

## EVALUATION OF BLS WORKSHOPS, AN AUDIT OF THE JOURNEY SO FAR

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**Contribution**

SH conceived the idea and designed the study. Data collection and manuscript writing was done by SH, ASM, WJ, and QA. All the authors contributed equally to the submitted manuscript.

All authors declare no conflict of interest.

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**ABSTRACT**

**Objective:** Professional training workshops are routinely conducted by Professional Development Center (PDC) of DUHS to provide students golden opportunities in hands on practice on simulators and also has been working as training center of AHA since 2010 for the BLS, ACLS and PALS provider and instructor courses while has been conducting BLS workshops from Nov, 2005. The objective of this study was to assess the perceptions of attending audience by post course evaluation form in BLS program.

**Methodology:** This was a retrospective survey study. Data of BLS workshops from 2017 to 2018 was collected from PDC. Two thousand and fifty six healthcare students were enrolled in BLS course from Jan 2017 till Dec 2018. The calculated sample size was about 324 at 95% confidence level. Thus the final sample size was about 350. A post workshop evaluation questionnaire was used as a tool for data collection and it was analyzed on SPSS.

**Results:** PDC has conducted 714 BLS provider courses since 2005 in which 8529 participants are trained till now. The results of the evaluation show that this workshop received higher score on all assessed sections i.e. more than 90% candidates marked agree & strongly agree. A clear majority of participants (97.8%) agreed that, their queries and questions were satisfactorily responded. The structure and content of the workshop organized intensify participants' skills and knowledge regarding BLS.

**Conclusion:** Overall, Participants characterized the workshop as very useful and were very satisfied with the workshop facilitators and the topics discussed.

**Keywords:** Basic Life Support (BLS), Feedback of Workshop

## INTRODUCTION

The first successful use of external chest compressions in human resuscitation was reported by Dr. George Crile, who was working as a surgeon in America in 1903.<sup>1,2</sup> Later on, in 1960 Kouwenhoven stated “anyone, anywhere can initiate cardiac resuscitation procedures. All that is needed are two hands” in his famous article based on cardiopulmonary resuscitation (CPR).<sup>3</sup>

In the same time period, American Heart Association officially launched a program on closed-chest cardiac resuscitation for the training of healthcare professional that turns into the forerunner of CPR training for the general public.<sup>4</sup> The guidelines on CPR and emergency cardiac care (ECC) formulated by American Heart Association (AHA) is periodically updated every five years to ensure the quality of basic life support (BLS), advanced cardiac life support (ACLS) and pediatric advanced life support (PALS) courses.<sup>5</sup>

Professional Development Center (PDC) Of Dow University of Health Sciences is well equipped with manikins, simulators, simulating ICU, and surgical suite, along with other equipment and simulations for the training of undergraduates, postgraduates and other healthcare providers. Professional training workshops are routinely conducted by PDC to provide students golden opportunities in hands on practice on simulators. This department also has been working as training center of AHA since 2010 for the BLS, ACLS and PALS provider and instructor courses while has been conducting BLS workshops from Nov, 2005.

**Table 1: Number of courses conducted**

Year	No. of BLS courses	No. of trained participants
Nov 2005 to Dec 2007	25	482
2008	7	122
2009	23	279
2010	35	355
2011	87	952
2012	87	1108
2013	77	911
2014	70	712
2015	64	896
2016	60	656

2017	75	786
2018	104	1270
<b>TOTAL</b>	<b>714</b>	<b>8529</b>

Current medical education considerably appraise simulation as it recreates reality and actuality without correlated harm and risks.<sup>6</sup> Medical Training in a Simulated environment is a golden opportunity to learn new skills in demanding conditions without exposing to the patient and prevent patient risk. It has been published that practice without harm is in actual fact a moral imperative.<sup>7</sup> Simulation is considered as a safe and secure environment in which unusual circumstances can be constructed to train as well as to assess expertise.<sup>8</sup>

Feedback has an influential role in the effective delivery of skills-based Medical Education as constant feedback between teacher and learner, reflects performance of participants on skills.<sup>9,10</sup> Effective measurement act as a precursor in evaluation of the workshops as it grants facilitator to make quality statements, whether workshops are beneficial for the stakeholders (funders and attendees) and even for themselves too. Evaluation questionnaires can also help to estimate the impact of workshops.

Post workshop evaluation is beneficial to analyze whether the participants perceived the knowledge and hands on training on simulators provided in BLS workshop is useful. With good measurements of post workshop evaluation, we can persuade our organization to support and make them recognized by the work done by our workshops, is fruitful and constructive, and building an effectual optimistic change in the knowledge and skills of healthcare providers regarding BLS.

To assess the perceptions and feedback of attending audience by post course evaluation form in our BLS program held in 2017 to 2018. The results will be used in planning a Workshop more effectively

## METHODOLOGY

This was a retrospective study. Data of BLS workshops from 2017 to 2018 was collected from

Professional Development center (PDC). Two thousand and fifty-six healthcare providers (in which house officer Doctors, Nurses and allied health were included) were enrolled in BLS course from Jan 2017 till Dec 2018 at Professional Development center, DUHS Karachi. Sample size was calculated online by openepi website by formula of Sample Size for % Frequency in a Population (Random Sample). The required sample size was about 324 at 95% confidence level. Thus the final sample size was about 350. A post workshop evaluation questionnaire was used as a tool for the data collection and SPSS version 17 was used to analyze the data. Data was collected with due permission from the concerned individual of PDC after institutional review board approval was obtained.

## RESULTS

A post workshop evaluation questionnaire is divided into two sections. One section is related to organization of workshop and its logistics while another describes impact of workshop.

The participants were asked to evaluate management and environment of workshop. The average results are 98.45%. Candidates agreed with the statement that the workshop was well organized and environment was conducive to learning.

The workshop objectives, content and clarity has been evaluated positively. The overall average of

these two questions are 51.15% (strongly agree), 46.15% (agree) and 0.6% (disagree) while 1.7% candidates stayed neutral.

The course objectives and content were presented by the Lead Instructor after the introductory session. During the workshop before each session, the facilitators constantly referred to that lesson in order to link content with objectives. 93.5% participants were satisfied with time allocation for various segments. Regarding the materials or handouts used, the participants judged them as excellent and response to the question about handouts was 88.3% satisfactory. Participants rated the activity at 92.9% for the logistical organization (Audio-visual Aids) (Table 2).

96.8% candidates agreed that workshop objectives were clearly met with the content provided in the course. The majority of candidates (>95%) agreed that the information and knowledge provided in workshop has practical value for them and this course of Basic Life Support enhanced their knowledge and they learned skills & procedures properly. 95.4% participants were satisfied with time allocation for their hands on practice on manikins was sufficient and 96.9% were satisfied with video presentations. A clear majority of participants (97.8%) agreed that, their queries and questions were satisfactorily responded (Table 3).

**Table 2: Organization of workshop**

	No Answer	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Well organized	1.1% (4)	50.9% (176)	47.7% (167)	0.3% (1)	0% (0)	0% (0)
Environment was conducive to learning	0.3% (1)	52.9% (185)	45.4% (159)	0.9% (3)	0.6% (2)	0% (0)
Objectives were relevant to participants' need	0.3% (1)	48% (168)	49.7% (174)	2% (7)	0% (0)	0% (0)
Content matched the objectives	1.1% (4)	54.3% (190)	42.6% (149)	1.4% (5)	0.6% (2)	0% (0)
Sessions progressed in logical order	0.9% (3)	45.4% (159)	51.1% (179)	1.7% (6)	0.9% (3)	0% (0)
Time allocation for various segments was appropriate	1.1% (4)	40.6% (142)	52.9% (185)	4.3% (15)	0.9% (3)	0.3% (1)
Handouts were helpful	2% (7)	38.3% (134)	50% (175)	8.3% (29)	1.4% (5)	0% (0)
AV Aids worked smoothly	3.7% (13)	36.6% (128)	56.3% (197)	3.1% (11)	0.3% (1)	0% (0)

*Summary of data represented as the number (%) of respondents*

**Table 3: Impact of Workshop**

	No Answer	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Workshop objectives were clearly met	2.3% (8)	45.7% (160)	51.1% (179)	0.6% (2)	0% (0)	0.3% (1)
Enhanced my knowledge & Skills	1.1% (4)	55.4% (194)	41.7% (146)	1.4% (5)	0% (0)	0.3% (1)
Learned procedures correctly	2.3% (8)	51.4% (180)	45.1% (158)	0.6% (2)	0.3% (1)	0.3% (1)
The information presented is of practical value for me	1.7% (6)	55.4% (194)	42.3% (148)	0.3% (1)	0% (0)	0.3% (1)
Presentations used were useful	1.4% (5)	54% (189)	42.9% (150)	0.9% (3)	0.6% (2)	0.3% (1)
Adequate time allowed for hands on practice	1.7% (6)	51.7% (181)	43.7% (153)	1.4% (5)	1.1% (4)	0.3% (1)
Questions were adequately responded	1.1% (4)	49.7% (174)	47.1% (165)	1.7% (6)	0% (0)	0.3% (1)

*Summary of results summary of data represented as the number (%) of respondents*

## DISCUSSION

Competence is defined as the ability to do something successfully or efficiently by having the necessary knowledge, skills, and capability to perform the job which can be achieved by gaining the appropriate education and applying that knowledge through actual job performance in the work environment according to the role and the organization's standard.<sup>11</sup> Dow university has been conducting training workshops of BLS, ACLS and PALS for healthcare providers since 2005 through its department of Professional Development Centre on simulations. As now, there is extensive use of simulations in health professional education.<sup>12</sup>

Feedback plays an important role in clinical education.<sup>13,14</sup> Survey results and comments of BLS workshop are positive overall. However, by the help of this course evaluation data it is indicated that participation in this BLS workshop not only strengthened their knowledge regarding CPR but also impressively improved the learners' confidence levels in their skills. The remaining course evaluation ratings signify that facilitators completed this workshop within allocated time. As adequate time required for skills practice is mandatory in any skill training workshop.<sup>15</sup> It is previously observed in previous studies that after training workshops of medical education, candidates recognized its significance.<sup>16</sup> In our study, participants also intimate positive response and realize the importance of training.

## CONCLUSION

In general, the workshops have been highly appreciated. The results of the evaluation show that this workshop received higher score on all assessed sections i.e. more than 90% candidates marked agree & strongly agree. The structure and content of the workshop organized intensify participants' skills and knowledge regarding BLS. Overall, Participants characterized the workshop as very useful and were very satisfied with the workshop facilitators and the topics discussed.

The pre-training phase could be improved i.e. handouts could be shared with the participants prior to the face-to-face training course, enabling participants to better prepare themselves.

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