ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Self-Efficacy, Illness Cognition and Its Relation to Anxiety and Depression: A Cross Sectional Study on Coronary Heart Disease.

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ABSTRACT

Coronary heart disease (CHD) is epidemic in India and one of the major causes of disease-burden and deaths. As a chronic disease it may confront a patient with numerous threats and challenges. Several studies have shown that identifying resilient factors are important in the psychosocial management of the patients. The aim of the study was to identify cognitions about illness, self efficacy and its relation to anxiety and depression. Sample consisted of 43 CHD patients 22 in Group 1(diagnosed within 3 months) 21 in Group2 (diagnosed more than 3 mths –up to 1yr).Results shows that both groups showed significant statistical difference in many dimensions. Helplessness was more in Group 2. Also anxiety and depression was slightly more in Group 2.Compared to Group 2, for Group1 there was significant negative correlation between acceptance, perceived benefits and self efficacy with anxiety and depression. This study has implication for enhancing resilient factors in order to enhance the psychological management in case of life style disorders.
Keywords: Coronary Heart Disease, Self Efficacy, Illness Cognition, Depression, Anxiety.

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ISSN: 0975-8585

INTRODUCTION

Coronary heart disease (CHD) is the leading cause of death for both men and women in the United States (US) and in most industrialized nations. Approximately 1.2 million people experience a new or recurrent coronary event each year and CHD is responsible for one in five deaths. Coronary heart diseases (CHD) is epidemic in India and one of the major causes of disease-burden and deaths. Mortality data from the Registrar General of India shows that cardiovascular diseases are a major cause of death in India now. Studies reveal that cardiovascular diseases cause about 40% of the deaths in urban areas and 30% in rural areas. The adult prevalence has increased in urban areas from about 2% in 1960 to 6.5% in 1970, 7.0% in 1980, 9.7% in 1990 and 10.5% in 2000; while in rural areas, it increased from 2% in 1970, to 2.5% in 1980, 4% in 1990, and 4.5% in 2000. The disease occurs at a much younger age in Indians as compared to those in North America and Western Europe [1].

Over the past two centuries the industrial and technological revolutions and their associated economic and social transformations have resulted in dramatic shifts in the diseases responsible for illness and death by 2020 coronary heart disease (CHD) will surpass infectious disease as the world's number one cause of death and disability.

Acute chest pain, unstable angina, Stable angina pectoris, Myocardial infarction (MI) etc are the common presentation of coronary heart disease in the hospital settings.

Risk Factors

The role of risk factors in the aetiology and maintenance of CHD has been well established. The multifactorial aetiology and its interaction with polygenic, life style, environmental and psychological factors have a decisive role in determining the course and outcome of the illness.

Out of the multiple risk factors the most important ones are family history of CHD,age,male gender,low socioeconomic status and health habits etc.

Psychosocial factors such as depression, chronic hostility social isolation and perceived lack of social support, individual predispositions, such as responsivity to stress, and characteristics of the social and physical environment, socioeconomic status etc influences the onset and progress of the illness [2].

The diagnosis of CHD is life disrupting .As a chronic disease it may confront a patient with numerous threats and challenges, including pain, impaired physical functioning, life-threat, and changes in future perspectives. Many patients face permanent changes in life-style, social stigma, dependency, self-management tasks, and threats to dignity and diminished self-esteem, diagnostic uncertainties, disruption of normal life transitions and decreasing resources. These disease-associated stressors challenge patients' abilities to maintain emotional balance and a satisfactory self image and may disrupt future perspectives [3]. It may change the unity between the body and self and force identity changes [4]. The damage to the heart, with its symbolic meaning as the essence of the human being, may shatter the patient's sense of wholeness and safety, leaving him or her with a lasting sense of vulnerability.

A growing body of research demonstrates the stressful traumatic experiences are not necessarily followed by unmitigated distress. Moreover they may report positive life changes as a result of struggling to come to terms with those events [5].

Affleck et al [6] conducted an unusually long prospective study on heart attack survivors. After 7 weeks of recovery from their initial heart attack, 58 % of these men cited benefits, most prominently anticipated changes in life style to increase enjoyment, valued lessons about the importance of health behavior and positive changes in behavior and positive changes in their philosophy of life and basic values. Eight years later, those who had construed benefits were in significantly better cardiac health and were less likely to have suffered a subsequent attack.

The resilient qualities described include, Subjective well being, optimism , faith , Self-determination Wisdom, Self-control, Self efficacy [7].

Several studies have shown that not all patients with heart failure become angry or depressed. Remaining engaged in activities and relationships, maintaining hope, and retaining a sense of humor and the ability to experience joy have all been cited as helpful in overcoming functional limitations. Another study of 94 elderly patients hospitalized for heart failure showed that those who believed that life is comprehensible, manageable, and meaningful tended to have better overall health and better-quality lives [8].

Self – efficacy refers to the confidence in one's ability to behave in such a way as to produce a desirable outcome. Self- efficacy makes a difference in how people feel, think, and act. In terms of feeling a low sense of self- efficacy for a particular situation is positively related to anxiety and depression. High self-efficacy for a particular situation allows one to deal better with uncertainty, distress and conflict. Self- efficacy levels for specific cardiovascular health -related behaviour may be an important determinant of future cardiovascular health. The prevalence of inadequate self-efficacy for managing chronic disease is high. General self-efficacy, depression and perceived social support are independent factors associated with self-efficacy for managing chronic disease [9].

Resilience has emerged as intriguing areas of inquiry that explore personal and interpersonal gifts and strengths that can be accessed to grow through adversity [10]. Few studies examined the positive effects of CHD on patient's life. Little effort has been focused on examining the resilient factors following CHD. The current study is an attempt to explore the resilient factors and its role in the psychological management of lifestyle disorders.

METHOD

Aim

The aim of the study was to examine self efficacy, Illness Cognition and its relation to depression and anxiety after a cardiac event.

Sample

The final sample comprised of 43 CHD patients diagnosed by Cardiologist, with 22 in Group 1 and 21 in Group 2 respectively. The sample contained both male and female patients. The age range was 30- 65 years. The sample was drawn from the inpatient and outpatient units of Department of Cardiology Clinic of Kasturba Hospital, a unit of Manipal Academy of Higher Education.

Inclusion Criteria

- Patients having current diagnosis of CHD from 1month to 3 months in group 1 and 6months to one year in Group 2
- Age range: 30-65 years

Exclusion Criteria

- Patients who have suffered more than 1 cardiac event.
- Patients with a diagnosis of more than 1 cardiac problem at a given point of time.
- Patients who have undergone surgery after a cardiac event.
- Patients having other major physical illnesses such as HIV, cancer etc.
- Patients who are physically dependent on others for the day to day chores.
- Patients with major psychosis such as (schizophrenia, bipolar, delusional disorder), mental retardation and organic brain disorder.

Procedure

Patients of either sex who is diagnosed to have any of the subtypes of CHD by a cardiologist were screened by MINI-Plus to rule out any major psychotic disorders. They were further screened with inclusion and exclusion criteria and included in the study on the basis of convenient sampling. The purpose of the study

was explained to them and informed consent was taken. All patients were individually seen and the study was carried out in a single phase. The administration carried out in the presence of the experimenter. All measures were self reported.

List of Tools

MINI- plus was used for the screening purpose [11,12]

- The Cardiac Self-Efficacy Questionnaire.
- The Illness Cognition Questionnaire.
- Hospital Anxiety and Depression Scale.

Description Of Tools

The Cardiac Self-Efficacy Questionnaire

The scale was developed by Sullivan et al (1998), consists of 16 items. The scale consists of two self – efficacy scales: controlling symptoms (SE-CS, 8items) and maintaining functioning (SE-MF, 5 Items). Patients were asked to rate their confidence with knowing or action on each of the 16 statements on a 5-point Likert scale (0=not confident, 1=somewhat confident, 2=moderately confident, 3=very confident, and 4=completely confident). Patient could also rate an item as not applicable. The reliability of two sub scales were found to be: 0.90 for SE-CS and 0.87 for SE- MF. The scales were moderately correlated with each other.

The Illness Cognition Questionnaire

The questionnaire was developed by Evers, A.W.M et al in 2001, consists of 18 items. In chronic diseases the role of illness cognition is as a mediator between stress and illness. It is a self reported instrument, was developed to asses the cognitions across different chronic diseases. The reliability and validity assessments was done in patients with rheumatoid arthritis and multiple sclerosis and indicated the maladaptive function of helplessness and adaptive function of acceptance and perceived benefits for the long term physical and psychological health of patients with a chronic illness. Respondents were asked to indicate on a 4-point Likert scale the extent to which they agree with a list of statements of people with a long term illness(1= not at all, 2= somewhat, 3= to a large extent, 4= completely) .The scale consist of three factors named Helplessness(item no:1,5,7,912,15), Acceptance(item no:2,3,10,13,14,17) and Perceived benefits(item no:4,6,8 11,16 18); all consists of 6 items . The ICQ was administered to 821 individuals with chronic pain and 295 patients with chronic fatigue. Confirmatory factor analyses were performed to assess the hypothesized three-factor structure. As the three-factor structure provided a good fit in both groups, thus the usefulness of the subscale scores in research and clinical practice.

Hospital Anxiety and Depression Scale

The scale developed by Zigmond and Snaith in 1983.It was originally designed using patients in general medical outpatient clinic, it has been validated in community settings and primary care medical practice. It is a 14-item measure that includes a 7-item depression scale and a 7-item anxiety scale. Scores ranging from 0-21 for each subscale, where 0-3=normal range, 4-7=sub clinical, 8-10=mild, 11-14=moderate, 15-21=severe. The reliability and validity of HADS was reviewed by Clark and Fallow field and found to be satisfactory

RESULT AND DISCUSSION

Table 1: Difference in self – efficacy between Group 1 and Group 2 CHD patients in the cardiac self-efficacy questionnaire.

Group	Group 1 (n=22)		Group 2 (n=21)		t	P
Measure	Mean	± SD	Mean	± SD		
Self-efficacy	43.81	11.24	40.47	10.12	1.023	0.312

ISSN: 0975-8585

Table 1 shows that there is no significant difference in self-efficacy between group 1 and group 2 on cardiac self-efficacy questionnaire. However it is evident from the above table that individual who belong to Group1 showed more self-efficacy than members of Group 2.

Table 2: Difference between Group 1 and Group 2 in the different domains of the illness cognition questionnaire.

Group	Group 1(n=22)		Group 2 (n=21)		t	P
Measure	Mean	± SD	Mean	± SD		
Helplessness	11.09	3.12	13.43	2.82	-2.575	0.014
Acceptance	18.727	4.31	18.23	4.31	0.376	0.709
Perceived benefits	17.318	4.08	16.33	5.01	0.708	0.483

Table 2 shows that there is significant difference between two groups of cardiac patients in the different domains of illness cognition questionnaire. Group 2 patients scored higher on helplessness (Mean 13.43) as compared to group 1 (Mean 11.09) patients. The group difference was found to be significant at 0.05 level. But there was no significant difference between these two groups with respect to acceptance and perceived benefits. As the table indicates Group 1 is slightly higher on perceived benefits as compared to Group 2

Table 3: Correlation analysis of illness cognition (helplessness, acceptance and Perceived benefit) and self-efficacy with anxiety of Hospital Anxiety and Depression Scale in Group 1.

Measures	Anxiety	
	r	P
Helplessness	0.037	0.018
Acceptance	**-0.431**	**0.008**
Perceived benefits	**-0.391**	**0.015**
Self-efficacy	**-0.618**	**0.00**

On Table 3 Significant negative correlation is found between acceptance , perceived benefit and self-efficacy with anxiety on Hospital Anxiety and Depression Scale. There is no significant relationship between helplessness and anxiety in Group 1.

Table 4: Correlation analysis of illness cognition (helplessness, acceptance and Perceived benefit) and self-efficacy with anxiety of Hospital Anxiety and Depression Scale in Group 2

Measures	Anxiety	
	r	P
Helplessness	-0.124	0.446
Acceptance	**0.424**	**0.009**
Perceived benefits	**0.512**	**0.002**
Self-efficacy	**1.00**	**13**

On Table 4 there is positive correlation between acceptance, perceived benefit and self-efficacy with anxiety. The relationship between helplessness and anxiety is negligible in Group 2

Table 5: Correlation analysis of illness cognition (helplessness, acceptance and Perceived benefit) and self-efficacy with depression of Hospital Anxiety and Depression Scale in Group 2

Measures	Depression	
	r	P
Helplessness	0.155	0.355
Acceptance	-0.273	0.103
Perceived benefits	-0.257	0.103
Self-efficacy	**-0.329**	**0.046**

Table 5 shows that self-efficacy and depression are negatively correlated which is significant at the level of 0.05. There is no significant relationship between helplessness, acceptance and perceived benefits in Group 2.

ISSN: 0975-8585

Table 6: Difference between group 1 and group 2 with respect to anxiety and depression scales of Hospital Anxiety and Depression Scale

Group	Group 1		Group 2		U	P
Measure	Mean	± SD	Mean	± SD		
HADS anxiety	4.22	3.07	6.28	4.27	166	0.115
HADS depression	3.04	3.64	4.71	3.34	158.5	0.075

Table 6 shows that anxiety and depression was slightly more inGroup 2 when compared with Group 1, though the results are not statistically significant on Hospital Anxiety and Depression Scale.

The overall findings suggests that Early interventions designed to address individuals' sense of control, beliefs about the length of illness and the management of perceived symptoms before hospital discharge could increase rehabilitation programmes effectiveness in sustaining patients' long-term lifestyle changes [12].

Study Findings

- Group 1 and Group 2 were not significantly different in self-efficacy
- Helplessness was slightly higher when severity of illness increases.
- There was no significant difference in acceptance and perceived benefits when we compare on the basis of the severity of illness.
- Anxiety and depression was found to be more in Group 2 patients
- There was significant negative relationship between acceptance, perceived benefits and self-efficacy with anxiety in Group 1
- There was significant negative relationship between acceptance, perceived benefits and self-efficacy with depression in Group 1
- There was significant positive relationship between acceptance, perceived benefits and self-efficacy with anxiety in Group 2
- Self- efficacy has got significant negative relationship with depression in Group 2.

CONCLUSION

- In the present study the chronicity of the illness seems to produce more helplessness in the patient.
- In the initial stages of the illness the perceived ability to tolerate the unpredictable and uncontrollable nature of the illness appears to have some inhibiting effect on negative emotions like anxiety and depression. However, such protective effects are not clearly evident when the illness becomes chronic. On the other hand it seems to facilitate negative emotions.
- The effect of patient's capacity to derive change in life's priorities, alteration of personal goals, facilitates positive personality changes and strengthening of personal relationships etc seems to have a protective effect in the initial part of the illness. However, this effect was reversed when the illness sustained for a period of more than 6 months.
- Patient's positive cognitions regarding the illness and their competence to handle the problem do not change as the time progresses. However it appears that as the illness becomes chronic, patient's confidence in his ability to produce a desirable outcome is associated with negative emotions such as anxiety and depression.

Future Suggestions

- The study can be improvised by including only one subtype of CHD to reduce the confounding effects
- Patients can be assigned to the study on the basis of assessment of severity of illness using cardiac measures
- The duration of study period can be extended to more than one year.
- Instead of cross sectional study patients can be followed through the course of their illness for a given period of time using a prospective approach.

ISSN: 0975-8585

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