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Role of stress prone Type a personality and anxiety among heart patients

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Abstract

Objective: The term "Stress prone type A personality" is defined as a personality type that is unable to cope well with stress. Type A people are prime candidates for stress and stress-related illnesses. Anxiety is characterized by a diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms. The stress and anxiety are psychological characteristic that are somehow related to heart diseases. The main purpose of this study was to examine the role of stress prone type A personality and anxiety among heart patients and normal people.

Method: The Stress Prone Type A Personality Questionnaire (SPTAPQ) and Manifest Anxiety Scale (MAS) was used to access the anxiety impact on heart patients because of stress prone type A personality. The size of the study sample was N=100 including 50 heart patients and 50 normal people divided equally into 25 males and 25 females with mean age range between 20 to 70 years and above. In this present study stress prone type A personality is independent variable and anxiety is dependent variable. Quantitative research methodology is used and data was collected from different hospitals and settings by distributing questioners.

Results: Results were computed through SPSS (version 23). Stress prone type A personality and anxiety are significantly related with one another. There is a role of stress and anxiety in the development of heart diseases. There is significant difference related to amount of stress between males and females and heart patients have a significantly lower anxiety than normal people.

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Introduction

The term "Stress prone type A personality" is defined as a kind of personality that cannot cope well with stress. Type A individuals tend to be very competitive and self-critical, experience a constant sense of urgency and tend to be easily aroused to anger or hostility [1].

In the mid of 19th century, Meyer Friedman and RH Rosenman were researching the possible causes of coronary disease according to them, the Type A personality traits are impulsiveness, competitiveness and the need to get things, lots of things, done quickly. Type A is always in a hurry, lives by timetables and deadlines, is a perfectionist and has difficulty delegating any tasks, and therefore ends up trying to do everything himself. Such person is also likely to be impatient and can be aggressive, is very unlikely to undertake too much self-analysis. This type of personality concerns how people respond to stress .The Type A individual is often driven by feelings of insecurity. Such person often becomes one of life's high achievers, in the belief that by achieving their goals and ambitions they will gain the level of control they feel they need in order to overcome their feelings of insecurity. Type A people are prime candidates for stress and stress-related illnesses. The Type A personality is the energetic one who suddenly has a breakdown when he finally uses up his reserves of energy. This personality type also has the highest risk of heart disease [1].

A relatively distinct set of character traits, which is commonly seen in individuals who are aggressive, hard driving "workaholics". Those with type A personality have been traditionally regarded as being at an increased risk for cardiovascular disease, which may be related to the presence of a second component (consisting of repressed hostilities towards others, or hopelessly frustrating situations), which induces a "toxic core" [2].

Behavioral patterns are associated with individuals who are highly competitive and work compulsively to meet the deadlines. The condition is associated with a higher than usual incidence of coronary heart disease. Ego state characterized by a behavior pattern described by Meyer Friedman and Ray Rosenman [1] as associated with individuals who are highly competitive and work compulsively to meet deadlines. The behavior also is associated with a higher than usual incidence of coronary heart disease [1].

Time Urgency and Impatience: As demonstrated by people who, among other things, get frustrated while waiting in line, interrupt others often, walk or talk at a rapid pace, and are always painfully aware of the time and how little they have to spare. Type A people seem to be in a constant struggle against the clock. Often, they quickly become impatient with delays and unproductive time, schedule commitments too tightly, and try to do more than one thing at a time, such as reading while eating or watching television.

Competitiveness: Type A individuals tend to be very competitive and self-critical. They strive toward goals without feeling a sense of joy in their efforts or accomplishments. Interrelated with this is the presence of a significant life imbalance. This is characterized by a high work involvement. Type A individuals are easily 'wound up' and tend to overreact. They also tend to have high blood pressure (hypertension).

Free-Floating Hostility or Aggressiveness: Which shows up as impatience, rudeness, being easily upset over small things, or 'having a short fuse, For example hostility in Type A individuals tend to be easily aroused to anger or hostility, which they may or may not express overtly. Such individuals tend to see the worse in others, displaying anger, envy and a lack of compassion. When this behavior is expressed overtly (i.e., physical behavior) it generally involves aggression and possible bullying. Hostility appears to be the main factor linked to heart disease and is a better predictor than the TAPB as a whole. Additionally, Type A behavior often includes: Strong Achievement-Orientation: Type A people tend to get their feelings of self-worth from what they achieve. Many Type A people try to show dominance in business and personal interactions, disregarding the wishes and needs of others on favor of their own.

Friedman [1] associated the different physical characteristics often accompany TABP. Such as, Facial tension (tight lips, clenched jaw, etc.), Tongue clicking or teeth grinding, Dark circles under eyes, Facial sweating (on forehead or upper lip). Over the years, the type of extra stress that most Type A people experience takes a toll on their health and lifestyle. The following are some of the negative effects that are common with those exhibiting TABP.

Hypertension: Although the relationship between personality types and high blood pressure is complex, there has been some association between hypertension and Type A personalities.

Heart Disease: There is some ambiguity, but some research shows that there is a causal relationship between TABP and coronary heart disease. However, recent analysis has failed to confirm this.

Job Stress: Type A people usually find themselves in stressful, demanding jobs (and sometimes the jobs create the Type A behavior), which can lead to stress-related health problems.

Social Isolation: Those with TABP often alienate others, or spend too much time on work and focus too little on relationships, putting them at risk for social isolation and the increased stress that comes with it [1].

There are some Fixed Characteristic and some are Situational Reaction given by type A personality. While many personality traits, such as extroversion, are innate, most researchers believe that Type A personality characteristics are more of a reaction to environmental factors, or tendencies toward certain behaviors, and are influenced by culture and job structure. For example: Many jobs put heavy demands on time, making it necessary for workers to be very concerned with getting things done quickly if they're to adequately get their jobs done. Some workplaces put heavy penalties on mistakes, so efficiency and achievement become extremely important. Other jobs just create more stress, making people less patient, more stressed, and more prone to Type A behaviors [3].

Anxiety is characterized by a diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms, such as headache, perspiration, palpitations, tightness in the chest, and mild stomach discomfort [4].

The American Psychological Association [5], defines anxiety as "an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure." The physical symptoms of anxiety can be especially damaging among individuals with existing cardiac disease. It is a feeling of apprehension and fear, characterized by physical symptoms such as palpitations, sweating, and feelings of stress. Anxiety

is a general term for several disorders that cause nervousness, fear, apprehension, and worrying [5].

Type A personality typically characterized by individuals who are highly competitive, ambitious, work-driven, time-conscious, and aggressive. The concept was developed in the mid of 19th century by American cardiologists Meyer Friedman and Ray Rosenman, who argued that TABP was a risk factor for Coronary Heart Disease (CHD). They discovered that their patients were wearing out the arms and upholstery on the chairs in the waiting room. After an eight-and-a-half-year-long study of healthy men between the ages of 35 and 59, Friedman and Rosenman [1] estimated that Type A behavior doubles the risk of coronary heart disease in otherwise healthy individuals. The individuals enrolled in this study were followed well beyond the original time frame of the study. Participants were asked to fill out a questionnaire, which asked questions like "Do you feel guilty if you use spare time to relax?" and "Do you generally move, walk, and eat rapidly?" Subsequent analysis indicated that although Type A personality is associated with the incidence of coronary heart disease, it does not seem to be a risk factor for mortality [1].

Friedman & Rosen man [1] conducted a longitudinal study to test their hypothesis that Type A personality could predict incidents of heart disease. According to the results of the research it was conclude that the Type A personality types behavior makes people more prone to stress-related illnesses such as CHD, raised blood pressure, etc. Such people are more likely to have their "flight or fight" response set off by things in their environment. As a result, they are more likely to have the stress hormones present, which over a long period of time leads to a range of stress-related illnesses. Stress has been implicated in the development and prognosis of cardiovascular disease [1].

A number of studies have emphasized significant contribution of psychosocial factors in the development of Coronary Artery Disease (CAD). Most frequently documented external risks include physical stress and emotional stress as acute risk factors. They increase the tone of sympathetic system and elevate blood pressure which enhances proneness to rupture and subsequent thrombosis at the site of atherosclerotic plaque, especially at the site of coronary vasoconstriction. They also raise heart rate and myocardial contractility, thus increasing myocardial oxygen consumption [6].

Significance of the study

The aim or main purpose of this study was to find out the role of stress prone type A personality and anxiety among heart patients and normal people. Basically study was conduct to find out, if stress and anxiety are the risk factors of heart diseases then either they effect the life of heart patients or not.

Researcher main focus was to find out which one shows more stress and anxiety, heart patients or normal people. As it is stated, that stress prone type A personality is such a type of personality that don't cope well with a stress. When a person fails to cope with the stress then there are more chances that person will suffer from heart diseases .Also it will shake the confidence of the person, creating hurdles in the way of progress of life, and affecting his or her performance.

This study was designed to see that in what ways or up to what level the stress and anxiety affect upon heart patients and normal people. Anxiety is commonly present among the normal people for a long period of time and they are mostly unaware

from it, later on this anxiety become the risk factor for the heart diseases. The purpose of this study was to create awareness among individuals about anxiety and stress and the impact of these psychological variables on their lives.

Sometime people take the anxiety and stress for granted and treat them normally but it's very important to know that theses variables not only affect persons thoughts and behaviors, it also affects the body. The aim of this present study was to find out how people treat the anxiety and stress in their lives and how they react towards them when encounter with these variables in their daily routine life and either they affects their daily routine tasks or not.

Methods

Objectives

- To study the effects of stress prone type A personality and anxiety among heart patient and normal people.

- Study whether men and women differ with regard to the effect of stress and anxiety in their lives.

- To study stress and anxiety are the risk factors for heart diseases.

Hypotheses

- Role of stress prone type A personality and anxiety among heart patients.

- Heart patient will show more stress and anxiety as compared to normal population.

- Heart patients type A personality show more problems than normal population.

- Male patient personality leads to anxiety and stress as compared to female patient.

- Married patient show more anxiety and stress as compared to unmarried patients.

Conceptual definition

Stress prone type a personality

Stress prone type A personality do not cope well with stress. Type A individuals tend to be very competitive and self-critical, experience a constant sense of urgency and tend to be easily aroused to anger or hostility [1].

Anxiety

Anxiety is characterized by a diffuse, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms, such as headache, perspiration, palpitations, tightness in the chest, and mild stomach discomfort [5].

Operational definition

For the present study the Stress Prone Type A Personality variable define in term of stress prone type A personality questionnaire and Anxiety variable define in term of Manifest Anxiety Scale.

Instruments

The Stress Prone Type A Personality Questionnaire (SPTAPQ) and Manifest Anxiety Scale (MAS) was used to access the anxiety impact on heart patients because of stress prone type A

personality.

Stress prone Type A personality questionnaire

The Stress Prone Type A Personality Questionnaire is a 20 items questionnaire design to measure type A personality. It was developed by Dr Howard Glazer [7].

In stress prone type A personality questionnaire each question is composed of a pair of adjectives or phrases separated by a series of horizontal lines. Each pair has been chosen to represent two kinds of contrasting behavior. Every person belongs somewhere along the line between the two extremes. The lowest possible score is 20, the highest possible score is 140 across 20 questions. This questionnaire will give idea of where person stand with regard to Type A behavior. The higher person score, the more person may be putting his/herself under some risk of stress-related health problems [7].

Manifest anxiety scale

Manifest Anxiety Scale is a 38 items questionnaire designed to measure anxiety by Taylor. The Taylor Manifest Anxiety Scale was first developed [8] to identify individuals who would be good subjects for studies of stress and other related psychological phenomenon. Since then it has been used as a measure of anxiety as general personality trait. Anxiety is a complex psychological construct that includes a multiple of different facets related to extensive worrying that may impair normal functioning.

The test has been widely studied and used in research however there are some concerns that it does not measure a single trait but instead measures a basket of loosely related ones and so the score is not that meaningful. This scale contain 38 item questionnaire and must rate each one as true or false. It should take four to ten minutes to complete [8].

Demographics

Data was collected by heart patients (25 female and 25 male) and from normal population (25 female and 25 male) from different hospitals (CMH, AL_SHIFA, MH, PIMS) and different settings of Islamabad and Rawalpindi by distributing the questionnaire. Demographics of study sample was gender, age, socio-economic status, material status, occupation and education.

Sample

The study sample size was N=100 including 50 heart patients and 50 normal people divided equally into 25 males and 25 females with mean age range between 20 to 70 years and above. Random sampling technique was used to collect data from heart patients and normal people. Demographics of study sample was gender (male and female), age (20 to 70 years and above), Socio Economic Status (middle, high), marital status (married and unmarried), occupation (student, job and house wife) and education (matric,intermediate,graduation and master).

Procedure

In order to measure stress researcher used Stress Prone Type A Personality Questionnaire (SPTAPQ) and for measuring anxiety researcher used Manifest Anxiety Scale (MAS). Random sampling technique was used to collect data from heart patients and normal people. Quantitative research method questionnaire and survey method was used to collected data from heart patients and normal population. Heart patient's data was collected by heart patients from different hospitals of Islamabad and Rawalpindi whereas normal people data was collected from different settings of Islamabad and Rawalpindi. The patients; among who fulfill the selection criteria were approached. They were provided with an explanation about the purpose of the study and assured of full confidentiality. Written informed consent was obtained and those who agree to participate in the study were inducted.

Results

Table 1 contains the demographics variables information along with the responses from the participants (N=100). It comprised of information regarding participants gender, qualification level, material status, occupation and socioeconomic status. Table 2 shows that the sample consisted of an equal distribution of males and females, i.e. 50% males and 50% females. Qualification level shows that there is greater number of participants from intermediate level (f=42, 42.0%) as compared to Graduation level (f=36, 36.0%), and Masters (f=2, 22.0%). Married people participation (f=63, 63.0%) is more as compare to unmarried (f=37, 37.0%). Similarly, greater number of people belongs to middle socioeconomic class (f=79, 79.0%) as compare to high socioeconomic class (f=21, 21.0%). Table 2 shows that the sample consisted of an equal distribution of heart patients and normal population i.e. 50% males and 50% females.

Table 2 findings indicate that the alpha coefficient of Stress Prone Type A Personality questionnaire is .79 which indicates higher internal consistency, and Manifest Anxiety Scale is .58 which indicates moderate internal consistency.

Table 3 findings indicates that there is positive (.17) correlation between variables, Stress Prone Type A Personality and Anxiety and findings are significant at 0.01 levels.

Table 4 shows mean differences between male and female. There is significant difference between the two groups at the level of 0.01. The test was significant, t (98) =1.48, p<0.01. The examination of the group means indicate that males (M=84, SD=18.2) performed significantly lower on the stress Prone Type A Personality scale than did females (M=89.8, SD=16.8). The result also indicates that males (M=55.7, SD=5.1) have a significantly higher anxiety than females (M=55.5, SD=4.0).

Table 5 shows mean differences between heart patients and normal population. There is significant difference between the two groups at the level of 0.01. The test was significant, t (98)=.74, p<0.01. The examination of the group means indicate that patients (M=88, SD=15.2) performed significantly higher on the stress Prone Type A Personality scale than did normal people (M=85.8, SD=19.9). The result also indicates that heart patients (M=55.3, SD=3.6) have a significantly lower anxiety than normal people (M=55.9, SD=5.3).

Discussion

The main purpose of this study was to find out whether anxiety and stress are the risk factors or causes for the heart diseases or not and also to find out the effect of these variables upon the lives of heart patients and normal population. As continuously experience stress and anxiety there are more chances that an individual life is in danger or at peak to develop heart related problems and also create impairment and distress in daily routine activities.

Sometime people become unaware that they are facing an anxiety and stress in their lives and they don't care about it but

somehow this carelessness effects their mental and physical health. As stress-free thinking promotes the savoring of positive life experiences. By taking pleasure in life people will be able to extract the maximum possible satisfaction and enjoyment from their current circumstances. The stress prone type A personality is such personality that do not cope well with stress. When an individual fail to cope well with stress it automatically shake the confidence of an individual.

Anxiety is a constant worry and it also affects how person think. Anxious thoughts typically involve a fear of something bad happening in the future the future can be the next 5 seconds, 5 minutes or 5 years. This future fear creates imbalance in the present life of an individual. When anxiety is high, person automatically faces distress and that can be a cause of heart related problems.

Researcher has taken a sample of 100 people including 50 heart patients and 50 normal people divided equally into 25 males and 25 females with mean age range between 20 to 70 years and above with different educational level and occupations.

The findings of research indicate that the alpha coefficient of Stress Prone Type A Personality questionnaire is .79 which indicates higher internal consistency, and Manifest Anxiety Scale is .58 which indicates slightly less internal consistency.

Correlational analysis indicates that there is .17 correlation between variables, Stress Prone Type A Personality and Anxiety and findings are significant at 0.01 levels.

In present research, researcher wanted to study the role of stress prone type A personality and anxiety among heart patients for this researcher has taken a look on a previous literature work which was supporting the topic in various ways like: Most of past and present studies indicates that there is an association between stress, anxiety and heart diseases .For example, too much anxiety and stress can creates heart related problems.

Friedman & Rosenman [1] conducted a longitudinal study to test their hypothesis that Type A personality could predict incidents of heart disease. According to the results of the research it was conclude that the Type A personality types behavior makes people more prone to stress-related illnesses such as CHD, raised blood pressure, etc.

Several studies have suggested an increased risk of Coronary Heart Disease (CHD) among patients with phobic anxiety or panic disorder. Panic disorder affects between 2% and 5% of the general population and 10% to 14% of patients in cardiology. One common form, generalized anxiety disorder, is characterized by at least six months of excessive worrying or feeling anxious about several unrelated events or activities almost every day. About 5% of adults in the general population meet the criteria for generalized anxiety disorder. But the incidence is higher among people diagnosed with coronary artery disease (11%) or with heart failure (13%).

The meta-analysis by Roest et al [9], suggests that anxiety symptoms predict incident cardiac events, years in advance of their onset. Combining reports from 20 studies that encompassed approximately 250,000 individuals, the authors found that anxious persons were at increased risk for Coronary Heart Disease (CHD) many years in the future [9].

Limitations and suggestions

Findings from this research expand understanding of type A personality and its impact on stress level and anxiety among heart patients and normal population.

There are several important limitations of present study that suggest direction for future researches. The first limitation of research is that the sample consisted of only 100 people, which might have been insufficient to generate significant result that may have been generalized to the whole population.

Second, present research study sample consisted of females and males of different ages who couldn't easily understand the literal meaning of factors discussed in scale. Many of them give irrelevant data which was useless. It was difficult to find heart patients data collections.

Third, access to the hospitals and heart patients was a limitation of study. Language fluency with Punjabi speaking males and females was also a noticeable issue. Patients who participated in this research in terms of disability were mild to moderate. Therefore, a comparison between personality types of patients (with neurological and psychiatric disorders) and healthy controls could be suggested in future studies.

The whole idea of a recommendation is to provide a beneficial guide that will not only resolve certain issues, but result in a beneficial outcome. This study has shown acute and chronic psychological stressors which prevail in type A personality are associated with acute coronary illness. This study dealt with this topic using a modern psychological perspective and with the aim to evaluate the role of psychological factors in the etiology and prognosis of coronary heart diseases.

The findings of this study showed that although psychological factors are independent risk factors for CHD, the diagnostic and therapeutic procedures of this illness had a favorable process. Prevention is better than cure; therefore, considering the increase in CHD risk factors during recent years, it is necessary that more attention be paid to psychological factors and preventive actions. Without doubt, performing psychological and educational interventions in the community and increasing people's awareness about the psychological factors of CHD can have an effective role in promoting the people's health in the future.

Conclusion

Stress prone type A personality and anxiety are significantly related with one another. From the present research findings it is somehow say that there is a role of stress and anxiety in the development of heart diseases. This supports hypothesis that there is a "role of stress prone type A personality and anxiety among heart patients" is accepted. In conclusion, it is emphasized that further researches on this topic be conducted to generate more significant and statistically sound results.

Tables

Table 1: Frequency and Percentage Analysis for Demographics data (N=100).

		F	%
Gender	Male	50	50
	Female	50	50
Qualification	Intermediate	42	42
	Graduation	36	36
	Masters	22	22
Marital status	Married	63	63
	Unmarried	37	37
Occupation	Student	31	31
	Job	51	51
	Housewife	18	18
Status	Middle	79	79
	High	21	21
Category	Patients	50	50
	Normal	50	50

Table 2: Cronbach's Alpha Reliability for Stress Prone Type A Personality Questionnaire and Manifest Anxiety Scale (N=100).

	No of items	α
Stress Prone Type A Personality Questionnaire	20	0.79
Manifest Anxiety Scale	38	0.58

Table 3: Pearson Product Moment Correlation for Stress Prone Type A Personality Questionnaire and Manifest Anxiety Scale (N=100).

Variables	1	2
Stress Prone Type A		.17**
Personality		
Anxiety		

Note: **$P<0.01$ correlation is significant at the 0.01 level (2_tailed).

Table 4: Mean, Standard deviation and t-values of Stress Prone Type A Personality and Anxiety.

	Gender					95% CI of the difference	
	Male (n=50)		Female (n=50)				
	M	SD	M	SD	t (98) P	LL	UL
Stress Prone Type A Personality	84.5	18.2	89.8	17	1.48 .14	12.2	1.7
Anxiety	55.7	5.1	55.5	4	.174 .86	1.67	2

Note: Mean; SD: Standard Deviation.

Table 5: Mean, Standard deviation and t-values of Stress Prone Type A Personality and Anxiety.

	Category						95% CI of the difference	
	Patients (n=50)		Normal people (n=50)					
	M	SD	M	SD	t (98)	P	LL	UL
Stress Prone	88.5	15.2	85.8	19.9	0.74	0.45	4.4	9.6
Type A Personality								
Anxiety	55.3	3.6	55.9	5.3	0.74	0.46	2.5	1.1

Note: Mean; SD: Standard Deviation.

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