Research Article

A Study on "Knowledge of Hospital Employees Regarding Basic Life Support (BLS)" at a Tertiary Care Hospital from Nepal

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Abstract

Introduction: Basic Life Support in short (BLS) is process of providing sufficient ventilation and maintaining circulation to patient in cardiac arrest with/without using drug or special equipment. Regular study on the knowledge and level of practice of hospital staffs is necessary to understand the gravity of emotions with untimely death due to lack of CPR/BLS personnel on the spot of attack.

Objective: Explore the level of knowledge regarding Basic Life Support (BLS) among employees of Nepal Mediciti.

Methods: Descriptive cross-sectional study was conducted on Nepal Mediciti Hospital, Lalitpur, Nepal-a currently 250 bedded (operational) and 750 planned- by assessing response to self-prepared questionnaire on sociodemographic information, their knowledge on BLS Convenient Random sampling without replacement design method was adopted and a total of 121 sample units were chosen for the study.

Results: This study reveals that, participants have retained inadequate knowledge on Basic Life Support. Out of 121 participants, only 15(16.53) responder has correctly answered all 8 questions. 25 of 121(24.10%) has answered 7 questions correctly and 43 of 121(35.54%) responder 6 answered 6 questions correctly. And 38 out of 121 (23.83%) answered less than 6 question correctly.

Conclusion: Study concludes provision of regular repetitive courses of these lifesaving training for all hospital staffs irrespective of their study background and specialty. It also recommends continuous assessment of level of knowledge retention among hospital staffs.

Keywords: Staff Knowledge; Basic Life Support; Cardio Pulmonary Resuscitation

Introduction

Basic Life Support in short (BLS) is process of providing sufficient ventilation and maintaining circulation to patient in cardiac arrest with/without using drug or special equipment. It includes understanding signs of sudden cardiac arrest, presence of foreign body obstructing airway and cardiopulmonary resuscitation process [2].

Study shows, immediate CPR can triplet survival chances before victim is treated once brought to hospital [7].

Knowledge on CPR of today has been upgraded from traditional technique of giving chest compressions and maintaining ventilation to application of automated external defibrillator (AED) to the sufferer. Therefore, rescuers are trained and ensured in both ways to better facilitate life-saving actinons [8].

Sriniwas and Rao (2014) study on undergraduate medical, dental, and nursing students showed less had a general idea about the skills and techniques used in BLS. Students lack knowledge of cognitive and practical skills for responding real life emergency situa-

tions that more than half of the medical students had fair knowledge of the basics in BLS [1].

Turkey., *et al.* (2008) study identified a low level of knowledge awareness on BLS. This study concluded belief on incorporating training among university graduate students, it was because nearly 31% had no idea of CPR [3]. Chandrasekharan., *et al.* (2010), research on medical, nursing, and homeopathy students in Tamilnadu also concluded with the similar conclusion for including advanced life support technique as a mandatory component in school undergraduate curriculum [2].

Tim Piepho., *et al.* (2011) study in a medium sized German town with laypersons in public committee proved public refresher courses to be implemented intermittently to save life [5]. This study is significant because cardiovascular disease tolls 29% of deaths globally and is in rising trend esp. in economically developing countries due to rapid urbanization resulting in stressful modern life style [6].

As cardiopulmonary resuscitation techniques are more evolving following increasing rates of cardiac arrest, studies such as above usually shows smaller to smaller intervention such as BLS in time triples the survival change of victim. But lack of knowledge not only on laymen but people of medical ground is a major challenge for improving survival rates. Hence like refresher training on BLS has been recommended and also to include mandatorily on undergraduate student course, regular study on the knowledge and level of practice of hospital staffs is also necessary to understand the gravity of emotions with untimely death due to lack of CPR/BLS personnel on the spot of attack. As a preliminary step, with this study we have tried to explore the level of awareness about BLS among staff of Nepal Mediciti Hospital. We hope that our study will help to guide future planning of BLS program in this hospital.

Objectives of the Study

This study therefore explores the level of knowledge regarding Basic Life Support (BLS) among employees of Nepal Mediciti. The purpose of which is to access the level and plan action strategies for staff training.

Methodology

A Descriptive Cross-sectional study was conducted on Nepal Mediciti Hospital, Lalitpur, Nepal-a currently 350 bedded by as-

sessing response to self-prepared questionnaire on sociodemographic information, their knowledge on BLS were accessed based on European Resuscitation Council Guidelines for Resuscitation 2015 [9].

Principle concepts of itemized rating scale has been referenced for creating a basically 3 to 4-point rating scale in order to access the knowledge base of staff in BLS. The application of mathematical valid scaling technique adopted in gleaning the knowledge level reflects the validity of the scale. Convenient Random sampling without replacement design method was adopted and a total of 121 out of 150 completely responded sample units were chosen for the study analysis.

Analysis

Figure 1: Staff Knowledge of BLS in Nepal Mediciti (in percentage).
Source: Field Survey (2018) Nepal Mediciti Hospital.

Out of 150 questionnaires which are distributed to the participants of Nepal Mediciti, 121 returned with the response rate of 81%. BLS abbreviation were correctly recognized by all the participants. 95.04% of the participants know the most appropriate rate of CPR for an adult (Chest Compressions: breaths) which is 30:2. Among 121 participants, 57.02% know that pulse should be checked for no less than 5 seconds whereas 80.99% knew that pulse should be checked for no more than 10 seconds. Only 13.22% of the participants didn't have knowledge on Head- Tilt-Chin lift the maneuver used to open airway. 42.15% of the responders did not know the appropriate step if no pulse is present. Only 58.68% of the responder has correctly answered the next step if the pulse is present. And lastly, only 62.81% of the responder knew that the depth of chest compressions in adult is 4 to 5 inches.

Correct Answers given by participants	No. of Responder giving correct Answer	In Percentage
3 Correct Answers	3	1.24%
4 Correct Answers	11	6.06%
5 Correct Answers	24	16.53%
6 Correct Answers	43	35.54%
7 Correct Answers	25	24.10%
8 Correct Answers	15	16.53%
Grand Total	121	100.00%

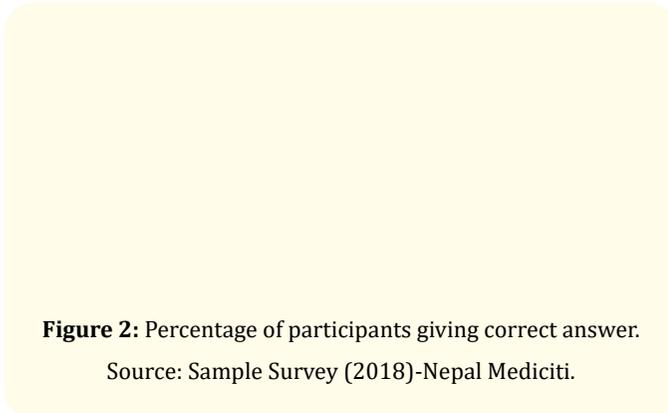**Table 1:** Retention knowledge levels of staff in BLS.

Figure 2: Percentage of participants giving correct answer.
Source: Sample Survey (2018)-Nepal Mediciti.

Findings

- This study was intended to explore the BLS knowledge status of staff of Nepal Mediciti Hospital. The purpose of which was to explore the areas of concern training issues.

- This study reveals that, participants have retained inadequate knowledge on Basic Life Support. Out of 121 participants, only 15 responder has correctly answered all 8 questions. 25 of 121(24.10%) has answered 7 questions correctly and 43 of 121(35.54%) responder 6 answered 6 questions correctly. And 38 out of 121 (23.83%) participants answered less than 6 questions correctly.

- From above information on the level of BLS knowledge, one can summate that, Mode (No. of staff with highest frequency of knowledge level) = 45, which is 35.54%. These staffs were able to answer the 6/8 = 75% of knowledge level. From the analysis, it can be inferred that nearly 68.59% of Nepal Mediciti staff has achieved more than 75% of knowledge level in BLS.

Conclusion

Study aimed to access the level of BLS knowledge level among staff of Nepal Mediciti hospital. Analysis of cross-sectional investigation on 121 staffs through questionnaire tool revealed that the understanding and familiarity of BLS/CPR towards BLS training of the staffs at Nepal Mediciti is satisfactory i.e. above 75% of knowledge. This is satisfactory in a sense, the digit levels here were discovered comparatively high in reference to what has been reviewed in literature of Turkey., *et al.* (2008), Chandrasekharan., *et al.* (2010), Tim Piepho., *et al.* (2011) and Sriniwas and Rao (2014) as in introduction section of this study.

This research discovered the following areas to be comparatively provided more focus to improve staff level of knowledge on BLS. They are as follows:

- What to do or not to do if no pulse is present on sufferer?

- How much chest compression depth must be administered?

- How long the pulse assessment must be completed?

These are the areas where trainers must be comparatively more focused for effective training output for staffs.

The trainings should be time and again so that more staff-both clinical and nonclinical- retains adequate knowledge on BLS and able to administer at the time of necessity. As such this study fulfills its objective of accessing the BLS knowledge level among staffs and identifies the necessary interventional areas of training concern. Study concludes provision of regular repetitive courses of these lifesaving training for all hospital staffs irrespective of their study background and specialty. It also recommends continuous assessment of level of knowledge retention among hospital staffs.

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