INTERNATIONAL JOURNAL OF STUDENTS' RESEARCH
Volume 6 Issue 2 Year 2016 www.ijsronline.net

COMMENTARY

# Basic life support in undergraduate dental curriculum

**Anupam Banerjee**

The importance of Basic Life Support (BLS) on the graduating dentists has been laid by the General Assembly of the Association for Dental Education in Europe (ADEE) at its annual meeting held in Helsinki in August 2009. Seven domains identifying the broad categories of professional activity had been prepared. Within each "domain," major and supporting "competencies" were enlisted. The "domain" VI dealt with "therapy: establishing and maintain oral health". Within it, "competency" numbers 6.65, 6.66, and 6.69 deal with prevention and management of dental and medical emergencies [1].

Various teaching-learning (TL) techniques such as instructor-led BLS training, self-instruction using videos/DVDs [2,3], manikin, use of automated voice feedback [4,5], computers [6], electronic flashcards [7], peer learning with apps [8], microsimulation [9], microtrainings [10], and repetitive automated testing [11] had been tried to improve the quality of the cardiopulmonary resuscitation training. However, it was found that BLS skills were poorly acquired and deteriorated over a very short span of time (3–6 months) [12].

In the 1950's, Don Kirkpatrick proposed to rank the result of education in a model used worldwide as the standard evaluation of training effectiveness. At the lowest level 1, it rated the "reaction" of participants' response to the training. Level 2 was "learning," which measured if the participants actually learned the material. Level 3 was "behavior" which focused on if the participants were using what they learned on the job. Level 4 "results" evaluated if the training positively impacted the organization. The model can thus be applied at all stages (before, during, and after) of a training to maximize and demonstrate its value. Initial BLS training when performed as a "once done or single learning strategy" has been often shown to be without measurable educational objectives to surpass beyond level 1 of the Kirkpatrick Model [13].

The ADEE in its report of the various taskforces constituted to prepare "The Profile of Undergraduate Dental Education in Europe 2017" [14], has simplified the seven different domains enumerated by in their earlier report of 2009 to just four to reduce the overlap and improve clarity and utility for educators [1]. Domain 2 deals with "Safe and effective clinical practice". It is the fundamental approach toward achieving patient safety.

Incorporation of a competency-based dental education system, with use of newer TL tools such as Objective Structured Clinical Examination (OSCE), simulated laboratory settings to evaluate technical skills, and Learning Content Management Systems (LCMS) are some of the ways suggested by Manakil and George to improve the competency in dental education for the newer generation of net savvy Gen Y students [15].

Orienting the various TL methods with the methods of assessment will help the students to read, learn, and practice the skills which they would be asked. To do justice to the competency-based education, assessments need to be structured using the concepts of "Millers Pyramid of Competence" dealing with "knows," "knows how," "shows how," and "does" [16].

Various studies have laid down the scant knowledge of BLS among students as well as practitioners of modern dentistry, not only in India, but also across the world [17-19]. The research study published in this issue of the journal entitled "An evaluation of knowledge and practices toward the basic life support/cardiopulmonary resuscitation among undergraduate dental students" reiterates the same [20]. It is high time that a structured instructional manual for BLS be incorporated in the dental curriculum right from the very 1st year with regular assessments of their skills in BLS, to raise the performance of the students beyond the level 3 of Kirkpatrick's model.

## References

1. Cowpe J, Plasschaert A, Harzer W, et. al. Profile and competences for the graduating European dentist – Update 2009. *Eur J Dent Educ* 2010;14(4):193-202.
2. Todd KH, Braslow A, Brennan RT, et. al. Randomized, controlled trial of video self-instruction versus traditional CPR training. *Ann Emerg Med* 1998;31(3):364-9.
3. Lynch B, Einspruch EL, Nichol G, et. al. Effectiveness of a 30-min CPR self-instruction program for lay responders: a controlled randomized study. *Resuscitation* 2005;67(1):31-43.
4. Wik L, Myklebust H, Auestad BH, et. al. Twelve-month retention of CPR skills with automatic correcting verbal feedback. *Resuscitation* 2005;66(1):27-30.
5. Hostler D, Wang H, Parrish K, et. al. The effect of a voice assist manikin (VAM) system on CPR quality among prehospital providers.

Department of Community Medicine, P.D.U. Government Medical College, Rajkot, Gujarat, India. E-mail: dranupamb@rediffmail.com

*Prehosp Emerg Care* 2005;9(1):53-60.
6. Reder S, Cummings P, Quan L. Comparison of three instructional methods for teaching cardiopulmonary resuscitation and use of an automatic external defibrillator to high school students. *Resuscitation* 2006;69(3):443-53.
7. Schmidmaier R, Ebersbach R, Schiller M, et. al. Using electronic flashcards to promote learning in medical students: retesting versus restudying. *Med Educ* 2011;45(11):1101-10.
8. Iserbyt P, Charlier N, Mols L. Learning basic life support (BLS) with tablet PCs in reciprocal learning at school: are videos superior to pictures? A randomized controlled trial. *Resuscitation* 2014;85(6):809-13.
9. Monsieurs KG, Vogels C, Bossaert LL, et. al. Learning effect of a novel interactive basic life support CD: the JUST system. *Resuscitation* 2004;62(2):159-65.
10. Niles D, Sutton RM, Donoghue A, et. al. "Rolling refreshers": a novel approach to maintain CPR psychomotor skill competence. *Resuscitation* 2009;80(8):909-12.
11. Mpotos N, De Wever B, Cleymans N, et. al. Repetitive sessions of formative self-testing to refresh CPR skills: a randomised non-inferiority trial. *Resuscitation* 2014;85(9):1282-6.
12. Greif R, Lockey AS, Conaghan P, et. al. European resuscitation council guidelines for resuscitation 2015: section 10. Education and implementation of resuscitation. *Resuscitation* 2015;95(10):288-301.
13. Mpotos N, Greif R. On the future of basic life support training. *Trends Anaesth Crit Care* 2017;16:1-4. Available from: https://www.researchgate.net/publication/320338367_On_the_future_of_Basic_Life_Support_training. [Last accessed on 2018 Jan 12].
14. Field J, Cowpe J, Walmsley D, editors. The Profile of Undergraduate Dental Education in Europe. Dublin: association for Dental Education in Europe; 2017. Available from: http://www.adee.org/taskforces/Undergraduate-Dental-Education-The-European-Perspective-Consultation-draft.pdf. [Last accessed on 2018 Jan 12].
15. Manakil J, George R. Reviewing competency in dental education. *Int J Dent Clin* 2011;3(2):33-9. Available from: http://www.citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.830.7830&rep=rep1&type=pdf. [Last accessed on 2018 Jan 12].
16. Miller GE. The assessment of clinical skills/competence/performance. *Acad Med* 1990;65(9):S63-7.
17. Al-Shamiri HM, Al-Maweri SA, Shugaa-Addin B, et. al. Awareness of basic life support among Saudi dental students and interns. *Eur J Dent* 2017;11(4):521-5.
18. Owojuyigbe AM, Adenekan AT, Faponle AF, et. al. Impact of basic life support training on the knowledge of basic life support in a group of Nigerian dental students. *Niger Postgrad Med J* 2015;22(3):164-8.
19. Baduni N, Prakash P, Srivastava D, et. al. Awareness of basic life support among dental practitioners. *Natl J Maxillofac Surg* 2014;5(1):19-22.
20. Savaliya MR, Vora MB, Gorynwala SN. An evaluation of knowledge and practices toward the basic life support/cardiopulmonary resuscitation among undergraduate dental students. *Int J Stud Res* 2016;6(2):12-5.

## Competing Interests

The author declares that he has no competing interests.

## Funding

Sources of funding: None.

Please cite this paper as: Banerjee A. Basic life support in undergraduate dental curriculum. *Int J Stud Res* 2016;6(2):16-7.

**Access this article online**

Quick Response Code:

**Website:** www.ijsronline.net

**DOI:** 10.4103/ijsr.Int_J_Stud_Res_Int_J_Stud_Res_11_17_18