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Medical Science

ROLE OF AWARENESS AND TRAINING ON BASIC LIFE SUPPORT AMONG MEDICAL AND NON-MEDICAL STUDENTS

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ABSTRACT **Summary:** The aim of the study was to assess the level of knowledge of Basic Life Support (BLS) among the students and assess the role of awareness and training on BLS knowledge. An online 15 multiple choice questions were prepared via Google forms and sent to 200 students. The knowledge skills were assessed based on the score number of corrected answers. Female students have significant adequate knowledge than male. Non-medical students have poor knowledge than medical students. There was no significant difference of knowledge whether students aware or trained on BLS or not. Hence, BLS should be incorporated in to the curriculum of all the students. Training has to be reinforced among the students at regular intervals to retain the skills.

KEYWORDS : Basic Life Support, awareness, training, students

INTRODUCTION

Basic life support (BLS) is the medical procedure and skills which are used to save the victim from the life-threatening emergencies until the medical care is provided at the hospital. BLS skills are simple and quick steps that can be done outside the hospital with minimal or no medical equipment, aiming to temporarily stabilize the victim's condition and prevent worsening of their condition until the arrival of emergency medical services. Several studies have shown that the majority of people had little or no first aid training [1, 2, 3]. As the incidence of medical emergencies is on the rise in recent years, it is important to ensure that health personnel is adequately trained to deal with such events [4]. BLS and resuscitation training is not routinely practiced in developing countries like India, and there is still no standard. Hence, in the Indian scenario, doctors working in casualties of private and government hospitals will handle most of the emergencies. At some point in a medical curriculum, students are taught how to handle emergencies in a hospital emergency setting where drugs and other necessities are available. However, the adequate knowledge required for handling an emergency without hospital setting at the site of the emergency may not be sufficient.

The aim of the study was to assess the level of knowledge of BLS among the students and to assess the role of awareness skills and training on BLS knowledge. This study thus identified the need for introducing formal BLS training for both medical and non-medical students so that the trained students are competitive enough to provide first aid independently and spontaneously in real life situations.

METHODS AND MATERIALS:

This cross-sectional study was performed in 2018 October. An online questionnaire comprising of socio-demographic and 15 multiple choice questions on BLS were prepared via Google forms and sent to various students of age group between 18 and 23 yrs. 200 students comprising of medical and non-medical fields participated in the survey. The students were informed about the aim of the study prior to the completion of the questionnaire. Students were categorized by asking about their awareness and previous training experiences. Both the parent's educational qualification was taken into account and categorized into highly educated (graduated and above), less educated (intermediate).

The criteria to assess the knowledge skills are based on the score number of corrected answers out of 15.

The scoring was graded as follows:

- ≥70% excellent
- 50% to 69% adequate
- <50% poor

RESULTS

Out of 200 students participated in the study, 71 (35.5%) were male and 129 (64.5%) were female. Of whom 156 (78%) were medical and 44 (22%) were non-medical students. 157 (78.5%) were aware of knowledge regarding BLS, 43 (21.5%) were not aware. 58(29%) were trained, and 142 (71%) were never trained on BLS. Considering father education 146 (73%) were highly educated, 54 (27%) were less educated. Considering mothers education 117 (58.7%) were highly educated, 83 (41.5%) were less educated (Table 1).

Female students have significant adequate knowledge than male (55% vs 38%, p1=0.02). The female have significant adequate knowledge compared to poor and excellent knowledge scores (55% vs 31%, p2=0.0001 and 55% vs 14%, p3 <0.0001) (Table 1).

Non-medical students have poor knowledge score than medical students (81.8% vs 20.5%, p1<0.0001), while medical students have adequate and excellent knowledge scores than non- medical students (59% vs 13.6%, p1<0.0001 and 20.5% vs 4.5%, p1=0.01) (Table 1).

TABLE 1: Distribution of students according to knowledge.

Categories (no %)	Poor no (%)	Adequate no (%)	Excellent no (%)	p2	p3
Male 71(35.5)	28(39.4)	27 (38)	16 (22.5)	0.86	0.045*
Female 129 (64.5)	40 (31)	71 (55)	18 (14)	0.0001*	<0.0001*
p value	0.23	0.02*	0.13		
Medical 156 (78)	32 (20.5)	92 (59)	32 (20.5)	<0.0001*	<0.0001*
Non medical 44 (22)	36 (81.8)	6 (13.6)	2 (4.5)	<0.0001*	0.14
P value	<0.0001*	<0.0001*	0.01*		
Aware of BLES 157(78.5)	57 (36.5)	74 (47.1)	26 (16.6)	0.05*	<0.0001*
Unaware of BLES 43(21.5)	11 (25.6)	24 (55.8)	8 (18.6)	0.005*	0.0004*
P value	0.18	0.31	0.76		
Trained 58(29)	23 (39.6)	28 (48.3)	7 (12)	0.35	<0.0001*
Untrained 142(71)	45 (31.7)	70 (49.3)	27 (19)	0.004*	<0.0001*
P value	0.29	0.9	0.23		
Medical trained 47(30.1)	9 (19.1)	30 (63.8)	8 (17)	0.02*	0.02*
Father education					
High 146(73)	43 (29.5)	76 (52)	27 (18.5)	0.0001*	<0.0001*

Low 54 (27)	25 (46.3)	22(40.7)	7 (13)	0.56	0.0012*
P value	0.02*	0.16	0.36		
Mother education					
High 117 (58.5)	34 (29.1)	59 (50.4)	24 (20.5)	0.0009*	<0.0001*
Low 83(41.5)	34 (41)	39 (47)	10(12)	0.44	<0.0001*
P value	0.08	0.64	0.11		

p2: significance between poor and adequate knowledge, p3: significance between adequate and excellent knowledge.

There was no significant difference of knowledge scores whether students aware of BLS or not. Among 157 students who were aware of BLS, adequate knowledge score was significantly more than poor and excellent knowledge scores (47.1% vs 36.5% vs 16.6%, p2=0.05, p3<0.0001). Among 43 students who were unaware of BLS, adequate knowledge score was significantly more than poor and excellent knowledge scores (55.8% vs 25.6% vs 18.6%, p2=0.005, p3=0.0004) (Table 1).

There was no significant difference in knowledge scores whether students trained on BLS or not. Among 58 trained students, adequate knowledge score was significantly more than poor and excellent knowledge scores (48.3% vs 39.6% vs 12%, p2=0.35, p3<0.0001). Among 142 untrained students, adequate knowledge score was significantly more than poor and excellent knowledge scores (55.8% vs 25.6% vs 18.6%, p2=0.004, p3<0.0001) (Table 1).

Students of the lower educated father have poor knowledge score than higher educated father (46.3% vs 29.5%, p2=0.02), while mother education has no significance on different knowledge scores. Among 146 students of the higher educated father, adequate knowledge score was significantly more than poor and excellent knowledge scores (52% vs29.5% vs 18.5%, p2=0.0001, p3<0.0001) (Table 1).

DISCUSSION

Female students are more enthusiastic about participating in our study, and they have significant adequate BLS knowledge score than male students, which is in agreement with Reddy *et al.* 2013 study [5] and Joseph N et al. study 2014 [4]. The Peruvian study found a significant association between knowledge about first aid and female gender [6].

Alhejaili AS et al. 2016 study [7] showed that the majority of the female students (98.2%) thought that they had previous knowledge about first aid, only 16.4% reported to have the ability to do first aid in the emergency case. Al-Mohaissen MA 2017 study [8] showed that the participants were aware of BLS and had a positive attitude towards it. In our study 78.9% of students thought that they have previous knowledge about BLS, only 16.6% reported to have excellent knowledge score and 47.7% have adequate knowledge score. There was no significant difference in knowledge scores whether students aware of BLS or not. But when compared individually both aware and unaware students fall under the adequate score. Thus, students who have a misconception of being aware are more in number, but in reality, they have the same adequate knowledge as an unaware student.

In the Joseph N et al. study 2014 [4] very few students had good knowledge about first aid and this was not influenced with whether the student was previously trained or not in first aid procedures. In our study, 29% of students had prior training, while 71% were untrained. Both trained and untrained students had adequate knowledge score with p<0.0001. There was no significant difference of knowledge scores whether the student was previously trained on BLS or not. It means training is not sufficient and needs reinforcement.

Poor BLS knowledge scores among health students have been reported in many countries. Perceived barriers to BLS competency—including a lack of adequate education and reinforcement. They should be addressed in order to improve BLS knowledge and skills among healthcare trainees [8]. In Zaheer et al. study [9] found that medical students were poor and dental students were poorer in terms of knowledge about the individual components of BLS. In our study non-medical students have poor knowledge score because their knowledge of BLS is not taught beyond school education due to which they are ignorant. Among the medical students, most of them, 59% fall under adequate knowledge score. Only a Karachi based study found that 63.2% of medical students had good, 28.3% moderate and 8.3% poor knowledge about first aid, which was better than our observations [4]. Hence, the inclusion of BLS in their academic curriculum and hands-on courses, to improve their practical skills is recommended for the medical students at an early stage to decrease the mortality and morbidity.

A Peruvian study reported that 52.5% of medical students had prior training in the management of medical emergencies; however, 60.4% of them had poor knowledge about first aid [6]. A Dutch study reported 81% of junior doctors to be having poor knowledge about first aid [10]. A study conducted in Lucknow, India, showed that there was less than adequate knowledge (52%) [11]. In our study 30.1% of medical students had prior training in BLS, however, 63.8% had adequate knowledge, 17% had excellent, 19.1% had poor knowledge scores, indicating the necessity of reinforcement and refreshing hands on courses at regular intervals to retain the skills. Students of higher educated parents have adequate knowledge. This shows parents education influences children's knowledge.

CONCLUSION

The knowledge of BLS was not good among most of the students. BLS should be incorporated in the curriculum of all the students irrespective of the medical or non-medical courses. Because these emergency services need not be medicalized and it is essential as a citizen to be aware. Life of a victim is an invaluable and immediate response with BLS can be life-saving. Training has to be reinforced among medical students. This study thus identified the need for introducing formal BLS training for all students especially, medical students so that the trained students are competitive enough to provide BLS independently and spontaneously in real life situations.

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