

Effectiveness of Emergency Preparedness Protocol on Knowledge and Skill Regarding Pre Hospital Management of Cardiac Emergencies among Patients with Chronic Illness and Their Caregivers, at Selected Hospitals at Kanyakumari District

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Abstract – Aim and Objective: To assess the effectiveness of Emergency Preparedness Protocol on knowledge and skill regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers. **Methodology:** A quasi- experimental, non – equivalent control group pre-test, post-test research design was adopted to assess the effectiveness of Emergency Preparedness Protocol among 120 patients and their care givers (30 patients with chronic illness + 30 caregivers in each experimental group and control group) conducted in various hospital settings at kanyakumari district who satisfied the inclusion criteria were selected as samples based on Non probability convenient sampling technique. Education given on Emergency Preparedness Protocol using power point presentation includes general information about cardiac emergencies, signs and symptoms, assessment techniques, emergency measures and use of cardiac emergency kit to handle cardiac emergencies at home for 20 – 30 minutes, preparation of cardiac emergency kit for 5 -10mins, demonstration and re demonstration on the steps of Blood pressure monitoring on the patient and Adult Basic Life Support (BLS) techniques on a mannequin to a group of 5 to 10 care givers for 10mins. The pre and post-test level of knowledge for patients with chronic illness and their caregivers and pre and post-test level of skill for caregivers were assessed using structured knowledge questionnaire and observational checklist respectively. **Results:** The findings of the study revealed that the calculated unpaired ‘t’ value for the post-test level of knowledge among experimental group patients was $t=13.32$ which showed a very high statistical significance at $p<0.001$ level. The calculated unpaired ‘t’ value for the experimental group caregivers was $t=14.28$ which showed a very high statistical significance at $p<0.001$ level. The calculated unpaired ‘t’ value for the post-test level of skill among experimental group caregivers was $t=13.43$, which showed a very high statistical significance at $p<0.001$ level. **Conclusion:** The results revealed that Emergency Preparedness Protocol was effective in improving knowledge and skill regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers.

Keywords— Cardiac emergencies, pre hospital management, CPR, patients with chronic illness, caregivers

1. Introduction

Non-communicable diseases (NCDs) - or chronic diseases are long duration diseases and shows slow progression. The four main types of NCDs are CVDs, cancer, chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease (COPD), asthma and diabetes. NCDs are the world’s leading cause of death, representing 63% of all annual deaths and kill more than 36

million people each year. NCDs also accounts for 80% of all deaths occur in low- and middle-income countries. Cardiovascular emergencies are life-threatening emergency disorders which must be recognized immediately and promptly treated without delay to minimize the mortality. Patients may present with severe hypertension, chest pain, dysrhythmia, or cardiopulmonary arrest. Centre for disease control and prevention, 2017 reported that heart disease is the leading cause of death for both men and women globally and in 2015, it accounted for more than half of the deaths in men. About 6, 30,000 Americans die from heart disease each year—that's 1 in every 4 deaths. More than 70% of SCA occurs at home or at similar private settings like workplaces, during sports. About 95% of SCA victims die before reaching the hospital and medical care facility and out of which only 6% survive after cardiac arrest.

India as a developing country still shows inadequate focus on cardiac disease as one of the major national health problems. Knowledge and participation of the patients with chronic illness and their caregivers along with the health care professionals in the training services will minimize the mortality rate due to any type of cardiac emergencies and helps the caregivers to handle the emergent situation effectively without delay in time in managing cardiac emergencies. These concepts awakened the desire of the investigator to study the effectiveness of Emergency Preparedness Protocol regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers.

Objectives

To assess the effectiveness of Emergency Preparedness Protocol on knowledge and skill regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers.

Null hypotheses

NH₁: There is no significant effect of Emergency Preparedness Protocol on knowledge regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers in the experimental and control group at $p < 0.05$ level.

NH₂: There is no significant effect of Emergency Preparedness Protocol on skill regarding pre hospital management of cardiac emergencies among care givers of patients with chronic illness in the experimental and control group at $p < 0.05$ level.

2. Methodology

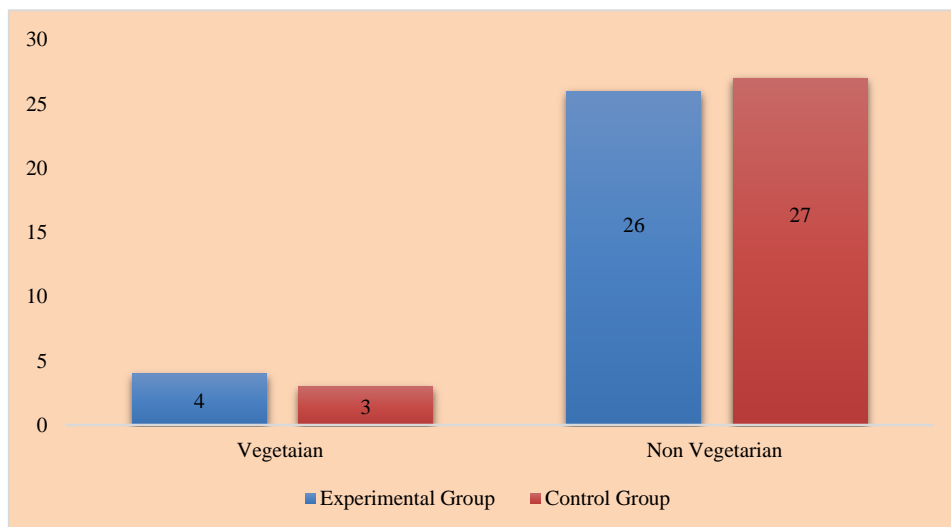
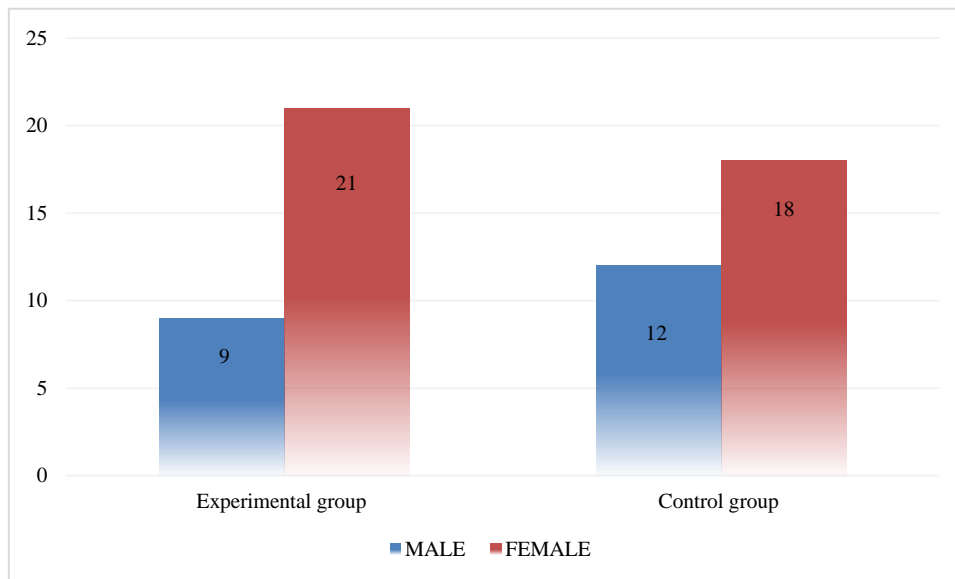
A quasi-experimental non- equivalent control group pre-test and post-test research design was adopted to assess the effectiveness of Emergency Preparedness Protocol on knowledge and skill regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers. The independent variable of this study was Emergency Preparedness Protocol and dependent variables were level of knowledge and skill.

The study was conducted in various Hospital settings, at Kanyakumari. The study population was patients with chronic illness and their caregivers at selected settings. Totally 120 samples (30 patients + 30 caregivers in each experimental and control group) were selected based on inclusion criteria by using Non – probability convenient sampling technique. After obtaining formal permission and informed written consent, the investigator obtained demographic details from the experimental group samples through the structured demographic profile. Then assessed the pre-test level of knowledge regarding pre hospital management of cardiac emergencies using structured knowledge questionnaire for the patients with chronic illness and their caregivers and the skill on Blood pressure monitoring steps and Adult BLS techniques for the care givers of patients with chronic illness by using observational checklist. On the same day, the intervention was given for the experimental group about 30 - 45 minutes in which 20 minutes for lecture cum discussion using power point education on general information, signs and symptoms, assessment findings, emergency measures for cardiac emergencies and 10 minutes for preparation of cardiac emergency kit and 10mins for demonstration and re demonstration of Blood pressure monitoring steps on the patients and Adult BLS techniques on a mannequin. On the 7th day after pre-test, the investigator conducted the post-test using the same tool. The same procedure for data collection was followed for the control group and the normal hospital routine was carried out for the patients with chronic illness and their caregivers. On the 7th day, the investigator administered the Emergency Preparedness Protocol regarding pre hospital management of cardiac emergencies on the completion of post-test. As reinforcement, an information booklet regarding Emergency Preparedness Protocol was issued for both the experimental and control group.

Data analysis and interpretation

Based on the demographic variables of patients with chronic illness in experimental and control group with respect to age, gender, religion, type of family and dietary pattern. In experimental group few of the patients with chronic illness 40%(12) were in the age group of 51 -60 years, both males and females were equally participated, majority 76.7% (23) of them were Hindus, 63.3%(19) of them belongs to nuclear family, where as in control group, 40%(12) were in the age group of 51 – 60 years, both females and males 50%(15) were equally participated in the study, more than half 66.7%(20) of the patients were Hindus, nearly half 46.7% (14) of them belongs to nuclear family, majority 90%(27) of them were non – vegetarians in both

the groups. With regard to demographic variables, in experimental group 30% (9) were qualified with higher secondary level education and 33.3% (10) were doing semi-skilled type of occupation and 56.7% (17) of them had their currently monthly income with the range of 5001 – 15,000 rupees where as in control group, 26.7% (8) of them were qualified with higher secondary level education and 43.3% (13) were doing semi-skilled type of occupation, most of them 66.7% (20) had their family monthly income with the range of Rs.5001 – Rs.15,000. With regard to demographic variables, in experimental group more than half of the patients in which 59.1% (13) diabetes mellitus patients, 72.7% (16) hypertensive patients, all the CKD patients had less than 5 years of chronicity with majority of the patients with chronic illness had regular treatment / follow up, where as in control group more than half of the patients in which 44.4% (12) diabetes mellitus patients, 66.1% (11) hypertensive patients, 88.9% (8) CKD patients had less than 5 years of chronicity with majority of the patients with chronic illness had regular treatment / follow up. More than half of the patients were independent in doing their daily activities in both the groups.



With regard to pre test, all the caregivers need improvement in skill on Blood pressure monitoring steps and Adult BLS techniques in both the groups. In post test, most 76.67% (23) of the caregivers of patients with chronic illness in the experimental group had gained good skill after demonstration and re demonstration of Blood pressure monitoring steps on the patients and Adult BLS techniques on a mannequin than the control group. The post level of skill showed a very high statistical significance at $p < 0.001$, indicates that both the groups were homogenous in the pre test but after administration of Emergency Preparedness Protocol and demonstration and re demonstration of Blood pressure monitoring steps and Adult

BLS techniques, the experimental group showed a very high statistical significant improvement in the overall level of skill regarding pre hospital management of cardiac emergencies among caregivers of patients with chronic illness.

3. Results

The findings of the study revealed that, in the experimental group, for the patients with chronic illness the post-test knowledge mean score was 19.57 with S.D of 2.60 and in the control group the post-test knowledge mean score was 11.17 with S.D of 2.26 and the calculated unpaired 't' value was 13.32 at $p < 0.001$ level which showed a very high statistical significant improvement in the level of knowledge regarding pre hospital management of cardiac emergencies between the experimental and control group. Also in the caregivers of patients with chronic illness post-test knowledge mean score was 20.09 with S.D of 1.56 and in the control group the post-test knowledge mean score was 12.06 with S.D of 2.66 and the calculated unpaired 't' value was 14.28 at $p < 0.001$ level which showed a very high statistical significant improvement in the level of knowledge regarding pre hospital management of cardiac emergencies between the experimental and control group.

In the experimental group, the caregivers of patients with chronic illness post-test skill mean score was 14.00 with S.D of 1.96 and in the control group the post test skill mean score was 6.10 with S.D of 2.55 and the calculated unpaired 't' value was 13.43 at $p < 0.001$ level which showed a very high statistical significant improvement in the level of skill regarding pre hospital management of cardiac emergencies among caregivers of patients with chronic illness in the experimental group caregivers than the control group. The correlation of post test knowledge score was 8.83 with S.D was 2.88 and the skill mean score was 8.53 with the S.D of 2.45. The calculated Karl Pearson correlation coefficient 'r' value 0.46 which was highly statistical significance at $p < 0.01$ indicates moderate positive correlation, whereas in control group the calculated 'r' value was 0.14 which had no statistical significance, signifying that an improvement in knowledge had a positive influence on increasing the skill among caregivers of patients with chronic illness in the experimental group than control group.

4. Discussion

The study results revealed that Emergency Preparedness Protocol education had an impact on improving the level of knowledge of the patients with chronic illness and their care givers and improving the level of skill on caregivers shows the effectiveness of the intervention tool among patients with chronic illness and their care givers which in turn may improve the level of confidence in providing pre hospital management of cardiac emergencies which helps to save the lives from dangerous complications.

5. Conclusion

The present study assessed the effectiveness of Emergency Preparedness Protocol on knowledge and skill regarding pre hospital management of cardiac emergencies among patients with chronic illness and their caregivers. Cardiac emergencies are life threatening disorders that must be recognized immediately and the Smart and Wise use of the Emergency Preparedness Protocol helps in saving the precious life of the patients with chronic illness by addressing the cardiac emergencies promptly will aid in improving their quality of life.

6. Implications

- Pre hospital management of cardiac emergencies should be incorporated in nursing education curriculum and evidence-based guidelines should be integrated to save the lives as well as render effective and quality health care to patients.
- Clinical nurses should take the responsibility to plan the teaching programme and mass health education and skill training programme on Adult BLS techniques for the public especially focusing on pre hospital management of cardiac emergencies.
- Emergency Preparedness Protocol regarding pre hospital management of cardiac emergencies education to incorporate in discharge planning for the patients with chronic illness.
- Nursing research motivates the investigators to conduct further study on different aspects from this topic. Emergency Preparedness Protocol regarding pre hospital management of cardiac emergencies is an effective and efficient means of managing cardiac emergencies which occurs at home helps to reduce further morbidity and mortality.

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