

## **PERCEIVED STRESS AND PERSONALITY TYPE (A & B) AMONG ACUTE MYOCARDIAL INFARCTION PATIENTS ACROSS VARIOUS DEMOGRAPHIC VARIABLES**

**ULFAT JAAN\*<sup>a</sup>, MAHPARA KHAN<sup>a</sup>, INSHA BASHIR<sup>a</sup>, MUSHTAQ AHMAD<sup>a</sup>**

<sup>a</sup> Kashmir University, India

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### **Abstract**

*The present study has been conducted to study Perceived Stress and Personality Type (A & B) among Acute Myocardial Infarction patients across various demographic variables. 100 myocardial infarction patients (60 males and 40 females) were taken from different hospitals of district Srinagar (Kashmir). The data was collected on the basis of AB Behavioural Pattern Scale (ABBPS) by Dhair and Jain (2001) and perceived stress was measured with the help of Perceived Stress Scale developed by Cohen, Kamarck and Mermelstein (1983). Pearson's Correlation Coefficient showed that there is a significant correlation between Perceived Stress and Personality Type (A&B). Mean differences among MI on perceived stress were found insignificant on age and family status and significant on gender and educational qualification. No significant differences were found on any of the demographic variable among personality types (A/B).*

**Key words:** Myocardial Infarction, personality type, stress

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### **Introduction**

Myocardial Infarction, customarily known as heart attack is a lethal condition that calls for life of a person. It is a condition wherein the person affected develops a clot in one of the tapered coronary arteries which are otherwise meant to vascularise the heart wall and to supply oxygenated blood to the heart muscle. The clot in turn resists the supply of blood to the part of the heart muscle that are beyond the clot. This causes the muscle cells of the deprived part to starve due to lack of oxygen and glucose. The condition is termed myocardial ischemia. If myocardial ischemia prolongs and crosses the critical threshold, it results in death of the starved heart tissue.

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\* Corresponding Author:  
E-mail address: ulfat.jaan@gmail.com

This condition is known as heart attack or otherwise myocardial infarction (MI). The common symptoms include tightness, pressure, aching sensation in chest that may spread to neck, jaw or back, fatigue, cold sweat, shortness of breath, nausea, light-headedness, heartburn and abdominal pain. However the severity of the symptoms may vary from person to person. Heart attack is unexpected but causes are old. It results from a number of physiological, behavioural and psychological causes. Among the physiological causes arteriosclerosis, atherosclerosis, high blood pressure, malfunctioning of the thyroid gland, high blood cholesterol, diabetes and congenital defects in the heart are the significant ones. Heavy smoking, lack of physical activity, sedentary habit, illegal drug use and obesity are some of the behavioural causes of MI (Ye Munter & Shimbo, 2013). The major psychological causes of MI that are of paramount importance include stress (Redmond et al., 2013) and personality type (Davis, 2003).

Stress is an indispensable part of life. It includes all the unavoidable circumstances that life dishes out in the form of daily wear and tear, work overload, loss of loved ones, illness, divorce, unemployment, relocation, financial problems, legal problems, starting a new job, retirement, marriage, pregnancy etc. A certain amount of stress is essential to keep us motivated, make adjustments and reorganize ourselves for a better living, however past a certain point this stress becomes distress, which again varies from person to person. The physical, social and environmental causes of stress are called stressors. Once confronted with them, the body physically and psychologically prepares to deal with them, however a prolonged exposure to stress compels the body to give off various warning signs, communicating us that we need to stop, take a break and relax. (The physical warning signs may include dizziness, general aches and pains, indigestion, difficulty in sleeping, tiredness, weight gain or loss and upset stomach. Constant worry, forgetfulness, inability to concentrate, loss of sense of humour and poor memory are some of the mental signs that point towards prolonged stress. The critical emotional warning signs include anger, anxiety, crying, depression, frequent mood swings, irritability, loneliness, negative thinking, and sadness) (Selye, 1977). Selye (1977) describes the “general adaptation syndrome” (GAS) as “the body’s effort to respond to the demands of the environment”.

Stress can be of two types: actual stress and perceived stress. Actual stress is actually out there in the environment and can play havoc with the lives of the people experiencing it. The actual stress is likely to be considered as a stress by everyone who experiences it, e.g. loss of loved one, divorce, illness, unemployment etc. Perceived stress on the other hand may be stressful to one individual but not necessarily to another. It varies from person to person. Usually the sensitive people are the most affected by the latter category of stress. They magnify and distort the reality

by their irrational thought processes and invite a massive amount of stress for themselves. The stress however is imagined but the damage is real. The perceived stress is more dangerous to the health since it leads to the production of certain hormones (e.g. cortisol) whose extended presence can have adverse effects on the body.

Stress is considered as a vital psychological factor contributing towards cardiovascular maladies. Mental stress induced myocardial infarction is more common than any other stress induced MI (Jiang et al., 2013). Prolonged stress hampers the normal working of the cardiac output, changes the rhythm of the heartbeat, brings a change in the heart rate and elevates blood pressure (Stevenson & Duncan, as cited in Fisher, 1963). While in stress the individual finds it easier to resort to harmful behavioural activities like smoking, drinking, use of drugs, has a very sedentary lifestyle since all these activities reduces stress. But nothing comes without a price! The nicotine present in the tobacco constricts the arteries and causes high blood pressure. The constriction of the arteries further results in pain in the chest which is further an indicator of a heart attack. Smoking and hypertension are the major risk factors of first MI in young adults (Faisal et al., 2011). Even the school going students are at a risk of developing cardiovascular diseases because of the amount of work load they have, exam tension, a deadly scold from the teacher etc. The student usually counters these situations with resentment, anger, regret, dejection. These psychic intrusions constrain the normal working of the heart (Grollman, 1929 as cited in Fisher, 1963). Studies have even confirmed that people who work under stressful conditions, have job deadlines or anything they perceive stressful have increased cholesterol levels which further puts secondary demands on their hearts (Friedman & Rosenman, 1958).

Psychology gives personality a very deep meaning, one that involves the cognitive, conative and affective aspects of an individual. It is that dynamic aspect of an individual that gives him his identity, one that has a fathomable impact on others so much so that the people surrounding the individual can come up with almost apt conclusions about the individual. The personality pattern is believed to be the product of both hereditary and environment. It cannot be equated with character, temperament or ego, all of which are only small aspects of the comprehensive term personality. There are various approaches to understand the fabric of personality. The first is the type and trait approach which focuses on attributes of an individual and how these attributes are further organized into a representative system. The second is the psychoanalytic approach which emphasizes the role of the unconscious, instincts, impulses in understanding personality. The behavioural approach is the third one that focuses on overt behaviour and how habits are acquired through basic conditioning. A yet another approach is the humanistic one that stresses the self and its growth towards actualization (Morgan, King, Weisz & Schopler, 1993).

A number of studies have come up showing a strong correlation between the psychological variable, personality and heart disease. The name coronary personality has been given to such a personality whose traits have been found to strongly correspond with cardiac patients (Fisher 1963). A typical coronary personality has been found to consist of such traits as compulsive striving, hard-working, self-disciplined, with a great need to surpass others and get to the top (Dunbar, 1943). Cardiac patients, as children, are found to have complicated relations with authorities, which predisposes them to cardiac occlusions because they develop in them a sense of weakness, insecurity, fear which they fail to overcome even after several accomplishments. Hence they develop a personality structure that makes them liable for heart complications (Arlow, 1945). Projective tests on patients with coronary blockage have shown that they possess a strong drive that motivates them to strive towards their goals and exude aggressiveness profusely. Their goals are usually characterised by power and prestige and they spare no effort in reaching them (Kemple, 1945). An analysis of a heavy sample of cardiac patients has even revealed that certain behaviour patterns carry a huge risk towards heart afflictions, some patterns share a good camaraderie with heart and some defy being either of the two. They are accordingly termed as Type A, Type B and Type AB (Friedman & Rosenman, 1958). The Type As usually display two types of behaviour patterns. One is achievement oriented hard striving behaviour which is related with performance and has nothing to do with health. The second is restless, agitated and jittery behaviour which is related with health and has no relation with performance. It is the latter category that makes them sit on the edges of the seat (Spence et al., 1987, 1989). Studies have confirmed that Type As are more likely to suffer from heart attacks in the long run than Type Bs (Davis, 2003). They usually have a need to prove themselves (Furnham & Linfoot, 1987). The Type B personality lacks Type A patterns and is not prone to any coronary problems. The present research is an endeavour to study perceived stress and personality type (A& B) among Acute Myocardial Infarction (AMI) patients across various demographic variables.

## **Method**

### *Objectives and Hypotheses*

- To study perceived stress and personality type among Acute Myocardial Infarction patients across various demographic variables (age, gender, family type, and educational qualification).
- To study personality type among Acute Myocardial Infarction patients across various demographic variables (age, gender, family type, and educational qualification).

- To study correlation between perceived stress and personality type among Myocardial Infarction patients.

On the basis of these objectives the following hypotheses were formulated:

**H<sub>01</sub>** There is no significant difference between myocardial infarction patients on perceived stress as far as their age is concerned.

**H<sub>02</sub>** There is no significant difference between myocardial infarction patients on perceived stress as far as their gender is concerned.

**H<sub>03</sub>** There is no significant difference between myocardial infarction patients on perceived stress as far as their family status is concerned.

**H<sub>04</sub>** There is no significant difference between myocardial infarction patients on perceived stress as far as their educational qualification is concerned.

**H<sub>05</sub>** There is no significant difference between myocardial infarction patients on personality type as far as their age is concerned.

**H<sub>06</sub>** There is no significant difference between myocardial infarction patients personality type as far as their gender is concerned.

**H<sub>07</sub>** There is no significant difference between myocardial infarction patients on personality type as far as their family status is concerned.

**H<sub>08</sub>** There is no significant difference between myocardial infarction patients on personality type as far as their educational qualification is concerned.

**H<sub>09</sub>** There is no significant correlation between personality type and perceived stress among Acute Myocardial Infarction patients.

### *Sample*

The present study was conducted on AMI (Acute Myocardial Infarction) patients from Shere-i-Kashmir Institute of Medical Sciences (SKIMS) and Shri Maharaja Hari Singh (SMHS) hospital of Srinagar city in Kashmir region of Jammu & Kashmir. The sample of the study consisted of 100 MI patients out of which 60 were males and 40 were females.

### *Tools used*

In order to gather the required data for the present study, following tools were used.

**AB Behavioural Pattern Scale (ABBPS):** AB Behavioural Pattern Scale (ABBPS) developed by Dhair& Jain (2001) was used to assess personality type. This scale identifies individuals with two types of personality patterns, type A and type B. There are 33 items in this scale, 17 are related to type A, whereas 16 are related to type B. The responses are measured on a five point Likert scale ranging from 1=strongly disagree to 5=strongly agree.

**Perceived Stress Scale (PSS):** Perceived Stress Scale developed by Cohen, Kamarck&Mermelstein (1983) was used to measure the degree to which situations in one's life are appraised as stressful. This scale consists of 14 items that are to be answered on a five point Likert scale. Items 4, 5, 6, 7, 9, 10, and 13 are positively stated items and are reversely scored e.g., 0=4, 1=3, 2=2, etc.

**Statistical Techniques Employed:** -The data collected from the respondents was analysed by Statistical Package for Social Sciences (SPSS). Mean, Standard Deviation, T-test and Correlation methods were used in the analysis.

## Results

Table 1 presents an overview of t- values of perceived stress in relation to the demographic variables of the subjects. As indicated in the table the t-values of males and females; and illiterate and literate differ significantly at 0.05 level of significance. This indicates that male and female respondents and illiterate and literate respondents differ significantly in experiencing perceived stress.

**Table 1.** Mean scores on Perceived Stress across various demographic variables

Demographic Variables		N	Mean	Std. Deviation	t-value	Sig.
Gender	Male	60	26.3667	9.19647	-3.109	.002
	Female	40	31.8250	7.61539		
Age	30-60	45	29.8444	9.06531	1.310	.193
	60 Above	55	27.4909	8.83359		
Family Status	Nuclear	49	28.8980	9.14978	.379	.706
	Joint	51	28.2157	8.87314		
Education Status	Illiterate	55	30.1273	8.98157	1.972	.051
	Literate	45	26.6222	8.66888		

Table 2 (a) presents an overview of t- values of Type A personality in relation to the demographic variables of the subjects. As indicated in the table no significant difference was found on any of the demographic variable between respondents with type A personality.

**Table 2(a).** Mean scores on Type A Personality Type across various Demographic Variables

Demographic Variables	Group	N	Mean	Std. Deviation	t-value	Sig.
Gender	Male	60	54.3833	7.68686	-.656	.514
	Female	40	55.4000	7.46204		
Age	30-60	45	54.6667	7.42233	-.147	.884
	60 Above	55	54.8909	7.76667		
Family Status	Nuclear	49	53.4490	6.68973	-1.753	.083
	Joint	51	56.0784	8.19962		
Education Status	Illiterate	55	55.6727	8.65181	-.861	.391
	Literate	45	53.7111	5.92614		

Table 4.2 (b) presents an overview of t- values of Type B personality in relation to the demographic variables of the subjects. As indicated in the table no significant difference was found on any of the demographic variable between respondents with type B personality.

**Table 2(b).** Mean scores on type B personality type across various demographic variables

Demographic Variables		N	Mean	Std. Deviation	t-value	Sig.
Gender	Male	60	52.0667	5.58408	.081	.514
	Female	40	51.9750	5.47951		
Age	30-60	45	51.9111	5.22156	-.194	.847
	60 Above	55	52.1273	5.78969		
Family Status	Nuclear	49	52.9184	5.09426	1.591	.115
	Joint	51	51.1765	5.81276		
Education Status	Illiterate	55	51.6000	6.01110	1.292	.199
	Literate	45	52.5556	4.85497		

As indicated in table 4.3 significant positive correlation was found between perceived stress and Type A personality trait at 0.01 level of significance while as significant negative correlation was found between perceived stress and Type B personality trait at 0.01 level of significance.

**Table 3.** Correlation between perceived stress and personality types (N=100)

	Type A	Type B
Perceived stress	.320**	-.314**

\*\* . Correlation is significant at the 0.01 level

## Discussion

The present study aimed to study Perceived Stress and Personality Type (A& B) among Acute Myocardial Infarction patients across various demographic variables. The results revealed that there is significant difference among Myocardial Infarction patients on perceived stress as far as gender and educational qualification is concerned with females scoring higher (M=31.8) than males (M=26.3) and illiterates (M=30.1) scoring higher than literates (M=26.6). Studies have found that gender affects each element in the stress process as much in the input, by determining whether a situation will be perceived as stressful, as in the output, influencing coping responses and the health implications of stress reactions (Barnett et al., 1987). Investigation of the experience and perception of stress along gender lines has been a fascinating undertaking because findings of studies conducted regarding stress with references to gender are somewhat conflicting. Although, the literature examining the relation between gender and stress reveals several conflicting outcomes, numerous authors have determined that women find themselves in stressful circumstances more often than men (Almeida & Kessler, 1998; McDonough & Walters, 2001). Other authors have suggested that it is possible that women appraise threatening events as more stressful than men do (Miller & Kirsch, 1987; Ptacek et al., 1992). Women have been more affected by the stress of those around them as they tend to be more emotionally involved than men (Kessler & McLeod, 1984; Turner, Wheaton & Lloyd, 1995). It has also been reported that women are more likely than men (28 percent vs. 20 percent) to report having a great deal of stress (APA, 2010). Results of the study conducted by Hallman et al. (2001) are also consistent with our finding that there is significant difference among MI patients on perceived stress with respect to gender. *In this study illiterates were found to have more perceived stress than literate respondents. It might be because* without education one feels limited in skills and competencies are usually excluded from good jobs and have fewer prospects for economic prosperity. Hence



decreasing the resources for them, might lead to the perception of stress. *Results also revealed that there is no significant difference among Myocardial Infarction patients on Personality Type (A/B) as far as any of the demographic variables (Gender, age, family status and educational qualification) are concerned.* The present study also revealed a significant correlation between perceived stress and personality type. More specifically, perceived stress was positively correlated to type A personality and negatively correlated to type B personality. A study conducted by Dumitru & Cozman, (2012) revealed that several personality factors such as social presence, empathy, independence, good impression, intellectual efficiency, psychological intuition, work orientation, femininity render individuals more vulnerable to stress.

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