Hostility among Coronary Heart Patients in Iran

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ABSTRACT :

OBJECTIVES: *This study examined the relation between hostility with coronary heart disease among cardiovascular disease patients and healthy groups in Iran.*

Method: *The study sample included 220 coronary heart disease patients and healthy groups, who completed the Manifest Hostility Scale (Kool 1980).*

Results: *Means and Standard Deviations were calculated for all the groups. A glance at evidence revealed that the CAD group scored was higher than the control group on Hostility ($t=2.10$, $p<0.05$). Analysis of variance for the variable Hostility revealed that the F-ratio for CAD patients verses Healthy control group was significant ($F=4.41$, $p<0.05$).*

Conclusions: *The most important features of this research work in the field of health psychology in Iran. Research has demonstrated a significant relationship between hostility and the risk of coronary heart disease. In summary high hostility is associated with increased prevalence of cardiovascular disease as well as a predictor of myocardial infraction and all-cause morbidity and mortality.*

Keywords: Hostility, mortality, coronary heart disease, atherosclerosis, myocardial infarction.

INTRODUCTION :

Historically, anger, hostility, and aggressive qualities have been implicated often as predisposing factors in coronary heart disease and hypertension [(1)]. Over the past few decades, the concept of the Type A coronary-prone behavior pattern (TABP), developed by Friedman and Rosenman [(2)], has generated considerable theoretical and empirical research into the relationship between behavior and coronary heart disease (CHD)[(3)]. Hostility is multidimensional and includes mistrustful attitudes, aggressive behavior, and frequent angry feelings [(4)]. Several studies have found that hostility, assessed by various measures, is associated with increased risk of cardiovascular morbidity and mortality and/or all-cause mortality [(5-10)]. Evidence indicates that hostility, or unexpressed anger, has been linked to a more than 5-fold increased risk of CAD events [(11-14).] In fact, hostility has been associated with an increase in hypertension[(15)], inflammatory biomarkers (interleukin 6[(16)] and tumor necrosis factor α [(17)], dyslipidemia, obesity[(18)] coronary atherosclerosis[(19)], coronary calcium[(20)], and peripheral atherosclerosis[(21-25)]. Many studies, in men, suggested that

the association of hostility with myocardial infarction was age-dependent such that hostility was only a risk indicator for first MI in men younger than 50 years of age (26). Some research showed that hostility was associated with long-term risk of hypertension, CHD and was also predictive of all-cause mortality in men and women [27-29].

Numerous psychosocial factors have been considered to play a role in Coronary Heart Disease (CHD). Cardiovascular disease is the number one cause of death globally and is projected to remain the leading cause of death. An estimated 17.5 million people died from cardiovascular disease in 2005, representing 30 % of all global deaths. Of these deaths, 7.6 million were due to heart attacks and 5.7 million were due to stroke. Around 80% of these deaths occurred in low and middle income countries (LMIC). If appropriate action is not taken, by 2015, an estimated 20 million people will die from cardiovascular disease every year, mainly from heart attacks and strokes [30].

Coronary heart disease (CHD) results from a narrowing of the arteries that supply blood to the heart because fat deposits have built up on the arterial walls (these fat deposits are known as atherosclerosis). Coronary artery disease has three major clinical syndromes: angina pectoris, myocardial infarction, and sudden cardiac death. A 70% or greater stenosis (narrowing) in one or more of the three main coronary arteries or their branches is usually necessary for symptoms of these syndromes to be evident [31].

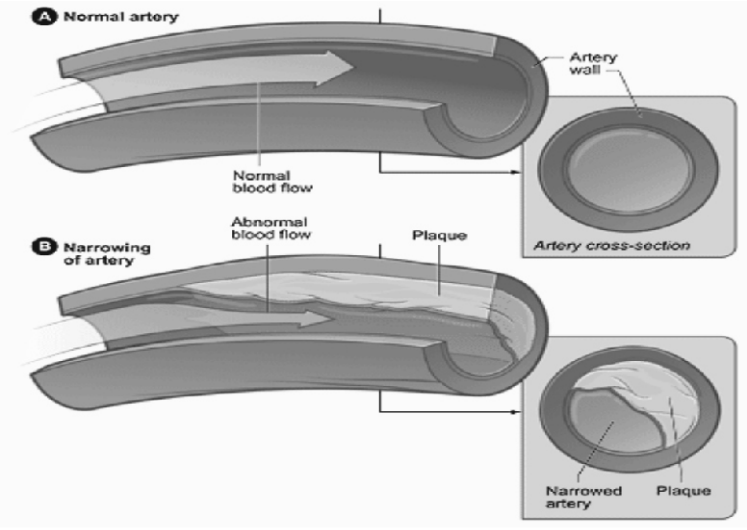

Fig. 1: The two cross-sections of a Coronary Artery Disease:

A) A normal opening without changes in the vessel walls

B) A partial occlusion due to thickening of the vessel wall at this point.

METHODS

Sample

The primary aim of the present investigation was to study of Hostility and Social support among coronary artery disease patients in Iran. For this purpose, 220 participants were taken, who were categorized into two groups- Group 1 composed of 110 Coronary Artery Disease (CAD) patients selected from the biggest general heart hospital in Tehran, Iran, and group 2 composed of 110 healthy participants randomly selected from the general population of Tehran and other travelers residing in Tehran. The age range for the healthy control group was 22-30, 40-50, and 60+ years. The two groups were compared on the measures of Manifest Hostility Scale (Kool, 1980), and Social Support Questionnaire Sarason et al. (1983). All the subjects were explained about the nature and aim of the investigation and their role in the study and informed consent was obtained from all of them before they enlisted as subjects. The criteria for selections of patients for the present investigation included:

a) Confirmed diagnosis of disease by physicians, (b) proof of Electrocardiograph (ECG) documentation of Myocardial infarction (MI), (c) Manifestation of Coronary Insufficiency and certain Electrocardiographic irregularities, (d) Indices of atherosclerosis and (e) The patients were having the disease and were undergoing treatment and medical – ups at the outpatients clinics at the time of this investigation.

RESULTS AND DISCUSSION

Means and Standard Deviations were calculated for all the groups. A glance at Table 1 revealed that the CAD group scored was higher than the control group on Hostility ($t=2.10$, $p<0.05$). Analysis of variance for the variable Hostility (Table 2) revealed that the F-ratio for CAD patients verses Healthy control group was significant ($F=4.41$, $p<0.05$), F-ratio for gender was insignificant and F-ratio for interaction effect was also insignificant.

Hence the above results clearly show that the hypothesis regarding Hostility in both the groups upheld. The results are corroborated by the following studies.

Dembroski et al. (1985) in study on components of type A, hostility, and anger in relationship to angiographic findings found that hostility and anger were significantly and positively associated with the disease severity, including angina symptoms and number of myocardial infarctions [32]. Sherwood et al. (2004) reported that higher levels of hostility and low levels of social support are associated with blunted ß-adrenergic receptor responsiveness in middle-aged women [33]. Caska et al. (2009) in study on anger expression and sleep quality and patients with coronary heart disease showed that Anger suppression is associated with poor sleep quality in patients with coronary heart disease[34].

Table 1 : Means, SDs and t-ratios Comparing Coronary Artery Disease Group and Healthy Groups

Variables	CAD Group (n=110)		Healthy Group (n=110)		t-ratios	Level of Significance
	Mean	SD	Mean	SD		
Hostility	7.82	2.22	7.85	1.85	2.10	p<.05

Table 2 : Analysis of variance of Hostility

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-ratio	Level of significance
CAD & Healthy	18.62	1	18.62	4.42	p<.05
Gender	3.56	1	3.56	.84	ns
CAD & Healthy x Gender	2.62	1	2.62	.62	ns
Error	910.94	216	4.22		
Total	15926.00	220			

CONCLUSIONS

The most important features of this research work in the field of health psychology in Iran. Research has demonstrated a significant relationship between hostility and the risk of coronary heart disease. In summary high hostility is associated with increased prevalence of cardiovascular disease as well as a predictor of myocardial infraction and all-cause morbidity and mortality. The governments in Asia, Africa and South America should be accepted their responsibility for expanding social support networks to helping their population in crisis and disease especially in treatment of coronary heart disease.

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