, dental, homeopathy, and nursing colleges is very poor.^[4] A recent study conducted by Abbas et al. in Pakistan compared the knowledge of first aid and BLS among trained and untrained medical students. They found trained students to have a higher knowledge of the same. However, they advised that the knowledge should be refreshed and reinforced regularly for the trained students also to boost their confidence for better performance.^[9] Skinner and Casey also found in their study that the practicing doctors were not good in carrying out effective CPR. It is suggested that owing to the lack of awareness about BLS among the health-care professionals standardized BLS training should be made compulsory for the doctors, nurses, and paramedics.^[5-7] The awareness among MIs was better as compared to the DIs in the study conducted by Sharma and Attar the results of our study also support their findings. Poor exposure of dental students to the training and emergencies is the prime factor behind their less knowledge as compared to medical students. Alanazi et al., in their study in a medical college in Riyadh, Saudi Arabia, found poor overall knowledge about BLS and CPR among the medical students. They also recommended that there is a need of training about the BLS among medical students and surveys should be conducted in the medical schools to know the level of awareness about BLS.^[10] Various other studies also reported

Table 1: Mean scores of the three groups

Group	N	Mean score
MIs	108	48.92±4.11
DIs	72	40.67±3.67
PIs	54	32.45±3.09

$P < 0.05$. MI: Medical interns, DI: Dental interns, PI: Physiotherapy interns

Table 2: Grading according to the scores among the three groups

Grading	Total number of students (%)	MIIs (%)	DIIs (%)	PIIs (%)
Outstanding (90-100%)	0	0	0	0
Excellent (80-89%)	04 (8.97)	03 (2.77)	01 (1.38)	0
Very good (70-79%)	07 (12.39)	04 (3.70)	02 (2.77)	01 (1.85)
Good (60-69%)	14 (9.4)	08 (7.4)	04 (5.55)	02 (3.70)
Satisfactory (50-59%)	29 (16.24)	16 (14.81)	09 (12.5)	04 (7.40)
Poor (<50%)	180 (76.92)	77 (71.29)	56 (77.78)	47 (87.03)

insufficient knowledge about BLS among the nursing staff, doctors, interns, residents, and dentists.^[3,11-13]

It has also been reported that younger age group is an important factor for successful BLS training.^[14] A survey was done on Riyadh school students it was found that in spite of the fact that the students lacked the knowledge about CPR but they showed keen interest in learning the skills of CPR.^[15] Considering this fact, we would recommend that all the medical, paramedical, dental, and nursing students should have a training of CPR compulsorily in their curriculum. Students should be imparted both knowledge as well as skill of CPR and examined time to time regarding it to refresh the skills. Our limitation was that we only assessed the theoretical skills and not the practical skills in our study. We have also not assessed the effect of training on the improvement in knowledge and skills which leave a scope for us for further study in this regard.

CONCLUSION

We would like to say that there is poor awareness about BLS and CPR among the interns of medical, dental, and Physiotherapy College of our university and hence we recommend the stakeholders a need for compulsory training in this field for all the courses. Professional training and refresher courses should be organized regularly for the students regarding it.

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