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EFFECTIVENESS OF EDUCATIONAL INTERVENTION ON SELF EFFICACY AND HEALTH PRACTICES AMONG PATIENTS WITH ST ELEVATION MYOCARDIAL INFARCTION

Nursing

Shyni Scaria* M.Sc Nursing, Govt. College Of Nursing, Kottayam, Kerala, India*Corresponding Author

Mrs Smitha PV Assistant Professor, Govt. College Of Nursing, Kottayam, Kerala, India

KEYWORDS

INTRODUCTION

According to the WHO, cardiovascular disease (CVD) is among the primary causes of death globally. Statistics shows, there will be 20 million CVD related fatalities by 2030.[1] Risk factors like tobacco use, obesity, physical inactivity, healthy diet, and hazardous consumption of alcohol were most of the risk factors of CVD.[1] Patients with coronary heart disease can have better health outcomes if they practice healthy lifestyle habits that promote good self-efficacy.[2] This is important for boosting the patient's confidence in managing their cardiac health and adopting behaviours to prevent further complications related to coronary artery diseases. A person's self-efficacy and health practices are essential for improving health after ST elevation myocardial infarction.

Need and Significance

The number of patients with ST elevation myocardial infarction reaching Medical College Hospital is increasing day by day. The investigator found that patients came across with myocardial infarction who were unaware of myocardial infarction and its proper management; during clinical posting in the cardiology department of Medical College Hospital Kottayam. Investigator believe that it's crucial for patients with ST elevation myocardial infarction to have a good understanding of follow-up care. As a result, the investigator believes that it's necessary to assess the efficacy and health practices in patients with ST elevation myocardial infarction.

Objectives

1. To evaluate the effectiveness of educational intervention on health practices among patients with ST elevation myocardial infarction.
2. To determine the association between self efficacy among patients with ST elevation myocardial infarction and selected variables.

Educational intervention

Educational intervention refers to, a single session of computer assisted teaching of ST elevation myocardial infarction and rehabilitation that includes progressive physical activity, modification of coronary risk factors, and prevention of further heart attack including activity and exercise, diet, habits, stress management, control of comorbidities, drug compliance and follow-up for duration of 30 minutes

Self efficacy

It refers to belief of client's capacity to do activities and modify the behaviour for his/her daily life which may be affected by ST elevation myocardial infarction in the areas of physical, psychological, and social activity measured by self efficacy rating scale prepared by the investigator.

Health practices

It refers to reported practices of patients with ST elevation myocardial infarction regarding activity and exercise, diet, sleep and rest, drug compliance, habits, stress management, and control of comorbidities and is assessed by the health practice assessment rating scale prepared by the investigator.

Conceptual frame work

The conceptual frame work of present study is based on Betty Neuman's system model.[3]

Setting of the Study: Cardiology wards and OPD in Medical College Hospital, Kottayam.

Population:
Patients diagnosed with ST elevation myocardial infarction

Sample:
Patients diagnosed with ST elevation myocardial infarction admitted in cardiology wards in Medical College Hospital Kottayam who fulfil inclusion criteria.

Inclusion criteria

- Patients admitted with ST elevation myocardial infarction,
- between the age of 20 to 80 yrs.
- able to understand Malayalam
- who are stable

Exclusion criteria

- Patients admitted with ST elevation myocardial infarction,
- Who are critically ill.
- Have physical impairment

Description of Tools

Tool 1: Socio personal and clinical data sheet
Tool 1.1: Socio personal data sheet
These include age, gender, education status, occupation, nature of work, dietary pattern, marital status, and habits.

Tool 1. 2: Clinical data sheet
Clinical data sheet consists of 5 items regarding comorbidities, mode of treatment, number of STEMI events, area of myocardium involved, and Body Mass Index

Self efficacy rating scale:
It consists of 18 items under 3 domains of physical functioning, psychological functioning, and social functioning with response rate of 3-point rating scale ranging from 2 (very confident), 1(moderately confident) and 0(Not at all confident), with higher score indicating higher level of self efficacy.

- Total score : 36
- 0-12: Low self efficacy
- 13-24: Moderate self efficacy
- 25- 36: High self efficacy

Tool 3: Health practice assessment rating scale:
It prepared by the investigator which includes, 40 statements in different domains like activity and exercise, diet, sleep and rest, drug compliance, habits, stress management and control of comorbidities and rate as regularly (2), occasionally (1), never (0).

Maximum score : 80
- Good : 54-80
- Moderate : 27- 53
- Poor : 0 -26

Analysis

Data was collected and analysed by using descriptive and inferential statics

- Effectiveness of educational intervention on self efficacy and health practices among patients with ST elevation myocardial infarction was assessed by Mann Whitney U test.
- Association between self efficacy and health practices with selected variables was assessed by Chi- square test

Effectiveness of educational intervention on self efficacy among patients with ST elevation myocardial infarction.

Median and IQR of self efficacy among patients with ST elevation myocardial infarction in control and experimental group (n=60)

Group	Self efficacy			
	Pre test		Post test	
	Median	IQR	Median	IQR
Control group (n=30)	7.00	4.75	18.00	10.00
Experimental group (n=30)	9.00	7.00	28.00	25.50

Table 1 shows that median of pretest score of self efficacy in control and experimental group were 7 and 9 respectively. IQR of control and experimental group in pretest were 4.75 and 7 respectively. The median of self efficacy during post-test in control and experimental group were 18 and 28 respectively. The IQR of control and experimental group in post-test were 10 and 25.50.

Table 2 Mean rank, sum of ranks and U value of post test scores of self efficacy among patients with ST elevation myocardial infarction in control and experimental group (n=60)

Self efficacy				
Group	Mean rank	Sum of rank	U	P
Control group (n=30)	18.55	556.50	91.50	0.001
Experimental group (n=30)	42.45	1273.00		

The table 2 shows that U value obtained for self efficacy among control and experimental group were 91.50 which was significant at 0.01 level. Hence the null hypothesis is rejected and it can be interpreted that educational intervention was effective in improving the self efficacy among patients with ST elevation myocardial infarction.

Effectiveness of educational intervention on health practices among patients with ST elevation myocardial infarction.

Table 3 Median and IQR of health practices among patients with ST elevation myocardial infarction in control and experimental group (n=60)

Group	Health practices	
	Median	IQR
Control group (n=30)	40.00	33.75
Experimental group (n=30)	63.00	56.00

Table 3 depicts that the median and IQR of post test score of health practices in control group were 40 and 33.75 respectively. The median and IQR of post test score of control and experimental group were 63 and 56 respectively.

Table 4 Mean rank, sum of ranks and U value of post test scores of health practices among patients with ST elevation myocardial infarction in control and experimental group (n=60)

Group	Health practices			
	Mean rank	Sum of rank	U	P
Control group (n=30)	17.37	521.00	56.00	0.000
Experimental group (n=30)	43.63	1309.00		

The table 4 shows that U value obtained for health practices among control and experimental group were 56 which was significant at 0.01 level. Hence null hypothesis is rejected and it can be interpreted that educational intervention was effective in health practices among patients with ST elevation myocardial infarction.

Association between self efficacy among patients with ST elevation myocardial infarction and selected variables.

Table 5 Chi square value and degree of freedom of self efficacy among patients with ST elevation myocardial infarction with socio personal variables (n=60)

Selected variables	Df	X^2	P
Age	2	3.17	0.20
Gender	1	0.09	0.75
Education status	3	3.68	0.29
Occupation	4	0.78	0.94
Nature of work	2	2.61	0.27
Marital status	1	1.01	0.31
Dietary pattern	1	0.00	1.00
Habits	3	2.76	0.43

Table 5 depicts that there was no significant association between self efficacy and selected variables such as age, gender, education status, occupation, nature of work, dietary pattern, marital status, and habits. Hence null hypothesis is not rejected and it can be interpreted as there is no association between self efficacy and socio personal variables.

Table 6 Chi square value and degree of freedom of self efficacy among patients with ST elevation myocardial infarction with selected clinical variables (n=60)

Selected variables	Df	X^2	P
BMI	2.00	3.17	0.20
Comorbidities	11	9.83	0.54
Mode of treatment	1	3.35	0.67
Number of STEMI attack	2	2.50	0.28
Area of myocardium involved	6	9.62	0.14

Table 6 depicts that there was no significant association between self efficacy and selected clinical variables such as BMI, comorbidities, mode of treatment, number of STEMI event and area of myocardium involved. Hence null hypothesis is not rejected and it can be interpreted as there is no association between self efficacy and selected clinical variables

RESULT

- The table value showed that in the control group, the majority (73.3%) of subjects and in the experimental group, 60% of subjects had low self-efficacy.
- The statistical analysis using the Mann-Whitney U test showed that the obtained U value was significant at the 0.01 level. It is interpreted that there is a significant difference in the post-test score of self efficacy among patients with ST elevation myocardial infarction between the control and experimental groups. This indicated that educational intervention was effective in improving self efficacy among patients with ST elevation myocardial infarction.
- The statistical analysis using the Mann-Whitney U test showed that the obtained U value was significant at the 0.01 level. It is interpreted that there is a there is a significant difference in the post-test score of health practices among patients with ST elevation myocardial infarction between the control and experimental groups. This indicated that educational intervention was effective in improving health practices among patients with ST elevation myocardial infarction
- The obtained chi square value showed there was no significant association between self-efficacy and selected variables such as age, gender, education status, occupation, nature of work, dietary pattern, marital status, and habits, and it can be interpreted as there is no association between self-efficacy and selected socio personal variables.
- The obtained chi square value showed that there was no significant association between self-efficacy and selected variables such as BMI, comorbidities, mode of treatment, number of STEMI events, and area of myocardium involved, and it can be interpreted as there being no association between self-efficacy and selected clinical variables.

DISCUSSION

The present study revealed that 46.7% of subjects in the control group and 40% of subjects in the experimental group were manual labourers, and in the control group, 50% of subjects and 70% of subjects in the experimental group were moderate workers. The present study also showed that in the control group, 46.7% of subjects and in the experimental group 36.7% of subjects had habits of smoking and alcoholism.

The study findings were parallel with a prospective study to examine risk variables and demographic characteristics in acute myocardial infarction from a tertiary care rural hospital in North India. According to the study's findings, 46% of participants worked as labourers or farmers, 66% smoked, 50% had sedentary lives, and 44% drank too much alcohol.[6]

The present study showed that 20% of subjects in the control group and

23.3% of the subjects in the experimental group had no comorbidities. In both groups 16.7% of subjects had hypertension. In the control group 16.7% of subjects and in the experimental group 13.3% of subjects had diabetes and hypertension.

This study's findings were supported by a prospective cohort research investigating the relationship between myocardial infarction and metabolic comorbidities in people with a family history of cardiovascular disease. According to the results, having DM, HTN, and DLP together was linked to a 3.74-fold higher risk of early MI onset in people with a family history of CVD compared to not having a family history of metabolic illness.[7]

The present study evaluated the effectiveness of educational intervention on self efficacy and health practices among patients with ST elevation myocardial infarction. The statistical analysis by the Mann-Whitney U test showed that the obtained U value was significant at 0.01 level. It was interpreted that there was a significant difference in pretest and post test scores after the implementation of educational intervention in the control and experimental group. This indicates that educational intervention was effective in improving self efficacy among patients with ST elevation myocardial infarction. The present study was parallel with a randomized control trial conducted at the Multan Institute of Cardiology to compare a comprehensive discharge education program to conventional treatment to assess how well it enhances patient's self efficacy with coronary artery disease. The study's findings demonstrated that following the intervention, the intervention group's self-efficacy considerably rose. On the other hand, no appreciable alterations were seen in the control group. The post-intervention self-efficacy scores showed a significant difference between the intervention and control groups. The entire discharge education program significantly raised the self efficacy of CAD patients compared to standard care, according to the study.[8]

Nursing implications

Nursing Practice

- These practice guidelines help the nursing professionals in expanding the body of knowledge on non-pharmacological methods of management of myocardial infarction.
- Nurse should incorporate this educational intervention in their clinical practice to improve self efficacy and health practices among patients with ST elevation myocardial infarction.

Nursing Education

- Nursing students can utilize educational intervention to give health education regarding cardiac rehabilitation among patients with ST elevation myocardial infarction.
- Nursing students can utilize the study findings as a platform for future studies.
- The nursing curriculum ought to be changed to include things like creating booklets, handouts, brochures, or tools for self-study.

Nursing administration

- Nurse administrators should utilise the findings of the study and conduct inservice education of the nursing officers for directing and motivating staff towards regarding cardiac rehabilitation among patients with myocardial infarction.
- Nurse administrators should act as a backbone to prepare and facilitate policies and protocols based on evidence-based practices.

Nurse administrator take responsibility for facilitating free distribution of booklets, handouts, leaflets regularly to patients in and out patient departments of hospitals, health clinics, and to the community in urban and rural areas

Nursing research

- A similar study can be replicated by taking larger samples
- Dissemination of the study findings should be done through national and international conferences, workshop, and continuing nursing education programme.
- Nurse researchers can conduct elaborate study on quality of life among patients with ST elevation myocardial infarction.
- The present study can be effectively utilized by the emerging researchers for their reference purpose

Limitations

- The study subjects were limited to patients who are admitted in cardiology wards in Government Medical College Hospital, Kottayam.
- The study was confined to a short period
- Long term effect of educational intervention was not assessed due to time limit.

Recommendations

Based on the present study, the following recommendations are put forward to,

- An elaborate study can be conducted to determine the long-term effect of educational intervention on patients with ST elevation myocardial infarction.
- The study can be replicated in various settings with larger sample to facilitate the generalization of results.
- A comparative study can be done in ST elevation and non ST elevation myocardial infarction patients .
- A study can be done to find the impact of Covid 19 vaccination and myocardial infarction.
- A longitudinal study can be done by using post test after one month, six months and one year to know the health practices.
- A follow up study can be conducted to evaluate the effectiveness of educational intervention among patients with ST elevation myocardial infarction observing their practice at home

CONCLUSION

The study to determine the effectiveness of educational intervention on self efficacy and health practices among patients with ST elevation myocardial infarction was a successful research work. Based on the findings of the study the following conclusions was drawn. The educational intervention was effective in improving self efficacy and health practices among patients with ST elevation myocardial infarction.

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