Knowledge Regarding Basic Life Support Among Nurses of a Tertiary Level Hospital of Nepal

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ABSTRACT

Introduction: Basic life support (BLS) is an emergency procedure that consists of recognizing an arrest and initiating proper cardio pulmonary resuscitation (CPR) techniques to maintain life until victims either recovers or is transported to medical facility where advanced life support are available. It is very important that all nurses know about basic life support to save lives of patients. **Methods:** A descriptive cross-sectional study was conducted in 50 nurses working in various intensive and high care units of our teaching hospital to assess their Knowledge on BLS. Non-probability purposive sampling technique was used for data collection for which self-administered semi-structured questionnaire was used. **Results:** Majority (46%) of the respondents were between 20 to 25 years of age. 52% of respondents were of Proficiency Certificate Level (PCL), 36 % of bachelor of nursing (BN) and 12% Bachelor of Science in Nursing (B.Sc Nursing). 36% respondents had working experience of 5-10 years and 6% of 10-15 years. All respondents had heard about BLS but 86% of them had never attended any BLS training. Most of the respondents (86 %) had seen CPR being done and more than half of the respondents (58%) had done CPR. 62% stated circulation, airway and breathing as the latest CPR sequence. 90% of the respondents said cardiac arrest is the indication of CPR. 66 % had inadequate knowledge, 32% had moderate knowledge while minority 2 % had adequate knowledge on Basic Life Support. **Conclusion:** Knowledge of Basic Life Support (BLS) among Nepalese nurses was inadequate in majority of cases. There was also no association between the knowledge and academic qualification or experience.

Keywords: nursing knowledge; basic life Support; cardiao pulmonary resuscitation

INTRODUCTION

Basic life support (BLS) is an emergency procedure that consists of recognizing an arrest and initiating proper Cardiac Pulmonary Resuscitation (CPR) techniques to maintain life until victims either recovers or is transported to medical facility where advance life support are available[1]. Resuscitation is the art of restoring life or consciousness of one apparently dead[2]. The most important aspects in BLS are airway, breathing and circulation. Failure of the circulation for three to four minutes will lead to irreversible cerebral damage. Cardiac arrest is an important acute emergency situation both in/out of the hospital set ups and carries a high level of mortality risk, however if early BLS and cardio

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pulmonary resuscitation is initiated, the survival rate can be substantially improved. Knowledge of BLS is a major determinant in the success of resuscitation and plays a vital role in the final outcome of acute emergency situations[3].

Nursing professionals are usually the first to witness a cardiac arrest at the hospital and call for assistance team. Thus, nurses need to have updated technical knowledge and practical skills developed to contribute more efficiently to cardiac arrest maneuvers[4].

Being important members of the healthcare team, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that a timely performed CPR can largely prevent sudden death and it is hence considered to be an important medical procedure. To perform the procedure in a meticulous manner, nurses should be knowledgeable and they should have expertise in the procedure[5,6].

Demand for courses of BLS is ever increasing worldwide. However, in developing countries like Nepal, resuscitation training is not routine. Few reports have addressed the current level of awareness and knowledge in this area among the health care professionals in Nepal. In recent years, several publications have highlighted the deficiencies in CPR quality, both out-of-hospital and in-hospital, which have partly been addressed in the newest BLS guidelines[7].

The main aim of the study was to assess the Knowledge regarding Basic Life Support (BLS) among the Nurses of Shree Birendra Hospital.

METHODS

A descriptive cross Sectional study was done to assess the Knowledge regarding Basic Life Support among the Nurses our teaching hospital. Non-probability purposive sampling technique was used for data collection for which self-administered semi-structured questionnaire was used. Total participants were 50 nurses working in critical and high care units (ICU / CCU, ITCU, OT, HCU, ER).

Table 1: Association between Knowledge and Qualification of the Respondents. p value was >0.001.

Qualification	Knowledge		
	Inadequate	Moderate	Total
PCL	17 (65.4%)	9 (34.6%)	26
BN	11 (64.7%)	6 (35.3%)	17
B Sc	4 (66.7%)	2 (33.3%)	6
Total	32 (65.3%)	17 (34.7%)	49

Table 2: Association between Knowledge and work experience of the Respondents. p value was >0.001.

Experience (in years)	Knowledge		
	Inadequate	Moderate	Total
1-3 years	9 (52.9%)	8 (47.1%)	17
3-6 years	14 (82.4%)	3 (17.6%)	17
6-9 years	2 (66.7%)	1 (33.3%)	3
>9 years	7 (58.3%)	5 (41.7%)	12
Total	32 (65.3%)	17 (34.7%)	49

RESULTS

52% of participants were of certificate level, 36 % of Bachelor in Nursing and 12% B. Sc Nursing. 36% of them had working experience of 5 to 10 years 6% had working experience of 10-15 years. 30% were currently working in ICU / CCU, 28 % in OT, 16 % in ITCU, 14 % in ER and 12% in HCU. All of them had heard about BLS, 36 % from hospital 2% from

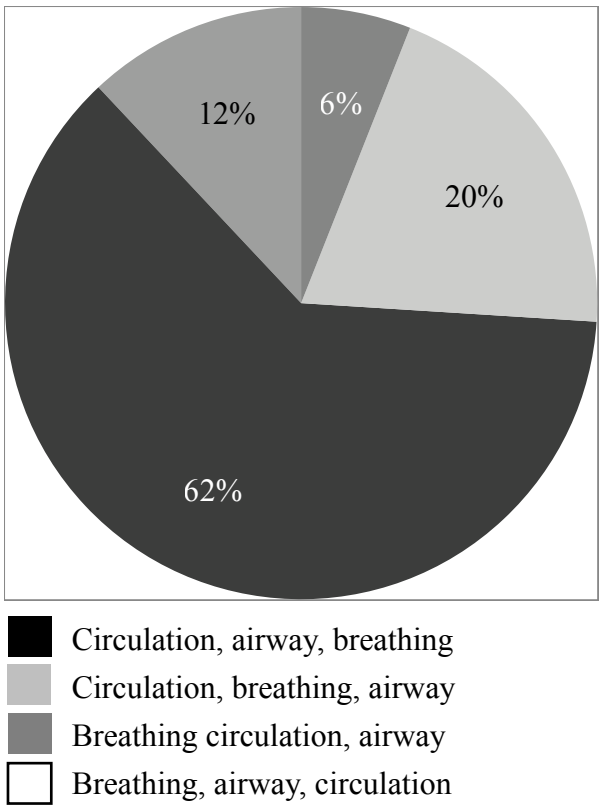

Figure 1: Knowledge regarding latest CPR sequence

internet and others had heard from other sources.

58% had done CPR on a patient. 62% said that consciousness is confirmed by shaking the victims and shouting "Are you OK?," 66% said carotid pulse to be palpated to assess the circulation and 72% of the respondents answered cardiac compression are initiated if carotid pulse is not palpable for 5-10 seconds. 68% of the respondents said 'pinch nostrils, take a deep breath and blow into victim's mouth' to initiate artificial breathing whereas only 2 % of the respondents said 'blow into victim's mouth like blowing up a balloon'. 56% answered 1 breath is delivered every 5 seconds to continue mouth to mouth breathing, if the victim does not resume breathing and 90% respondents said cardiac arrest as the indication of CPR; only 10 % of the respondents said respiratory arrest. 94% of the respondents answered 'in supine position on a firm flat surface' as the position of patient during resuscitation, 50% of the respondents said xiphisternum is location for chest compressions, 40% said mid chest, 6% said left side of chest and 4% said right side of the chest should be compressed. 64 % said 30:2 as the ratio of CPR, only 4 % of the respondents said 30:1.

78% of the respondents said 'heel of one hand on the sternum and heel of other hand on the top of it interlocking the fingers' is done when performing external cardiac compressions, 4% of the respondents said the finger of one hand on the sternum and finger of other hand on the top of them and 80% said that carotid pulse is checked after 4 cycles of CPR. 68% said carotid pulse and 6% said radial pulse should be checked to assess the success of CPR. The sequence of CPR as said by participants is shown in figure 1.

Two thirds of participants had inadequate knowledge, 32 % had moderate knowledge and only 2 % had adequate knowledge about BLS.

DISCUSSION

Majority 62% of the respondents stated circulation, airway and breathing as the latest CPR sequence which was in contrast with the study conducted by Sharma & Attar7,[8]. Nearly half i.e. 40% of the respondents said that start CPR as an immediate action if somebody is not responding while only 4 % of the respondents said to observe and 20 % of the respondents answered to keep him in the recovery (sideline) position. Regarding correct maneuver to clear airway ,76% of the respondents said head tilt, chin lift or jaw thrust which was consistent with the study done by Parajulee & Selvaraj[5]. 82% of the respondents said that the number of compressions done in 1 min is 100 which was

contradicting the study done by Parajulee & Selvaraj[5]. Regarding depth of compression 66% of the respondents said that the depth of compression during CPR is 1.5-2 inches which was similar with the study of Sharma & Attar[8] but was opposed with the study done by Shekhawat & Chauhan[2], Parajulee & Selvaraj[5] ,Chew, et. al.,[9]. 52% of the respondents said 30:2 as the ratio of CPR, single rescuer which was inconsistent with the study done by Shekhwat & Chauhan[2], and Parajulee & Selvaraj[5], whereas only 2 % of the respondents said 30:1. 96% said rib fracture as the complication of CPR which was opposed with the study done by Parajulee & Selvaraj[5].

No statistically significant ($P<0.001$) association was found between knowledge of BLS with educational qualification and work experience (Table 1 & 2).

CONCLUSION

Most of the nurses working in high care units of our teaching hospital didn't have adequate knowledge about BLS and CPR. Only 2% had adequate knowledge about BLS. There was no association between the knowledge and academic qualification or work experience.

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