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Awareness about Basic life support (BLS) among nursing staff at a tertiary care hospital.

Nursing

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ABSTRACT

Aim : To analyze and evaluate the awareness, attitude and knowledge of nursing staff regarding the skills required for BLS.
Methods: A questionnaire based cross-sectional survey was conducted at a medical college and tertiary care centre among the nursing staff. The questionnaire consisted of 15 questions to assess the awareness of practical knowledge in BLS.
Results: The study revealed that the knowledge and awareness about BLS in the nursing staff was less than satisfactory.
Conclusion: This study underlines the fact that even though the nursing staff in our tertiary health care hospitals has awareness and knowledge about BLS, there is a need for conducting regular BLS training and refresher sessions for all nursing and paramedical personnel, as a step towards improving the quality of CPCR received by patients in sudden catastrophic events in hospital settings..

KEYWORDS

Basic life support, resuscitation, awareness.

Introduction

Basic Life Support (BLS) includes recognition of signs of sudden cardiac arrest (SCA), heart attack, stroke and foreign-body airway obstruction (FBAO); cardiopulmonary resuscitation (CPR); and defibrillation with an automated external defibrillator (AED)[1].

Cardiac arrest is an important acute emergency situation both within and outside the hospital set ups and carries a high level of mortality risk. However if early Basic life support (BLS) – cardio pulmonary resuscitation (CPR) is initiated; the survival rate can be substantially[2] improved. The basic knowledge of BLS plays a very important role in determining the success of resuscitation following cardiac arrest. In hospitals, nurses are that paramedical personnel who are exposed to patients at every step, right from OPD to wards to operation theatres. As such, nurses are the ones who are, in most cases, the first responders in such emergencies. A proper knowledge of the basic skills required for giving basic life support can go a long way in increasing the survival rates following sudden cardiac arrests in hospitals.

We conducted a questionnaire based study in our hospital to analyze and evaluate the awareness, attitude and knowledge of nursing staff regarding the skills required for BLS. In India, very little data are present which addresses the awareness of the medical personnel including students, doctors, and paramedical staff regarding this highly effective and easy manoeuvre[3]. Such studies will high light the need of increasing the awareness about BLS and the need for developing the requisite skills amongst the paramedical hospital personnel.

Materials and methods

A questionnaire based cross-sectional survey was conducted at a medical college and tertiary care centre among the nursing staff. Requisite permission to conduct the study was obtained from the dean of the insitution.

Completion of the questionnaire was voluntary and anonymous. Consent to participate in the study was determined by the completion and return of the questionnaire.

A questionnaire comprising of 15 questions was used to assess the awareness of practical knowledge in BLS. The aspects focused were about the abbreviation of BLS, AED and EMS, sequential steps in BLS, the guidelines for adults and infants, assessment and resuscitation techniques with regard to circulation, and breathing, and airway in unresponsive victims of different age groups. This questionnaire was set by panel of experts who were AHA accredited BLS and ACLS providers.
The questionnaires were handed over to a total of 103 nursing staff working at the hospital. The answer key was prepared using the ACLS manual 2015 as reference for analyzing the results.

Results

In our study, there were 103 respondents, all of them working staff nurses at a tertiary care hospital.

Of these, 14.56% failed to identify the correct long form of BLS, 49.52% failed to recognize that the first response after finding someone unresponsive in the middle of the road is to look for safety, and 70.87% failed to identify that the immediate action to be taken after confirming that somebody is not responding to you even after shaking and shouting at him is the activate the EMS.

61.17% nurses failed to identify the correct location for chest compressions in adults while 70.87% correctly identified the location for chest compressions in infants. 61.17% failed to identify the correct depth of chest compressions in adults, while 30.1% failed to identify the correct rate of chest compressions to be given while doing CPCR.
52.43% failed to recognize the correct long form of AED, while only 5.83% failed to identify the correct long form of EMS.

34.96% could not select the correct compression to ventilation ratio while 63.11% could not identify the correct sequence of airway, breathing and circulation as recommended in the latest guidelines by AHA.

While only 25.24% nurses could identify the maneuvers not included in BLS correctly, 51.45% could identify the signs of poor perfusion.
59.23% failed to identify jaw thrust as the preferred method for opening the airway in an unresponsive patient with head or neck trauma, while 62.14% correctly identified that the action to be taken while the AED is delivering shocks is to stand clear of the victim.

1. What does the abbreviation BLS stand for

A : Basic life support

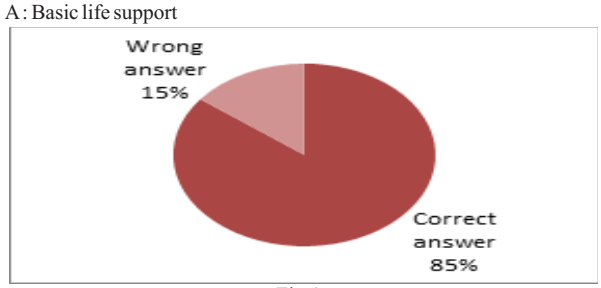


Fig 1

2. When you find someone unresponsive in the middle of the road, what will be your first response? A : Look for safety

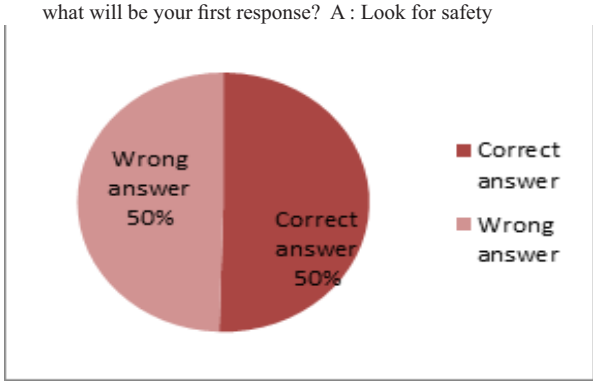


Fig 2

3. If you confirm somebody is not responding to you even after shaking and shouting at him, what will be the immediate action?

A: Activate EMS

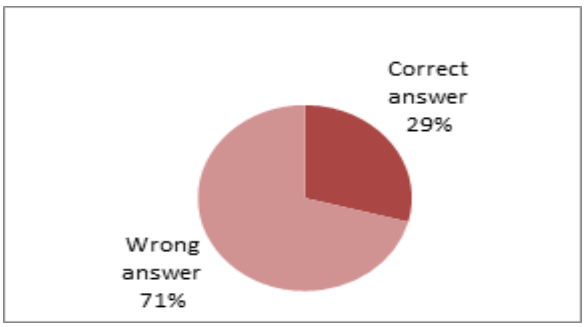


Fig 3

4. What is the location for chest compressions in adults

A : Lower third of sternum

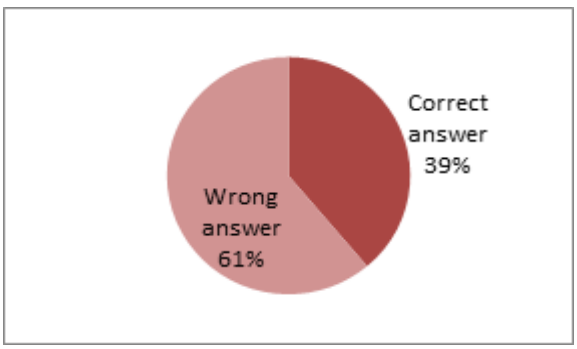


Fig 4

5. What is the location for chest compressions in infants

A : One finger breadth below nipple line

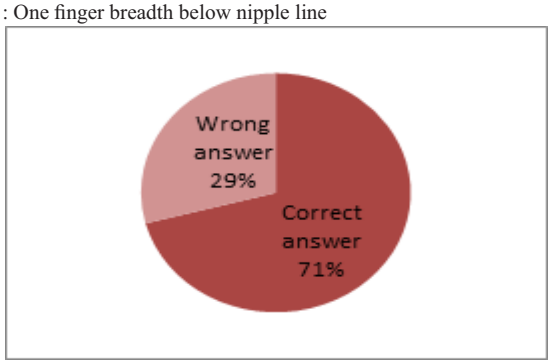


Fig 5

6. Depth of compressions in adults is

A : 5 cm

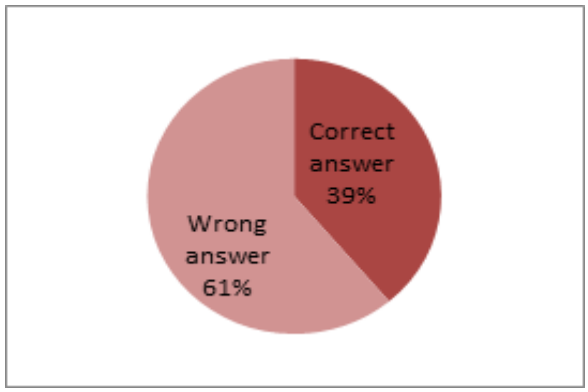


Fig 6

7. Rate of compressions

A : 100 – 120

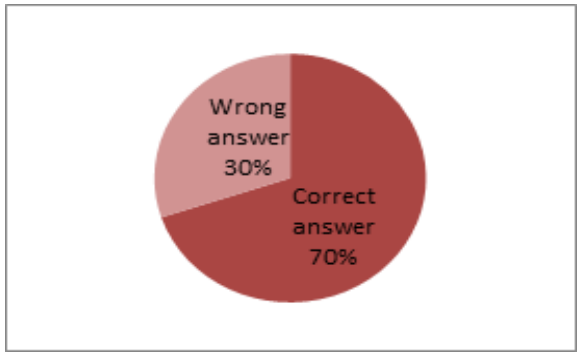


Fig 7

8. What is AED

A : Automated external defibrillator

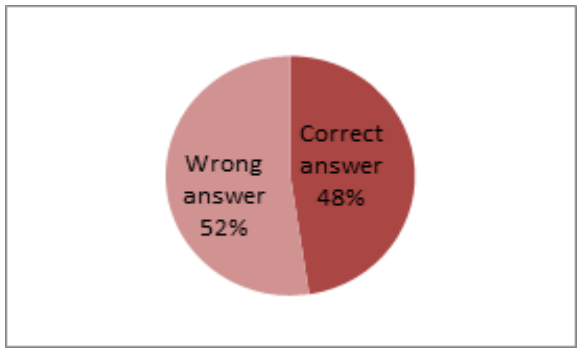


Fig 8

9. What is EMS

A: Emergency medical services

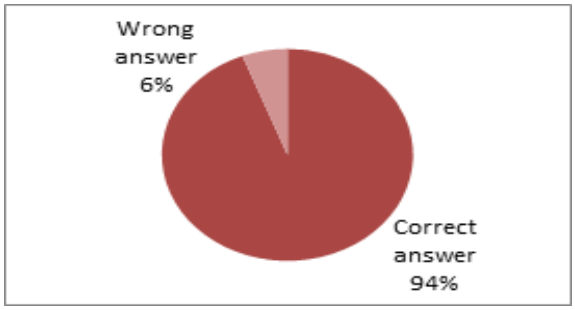


Fig 9

10. What is the compressions to ventilation ratio for adults

A : 30 : 2

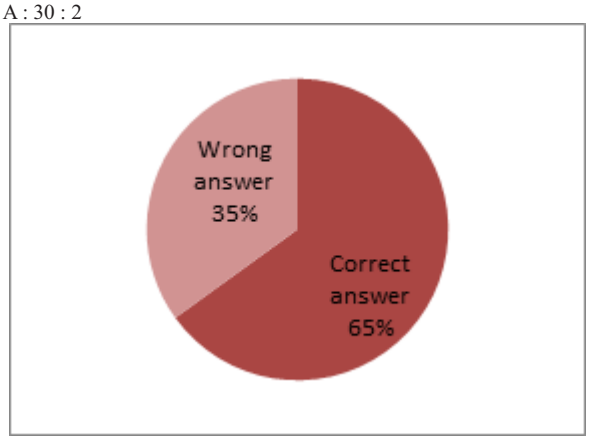


Fig 10

11. What is the sequence of airway (A), breathing (B), compressions (C)

A : CAB

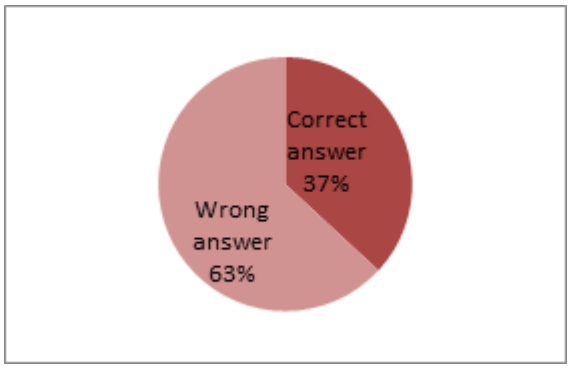


Fig 11

12. Which of the following is not included in BLS
a. IV
b. Definitive airway
c. Pacing
d. All of the above

A : All of the above

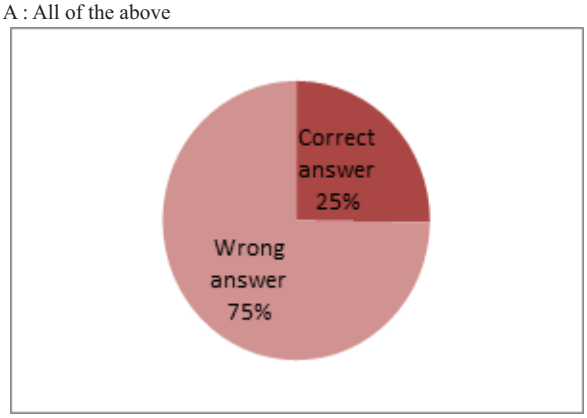


Fig 13

13. Which of the following is not a sign of poor perfusion
a. Cool extremities
b. Altered mental status
c. Bounding pulse
d. Pale skin

A : Bounding pulse

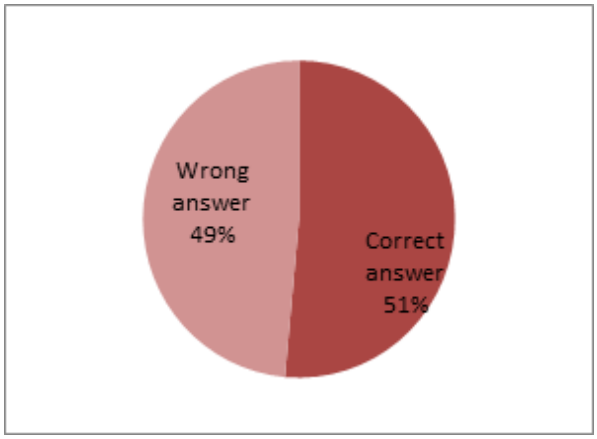


Fig 14

14. If you suspect that an unresponsive victim has head or neck trauma, what is the preferred method for opening the airway?

A : Jaw thrust

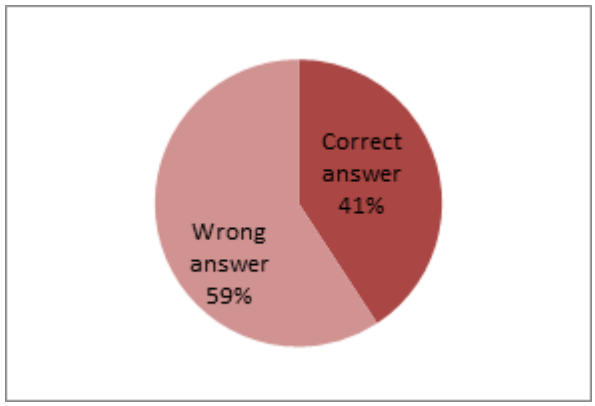


Fig 14

1. What action should you take when the AED is delivering shock?

A : Stand clear of the victim

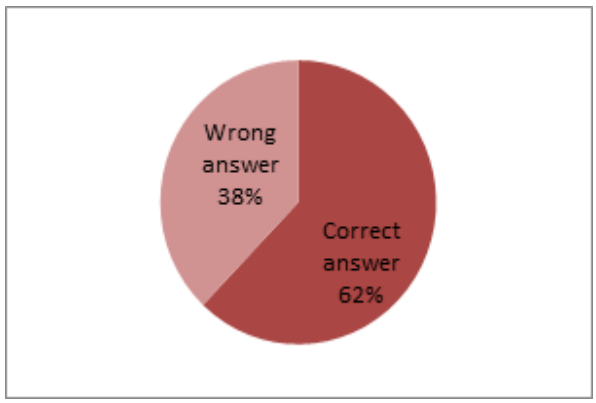


Fig 15

Discussion

Ideally, every individual in the community should be made aware of and given a training in the skills of BLS so as to equip them with sufficient knowledge and skills to identify sudden catastrophic events and provide basic CPR till medical help arrives. At the very least, nurses, who form one of the back bones of hospitals and are amongst the first the responders in case of such events in the hospital setting need to be familiarized and trained regarding the skills required for providing BLS.

The inference that we drew from our study was that, though the nurses are aware about resuscitation techniques, i.e though they know the steps of BLS, most of them are not aware about the exact guidelines for an effective BLS. For example, though all nurses are aware of chest compressions as an effective resuscitation technique for return of circulation, only 38.83% knew the exact location for chest compressions in adults, 38.83% were aware of the proper depth of compressions in adults, while 69.90% knew the proper rate of chest compressions for effective CPCR. This indicates that the nurses should get a refresher course at fixed intervals to brush up their knowledge and skills regarding basic life support so that they can stay abreast with the recent advances in resuscitation techniques.

In tertiary care hospitals, as per our observation, as the seniority of nurses increases, the responsibilities and duties become more tedious with record keeping and writing work taking a major chunk of the time. As such, clinical skills get forgotten gradually and need to be brushed intermittently in order to keep them in touch with the techniques and maneuvers.

Our study, which was a questionnaire based study to analyze the awareness, knowledge and skills about BLS amongst the nursing staff of a tertiary care hospital showed that the knowledge of nurses about BLS was such that they would not be able to give efficient basic life support in the hour of need. This underlines the very need of conducting regular training sessions for nurses and other paramedical staff to refresh the knowledge about BLS.

In our study, 14.56% failed to identify the correct long form of BLS as basic life support. Of these, 86.67% identified it as 'Balanced life support', while 13.33 % identified it as 'Basic life care system'.

In a study4 conducted by Manikandan M et al, where they studied awareness of basic life support among health care Professionals and trainees (undergraduates, paramedics, nurses, physiotherapists) in Tamil Nadu, the results showed that medical, dental, nursing students and physiotherapy students were not having adequate knowledge of BLS.

In another study5 conducted by Sarah Naif Alsayil et al, where they studied the awareness of basic life support among medical and nursing students at Tabuk University, the study revealed that more than half of medical and nursing students (59.6%) had insufficient awareness of BLS, and even 44% of them did not identify the correct meaning of the abbreviation of BLS. In the same study only 33% correctly identified the long form of AED while only 54% identified the correct long form of EMS. In our study, 47.57% identified the correct long form of AED while 94.17% identified the correct long form of EMS. Of the 52.43% who failed to identify the correct long form of AED, all had identified it as 'Automatic electrical defibrillator' instead of 'Automated external defibrillator'. Of the 5.83% who had wrongly identified the long form of EMS, all had identified it as 'elective medical services;' instead of 'emergency medical services'.

A similar study7 conducted by Shanta Chandrasekaran et al about the awareness of basic life support among medical, dental, nursing students and doctors showed that medical, dental and nursing students and faculty in the study group were severely lacking in the awareness of BLS.

Conclusion

This study underlines the fact that nursing staff in our tertiary health care hospitals has insufficient awareness and knowledge about BLS. This highlights the dire need of including BLS training as a mandatory subject in the curriculum of nursing and paramedical hospital personnel.

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