

Occurrence of Behavioural and Psychological Factors Among Patients with Cardiovascular Diseases [Version 1, Awaiting Peer Review]

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Abstract

Cardiovascular diseases (CVD) are greatly influenced by both behavioural and Psychological factors. The present study was conducted to assess the prevalence of behavioural and psychological traits among patients with CVD. A total of 251 confirmed CVD patients were enrolled for the present investigation. Sedentary lifestyle (43.83%), cigarette smoking (36.25%) and alcohol consumption (32.27%) were prevalent behavioural factors whereas short temperament (65.74%), stress/tension (62.95%), weakness (62.15%), headache (36.65%), sleep disturbance (36.25%) and appetite alteration (33.07%) were the major psychological characteristics in CVD patients. By evaluating and considering behavioural/ Psychological characteristics along with CVD treatment strategies will improve the quality of life of the patients.

Keywords

CVD; Behavioural; Psychological Factors

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Introduction

The famous health mantra “A healthy mind stays in a healthy body” is getting outdated in the hustle-bustle of today’s life. The revolution of modernisation or so called urbanisation is taking India to the way of great development. The comfort zone created by this development is making mankind sedentary, stressful and ultimately unhealthy. A person’s vigour is constantly under the manipulation of different psychological traits, which can either make enhancement or downfall of a person’s health. It is a common notice that cardiac patients experience varying degree of psychological and behavioural traits like stress/tension, depression, anxiety, hostility, headache, anger and nervousness [1, 2]. Psychological factors promote atherosclerotic activities, contribute to high blood pressure and can even lead to sudden event of MI [3]. The situation further becomes cumbersome when the individual approaches toward health damaging habits of cigarette smoking, alcohol consumption and adoption of sedentary lifestyle as a stress coping strategy.

CVD is the chronic disease which includes various conditions that affect the heart and blood vessels. Some of the established risk factors for CVDs include gender, smoking, obesity, physical inactivity; abnormal lipid profile, HTN, diabetes mellitus and positive family history [4, 5] besides, psychological parameters are also regarded as independent risk factors for CVDs. The relationship between psychological parameters and CVD is complex and multidirectional. The present study assessed the occurrence of different behavioural/ psychological factors and risk of CVD in subjects with different cardiac ailments.

Material and Methods

Ethical Authorization and Study Subjects

The present study was approved by Animal and Human Experimentation Ethical Committee (AHEEC), University of Jammu. A total of 251 confirmed CVD patients were enrolled for the present investigation. A detailed health questionnaire, including clinical profile, behavioural and Psychological characteristics was recorded from all the study participants on interview basis. The trait depression was measured with the help of questionnaire designed from *Diagnostic and Statistical Manual of Mental Disorders, IV edition, Text Revision (DSM IV TR)* of American Psychiatric Association [6].

Statistical Analysis

Clinical characteristics of all the subjects were expressed as mean \pm SD. Behavioural and Psychological variables were calculated in percentage.

Results

The clinical characteristics of the CVD patients are presented in Table 1. Majority of the patients were males. Mean age of patients was found to be 56.19 \pm 14.49. The physiometric variables including SBP, DBP, PR and PP were found to be in higher range. Among all the study participants, 75.30% of them had chronic high blood pressure (HTN). The behavioural and Psychological features of the study participants are summarised in Table 2 and 3 respectively. The most common behavioural variable observed in CVD patients in the present study was sedentary lifestyle followed by smoking and alcohol consumption. Among Psychological variables, the prevalent variable observed in patients of present study were short temperament, stress/tension and weakness. It was followed by headache, sleep disturbance and appetite alteration whereas psychomotor commotion, major depression and diminished ability to concentrate things were the least common factors.

Table 1: Clinical characteristics of the CVD patients.

Clinical Variables	CVD Patients (N=251)
Age	56.19 \pm 14.49
Sex (M/F)	161/90
Systolic Blood Pressure (SBP)	141.54 \pm 20.42
Diastolic Blood Pressure (DBP)	88.89 \pm 10.99
Pulse rate (PR)	82.71 \pm 13.37
Pulse Pressure (PP)	52.65 \pm 17.28
Hypertension (HTN)	189 (75.30%)

Table 2: Behavioural characteristics of the CVD patients.

Behavioural Variables	CVD Patients (N=251)
Smoking	36.25%
Alcohol Intake	32.27%
Sedentary Behaviour	43.82%

Table 3: Psychological characteristics of the CVD patients.

Psychological Variables	CVD patients (N=251)
Stress/tension	62.95%
Short temper	65.74%
Headache	36.65%
Depressed mood	29.88%
Poor appetite or over-eating	33.07%
Sleep disturbance	36.25%
Weakness/Fatigue	62.15%
Diminished ability to concentrate	22.31%
Psychomotor agitation or retardation	23.51%
Major Depression	27.49%

Discussion

Cardiovascular diseases seem to be influenced by a permutation of behavioural, psychological and biological factors. The analysis of these factors that contribute to huge burden of patients with CVD are of special interest for risk identification, prognostic variables and treatment strategies. In the present investigation among behavioural factors, percentage of sedentary lifestyle is higher in CVD patients than smoking and alcohol intake. Our results are compatible with findings of Iyer et al. [4], Raina et al. [5] and Gupta et al. [7]. Many studies have examined the association between these behavioural aspects and CVD and have reported higher prevalence of these factors in CVD patients [8-10]. Among Psychological traits, the prevalence of short temperament, daily stress and generalised weakness are higher among patients in the study undertaken. It is believed

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that 20% of cardiac patients suffer from anxiety, uncontrollable worry, restlessness, mood swings, muscle tension, headache, sleep disturbance, loss of appetite, sweating and gastrointestinal troubles [11]. It is found that individuals with high levels of anger or hostility show greater levels of interpersonal stress in their daily lives and have higher mean SBP [12]. The Atherosclerosis Risk in Communities Study (ARIC), projected 50%-75% increased risk of coronary heart disease due to trait anger [13]. Although, lower prevalence of depressed mood, lack of concentration, psychomotor disturbances and major depression is observed in the present study as compared to other Psychological factors but these variables have been identified to exert cardio-toxic effects. Several etiologic studies have revealed that patients with depressive symptoms or major depression are at increased risk of developing and dying of CVD [1, 14-16]. Manifestations of psychomotor disturbances in a CVD patient often co-exist with depression. In general psychomotor retardation such as slowed speech, decreased bodily movement and impaired cognitive function has been characterized as a major feature of depression [17, 18]. Further, factors like headache and sleep disturbance are found to be related with risk of CVD in the present study. The results are in concordance with previous reports [19-21].

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