

## EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIAC LIFE SUPPORT (CLS) AMONG STAFF NURSES OF VELLORE DISTRICT OF TAMILNADU.

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### ABSTRACT

**Background:** Cardiovascular diseases (CVDs) are one of the global causes of death mainly due to cardiac arrest and stroke which predicts that the death rate would reach 23 million by 2030. Advance life support includes the prevention and treatment of in-hospital and out-of-hospital cardiac arrest where the prompt response and necessary skills in nursing help in rapid recognition and treatment that doubles the survival rates of the victim.

**Objective:** To assess the existing level of knowledge and the effectiveness of a structured teaching program on Knowledge regarding Cardiac Life support.

**Methods:** A Pre experimental one group pre-test and post-test study design were conducted at Vellore District of Tamil Nadu A total of 100 staffs were selected using the total enumerative non- probability sampling technique. A structured questionnaire was used to collect the data. The split-half method was used to find the reliability of the structured questionnaire. A pre-test was conducted by using a structured questionnaire to assess the pre-test knowledge. Immediately after the pre-test, a structured teaching programme on Cardiac life support was administered for 25-30 minutes. After 7 days post-test was conducted by using the same self-structured questionnaire to reassess the knowledge. Descriptive statistics including, frequencies, percentage, the mean and standard deviation was demonstrated by using tables, and texts. Inferential statistics like paired t-test was used for comparing the mean score of pre-knowledge test score and post-knowledge test score considering  $p < 0.05$  to be statically significant.

**Results:** In the pre-test assessment only 7.63% of the respondents had adequate (51-75%) knowledge while the majority (92.37%) of the respondents had inadequate knowledge ( $\leq 50\%$ ) and none of the respondents had adequate ( $\geq 76\%$ ) knowledge. Whereas, post-test knowledge of the respondents after educational intervention after one week, only (3.39%) of the respondents had an adequate level of knowledge while more than half (55.9.3%) of the respondents had a moderate level of knowledge and less than half (40.68%) of the respondents had an inadequate level of knowledge regarding CLS. The knowledge score gained by respondents the in results shows that the mean value of knowledge in the pre-test score was  $5.72 \pm 1.91$  and at the post-test score was  $8.65 \pm 2.11$ . There is a highly statistically significant difference in undergraduate nursing staffs' knowledge pre & post-test scores regarding CLS.

**Conclusion:** Thus the study concluded that STP was significantly effective in increasing the knowledge of Cardiac life support among undergraduate nursing staffs.

**Key Words:** Knowledge, Cardiac life support, Undergraduate Nursing.

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## INTRODUCTION

Cardiac arrest is a major public health issue and a cause of mortality worldwide where cardiopulmonary resuscitation (CPR) is regarded as the most important skill that increases the rate of survival when cardiac arrests are witnessed.<sup>1,2</sup>

Critically ill patients, especially those with cardiac arrest or respiratory arrest can be best rescued within a golden minute of onset; otherwise, it may cause physiological death which can be possibly saved on onsite first aid with Basic life support (BLS)<sup>3,4,5</sup> and time of defibrillation.<sup>6</sup>

The quality of CPR and minimized hands-off time<sup>7</sup> during rhythm controls and defibrillation frothy m CPR team manage a cardiac arrest by working with a multidisciplinary team in an emergency ensuring the highest possible quality of resuscitation under the recommended algorithm that prevents interruption in chest compressions and decreases the coronary and cerebral perfusion<sup>8</sup>. Therefore the chest compressions are unequivocal in this case and in an untold number of similar cases of patients who receive a second chance at life after receiving closed-chest compression, often in conjunction with artificial respiration, defibrillation, and other forms of advanced life support and post-resuscitation care<sup>9</sup>. American Heart Association (AHA) provides CLS courses that involve reading, lectures, and practical instruction for the recognition and management of standard protocols and procedures.<sup>11</sup> The intention of this certification is to improve the chances of survival for patients suffering in-hospital cardiac arrest.<sup>10</sup>

## Material and Methods

This total enumerative study was carried out on staff nurses of Vellore District of Tamil Nadu.

**Study Design:** Quasi-experimental One group pre-test post-test design.

**Study Location:** This study was conducted at Vellore District of Tamil Nadu.

**Sample size:** 100 staff nurses studying at Vellore District of Tamil Nadu, during the period of data collection are selected as samples.

**Sample size calculation:** Simple random sampling technique had been used. And Samples had been selected by using lottery method.

**Subjects & selection method:** The study population was drawn consecutively from undergraduate nursing staffs of Vellore district Tamil Nadu.

### Inclusion criteria:

1. Staff nurses who are studying.
2. Staff nurses who are willing to participate in the study.
3. Staff nurses who are present at the time of data collection.

### Exclusion criteria:

1. Staff nurses who suffer from chronic illness.
2. Staff nurses who have already undergone a course in Cardiac Life Support.
3. Staff nurses who participated in the pilot study.

### Procedure methodology:

The data was collected through the well-prepared structured questionnaire and evaluated with the help of inferential and descriptive statistics.

The main study was conducted for six weeks. Selected groups are taken to provide the teaching programme on the first day the pretest was conducted by using the structured questionnaire. After the pretest selected group was exposed to the educational programme which took around 45 minutes. Post-test was conducted with the same participants by using the same questionnaire after seven days.

### The questionnaire consists of Two Parts.

Part I: It consists of a Sociodemographic variable

Part II: It consists of items that elicit information on knowledge regarding CLS. It contains a questionnaire related to knowledge of CLS. The correct answer was awarded 1 score and incorrect answers were scored as 0 participants scoring more than equal to 75% was considered to have adequate knowledge, 50-75% were considered to have moderate knowledge, and participants scoring less than and equal to 50% were considered to inadequate knowledge. The collected data were analyzed using SPSS version 20, for descriptive statistics percentage, mean, and standard deviation was calculated and for inferential statistics, paired t-test was used to assess the difference between pre-test and post-test level of knowledge. The researcher's instrument reliability was maintained by pretesting in 10% of the estimated study sample whomet the inclusion criteria in a similar setting and were excluded from the main study.

### Validity and reliability of the tool

The tool was prepared by the investigator based on literature review, under the guidance of experts and on the basis of objectives, which was assessed and evaluated, and approved by experts of Research committee. The content validity of the tool was obtained from research experts from the medical surgical nursing department. The reliability was checked by interrator method. After the structured teaching programme the reliability was 0.79 and

then paired “t” test was used to assess the effectiveness of structured teaching programme on knowledge of advance life support among the staff nurses.

**Statistical analysis:** Statistical analysis is a method of rendering quantitative information meaningful and intelligent manner. Statistical procedure enables the researcher to analyse, organize, evaluate, interpret and communicate numerical information meaningfully. The data collected from the staff nurses had been tabulated, analyzed and interpreted.

## RESULT

The study had been undertaken to evaluate the effectiveness of structured teaching programme on Cardiac Life Support strategies in terms of knowledge among the staff nurses at Vellore District. The main objective of the study was to address the adequacy of knowledge of staff nurses at Vellore District.

This study was conducted for a period of six weeks by using a quasi-experimental research design at Vellore District. Staff nurses had been selected by simple random sampling technique through lottery method. The sample size was hundred.

A well formatted structured questionnaire has been used to assess their knowledge regarding Cardiac Life Support. Pre-test and structured teaching programme had been carried on the first day. On the eighth day by using the structured questionnaire post-test had been carried out.

It also shows socio-demographic information of the participants where the majority of the undergraduate nursing staffs were in the age group 20- 25 years (93.2%). More than half (65.3%) of them were enrolled in the B.Sc. nursing program and less than half (42.2) were in the 2<sup>nd</sup> year nursing program. The majority (75.4%) had attended CLS through the lecture method among them less than half (33.9%) had performed CPR before and in them, all had performed it in a hospital setting.

The knowledge regarding Cardiac Life Support strategies among the staff nurses through pre-test and post-test based on questionnaire method. In the pre-test among 100 staff nurses 84 (84%) had inadequate knowledge and 16 (16%) had moderately adequate knowledge and none had adequate knowledge. In the post-test majority of the staff nurses, 71(71%) had adequate knowledge, 29 (29%) had moderately adequate knowledge and none had inadequate knowledge.

The overall mean of level of knowledge regarding Cardiac Life Support strategies among the staff nurses during pre-test had been 14.79, standard deviation had been 4.49 and in post-test the mean had been 29.91, standard deviation had been 5.67. The confidence interval in the pretest was 5.90-15.53 and post-test was 16.04-17.92.

## DISCUSSION

### Section I: To assess the level of knowledge regarding Cardiac Life Support strategies among the staff nurses.

The assessment of the knowledge regarding Cardiac Life Support strategies was carried among the staff nurses of Vellore District. The staff nurses who met inclusion criteria had been selected as samples and their demographic variables and the knowledge were assessed through questionnaires. The data analyses showed that among 100 staff nurses 84 (84%) had inadequate knowledge and 16 (16%) had moderately adequate knowledge in the Pre-test. It reveals that the staff nurses need an educational programme to improve their knowledge on Cardiac Life Support strategies.

### Section II: To evaluate the effectiveness of structured teaching programme on knowledge of Cardiac Life Support strategies among the staff nurses.

It reveals that among 100 staff nurses 84 (84%) had inadequate knowledge and 16 (16%) had moderately adequate knowledge in the Pre-test. In the post-test, 71(71%) staff nurses had adequate knowledge and 29 (29%) had moderately adequate knowledge. The overall mean of level of knowledge regarding Cardiac Life Support strategies among the staff nurses during Pre-test had been 14.79, standard deviation had been 4.49 and in post-test the mean had been 29.91, standard deviation had been 5.67. By comparing Pre-test and post-test confidence interval may conclude that post-test knowledge had been increased. The paired “t” test value had been 27.33. It reveals that the teaching programme had been effective.

### Section III: To associate the post-test level of knowledge with the selected demographic variables among the staff nurses.

It depicts the association between post-test knowledge score and the demographic variables among the staff nurses. It reveals that there is no significant association between the age, religion, level of education, source of health information and previous experience regarding Cardiac Life Support and the knowledge level among the staff nurses. It also reveals that there is a significant association between locality and the knowledge scores gained in the post-test. It shows that their dwelling place either urban or rural it is necessary to provide first aid at right times to save the lives of the victims.

On the whole, the study confirmed that the assumptions which have been formulated at the beginning was factual and the study had been effective in improving the knowledge regarding Cardiac Life Support strategies, through the teaching programme among the staff nurses of Vellore District.

## CONCLUSION

In the light of the present study results, it can be concluded that planned teaching intervention was found to be effective in enhancing student nurses' knowledge regarding CLS. It is recommended for the nursing academy and administration to conduct retraining courses and other educational approaches for staffs and nurses. As Education is a key component for professionals involved in managing life-threatening crises to ensure adequate skill levels which should be evidence-based, consistent, and frequent and a core component in the provision of knowledge and training to working and student nurse<sup>18</sup>

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