Comparison of coping methods used by post myocardial infarction patients with therapeutic drug regimen, PTCA and CABG

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Abstract—**Myocardial infarction is a serious illness that affects the life of individual and his or her family members. The support provided by other people has shown improvement in the ability to cope with stress and thus to promote the managing of the illness. Assisting patients to overcome the symptoms involves helping them to understand the experience and to provide relaxation or cognitive behavioral approaches to cope with the feelings of anxiety in real life situations. The present study was conducted to compare the coping methods among post myocardial infarction patients with therapeutic drug regimen, PTCA, CABG in the selected cardiac OPDs of Indore. Through purposive sampling technique a total of 60 samples (20 samples in each group) were selected from the selected population. Consent for the participation was taken from the participants and adapted jalowiec coping scale tool was administered to each sample. Finding of the study revealed that majority of the samples were having average coping skills among all the groups i.e. in Group –I 13 (65%) (Therapeutic drug regimen), Group- II 16 (80%), (PTCA patients) Group –III 17 (85%) (CABG patients) and that the most effective coping was found in drug regimen patients i.e. 74.55. There is a significant difference (ANOVA (f value) 29.785) among the coping methods among group 1, group 2 & group 3 at the level of $p \leq 0.05$.**

Index Terms—**Myocardial infarction, Percutaneous Transluminal Coronary Angioplasty, Coronary Artery Bypass Grafting, Coping methods, Outpatient department**

I. BACKGROUND

CADI research foundation, (2012)[1] stated that in 1998, cardiovascular disease (CVD) contributed to 27% of all deaths in India with crude mortality rate of 227/100,000. An estimated 47 million Indians had coronary artery disease (CAD) in 2010 and an estimated 2.3 million died from CAD compared to 404,000 in the US. Over the past 40 years the prevalence of CAD increased by 300% or more in India and is increasing now at a rate of 5% to 6% per year. In 2009, the world mobilized against the threat of pandemic influenza, which killed approximately 15,000 people. Similar mobilization of resources is lacking in India to stem 'the tsunami of heart disease in India' which is killing 900 Indians younger than 30 years of age every day. The incidence of MI in India is 64.37/1000 people in men aged 29-69 years.

Cintia Koerich, Maria Aparecida Baggoio, (2011)[2] did a study on myocardial revascularization: strategies for coping with the disease and the surgical process. Objective of the study knew the strategies used by patients in coping with coronary heart disease and myocardial revascularization surgical procedure. The Grounded

theory method was used as a methodological framework for the reading of data from a larger study entitled: Contextualizing the surgical experience and the living process of the patient undergoing myocardial revascularization. Data collection was conducted from October 2010 to August 2011, through semi-structured interviews with three sample groups (patients, relatives of patients and health professionals) and 23 participants. The results indicate the strategies used by patients who underwent a surgical revascularization process, which are: family, spiritual and professional support. The experience of cardiac surgery modifies the living process of cardiac patients and the used strategies make the experience less traumatic to them. Thus, these data provide the theoretical basis for nursing care.

II. NEED OF THE STUDY

The present study explored patients 'coping experiences during the first year following a myocardial infarction (MI). Earlier studies have shown that successful coping is difficult even a year after an MI. Effective coping following an MI calls for knowledge of the disease and of the desired effects of treatment and medication, as well as resources, a problem-solving attitude, and a sense of personal motivation. In order to participate in all phases of MI care, patients need to be made aware of their right to participate.

Patients recovering from a myocardial infarction are faced with a number of serious challenges. Plenty of research has shown that besides physical suffering, patients commonly experience severe stressors and other psychological difficulties. These involve feelings of vulnerability, fear of death, posttraumatic stress disorder, loss of control, anxiety and depression. Particularly the importance of identifying incapacitating depression and anxiety has been emphasized in research. Depression may manifest itself as loss of energy, irritability, and reduced capacity to solve problems, and it may seriously impact on family functioning. Patients may also lose confidence in their bodily capabilities and functioning in work and family relationships. The negative effects of emotional distress on the recovery following MI make it important to study patients' coping experiences and strategies.

Post-MI survivors attempt to make sense of what has happened in order to regain a sense of control. They also have to change the patterns of their lives and action. It is not easy to integrate treatment-related behavior patterns into one's everyday life or to give up old habits. The need for change is often both behavioral and psychosocial. As patients comprehend the extent of the life style changes required, they may experience further feelings of powerlessness and anxiety.

The influence the MI has on patients depends on their perception of the situation and on their coping ability. Coping is defined as the constantly changing cognitive and behavioral efforts used to manage specific external or internal demands that are appraised as taxing and that may exceed the resources of the patient. It includes context-specific, behavioral, and emotional processes in which the patient appraises, encounters, and recovers from contact with a stressor. It is also possible to distinguish between two types of coping strategies. Patients may use problem-focused coping strategies, in which they try to change the situation, or emotion-focused coping strategies, in which they try to regulate the emotions caused by the situation

Aleksandra Kroemeke (2010)[3], conducted a study on mechanism of dynamics of depression symptoms after myocardial infarction (MI) during six months was examined with reference to (a) whether the changes in coping strategies mediate the effect of changes in cognitive appraisal on changes in the level of depression, and (b) whether this mediation is moderated by the changes in hope. Cognitive appraisal (threat/harm, challenge), hope, coping strategies (problem-, emotion- and avoidance-focused) and depression were assessed two times among 173 cardiac patients: a few days after first MI and then six months later. Only emotion-focused coping partly mediated the relationship between changes in threat/harm appraisal and changes in depression (both direct and indirect effects were positive). The effect of changes in challenge appraisal on depression was only direct and negative. Both direct effects were moderated by the level of changes in hope: the associations between changes in appraisal and depression were significant only when hope do not change or decreased in time. Associations between dynamics of appraisal and depression during six months after MI were more direct and depended on changes in hope.

III. PROBLEM STATEMENT

A comparative study on coping methods used by patients with post myocardial infarction those who are on therapeutic drug regimen and who have undergone recanalization techniques attending the outpatient department of selected hospitals, Indore in the year 2015-2016.

IV. OBJECTIVES OF THE STUDY

1. To explore the coping methods used by the patients with MI who are on therapeutic drug regimen.
2. To explore the coping methods used by the patients with MI who had undergone recanalization methods.
3. To compare the coping methods adopted by the patients with MI who are on therapeutic drug regimen and who had undergone recanalization methods.
4. To develop the module on adaptation of positive coping methods for posts MI patients.

V. HYPOTHESES

1. **H_0:** There is no significant difference between the coping methods used by post MI patients among Group I and Group II at the level of p=0.05

2. **H_0:** There is no significant difference between the coping methods used by post MI patients among Group I and Group III those at the level of p=0.05.

3. **H_0:** There is no significant difference between the coping methods used by post MI patients among Group II and Group III at the level of p=0.05.

VI. RESEARCH METHODOLOGY

Research design: Comparative research design was used for this study

Population: Post myocardial infarction patients of Choithram hospital and research centre.

Sampling technique: **N**on-probability Purposive sampling technique is used.

Sample Size: 60 samples (20 samples in group I, 20 samples in group II, and 20 samples in group III).

Setting: Choithram Hospital and Research Centre, Indore

Tool: The tool for data collection consists of two sections:-

Section I – (Part I) Socio- Demographic variable 8items), (Part II) Clinical variables (6 items)

Section II - Adapted Jalowiec Coping Scale (40 items) was given by Anne Jalowiec, Suzanne P. Murphy, Marjorie J. Powers (1977), which is used to assess coping strategies among cardiac patients. Adapted Jalowiec coping scale consists of 50 items under 8 domains: Problem Solving (10 items), Defensive (10 items), Positive Thinking (6 items), Acceptance (4 items), Emotional coping (4 items), Reaction towards stress (6 items), Social Support (4 items), Self-Reliant (6 items)Scoring has been categorized in following manner:

- Poor coping skills : 0 - 37
- Average coping skills : 38 - 75
- Good coping skills : 76 - 113
- Excellent coping skills : 114 - 150

VALIDITY & RELIBILITY :-

The tool was submitted to 7 experts including 5 nursing personnel's from medical surgical nursing, one cardiac consultant, and one statistician. In this study the tool had been modified and reliability of the modified Jalowiec coping scale was calculated using split half method which was computed by Karl Pearson correlation formula and it was found r = 0.92.

VII. PILOT STUDY

Written permission was taken from the Nursing Superintendent of Hospital. 15 samples were selected as per the sample selection criteria for the pilot study. Purpose of the study was explained to the samples & confidentiality was maintained. Importance of the coping skills for maintains quality of life after the cardiac event was explained to the patients. The prepared tool was given to the patients. The analysis of data obtained

from pilot study revealed that the objectives of the study could be fulfilled. With this the researcher proceeded with the main study data collection.

VIII. PROCEDURE FOR DATA COLLECTION

Ethical consideration was fulfilled by taking written permission from the administrative authority of the hospital and by taking informed consent from the samples. The study was carried out in 60 samples in the same way as that of the pilot study. Consent was taken from all the samples and confidentiality was assured. Out of 60 samples 20 samples were allotted to group 1 who are on therapeutic drug regimen, 20 patients allotted to those who have undergone PTCA (Percutaneous Transluminal Coronary Angioplasty), 20 patients allotted to those who have undergone CABG (Coronary Angiography Bypass Grafting). Adapted Jalowiec Coping scale was used to assess the coping methods among post myocardial infarction patients. The average time taken for each sample was 20 -25 minutes. The researcher terminated the data collection process by thanking the respondents for their cooperation and participation.

IX. FINDINGS

Section I: Sociodemographic variables:

Among all study participants, 34 (56.66%) belonged to the age group of 51 – 70 years. Most of them 38 (63.33%) were male. 44 (73.33%) samples belong to Hindu by religion.17 (28.33%) were graduate, 14 (23.33%) were educated till higher secondary and 10 (16.66%) were educated up to high school. The data concerning occupation revealed that 20 (33.33%) of samples have been self employed. Economic status of 25 (41.33%) samples was having monthly income of Rs. 10,001 – 30,000.Majority 48 (80%) samples were married. 32 (53.33%) of the samples were not having any history of substance abuse like smoking and alcohol consumption.All participants 45 (75%) were having co- morbid conditions .Co morbid conditions revealed that 15 (25%) samples were not having any disease condition.43 (71.66%) were having history related to treatment for disease.

Section II : Adapted Jalowiec coping scoring

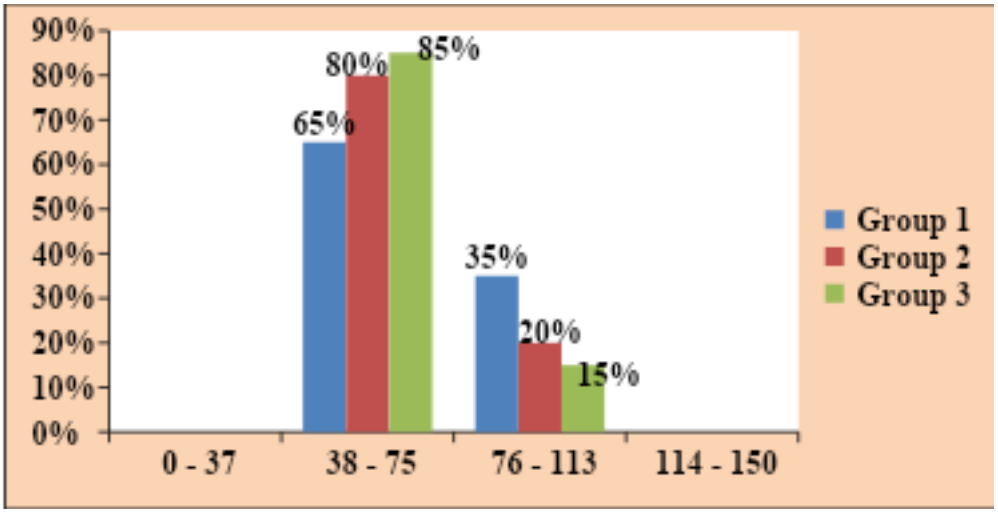

Figure No.1: Cylindrical graph showing Frequency and percentage distribution of Adapted Jalowiec coping scale scoring among post MI patients.

Data presented in figure No. 3 revealed the scoring of coping methods among all groups that majority of samples i.e. 13 (65%) in group 1, 16 (80%) samples in group 2 and 17 (85%) in group 3 were having average coping skills and 7 (35%) samples in group 1, 4 (20%) samples in group 2, 3 (15%) samples in group 3 were having good coping skills.

Section III: Adapted jalowiec coping scoring according to domain

The findings from adapted Jalowiec coping scoring according to domain reveled that in problem solving domain among all samples 24 (40%) were having average coping skills. 34 (56.66%) samples were having good coping skills in defensive domain. 33 (55%) were under average coping in positive thinking domain. Almost 32 (53.33%) samples were under good coping skills in the acceptance skills. In emotional coping 33 (55%) samples were having average coping skills. In the stress domain majority 34 (56.66%) samples were under poor coping. Among all the participants majority 19 (31.66%) samples were having average coping skills in the social support domain. In self reliant domain more than half of the samples 38 (63.33%) were under the average coping skills.

Section IV: Analysis and interpretation of the data of adapted Jalowiec coping scale scoring in post myocardial infarction patients among group 1, group 2 and group 3.

Table No 1: sum of squares, df, mean of sum square, and F value among group 1, group 2 and group 3.

n=60

Square of variance	Df	Sum of square	Mean of sum of square	F ratio value	Table value

Between the groups	**3 – 1 =2**	**280468.85**	**140234.42**	**20.785 S***	**3.15**
Within the groups	**60 -3 = 57**	**268362.2**	**4708.10**		
Total	**60 – 1 = 59**				

p<0.05*, p<0.01, p<0.001*** S=SIGNIFICANT**

Data presented in the table No. 1 depicts that the computed ANOVA ('f') value 29.785 shows there was significant difference in coping methods among group 1, group 2 and group 3 at the level of $p \leq 0.05$.

X. DISCUSSION

Coping skills among post myocardial infarction patients

The findings of the present study revealed that majority of the sample were having average coping skills among all the groups, Group –I therapeutic drug regimen 13 (65%), Group- II PTCA 16 (80%), Group –III CABG 17 (85%) patients and rest of the samples were having good coping skills among all the groups.

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Coping skills score according to domain

The data revealed that among all the participants were having excellent coping skills in problem solving domain and defensive domain. Among all groups i.e. group I, group II and in group III, and in reaction towards the stress all the participants were having poor coping skills in this study.

Above findings were supported with the study done by **Mari Salminen- Taumaala (2011)[4]** on coping experiences of myocardial infarction patients at four and twelve months follow up. Patients recovering from a myocardial infarction (MI) are faced with a number of serious challenges. Data were collected by using individual interviews. The informants were 28 MI patients. The study concluded that coping with a myocardial infarction is a long-term dynamic process of dealing with varied emotions and adjustment needs. Coping is threatened, if the patient denies the seriousness of the situation, suffers from depression and emotional

exhaustion, or if there are serious problems in the interaction with family members. This study stresses the importance of recognizing the patient's depressive state of mind and the psychological aspects which affect family dynamics.

XI. CONCLUSION

The findings of the study revealed that there is a significant difference in coping methods among the post myocardial infarction patients those who are on therapeutic drug regimen and those who have undergone recanalization techniques. Excellent coping were found among the therapeutic drug regimen patients and than in CABG patients they had good coping skills after the attack of myocardial infarction and in PTCA patients they had average coping skills after the cardiac event. According to domain all the participants were having excellent coping in problem solving skills and defense mechanism and all the participants were under the poor coping skills in reaction towards the stress. All participants were having proper social support from their family members and friends and they were having good spiritual coping as well as acceptance their disease condition. Among all the participants their emotional behaviors were in the average coping.

XII. Acknowledgment

I express my sincere thanks to Dr. Usha Ukande, Principal, Choithram College of nursing for all her support and valuable inputs in this research work. I express my deep sense of gratitude towards my guide Prof. Manju Joshi, HOD Medical Surgical Nursing Dept. for her inspiring guidance rendered for the fruitful completion of the study & convey my gratefulness to my co-guide Mrs. Shweta Pattnaik, Assistant Lecturer Medical Surgical Nursing Dept. I am thankful to all participants who have willingly participated in the study.

Conflict of Interest: Nil

Source of funding: Self funding

What does the study convey:-

In the field of Nursing, the results of this study suggest that nurses can assess the coping strategies used by patients and educate them to promote the use of appropriate coping strategies to enhance Quality of Life among post MI patients.

Who will use these findings:-

Findings can be used by post MI patients those who were on therapeutic drug regimen, PTCA, and CABG and Nurses who are working in the Critical Care Unit or all the nurses dealing with MI patients.

How can the findings be put into practice:-

Timely counseling of the MI patients by nurses on problem solving, decision making, time management, taking time off, communication skills, assertiveness skills, responding to criticism, negotiation skills and humor will go a long way in managing stress.

References

[1] CADI Research Foundation USA. (2012). Asian Indian Heart Disease. CADI India- India overview. Published on October 26, 2015, from:http://www.cadiresearch.org/topic/asian-indian-heart-disease/cadi-india/india-overview.

[2] Cintia Koerich, Maria Aparecida Baggoio, (2011), Myocardial revascularization: strategies for coping with the disease and the surgical process. Acta Paul Enferm journal, Vol. 26 Issue 1 p 8-13 Published on 21 Feb 2013 http://www.scielo.br/pdf/ape/v26n1/en_03.pdf.

[3] Aleksandra Kroemeke (2010) Dynamics of depression symptoms after myocardial infarction - The importance of changes in hope, Journal of psychiatry Poland, Vol. 47 issue 5 p 799 – 810. Published on September, 2013. . http://strona.ppol.nazwa.pl/uploads/images/PP_5_2013/ENGverKroemekePsychiatrPol5_2013.pdf

[4] Mari Salminen- Taumaala (2011) Coping Experiences: A Pathway towards Different Coping Orientations Four and Twelve Months after Myocardial Infarction—A Grounded Theory Approach, Hindawi Publication corporation, Nursing Research and Practice, vol. 12 Issue 10, p 9-18, published on October 2012. https://www.hindawi.com/journals/nrp/2012/674783/