

## ORIGINAL ARTICLE

**A Study of the Knowledge of Resuscitation among Interns****K.Shreedhara Avabratha<sup>1\*</sup>, Bhagyalakshmi K<sup>2</sup>, Ganapathy Puranik<sup>3</sup>,  
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**Abstract:** *Background:* Cardiac arrests and accidents are the most common emergencies with grave consequences which can be managed efficiently by proper knowledge and practice of resuscitation skills. However structured resuscitation courses are lacking in medical curriculum. Many junior doctors are not competent in carrying out effective cardiopulmonary resuscitation. There are not many studies to assess the knowledge of interns regarding resuscitation; hence this study was conducted to assess the resuscitation knowledge among interns. *Methods:* This descriptive cross sectional study was carried out in 3 medical college hospitals, using a questionnaire. The interns were requested to answer the questionnaire, comprising of 20 questions covering varied aspects of basic and advanced life support of child and adult. Statistical analysis was done by frequency, percentage, mean and mean percent. *Results:* 270 interns were included in the study. On an average 9.05 questions were rightly answered. Highest score of 16 achieved by 3 and lowest of 2 achieved by 2. Seven questions were rightly answered by more than 50%. All the participants in the study agreed that structured resuscitation training should be added in the curriculum. *Conclusions:* Interns have islands of scattered knowledge about resuscitation, which is not adequate. Introduction of structured resuscitation program in the undergraduate curriculum is needed and effort should be made to determine an appropriate and efficient course design.

**Key words:** Resuscitation, Knowledge, Interns, Questionnaire

**Introduction**

Cardiac arrests and accidents are the most common emergencies with grave consequences. These emergencies can be managed efficiently by proper knowledge and practice of resuscitation skills. Resuscitation is the art of restoring life or consciousness of one apparently dead. Cardiopulmonary resuscitation (CPR) is a series of lifesaving actions that improve the chance of survival following cardiac arrest [1]. Basic life support (BLS) is a level of medical care which is used for patients with life threatening illness until the patient can be given full medical care. CPR is the technique of providing BLS until advanced life support (ALS) can be provided or spontaneous circulation or ventilation is restored. It can be provided by trained medical personnel including emergency medical technicians and by lay persons who have received BLS training. The ability to diagnose and treat a respiratory or cardiac arrest is a basic medical skill that all doctors are generally assumed to possess.

But the fact is that many junior doctors are not competent in carrying out effective cardiopulmonary resuscitation [2]. Structured pattern of BLS/ALS is lacking even in medical curriculum [3-4]. As a result many may find it difficult when they suddenly come across a situation of resuscitation of a person or a sick child. There are not many studies to assess the knowledge of interns regarding resuscitation, especially in India. Hence this study was conducted to assess the resuscitation knowledge among interns.

### Material and Methods

This descriptive cross sectional study was carried out in 3 medical college hospitals in the coastal Karnataka. The study subjects included randomly selected interns who have passed their MBBS examinations and undergoing compulsory internship. Each intern was explained the purpose of the study. If an intern has attended any resuscitation courses/workshop he was excluded from the study. The interns were requested to answer a questionnaire, comprising of 20 questions covering varied aspects of BLS/ALS of child and adult. The questions were incorporated after going through various literature related to that. The participants were additionally requested to give their opinion on inclusion of resuscitation training in undergraduate (UG) curriculum. Statistical analysis was done by frequency, percentage, mean and mean percent.

### Results

A total of 285 interns participated in the study. Fifteen were excluded based on the exclusion criteria, so that 270 interns remained as the study population. The answering pattern showed (Table1) that no single question was consistently found difficult. Question no.2, 6, 10, 13, 14,15and 20 were rightly answered by more than 50% of participants.

Sl. No	Responses	Rightly answered(n=270)	Percentage
1	In 'ABCD' of Basic life support 'D' denotes defibrillation	101	37.4%
2	Heimlich maneuver to be performed in choking	246	91.11%
3	Should perform abdominal thrust till the victim becomes conscious or obstruction is clear	39	14.44%
4	If a person is alone and choking he should lean forward and press abdomen over a chair/table with an edge	79	29.25%
5	If rescue breathing is unsuccessful should reposition the head & give two full breaths	102	37.77%
6	Pressing victim's abdomen to expel the air in the stomach during rescue breathing is not the method	207	76.66 %

Sl. No	Responses	Rightly answered(n=270)	Percentage
7	When come across a cardiac arrest first check for responsiveness	60	22.22 %
8	Infant refers to less than 1 year	159	58.88 %
9	3 year child with fever, vomiting, loose stools with poor pulse, but normal BP is also in shock.	89	32.96 %
10	In emergency room intraosseous access is the next option if peripheral IV access is failed	136	50.37 %
11	Brachial artery must be located to check the infants pulse.	46	17.03 %
12	30:2 is the compression ventilation ratio in an older child with one rescuer	113	41.85 %
13	100/min is the rate of compression	153	56.66 %
14	2 rescue breaths are recommended in CPR	172	63.70 %
15	Expired air resuscitation is called as rescue breathing	180	66.66 %
16	PEA means pulse less electrical activity	102	37.77 %
17	Adenosine is the drug used in SVT	100	37.03 %
18	For cardioversion synchronization button to be pressed in defibrillator	122	45.18 %
19	LMA is an alternative to ET insertion	168	62.22 %
20	One should resume CPR immediately after a Defibrillation shock	77	28.50 %

On an average 9.05 questions were rightly answered. So the level of knowledge is 9.05 with % mean of 45.25% which indicates inadequate knowledge among interns. No one answered all the questions right. Highest score of 16 was achieved by 3, & lowest score was 2, received by 2 participants (Table2). Each right answer was assigned one score.

Grades	Scores	n=270	%
Very poor	Less than 4	13	4.81
Poor	4-8	111	41.11
Moderate	9-12	110	40.74
Good	13-16	36	13.33
Very good	More than 16	Nil	Nil

All the participants in the study agreed that structured resuscitation training should be added in the curriculum.

## **Discussion**

Early institution of CPR can double or triple the victim's chances of survival from sudden cardiac arrest [5-6]. It is found that CPR plus early delivery of shock with a defibrillator within 3 to 5 min of collapse can provide survival rates as high as 49 to 75% [7]. However, in our study only 37.4% knew about the defibrillation part in CPR. In another questionnaire based study only 33% knew the abbreviation of AED as automated external defibrillator [8].

The newest development in the 2010 AHA guidelines for CPR is a change in the BLS sequence steps from ABC (Airway, Breathing, Chest compressions) to CAB (Chest compression, Airway, breathing) [9]. The reason for this being in the vast majority, cardiac arrest is due to VF or pulseless VT and the critical elements for these are chest compressions and early defibrillation. But only 56.6% were right regarding compression rate and 41.8% regarding compression ventilation ratio.

Pattern of responses shows that no question was uniformly found difficult suggesting that interns have islands of scattered knowledge. A study [3] done in Pakistan among 61 medical students showed some scattered knowledge about BLS. A larger study done in South India concluded that awareness of BLS among students, doctors and nurses of medical, dental, homeopathy and nursing colleges is very poor [8].

Unfortunately structured teaching of BLS/ALS is lacking in medical curriculum. It is also a fact that after graduation training of resuscitation skills is difficult. Busy residency schedules and lack of resources act as barriers. Doctors still are expected to learn resuscitation skills in the clinical setting, where there is little opportunity to correct poor techniques [10]. Given this situation, many junior doctors are not competent in carrying out effective cardiopulmonary resuscitation.

There is much debate as to whether resuscitation courses result in practical improvement in knowledge. But it definitely reorients to perform the resuscitation measures in a logical sequence, thereby minimising mortality and morbidity [11]. The General Medical Council of UK 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 [12]. The royal college of physicians has stated that advanced life support should be taught in the undergraduate courses and the pre registration house officers should be capable of instituting advanced life support [13]. All the participants in our study were of the opinion that resuscitation courses be a part of UG curriculum. These courses can be integrated in the syllabus and taught over the period of medical education years or a course can be held at the beginning of the internship program. The BLS course can go on to other advanced courses. Also resuscitation skills need to be refreshed after sometime, and short courses can be offered for effective revision.

In summary the knowledge regarding resuscitation among interns is not adequate; hence introduction of structured resuscitation program in the UG curriculum goes a long way in improving this. An effort should be made to determine an appropriate and efficient course design.

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