ORIGINAL ARTICLE

AGGRESSIVE BEHAVIOR AND COPING STRATEGIES AMONG CARDIAC PATIENTS WITH TYPE A AND TYPE B BEHAVIOR PATTERN

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Objectives: The research aimed to explore the aggression and coping strategies in Type A and Type B cardiac patients. The study also assesses the role of gender and personality type in cardiac patients.
Methodology: 101 cardiac patients from different hospitals in Punjab having male (56) and females (45) with an average range of 22-70 were taken for the study. The education range was between middle to master and all were married. All the patients diagnosed with coronary heart disease were referred by their medical staff, with the problems in their ECGs, Echocardiography, and further diagnostic assessments taken as sample. Personality types, and coping styles have been assessed along with their detailed demographics.
Results: The mean age range was 45 years, out of the total 101 patients male and female were 55.5% and 44.5%, respectively. Patients of type A and type B personality were 55(45.8%) and 46 (38.3%) respectively. In Cardiac patients avoidant Coping predicted verbal aggression and problem-focused coping predicted physical aggression whereas Problem-Focused and Avoidant Focused negatively predicted aggression among Type A cardiac patients. Gender moderated between aggression and personality type among type A and type B cardiac patients. The interaction effect of gender and personality type on problem-focused, emotion-focused, and avoidant-focused coping is also evident in the results.
Conclusion: The study concluded that cardiac patients differ in their coping styles relevant to gender and personality type. Furthermore, gender also affects their level of aggression with the interaction of coping styles among them.
Keywords: Cardiac patients, Aggressive Behavior, Personality Type, Coping strategies

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INTRODUCTION

World health organization (2020) assesses that 17.9 million people die each year due to coronary heart disease (CHD) which is an estimated 31% of deaths worldwide. Coronary heart disease and Stroke is the primary source of both death and disability around the world with a range of 20 million per year in 2020 and more than 24 million per year till 2030.[1] Widespread investigation in Pakistan and worldwide relate the prolonged stress, aggression, and type a behavior pattern in the prevalence of CVD all over the world. CHD was broadly affected by the real environmental stressors and a person's ability to cope with these hazards and stressors.[2]

Type A behavior patterns comprise hardiness, persistence, involvement in work, under pressure comprises achievement in motivation, effectiveness, time urgency, anger assertiveness, prickliness, and aggression. The individuals who do not respond this way toward personality patterns are identified as type B personality patterns. In recent years a great deal of consideration has been concentrated on the research of type A personalities and their association with several psychological factors and psychopathological factors. One significant cause of this is that individuals display type A personality pattern of behavior form is more than double than any other personality pattern in coronary heart disease.[3] Several types of research have emphasized the role of type a personality pattern in the increase of CHD, However, all type A persons do not suffer from CHD therefore another relevant factor that formulates the association of CVD and types a behavior pattern needs to be assessed.[4]

Numerous investigations revealed that individuals with type A experience different crises in life. The role of aggression in this crisis is linked with a wide range of behaviors in most of the psychological works.[4] Many studies showed that there is a strong link between autonomic imbalance and psychological traits. Type A behavior patterns were more disposed to stress and anger, even though comparable standard belief and stress assessment are to type B behavior patterns.[5-6] Researches show that individual has more

risk factors of CHD if they have Type A behavior pattern showed that aggression anger, vigorous speech, and hostility may be contributed to CHD but not all type A behavior features contribute to CHD.[7-8]

Over half of the century, the conception of coping is most important in the management of aggression. Since 1950 it gave an establishing theme in clinical explanation and estimation. Coping strategies are based on the appraisal of the situation linked with five stages of cognitive processes (CHD also uses these five stages). The main appraisal is event appraisal, environment appraisal, secondary appraisal, and resource appraisal.[9] Problem-focused coping, avoidant coping, and emotional-focused coping are the three central coping styles during stress full conditions with the different relevant personality patterns.[10]

People use coping strategies when they face stress full situations, regulating stressful emotions and altering the person's environment relation causing the stress. Psychoanalytic concepts personal growth, evolutionary theory, and behavioral adaptation process of managing life crisis and transition and life cycle the major theoretical explanation of using coping styles in a person's life.[11] Increased mortality and indisposition in cardiac patients' relationship with negative emotional state. Clinical evidence suggests that clinicians guide CHD patients by improving their coping skills to reduce these negative emotions.[12]

Researchers suggest that Individuals with type B behavior patterns could not better cope with these stressors as well as individuals with type A behavior patterns.[13] Problem-focused coping strategies are more used in men and women than emotion-focused strategies in patients with CHD.[14] The research found a strong relationship between avoidant coping style and increased depression and anxiety. People who engaged in emotion-focused coping were also high reward dependence, Type A use more problem-focused coping as compared to type B while type B used more emotion-focused coping as compared to type A.[15]

Gender difference has been observed in the prevalence rate of CHD in men and women. When females face stressful situations and lack self-control, they show verbal aggression and male show physical aggression when they face challenging situations and want to control over another individual. In women, CHD tends to develop at a later age as compared to males.[16]

Recent research showed that women are more likely to experience stress, lack of control, and aggression as compared to men. The excessive social burden on women such as caregiving both families and children and managing homes is critical stressors that lead to CHD.[17] This accumulation of research accentuated the women who share financial burdens outside the home in addition to this family and social responsibilities. Although women have a habit of not experiencing a current stress response to a particular stressor, they experience an overall greater number of stressful situations than men. Social and cultural conditioning and hormonal and other physical differences between males and females lead to different coping responses to stress. Women tend to engage in more emotion-focused and avoidant coping as compared to men.[18]

The main objective was to explore the psychosocial factors in coronary heart diseases with the relevance of gender and coping strategies. There is a dire need in local research from the perspective of health interventional psychology. This research helps to incorporate behavioral and psychosocial assessment in routine medical care for cardiac patients.

METHODOLOGY

The study was conducted on 120 cardiac patients taken from four different hospitals in Punjab. After the assessment of their personality type 19 were excluded as they were type AB. At the time of the study, April 2016 to June 2017 different inpatient and outpatient units of these hospitals of Faisalabad and Multan were visited for the required sample. The sample was collected after the official consent of the hospital administration furthermore informed consent from the patients have also acquired.

All the patients suffering from coronary heart disease were included in the sample. The entire sample was referred by their medical staff as diagnosed cases with the problem in their ECGs, Echocardiography, and further diagnostic assessments. Patients suffering from any other physiological problems and psychological disorders were excluded from the sample. Nineteen patients were excluded from the initial sample after the assessment of their personality type because they have AB personality type which does not come under the research focus.

The trait aggression was assessed through the Buss and Perry aggression questionnaire.[19] The Urdu translated version was used in this study. The scale has four subscales which were anger, hostility, verbal aggression, and physical aggression with internal consistency 0.83 alpha for the original scale and 0.72 to 0.80 for the Urdu version were later found.

The brief cope inventory is the shorter version of the coping inventory by Carver. Both the adoptive and male adoptive coping skills were measured through

brief cop skills. The scale has 14 subscales which are Denial, Substance use, Self-destruction, Self-blame, venting, and behavioral disengagement are maladaptive while emotional support, active coping, planning, positive reframing, and acceptance, humor religion, and instrumental support are adaptive coping strategies. 0.59, 0.63, 0.65, 0.75 and 0.69 were the reliability coefficient for different subscale in Urdu version.

Anjum Khaliq Type, A B Behavior Pattern Scale was used to measure type A and B behavior patterns. The dual statement was present in each response from which individuals have to select one response. A high score on the scale shows Type A behavior and a low score indicate type B behavior. The correlations were 0.66 and 0.74 and reliability was 0.81 and 0.73.

A sample of 101 cardiac patients with the convenient sampling technique was taken after the assessment of their personality types. Data was collected from different outdoor and indoor units after the approval of regulatory bodies and ethical committees of these units. Demographic sheets and informed consent were designed as per the requirement of the study and initially approved from the sample before the collection of study parameters.

The following research was a partial fulfillment of a degree program so the initial formal consent was obtained from the department of applied psychology GCUF, Pakistan. Permission was obtained from the hospitals and Cardiac Units as well. To ensure anonymity the personal information was not taken on questionnaires only had identification numbers. Patients were properly explained about the research motives and their informed consent for their participation has been taken.

Captured data were imported into SPSS statistical analysis software, version 20. Descriptive statistics were performed to describe participants' socio-demographic and clinical characteristics. Regression analyses and Moderation and were used to compare groups and variables that showed significant associations.

RESULTS

The table 1 shows the percentages of demographic characteristics such as gender, age, and personality type of cardiac patients.

Table 1: Demographic characteristics of the sample (N=101)

Characteristics	Frequency	Percentage (%)
Gender		
Male	56	55.4%
Female	45	44.6%
Age (years)		
20-30	19	18%
30-40	21	21%
40-50	21	21%
50-60	25	24%
60-70	15	14%
Marital Status		
Married	55	55.5%
Unmarried	45	50.5%
Divorce	6	
Personality type		
Type A	55	45.8%
Type B	46	38.3%

Stepwise multiple linear regression analysis above indicated that types of coping were a predictor of aggression among Type A and Type B cardiac patients. In the first step, Problem Focused Coping negatively predicted aggression (-0.38, $p<0.05$) while in the 2nd step Avoidant Focused Coping predicted aggression significantly (-0.41, $p<0.001$). Emotion-Focused Coping is excluded in this step. In type B personality Cardiac Patients, only Emotion-Focused Coping Predicted aggression (-0.29, $p<0.05$) while all other types were excluded in this step (Table 2).

Table 2: Coping styles as predictors of aggression among type A and type B personality in Cardiac Patients (N = 101)

Predictors	*B*	*SE*	*β*	R^2	ΔR^2
Type A					
Step 1					
Problem Focused Coping	-0.02	0.01	-0.38*	0.15	0.13
Step 2					
Problem Focused Coping	-0.03	0.01	-0.41**	0.23	0.20
Avoidant Coping	-0.03	0.01	-0.29*		
Type B					
Step 1					
Emotion focused coping	0.02	0.01	0.35*	0.12	0.10

p<.01,p<.001 β=standardized beta coefficients=standard error ,R^2=variance, ΔR^2=standardized variance*
Type A: Step 1: F(53)=9.15, p< .01. Step 2: F(52)=7.82, p< .01.
Type B: F(44) = 6.01, p <.05.

Results in table 3 depict that there is significant gender difference in aggression and coping styles among type A and type B cardiac patients. Result showed that type A personality patients used more emotion focused and problem focused coping as compared type B personality while their level of aggression is higher as compared to type B cardiac patients.

Results explained that male cardiac patients use more avoidant coping and problem focused coping than female cardiac patients while female cardiac patients use more emotion focused coping styles (Table 4).

Table 3: Difference of coping styles and types of aggression in Type A and Type B cardiac patients

	Personality type		P-value	Cohen 'sd
	Type A	Type B		
	M(SD)	M(SD)		
Avoidant coping	24.01 (5.77)	26.08 (7.08)	0.100	0.32
Emotion-focused coping	27.04 (8.13)	21.41 (6.77)	<0.001	0.75
Problem Focused Coping	28.49 (7.82)	20.50 (5.16)	<0.001	1.21
Physical Aggression	29.81 (8.41)	21.60 (9.26)	<0.001	0.92
Anger	22.80 (5.12	19.34 (6.55)	<0.001	0.58
Hostility	24.45 (7.87)	18.32 (7.89)	<0.001	0.77
Verbal Aggression	16.09 (5.65)	14.54 (6.42)	0.200	0.25

M=mean, SD=standard deviation, cohen,sd=effect size

Table 4: **Difference of coping styles in male and female cardiac patients**

	Gender		P-value	Cohen'sd
	Male	Female		
	M(SD)	M(SD)		
Avoidant coping	24.75 (6.29)	25.20 (5.89)	0.01	0.07
Emotion-Focused	20.82 (6.82)	27.91 (7.44)	<0.001	0.99
Problem-focused	27.51 (6.91)	22.08 (8.16)	<0.001	0.72

M=mean, SD=standard deviation, cohen,sd=effect size

DISCUSSION

Demographic variable revealed that percentages of Type A are higher among Cardiac patients as compared to Type B. Type A was considered the major risk factor among cardiac patients in previous literature. A study discussed that Individuals with different clinical indicators of Conroy heart disease are the same as one another in their Type A personality traits. The finding of another study validated that type A behavior pattern with Coronary Heart diseases and pathogenesis of cardiovascular disease.[20]

In Cardiac patients avoidant coping style predicted verbal aggression and problem-focused coping predicted physical aggression. Community violence and risk factor indicated people with avoidant and emotion-focused coping styles have a greater score on aggression as compared to the individual having problem-focused coping styles. People who use active approach strategies (problem-focused coping) have a lower level of aggression among them.[21]

The personality type of cardiac patients was also discussed with the relevance of aggression and their preferred coping strategies among cardiac patients. The result showed that Problem-Focused Coping and Avoidant Focused coping negatively predicted aggression among Type A cardiac patients whereas among Type B cardiac patients Emotion-Focused Coping predicted aggression significantly. Interestingly these results explain that as the Coping strategies get more problem-oriented or Avoidant type the aggression gets lesser among Cardiac patients. While in Type B Personality Emotion-Focused Coping predicted aggression significantly.

In previous research, a Maximum number of Coronary heart disease, patients scored higher on two types of problem-focused coping- suppression of competitive activities and seeking social support for an instrumental reason. Both of them is problem-oriented strategies that focus on situation rather than emotions attached that can be a reason to lessen their anger. Some other findings also confirmed that avoidant-focused coping is also a prevalent coping style among cardiac patients.[22]

They use these styles to avoid anger, depression, and frustration on some failures cure to their problem-focused pattern of behavior. The research exhibited the interaction effect of type A personality and irritability in cardiovascular responsiveness. College students in a challenging mental task were further divided into low and high self-reported irritable groups. The low irritable type-A students showed greater cardiovascular reactivity as compared to low irritable type B students. Whereas high irritable type-A students showed lesser cardiovascular reactivity as compared to type B high irritable students. It is also evident from the results that reducing reporting of irritability by type A student reflects denial and suppression and enhances cardiovascular responsiveness.[23,24]

Male and female cardiac patients use different type of coping strategies. Female cardiac patients use more emotion focused coping while male cardiac patients use more avoidant and problem focused coping in their lifestyles. Some previous findings also investigated that the males were considered strong and used more problem-focused coping as compared to females. Women when facing any kind of stressor they employ more social support and emotion regulation techniques rather than behavior extraction.[25] The results explained that female cardiac patients with type A personality show extra stress tension and anxiety, more frustration, poor marital adjustment and more distress. They show less aggression in term of physical and hostility as compared to male cardiac patients, the reason is that the females are less socially acceptable when they show aggression in our society therefore females used more emotional coping styles. Present research paved the way towards the results of previously conducted researches on the significance of

psychological risk factors for cardiac patients. There is research evidence that some researches have been conducted in America and Europe[7] on exploring the predictors of anger among hypertensive patients, but the research evidence is scant in Pakistan.

CONCLUSION

The study concluded that the type of aggressive behavior and coping styles are different in cardiac patients. These differences were also evident in terms of the gender of cardiac patients. The results showed that cardiac patients with different personality type use different style of coping. Age is negatively correlated with level of aggression among cardiac patients. Women use more emotion focused coping while male use more problem oriented avoidant coping.

AUTHORS' CONTRIBUTION

AH, RK, and HR: Concept and design, data acquisition, interpretation, drafting, final approval, and agree to be accountable for all aspects of the work. AH, RK, and HR: Data acquisition, interpretation, drafting, final approval and agree to be accountable for all aspects of the work.

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