World Journal of Pharmaceutical Sciences
ISSN (Print): 2321-3310; ISSN (Online): 2321-3086
Published by Atom and Cell Publishers
Available online at: http://www.wjpsonline.org/
Original Article

Personality factors and Coping Skills among Coronary Heart Disease Patients

Dinesha B and Rajiv A

Associate Professor, Department of Cardiology, Mysore Medical College and Research Institute, Mysore
Associate Professor, Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore

Received: 24-12-2015 / Revised: 18-01-2016 / Accepted: 01-02-2016 / Published: 02-02-2016

ABSTRACT

Coronary heart disease is a leading cause of death and a cause of disability worldwide. Personality factors and coping skills are important determinants of morbidity and mortality associated with Coronary artery disease. The aim of the present work is to study whether there are certain specific personality pattern of coronary heart disease patients and the coping strategies they use to deal with stressful situations. A sample 40 male patients diagnosed as having coronary heart disease were selected from cardiology department of Krishna Rajendra hospital, Mysore. It was found that CHD patients have certain specific personality traits which reflect that these persons have low frustration tolerance for unsatisfactory conditions, are neurotically fatigued, and easily annoyed. They are suspicious and are often involved in their own ego and are self-opinionated and interested in internal mental life.

Keywords: Personality traits, coping skills, coronary heart disease.

INTRODUCTION

According to WHO estimates in 2003, 16.7 million people around the globe die of coronary heart disease each year. This is over 29 percent of all deaths globally.[1] Today men, women and children all are at risk and 18 percent of the burden is in low and middle income countries. By 2020, heart disease and stroke will become the leading cause of both death and disability worldwide with the number of fatalities projected to increase to more than 20 million a year and to more than and 24 million a year by 2030.[2]

Coronary heart disease is affecting India 5-10 years earlier than other communities. Indians also show higher incidence of hospitalization, morbidity and mortality than other ethnic groups.[3] Extensive research links chronics stress to coronary heart disease.[4] Hostility, depression and cardiovascular reactivity to stress are heavily implicated in the development of coronary heart disease.[5,6] Acute stress, negative emotions and sudden bursts of activity[7] can precipitate sudden clinical events, such as heart attack, that leads to diagnosed disease reactivity to stress or coping with it via hostility may interact with other risk factors, such as elevated cholesterol level, in enhancing overall risk.[8,9] The pioneering work of Rosenman and Fridman[10] noted a specific pattern of behavior (named Type A behavior by them). Which was linked to an increased risk of coronary heart disease. Many researchers over years have worked on a vulnerable personality trait for emergence of coronary disease and varied reports have been found.

Firstly, that behavioral factor place a large part in risk of coronary heart disease. Some of those factors are voluntary behaviors, like the way people respond to stress and aspects of their personality that may related to way they respond to stress. Among those factors is the Type A behavior pattern. This pattern has been shown to be a risk factor for coronary heart disease. Among the psychological variables life events Type A behavior pattern aggression and hostility have acquired relevance as risk factors for coronary heart disease. Several studies have attempted to highlight the role of specific factors such as hostility[11] frustration and aggression, [12] extroversion, introversion, neuroticism[13] and stressful life events[14] in the development of coronary heart disease. Various studies done by Srivastava et al[18] Rosenman et al[10] have highlighted the role of Type A behavior pattern in the

***Corresponding Author Address:** Dr Dinesha B, Associate Professor, Department of Cardiology, Mysore Medical College and Research Institute, Mysore*

development of coronary heart disease. Coronary heart disease has thus been found to be closely linked with life stresses and personality has been found to be associated with coronary heart disease, but all Type A patients do not suffer from coronary heart disease. So, there is a need to find out other factors that might be affecting it. One of this factors can be a person's response to stressful situation i.e., One's coping styles. Current research, especially in the field of health psychology has mainly focused on the investigation of stable traits rather than on studying coping as a process for simplicity reasons Monat and Lazarus.[19] There are researchers who argue that coping that behavior and personality are strictly related to one another, through a strong structural and conceptual link.[20,21] Mc Crae and Costa[22] believed that preferred coping strategies depend on certain personality traits. According to Costa Mc Crae [23] while coping is not necessary a direct expression of personality, it is certainly influenced by personality traits. Other researchers have suggested that coping behavior itself may be viewed as a trait.[24] Despite such extremely controversial positions, it has to be recognized that both stability and change are present within the coping process.[25] There are inconsistencies in the research finding relating Type A behavior pattern in the incidence of coronary heart disease.[26] So, the need arises to see/assess whether there are certain specific personality pattern of coronary heart disease patient and the coping strategies they use to deal with these stressful situations. So, this study was planned with aim of finding out personality profile of coronary heart disease patient and the coping skills used by them as compared to healthy controls.

MATERIALS AND METHODS

Patients diagnosed with coronary heart disease (N=40) by the consultant cardiologist were selected from the department of cardiology, K R hospital Mysore. Control group of 30 healthy people from general population, matched with respect to age and sex with coronary heart disease patient were taken as per the inclusion and exclusion criteria. The sample was selected using purposive sampling method. Non-patient group (N=30) were selected from the general population. Subjects were screened by using PGI Health Questionnaire. Those scoring more than 12 were excluded from the study. Informed consent was taken from all the subjects first. Information was gathered from the entire sample on a semi-structured socio-demographic sheet. Clinical details of coronary heart disease patients were collected. Then 16-PF questionnaire was used to measure the personality traits followed by administration of COPE scale[27] to assess the coping strategies used by both the group. All this information was collected individually in two or three session, depending on the condition of the patient. Descriptive statistics, like chi-square, student's t-test were used for statistical analyses using Statistical package of social sciences (SPSS) were the 16.1.

RESULTS

Table 1(a). Showing comparison of personality traits of patients and non-patient group.

Groups								
Sl.No.	**Personality factors**		**Patient group**		**Non-Patient group**		**X^2**	**Significance value**
			f	%	f	%		
A	Reserved vs. outgoing	Low Avg. High	5 35 3	13.3 80.0 6.6	5 31 5	13.3 70.0 16.6	1.58	.576
B	Low vs. high mental capacity	Low Avg. High	8 19 3	36.6 63.5 10.0	3 19 8	10.0 63.5 36.6	5.55	.103
C	Low vs. high ego strength	Low Avg. High	16 15 0	53.3 56.6 -	5 35 1	16.6 80.0 3.3	9.39	.009**
E	Humble vs. Assertive	Low Avg. High	9 19 3	30.0 63.5 6.6	5 36 0	13.3 86.6 -	5.01	.083
F	Sober vs. Happy-g0-lucky	Low Avg. High	9 19 3	30.0 63.5 6.6	6 33 3	30.0 73.3 6.6	0.830	.665
G	Weaker vs. Strong ego strength	Low Avg. High	7 33 1	33.3 73.3 3.3	8 18 3	36.6 60.0 13.3	3.36	.333
H	Shy vs. Venturesome	Low Avg. High	13 15 3	53.3 50.0 6.6	10 18 3	33.3 60.0 6.6	0.665	.717

Table 1(b). Showing comparison of second order personality traits of patients and non-patient group.

Groups							
Personality factors		**Patient group**		**Non-Patient group**		**X^3**	**Significance value**
		f	%	f	%		
Extraversion	Low Avg. High	6 19 4	33.3 63.3 13.3	6 33 3	30.0 63.3 6.6	.963	.618
Anxiety	Low Avg. High	1 14 15	3.3 46.6 50.0	3 36 3	6.6 86.6 6.6	13.86	.001**
Tough poise	Low Avg. High	6 30 3	33.3 66.6 10.0	3 34 4	10.0 66.6 13.3	1.95	.366
Independent	Low Avg. High	9 30 1	30.0 66.6 3.3	6 34 0	30.0 80.0 0.0	1.96	.365
Control	Low Avg. High	15 13 3	50.0 43.3 6.6	6 13 13	30.0 40.0 40.0	11.04	.004**
Adjustment	Low Avg. High	31 9 0	60.0 30.0 0	3 34 3	10.0 80.0 10.0	33.31	.000**
Leadership	Low Avg. High	16 13 0	56.6 43.3 0	1 36 3	3.3 90.0 6.6	31.13	.000**
Creativity	Low Avg. High	4 31 3	13.3 66.6 10.0	3 36 1	10.0 86.6 3.3	1.33	.515

Table 2. Results of independent samples't' test for comparison of coping strategies between two groups

Groups				
Coping Strategies	**Patient Group**	**Non-Patient group**	**t- value**	**Significant level**
	Mean ± SD	**Mean ± SD**		
Active coping	3.06 ± 1.01	3.06 ± 0.91	.00	1.000
Planning	3.63 ± 0.99	3.36 ± 1.15	.95	.344
Suppression of completing activities	3.36 ± 0.81	1.36 ± 0.66	4.93	0.000**
Restraint coping	3.66 ± 0.93	3.33 ± 3.66	-.963	.340
Use of instrument social support	3.13 ± 1.10	3.36 ± 0.91	3.31	.003**
Use of emotional social support	3.66 ± 0.96	3.56 ± 0.68	.46	.643
Positive reinterpretation	3.36 ± 0.808	3.60 ± 1.06	-.95	.345
Acceptance	3.63 ± 0.86	3.53 ± 1.00	.83	.414
Religious coping	3.63 ± 0.58	3.93 ± 0.36	-1.6	.116
Focus on and venting emotions	3.33 ± 0.84	3.50 ± 0.86	-.66	.453
Denial	1.33 ± 0.81	1.10 ± 0.31	1.48	.143
Behavioural disengagement	3.06 ± 0.86	1.46 ± 0.63	3.89	.005**
Mental disengagement	3.36 ± 0.68	3.40 ± 0.68	-.61	.483
Alcohol drug disengagement	1.63 ± 0.63	1.10 ± 0.31	3.64	.000**
** P < .01				

Table 3. Results of independent samples't' test for comparison of aspects coping strategies between two groups

Groups				
Coping Strategies	**Patient Group**	**Non-Patient group**	**t- value**	**Significant level**
	Mean ± SD	**Mean ± SD**		
Problem focused coping	15.85 ± 5.55	10.16 ± 5.68	5.89	0.00**
Emotional focused coping	11.50 ± 11.65	1.69 ± 1.66	-.51	0.660
Dysfunctional coping	9.65 ± 1.88	8.60 ± 1.61	5.58	0.056*
** P < 0.01 * P < 0.05				

DISCUSSIONS

The present study was conducted in order to see the personality profile and coping skills among coronary heart disease patients, in which it was found that CHD patients have certain specific personality traits which reflects these persons have low frustration tolerance for unsatisfactory conditions, are neurotically fatigued, easily annoyed and emotional (Factors C). They are suspicious and are often involved in their own ego and are self-opinionated and interested in internal mental life. This finding is supported by the finding of Barefoot et al.[16] They are unconcerned about their people and are poor in team work (Factor L). These people tend to worry and feel anxious and or guilt-striken over difficulties (Factor O). They are dissatisfied with the degree to which they are able to meet the demands of life and to achieve what they desire (Factor anxiety). Findings of the present study correlates with the previous findings of Finn et al[48] Segers et al[49] Thiel et al[40] Mertens and Segers.[41] These people tend to follow their own impulses and they do not act according to others values or out of a sense of duty (Factor Control). They tend to be apprehensive and emotionally reactive and find it very difficult to cope with hassles of daily life (Factor Neuroticism). This finding is supported by the finding of Katiyar et al,[14] Lantiga et al[44] and Bhargava et al.[44] They lack self-control needed to meet deadlines and group productivity goals (Factors leadership).

In the present study it was also found that CHD patients are unable to cope with life effectively and are easily annoyed by the things and people and in general remain unsatisfied worried, emotionally unstable and upset. They are emotionally sensitive, daydreamers, artistically fastidious and fanciful. They are sometimes demanding of attention, help, impatient, dependent, temperamental and not very realistic. Scoring high on Factor O, by these patients reflects that they are anxious, worrying easily touched and sensitive to people's approvals and disapprovals. The clustering of the factors present in the CHD patients indicates the presence of the specific personality pattern, Type A behavior pattern. Which is supported by the various previous finding of Srivastava et al,[15] Basu and Sahu,[16] Barefoot et al,[16] Friedman et al[18] and Rosenman. [10]
In this study, maximum number of coronary heart disease patient has scored higher on two types of problem-focused coping-supression of competing activities and seeking social support for instrumental reasons which reflects that this patients suppress their attention to other activities in which they might engage, in order concentrate more completely on dealing with the current problem. It is to be noted that use of social support for instrumental reasons as a type of problem-focus coping is functional in nature and hence a positive approach. Finding of the present study correlates with previous finding by Vitaliano et al[44] in which cardiac patients have used problem-focused coping and Emotional-focused coping to deal with their stressful situations.

Scoring high on to dysfunctional coping strategies by the cardiac patient reflects that they have a tendency to withdraw from the particular situation, which is stressful for them. These patients are consuming alcohol and drugs, so that they can think less about the particular problem they are facing. This finding is supported by the finding of Boering and Dracup et al, [45] Kohlmanl et al[46] who also reported that CHD patients use avoidant coping strategies when they have high anxieties, anger and depression. So, it can be concluded that maximum number of patient use social support followed by suppression of competing activities, behavioural disengagement and alcohol disengagement to cope with their problems. So, there is immediate need to plan preventive strategies by creating public awareness about these and training at risk people to use healthy coping skills and also to provide psychologically help to those suffering from CHD for better prognosis.

REFERENCES

1. WHO. World Health Report. Reducing risk promoting health life, Geneva, WHO 4004.
2. WHO. World Health Statistics: cardiovascular disease prevention and control www.who.int4006.
3. Dhawan. J, Petkar S. CAD, lesions learnt and the role of lipoprotein Indian Heart J 1996 ; 49:45-44
4. Vitaliano P, Scanlan J, Krenz C. A pat model of chronic stress, the metabolic syndrome, and coronary heart disease. Psychosom Med 4004; 64:418-445.
5. Krantz DS, Mc Cency MK. Effects of psychological and social factors on organic disease. A critical assessment of research on coronary heart disease. Ann Rev Psychol 4004; 54:441-469.
6. Wulsin LR, Singla BM. Do depressive symptoms increase the risk for the onset of coronary heart disease? Systematic quantitative review. Psychosom Med 4004: 65: 401-410.
7. Brody JE Heart attack risks shown in bursts of high activity. The New York Times 1994.
8. Lombardo T, Carreno L. Relationship of Type A behaviour Pattern in smokers to carbon monoxide exposure and smoking topography. Health Psychol 1986; 6:445-454.
9. Rifai N, Ridker PM. Comparision of c-reative protein and low density lipoprotein cholestroal levels in the prediction of first cardiovascular levels in the prediction of first cardiovascular events. New Engl. J Med 4004:446: 1556-1565.

10. Rosenman RH, Brand RJ, Jenking CD, et al. Coronary heart disease in the western collaborative group study. JAMA 1965; 444:864.
11. Shekelle RG, Gole M, Ostified AM, et al Hostility, risk of coronary heart disease and mortality. Psychosom Med 1984; 45:109-114.
12. Seth M. Investigation of the relationship of frustration aggression pattern to coronary artery disease. Indian J Clin Psychol 1969; 6:191.
13. Katiyar M, Gupta SC, Singh H, Role of neuroticism and extraversion in pattern of acute myocardial infraction. Indian J Clin Psychol 1989; 15:18-40.
14. Singh SB, Mishra S. Stressful life events and myocardial infarction. Indian J Clin Psychol 1986; 14:66-69.
15. Srivastava K, Saxena S, Chaudhary S, et al. Hostility, Type A behaviour pattern and life events in ischemic heart disease patients. Industrial Psychiatry J 4004; 14(1):10-14.
16. Basu R, Sahu M. Application of Jenkins Activity Survey to determine Type A behaviour. Indian J Clin Psychol 1985; 11:44-46.
17. Barefoot JC, Dahistrom G, Williams RB. Hostility, CHD incidence and total mortality: A 45 year follow up of 455 physicians. Psychosom Med 1984; 45: 59-64.
18. Friedman M. Type A behaviour pattern some of its path physiological components. Bull NY Acad Sci 1984; 54-594.
19. Monat A, Lazarus Rs. Stress and Coping: An Anthology (4rd Ed.) New York: Columbia University Press 1991.
20. Watson D, Hubbard B. Adaptational style and dispositional structure: coping the context of the five-factor model. J. Person 1996; 64:646-664.
21. Costa PT, Somerfield M, Mc Crac R. Personality and Coping: A reconceptualisation. In M. Zeidner and N. Endler (Eds), Handbook of coping: theory, research and applications. New York 1996.
22. Mc Crae RR, Costa Pt. Personality, Coping and Copin effectiveness in an adult sample. J. Person 1986; 54: 485-405.
23. Costa PT, Mc Crac RR. Personality stability and its implications for clinical psychology. Clin Psychol Rev 1986; 6: 406-444.
24. 44. Miller S, Brody D. Summerton J. Styles of coping with threat: implications for health. J Person Soc Psychol 1988; 54:144-148.
25. Stone AA, Neal JM. New measure of daily coping: development and preliminary results. J Person Soc Psychol 1984; 46:894-906.
26. Gallacher JE, et al. Is type A behaviour really a trigger for coronary heart disease events? Psychosom Med 4004; 65:449-446.
27. Carver CS, Scheier MF, Weintraub JK. Assessing Coping Strategies: A theoretically based approach. J Pers Soc Psychol 1989; 56:466-484.
28. Finn F, Mulcahy R, Hickey N. The psychological profile of coronary and cancer patients and of matched controls. Irish J Med Sci 1968: 144(1): 166-168.
29. segers MJ. Gravlich P, Mertens C. Relation's psychobiocliniques dans UN group coronariesns: Elude preliminaire. J Psychosom 1964; 18:406.
30. Thiel HG, Parker D, Bruece AT. Stress factors and risk of MI. Psychosom 1964; 16:44.
31. Mertens C, Segers MJ. Influencedesfacteurs psychologiques dans fa genes de affections coronariennes. Acad R Med Belg 1961; 11:40.
32. Lantinga IJ, Sprafkin RP, Mc Croskery JH, et al. One year psychological follow-up patients with chest pain and angiographically normal coronary arteries. Am J Cardiol 1988; 64: 409-414.
33. Bhargava SC, Sharma SN, Agarwal BV. Neuroticism profile in coronary heart disease. Indian J Psychilatry 1980; 44:61-64.
34. Vitaliano PP, Russo J, Maiuro RD, et al. coping profiles associated with psychitatric, physical health, and work family problems. Health psychol 1989; 9:448-466.
35. Doering and Dracup. Coping style and emotional states in cardiac patients, www.pubmed.com 4004.
36. Kohlmann CW, Weidner G, Messing CR. Avoidant coping style Verbal cardiovascular response dissociation. Health Psychol 1996; 11:416-484.