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Cross Sectional Study to Assess Knowledge, Practice and Attitude on High Quality Cardiopulmonary Resuscitation among Health Care Professional.

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ABSTRACT

Background: Cardiac arrest is leading cause of death in India and globally. cardiac arrest death is no one in non-communicable death in India. According to American heart Association general Worldwide, there are >135 million cardiovascular deaths each year. In India, it is estimated that about 5-6 lakh people die every year due to sudden cardiac arrest, and a good proportion of them are under the age of 50. Prompt response by health care professional and provide High quality CPR combination of Chest Compression at the rate of 100-120 compression/min, with depth of compression 5-6 cm without any interruption, complete chest recoil and give 2 rescue breathing within 10 seconds after opening airway by head tilt and chin lift for medical victim and jaw thrust for trauma victim, which is delivered continued cycle during cardiac arrest by one or 2 rescuer in out hospital and through megapode team in hospital Continue CAB 5 cycle of High-quality CPR within 2 minutes.

Methods: Its Cross-Sectional study of duration of 2 month from November 2023 to December 2023.continued among health care professional working at Goyal Hospital and Research centre pvt ltd. Knowledge assessed through 20 multiple questions and practiced assessed by skill check list contain 10 points of High-Quality CPR and attitude observed and assessed by verbal question while skill case scenario.

Result: The median for knowledge score nursing staff was 14.5 (70.25%) and Practice score median was 7 (70%). knowledge score between critical and nun critical area was not found statistically significant. Distribution of subjects based on scores in knowledge and of High Quality BLS 5.55% (5) of Nursing staff poor knowledge score and 30% (27) of nursing staff had average knowledge score. 55.55% (50) having good knowledge score .and remaining 8.88 (8) are excellent in knowledge

Conclusion:

The present study identified the Knowledge and practice score of BLS or CPR is Average in nursing staffs, even though they have positive and good attitude towards it. BLS training should be the part of the curriculum and CNE to solve this issue.

KEYWORD: High quality CPR, BLS, Sudden Cardiac arrest

1. INTRODUCTION

According to American heart Association general Worldwide, there are >135 million cardiovascular deaths each year. In India, it is estimated that about 5-6 lakh people die every year due to sudden cardiac arrest, and a good proportion of them are under the age of 45. Cardiac arrest is a leading non communicable public health problem and 20-22% death accrue to sudden cardiac arrest in India also.

Based on sudden cardiac arrest Foundation www.sca-aware.org (data, in 2020 the location of out hospital cardiac arrest adults was most often a home or residence (73.9%), followed by public settings (15.1%), and nursing homes (10.9%). Out hospital sudden cardiac arrest was witnessed by a layperson in 37.1% of cases or by an ambulance responder in 12.8% of cases. For 50.1% of cases, collapse was not witnessed. The COVID pandemic had multiple effects on the incidence of cardiac arrest, the incidence of OHCA attended by EMS (March 1-April 25, 2020) increased 3-fold, compared with the same period a year earlier. Data from the CARES registry showed increased delays to initiation of CPR for out of hospital cardiac arrest and reduced survival after OHCA coinciding with timing of the pandemic. There was a reduction in the frequency of shockable rhythms, OHCA in public locations, and bystander AED use. Despite this, there was no significant alteration in frequency of bystander CPR.

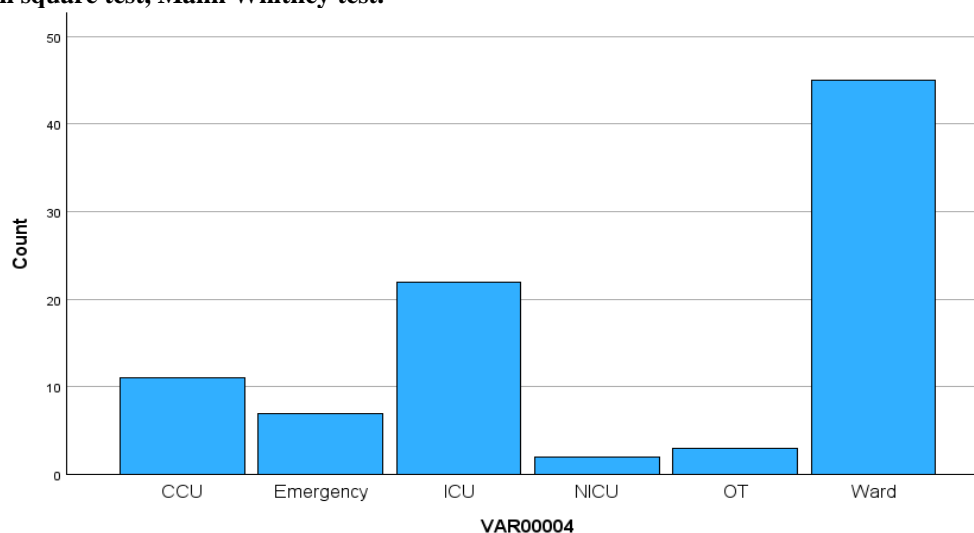
As per AHA 2020 guideline High quality CPR is a part of important integral medical procedure in emergency medical care. It is a combination of Chest Compression at the rate of 100-120 compression/min, with depth of compression 5-6 cm without any interruption, complete chest recoil and give 2 rescue breathing within 10 seconds after opening airway by head tilt and chin lift for medical victim and jaw thrust for trauma victim, which is delivered to the victims who are thought to be in cardiac arrest. Continue CAB 5 cycle of High-quality CPR within 2 minutes. The ability to respond quickly and effectively to cardiac arrest situation rests on health care team. It is documented that a timely (best effective if initiated within 10 second of cardiac arrest) performed High quality CPR can save life. Being important members of the health care delivery team nursing staff and medical officer are deemed to pass the basic skills and expertise which are needed to perform CPR. It is very important for every health care professional to know about High Quality CPR to save lives and improve overall quality of the community health and emergency care. In Cardiac arrest AED (Automated External Defibrillator) to be use as soon as to recognise cardiac arrhythmia and most common ventricular fibrillation and ventricular tachycardia to be revert after shock only. Previously the technique of ABC (Airway, breathing, circulation) was followed. But according to 2020 AHA guidelines it was changed to CAB (Chest compression, airway, and breathing. Targeted education on Cardiopulmonary resuscitation for emergency care providers and the public has increased survival rate of the patients. The Medical Council of India recommends that undergraduate students should have adequate knowledge and skills to manage common acute emergencies. The need for health professionals to know how to perform basic and advanced life support cannot be over-emphasized as they often encounter such a situation in their practice. This present study has been conducted to investigate the knowledge of High-Quality CPR among critical and non-critical area nurses and other health care professional which will help in understanding the deficits and for further formulating medical education protocol in this regard and also to assess their attitude towards CPR.

2. OBJECTIVE

The principal objectives of the research study to assess knowledge, Practice & attitude of High-quality CPR and to compare knowledge regarding CPR among health care professional working critical and non-critical area of Goyal hospital and research centre Pvt. Ltd.

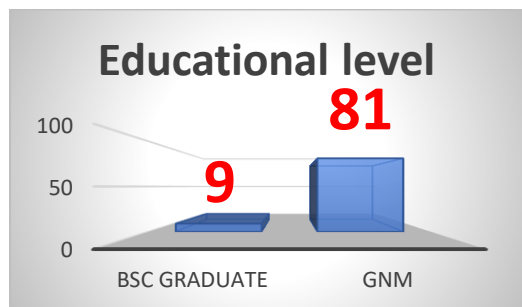
3. METHODS

Present study was a cross-sectional study for duration of 2 month from November 2023 to December 2023, conducted among 90 health care professionals (nursing staff and medical officer) working in Critical and Non-Critical area of Goyal hospital and research centre pvt ltd. at jodhpur Rajasthan. Informed and written consent were obtained from the participants. Those staff Nurses who did not give the consent were excluded from the study. During the study period, the strength of the nursing staff in Hospital was 135. And during the visit, 7 of them were long leave and 13 of posted at other location (Ambulance and Remote centre). To compare the theoretical knowledge and practice of basic life support of nursing staff. The consented participants provided the questionnaire and same were taken back with marked answers after completion. Pre tested structured questionnaire of 2020 American health association guidelines for High Quality CPR and BLS Practice Test of Health Care Provider Solutions of 20 questions were used to assess the knowledge, attitude & practice among study participants. 10 question as per checklist to assess Knowledge and practice. Questionnaire were structured as multiple-choice questions and checklist. Data was collected in the same questionnaire as marked response and was used for data analysis. Equal marks were given for each question and scores were converted to percentage scale for each of the knowledge and practice questions of High-Quality CPR. A score of <40% was considered as poor, 41% to 60% were considered as average, 61% TO 80% were considered as good and >80% were considered as excellent in the current study. To assess the attitude questionnaire the number of skill responses were calculated. Statistical analysis Each completed questionnaire was coded on pre-arranged coding to minimize errors. SPSS was used to analyse the data. **Statistical tools applied were percentages, median, inter quintiles range, chi square test, Mann Whitney test.**

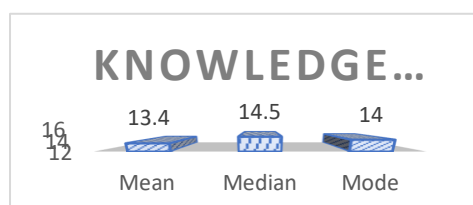


4. RESULTS

Among all the participants 45 were Critical area Nursing staff (50%) and 50 were non critical area nursing staff (50%) The median for knowledge score nursing staff was 14.5 (70.25%) and Practice score median was 7 (70%). knowledge score between critical and non critical area was not found statistically significant. Distribution of subjects based on scores in knowledge and of High Quality BLS 5.55% (5) of Nursing staff poor knowledge score and 30% (27) of nursing interns had average knowledge score. 55.55% (50) having good knowledge score .and remaining 8.88 (8) are excellent in knowledge .. Almost all the participants 99% are of the view that BLS is necessary and it should be the part of the continuing nursing education and wish to do yearly refresher training on high quality basic life support.



Poor	<40 %	5.55%	5
Average	41-60 %	30	27
Good	61-80 %	55.55	50
Excellent	>80	8.88	8



Knowledge Score	
Mean	13.4
Median	14.5
Mode	14

5. DISCUSSION

CPR techniques are simple and can be performed by a layman. Even though Immediate response to a cardiac arrest challenging in resource limited and developing countries, having the basic knowledge, skill and attitude is an essential part of medical service providers. With the established benefit of CPR, developed countries have already recommended BLS training even for high school students nearly a decade ago. However, India still doesn't have any such recommendations and guidelines even for medical and paramedical students. Many Indian medical, nursing students might not even learn the basics of BLS except few students. In the present study also 20% of the study participants have not performed CPR any time while only 80% of the participants have performed CPR. According to study done by Suzuki et al the levels of knowledge in 3305 Japanese medical students and showed that less than 20% of them could perform standard CPR. Other close studies confirmed this, too. 60 nursing staff underwent training and AHA workshop and all of the participants studied BLS classes and bedside training. The knowledge score as well as practice score among critical area nursing staff is little higher than non critical area staff nurses but was statistically non-significant. This study has limitations that standard questionnaire used in the study actually measures only theoretical knowledge or cognitive domain. On the contrary, practical performance needs both theoretical knowledge as well as psychomotor skills. The satisfactory acquisition of theoretical knowledge during the course doesn't necessarily indicate a good performance of psychomotor skills during CPR in the real world. As the sampling method was non random sampling, confidence interval cannot be calculated thus limits the scope of the study. However, our study was conducted only in a single hospital and hence cannot be compared with the findings of this study.

6. CONCLUSION

The present study identified the Knowledge and practice score of BLS or CPR is Average in nursing staffs, even though they have positive and good attitude towards it. BLS training should be the part of the curriculum and CNE to solve this issue. Repeated training with practical demonstration is needed to acquire practical knowledge both among critical and non-critical area nursing staff. Recommendation Policy makers should prioritize, and clearly articulate, a policy regarding compulsory BLS training with High quality CPR Skill on feedback devices.

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