



## Experience of Participants about ACLS workshop at Rural Medical College

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### Abstract

**Background:** *The aim of our study was to know the experience of participants about the Advanced Cardiovascular Life Support (ACLS) Workshop conducted at Rural Medical College, Loni.*

**Methods:** *Feedback about the ACLS workshop conducted at Rural Medical College were collected immediately after completion of two days ACLS workshop. 171 feedbacks of 4 workshops conducted were analyzed.*

**Results:** *In our study most of the participants were MBBS interns and PG students. Feedbacks about Literature, questionere design, audiovisual, workstation and practical examination were of good to excellent by almost all participants.*

**Conclusions:** *In spite of variety of participants AHA ACLS workshop had an excellent overall response from all participants.*

**Keywords:** *AHA, ACLS, MBBS interns, PG students, Workshop, Literature, Questionere design, audiovisual, megacode.*

### Introduction

Despite important advances in prevention, cardiac arrest remains a substantial public health problem and a leading cause of death in many parts of the world.<sup>(1)</sup> Cardiopulmonary resuscitation (CPR) is a procedure to support and maintain breathing and circulation for an infant, child, or adults who has stopped breathing (respiratory arrest) and/or whose heart has stopped (cardiac arrest)<sup>(2)</sup>. The theoretical knowledge and practical skills of the Basic Life Support (BLS) and the Advanced Cardiovascular Life Support (ACLS) are among the most important determining factors of the

cardiopulmonary resuscitation (CPR) success rates<sup>(3)</sup>. Some studies have shown the presence of at least one professional trained in ACLS increase the survival of cardiac arrest victims<sup>(4)</sup>. A large number of literatures in recent years have assessed the efficacy of resuscitation training and pointed out that skills and knowledge declined over time<sup>(5;6)</sup>. In other words, ACLS scores significantly decreased in the first year after certification, so more frequent refresher training is needed<sup>(7)</sup>. Thereby, the American Heart Association (AHA) recommends that those whose daily work requires knowledge and skills in ACLS should not only be

trained in ACLS, but also be given a refresher course at least every 2 year<sup>(8)</sup>.

The goal of ACLS course is to train participants to recognize the cardiac arrest and other cardiopulmonary emergencies and save their lives through interventions by high performance team. The experience of the participants about workshop was analyzed using their feedback forms.

### Materials and Method

ACLS workshops are regularly conducted at RMC. 171 total delegates attended this workshop in four batches i.e. in August, September, October 2016 and May 2017. This workshops were conducted by Department of Anesthesia and Critical Care in collaboration with International Training Centers (ITC) of American heart association(AHA) and was accredited by Maharashtra Medical Council(MMC). The workshop was conducted as per AHA 2015 guidelines. Preparation for the workshop took one month which included registration for workshop, manuals were handed over to delegates at least one month before. All participants were instructed to read the manuals and attempt pretest on AHA student website. We had a course director who was a senior AHA instructor and 8 instructors under the course director, the student instructor ratio of 5:1 and student manikin ratio of 3:1 was maintained. This workshops were instructor led, video based self learning under direct observation in small groups. The ACLS workshop was preceded by BLS workshop. It was mandatory to complete BLS workshop before attending ACLS workshop. The workshop started at 8:30 AM with registration and breakfast which was followed by video based session on ACLS course overview, science of resuscitation and systematic approach by course director. This was followed by workstations on BLS competencies and airway management. A lesson on technology review was taken by one of senior instructor, which was followed by session on video based session on acute coronary syndrome and stroke. After lunch break technology review and megacode video

based lesson was covered, which was followed by workstations on cardiac arrest, post cardiac arrest care, tachycardia and bradycardia. In all this workstations, participants were allowed to chose their team and work as a ACLS team with each participant acting as team leader in a rotation basis. All participants were instructed to stick to AHA guidelines. This workstations were scenario based and each member was assessed during the practice session, after the particular scenario debriefing session was conducted. Second day started after breakfast with putting it all together and review of previous day. There was a megacode workstation, stations in which realistic scenario were practiced with combination of all the possible rhythms. At the end of the course the cognitive domain was assessed using quantitative MCQ pattern exam of 50 marks with passing percentage of 84% i.e 42 and above right answers. Affective and psychomotor domains were assessed using checklist guided scenario based skill test in which student must successfully pass High quality BLS skill test, Bag Mask ventilation skill test, learning station competencies and megacode test. Candidates not able to clear the exam were remediated by course director. Total course duration was 16 hrs including examination and remediation. Delegates were awarded with AHA ACLS provider cards and certificates on successful completion of the course. Feedback forms were collected from all the delegates before declaring the results.

### Results

As in table 1 we had 171 participants varying from MBBS interns to faculty. 57.9% of them where male participants. Among the participants 43.3% were MBBS interns, 40.4 % were PG students, 12.7% were faculties from designation of Registrar to Professors and 3.5% were from other specialties like Physiotherapy, Ayurvedic, Homeopathy etc.

Results of the ACLS workshop was 122(71.3%) participants were clearly pass, 36(21%) required remediation and 14(8.2%) didn't clear the course

among which 12(7%) were PG students and 2(1.2%) interns.

Analyzing the feedbacks as shown in table 2 showed that:

73.6% of participants felt literature which was completely provided by AHA to be excellent and 25.7% good. 0.6% said it to be average.

80.1% of participants felt questionnaire designing to be excellent and 18.7% good. 1.2% said it to be average.

Nearly all participants felt audiovisual quality to be excellent to good.

All participants liked group activity and workstations which gave them hands on practice and chance to interact with other participants and instructors. This group activity helped them develop psychomotor skills, affective domain and also cognitive domain. This activity was based on realistic scenarios

Practical evaluation which was based on realistic scenario and that was qualitative analysis of psychomotor, affective and cognitive domain was also given the score of good to excellent by nearly all the participants.

Other feedback questions that included: any comments on content of any of the lectures, style of presentation/ Instructors, Additional information that was expected by you; all candidates had excellent remarks for this.

We also asked for any comments which 10(5.8%) participants said time of workshop should be increased, 15(8.7%) participants commented more time for hands on practice should be given, 18(10.5%) participants said revision training/ repeated training should be conducted, 23(13.4%) participants said special ECG rhythm analysis lecture should be taken, 6(3.5%) of participants recommended passing percentage should be lowered.

**Table 1.** Educational distribution

	Male	Female	Total
MBBS interns	28 (37.8%)	46 (62.2%)	74 (43.3%)
PG residents	51 (73.9%)	18 (26.1%)	69 (40.4%)
Faculty	16 (72.7%)	6 (27.3%)	22 (12.7%)
Physiotherapy	4 (66.7%)	2 (33.3%)	6 (3.5%)
Total	99 (57.9%)	72 (42.1%)	171

**Table 2.** Analysis of feedback

Activity	Average(3-5)	Good (6-8)	Excellet (9-10)
LITERATURE	1 (0.6%)	44 (25.7%)	126 (73.6%)
QUESTIONNAIRE DESIGNING	2 (1.2%)	32 (18.7%)	137 (80.1%)
AUDIOVISUAL QUALITY	2 (1.2%)	32 (18.7%)	137 (80.1%)
GROUP ACTIVITIES/WORKSTATION	0	37 (21.6%)	134 (78.4%)
PRACTICAL EVALUATION	0	39 (22.8%)	132 (77.2%)

**Discussion**

In spite of many advances in prevention, sudden cardiac arrest remains leading cause of death. Seventy percent of out of hospital cardiac arrest occurs in the home, 50% of them are unwitnessed and outcome is poor. Only 10% of adult patients with nontraumatic cardiac arrest who are treated by emergency medical services (EMS) survive to

hospital discharge<sup>(9)</sup>. Training in ACLS is a must for all doctors and staff working in a hospital setup and those involved in management of critically ill patients.

In our study most of the participants were young recently passed MBBS students who were in a internship period followed by PG students, this was because they were involved in active

management of patients and awareness about the training was done during their orientation program.

Feedbacks about Literature, questionere design, audiovisual, workstation and practical examination were of good to excellent by almost all participants as this workshop was conducted by Dept. of Anaesthesia and Critical care in collobration with AHA ITC with best possible resources and senior and experienced instructors. Most importantly all participants liked the team dynamics and the way group activities were conducted.

Some special comments that were noted were regarding time which AHA recommends to be approximately 15 Hrs:20 minutes<sup>(10)</sup>, basic requirement is that participants should read the manuals before attending workshop and attempt the pretest<sup>(11)</sup> so that they can re read and come for workshop prepared so that less time is given for cognitive domain and more time can be utilized for acquiring psychomotor skills. AHA also recommends that participants should regularly practice the skill to maintain High quality CPR and recommendation is that the card is to be renewed every two years as it has been found skill declines over time<sup>(12)</sup>. Regarding ECG rhythm analysis it has been clearly instructed by AHA that ECG analysis, basic ACLS pharmacology knowledge and practical application has to be prepared by participants before attending workshop and attempt pretest<sup>(11,13)</sup>. Regarding passing criteria all ACLS instructors are expected to maintain high standards of performance for all ACLS skill tests and prompt & accurate delivery of ACLS skills and Knowledge is critically important for patient survival<sup>(12)</sup>.

We conclude that inspite of variety of participants AHA ACLS workshop had a excellent overall response from all participants.

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