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Cardiology

STUDY OF CORRELATION IN STRESS COPING BEHAVIOUR WITH ACUTE MYOCARDIAL INFRACT IN CHHATTISGARH STATE

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ABSTRACT ***Background And Objective-*** *Modifiable risk factors for MI like obesity, diabetes, smoking, high blood pressure and dyslipidemia are well established risk factors but apart from these, there are many psychosocial factors that are independently related to MI. The main objective of this present study was to investigate on psychosocial factors stress coping behaviour were correlated in acute myocardial infract.* ***Method-*** *This correlational study was conducted over 3 month period of hospital based acute myocardial patients. Total 32 patients participated in present study, those individual who participated in study selected using the availability of sample (purposive sampling technique) method.* ***Result-*** *the average age of the acute myocardial patients is 58.06 year/month, gender wise distribution, in this study 16 male and 16 female were effected out of 32, it is equally distributive, it means MI is equally affected in male and female population, religion wise this area population primarily is Hindu, in this study Hindu were 30 out of 32 participants, all education level were affected in MI, in this study primary level and high school level of education were higher 10(31%)and 10(31%) than other level of education, agriculture/farming and self employed like i.e. business and other had highly affected than the other occupational category, monthly family income range 10,000-20,000 (average to medium family 37.5%) were higher affected than other income range. The correlation of adaptive coping behaviour technique is negatively correlated in progression of MI and maladaptive coping behaviour had positively correlated in MI, increasing the maladaptive coping behaviour techniques there is more chance of progression in MI.* ***Conclusion-*** *Finding of the present study we have concluded that maladaptive coping behaviour had positively correlated in the progression of acute myocardial infracts.*

KEYWORDS : *Acute Myocardial Infarction, Stress Coping Behaviour*

INTRODUCTION-

Cardiovascular diseases (CVDs) are a major cause of both morbidity and mortality in the developing world and myocardial infarction (MI) is the most routinely encountered emergency in hospitals (Lakshamandass, 2012; Iqbal et al, 2015). Modifiable risk factors for MI like obesity, diabetes, smoking, high blood pressure and dyslipidemia are well established risk factors but apart from these, there are many psychosocial factors that are independently related to MI(Zubair et al, 2018).

Chronic emotional disturbances, acting through biochemical and hormonal mechanisms, mediate arterial stiffness, atheromatous changes, coronary artery spasm and plaque rupture, all of which are implicated in the pathogenesis of MI Pandey, Gupta & Wander, (2011); Tibaut, Mekis, & Petrovic (2017); Ilic & Apostivic (2002). Patients have been shown to have had higher levels of mental stress during two to four weeks before presentation (Sirois & Burg, 2003).

The coping strategies refer to the approaches of managing stress. In other way cites specific efforts, both behavioral and psychological that people employ to master, tolerate, reduce or minimize stressful events (John & Mac Arther, 2008). Folkman & Lazarus (1980) have noted that people use certain strategies, i.e. problem solving strategies and emotion focused strategies. Adaptive and maladaptive ways of coping interact to predict negative outcomes associated with stress, such as depression and other disease and disorders (e.g., Brown & Harris, 1989; Monroe, Slavich, & Georgiades, 2009)

Carver, Scheier and Weiatraub (1989) developed the coping tactics into 14 categories. Individual have their styles of coping, a large menu of coping tactics to choose from, most people come to rely on some strategies more than others (Carver & Scheier, 1994; Haszen-Niejodke, 1997). Carver et al (1989); Vaillant (2000) stated that coping strategies vary in their adaptive value, coping process range from the helpful to the counterproductive.

It can alter the problem causing the stress or it can regulate the emotional responses to the problem. Hundreds of coping strategies have been identified (Carver & Jennifer, 2010).

Brennon & Fiest (2009) reported that the coping is two basic type first Positive techniques (adaptive or constructive coping). Positive coping strategy is known as proactive coping. Second coping strategies are Negative techniques (maladaptive coping or non-coping). While adaptive coping methods, improve functioning, a maladaptive coping technique will just reduce symptoms while maintaining and strengthening the disorder. Maladaptive techniques are more effective in the short term rather than long term coping process. The coping behavior is used in other words such as adaptive and maladaptive coping and other way is a problem solving, coping strategies and emotion focused coping strategies (Yusuf, Low & Yip 2009).

The two broad basic dimensions of coping behavior such as adaptive coping and maladaptive coping concept were basically developed in the Carver, C.S. (1989), Bernardes, (2009); Donnally, (2002); Wong, (2002).

OBJECTIVE-

The main objective of this present study was to investigate on psychosocial factors stress coping behaviour were correlated in acute myocardial infract.

METHOD AND MATERIAL-

This study was conducted in the hospital based research during two month of periods of department of Cardiology, in Shree Balaji Metro Hospital Raigarh, Chhattisgarh, India. Total 32 patients were participated in present study, those individual who participated in study selected using the availability sampling (purposive sampling technique) method. The inclusion criteria of the sample were affliction with acute myocardial infarction, diagnosis of MI according to WHO criteria by the cardiologist, the patient had being conscious oriented to time, place and person and given consent for the study.

Stress Coping Behaviour Scale-

This instrument is designed for assessing coping behaviour in individual by Janghel and Shrivastava, 2015. The coping behaviour is mainly in adaptive and maladaptive coping behaviour which is total 14 coping technique has been assessed. Validity and reliability of the scale were well established in different statistical analyses method with the help of SPSS 16 version. The reliability of adaptive coping behaviour scale internal consistency of Cronbach's Alpha co-efficient (α) is 0.62 and maladaptive coping behaviour scale internal consistency of Cronbach's Alpha co-efficient (α) is 0.69.

Statistical Analyses-

The present study data were analyses in descriptive and correlation technique with the help of the SPSS 22 version.

RESULT AND DISCUSSION-

This correlational study was conducted over 3 month period of hospital

based acute myocardial patients. Total 32 patients participated in present study, those individual who participated in study selected using the availability sampling (purposive sampling technique) method. Finding of the result in present study are showing in below tables-

Table 1 Shown The Average Age Of Acute Acute Myocardial Infract (MI) Patients

Name of variable	Mean	Standard deviation (SD)
Age	58.06	14.88

Table number 1 shows the average age of the acute myocardial patients is 58.06 year/month.

Table 2 Shown The Demographic Variable Of Acute Myocardial Infract (MI) Patients

Name of variables		Number of total patients	Percentage
Gender	Male	16	50%
	Female	16	50%
Religion	Hindu	30	93%
	Muslim	0	0
	Sikhkha	0	0
	Christian	2	7%
	Jain	0	0
	Other	0	0
	Total	32	100%
Education	Primary	10	31.2%
	Middle school	8	25.2%
	High school	10	31.2%
	Higher secondary	2	6.2%
	Graduate	2	6.2%
Occupation	Agriculture	14	43.8%
	Agriculture labour	6	18.8%
	Self employed/business	10	31.2%
	Other	2	6.2%
Monthly family income	5000-10000	10	31.2%
	10000-20000	12	37.5%
	20000-30000	6	18.8%
	30000-40000	2	6.2%
	Above 40000	2	6.2%
Type of house	Kuchcha house	8	25.0%
	Semi-kuchha house	16	50.0%
	Pukka house	8	25.0%
Type of family	Single	4	12.5%
	Joint	28	87.5%
Numbers of earner in family	One earner	4	12.5%
	Two earner	14	43.8%
	Three earner	10	31.2%
	Four earner	2	6.2%
	More than four	2	6.2%

table number 2 is showing MI patients in gender wise distribution, in this study 16 male and 16 female were effected out of 32, it is equally distributive, it means MI is equally affected in male and female population, religion wise this area population primarily is Hindu, in this study Hindu were 30 out of 32 participants, all education level were affected in MI, in this study primary level and high school level of education were higher 10(31%)and 10(31%) than other level of education, agriculture/farming and self employed like i.e. business and other had highly affected than the other occupational category, monthly family income range 10,000-20,000 (average to medium family 37.5%) were higher affected than other income range.

Table 3 shown the inter-correlation in different demographical variables, coping behaviour and Acute Myocardial Infract (MI) patients, this study had shown monthly family income and age of patients is positively correlated in prognosis of MI, r-value=0.708**, sign.-0.01 level; another variable age is positively correlated in type of house r=0.344**, sign.-0.05; variable type of house had positively associated with the occupation (r=0.366*, sign.-0.05) and monthly family income (r=0.544**; sign.-0.01), type of family and gender(r=0.378*, sign.-0.05), monthly family income (r=0.364*, sign.-0.05) had positively correlated, variable number of family member with occupation (r=0.538**, sign.-0.01), monthly family income(r=0.563**, sign.- 0.01) and type of family (r=0.410*, sign.0.05) had positively correlated; total earner in family member had positively correlated with the occupation (r=0.316*, sign.-0.05), type of family(r=0.567**, sign.-0.01), coping behaviour technique ie. Adaptive coping behaviour with the variable gender (r= is -0.344*, sign.-0.05), education(r= is -0.458*, sign.- 0.05), monthly family income(r= is -0.389*, sign. 0.05), type of house(r = is -0.324*, sign.-0.05), had negatively correlated; another way maladaptive coping behaviour had positively correlated with religion(r=0.414*, sign.-0.05), education(r=0.323*, sign.-0.05), type of house(r=0.309*, sign.-0.05) and type of family(r=0.386*, sign.-0.05), and the total of adaptive and maladaptive coping had negatively correlated(r= is -301*, sign.-0.05).

Table number 4 shows the correlation between demographical variables and coping behaviour, some variables had correlated negatively and some variables had correlated positively and some variables correlated positively and negatively. Adaptive coping behabiour sub-dimension e.g. emotional support had negatively correlated in variables gender (r=-0.345*, sig.-0.05), occupation (r=-0.457**, sig.-0.01) and type of house (r=-0.336*, sig.-0.05); instrumental support had positively correlated in occupation (r=0.326*, sig.-0.05) and negatively correlated in education (r=-0.551**, sig.-0.01), positive reframing had correlated with occupation (r=-0.608**, sig.-0.01) and type of house (r=-0.365*, sig.-0.05), planning had negatively correlated with the occupation (r=-0.630**, sig.-0.01), monthly family income (r=-0.655**, 0.01), type of house (r=-0.535**, sig.- 0.01) and number of family member (r=-0.605**, sig. – 0.01), dimension humor is positively correlated with the total earner in family member (r=0.387*, sig.-0.05), religion had positively correlated of type of house (r=0.365,); and maladaptive coping behaviour sub dimension e.g. self-distraction had correlated in type of family(r=0.429*, sig.-0.05), total earner in family member (r=0.378*, sig.0.05) positively, and religion had negatively correlated (r=-0.683**, sig.- 0.01), denial had negatively correlated with the religion (r=-0.683**, sig.-0.01), substance use had positively correlated in religion (r=0.447*, sig.-0.05), behaviour disengagement had negatively correlated with the education (r=-0.429*, sig.-0.05), vanting had correlated positively in education (r=0.424*, sig.-0.05) and type of house(r=453*, sig. 0.05).

Table 3 Shown The Correlation Between Demographical Variables With Coping Technique In Acute Myocardial Infract (MI) Patients

Name of variables		Age	Gender	Religion	Education	occupation	monthly family income	Type of house	Type of family	Number of family member	Total earner in family	Adaptive coping behaviour	Maladaptive coping behaviour
Age	r-value	1.000											
	level of sign												
Gender	r-value	-0.073	1.000										
	level of sign	0.693											
Religion	r-value	0.193	0.258	1.000									
	level of sign	0.291	0.154										
Education	r-value	0.15	-0.27	0.07	1.000								

	level of sign	0.413	0.135	0.705									
0ccupation	r-value	-0.153	0.057	0.252	0.96	1.000							
	level of sign	0.404	0.755	0.164	0.485								
Monthly family	r-value	**0.708****	-0.192	-0.05	0.005	0.188	1.000						
	level of sign	0.000	0.291	0.787	0.535	0.303							
Type of house	r-value	**0.344***	-0.177	0	.0.002	**0.366***	**0.544****	1.000					
	level of sign	0.054	0.333	1.000	0.265	0.040	0.001		1.000				
type of family	r-value	0.131	**0.378***	0.098	0.142	0.152	**0.364***	0.267					
	level of sign	0.476	0.033	0.595	0.089	0.406	0.041	0.139					
Number of family	r-value	0.01	-0.15	-0.11	0.089	**0.538****	**0.563****	0.236	**0.410***	1.000			
	level of sign	0.958	0.411	0.557	0.627	0.001	0.001	0.193	0.020				
Total earner in family	r-value	-0.296	0.000	-0.13	-0.027	**0.316***	0.144	0.000	**0.567****	**0.677****	1.000		
	level of sign	0.099	1.000	0.481	0.883	0.078	0.431	1.000	0.001	0.000			
Adaptive coping	r-value	-0.103	**-0.344***	0.178	**-0.458****	-0.28	**,-0.309***	**,-0.324***	-0.260	-0.142	0.172	1.000	
	level of sign	0.576	0.054	0.331	0.008	0.125	0.085	0.070	0.150	0.429	0.346		
Maladaptive coping	r-value	-0.121	0.146	**0.414***	**0.323***	-0.18	0.084	**0.309***	**0.386***	0.110	0.292	**,-0.301***	1.000
	level of sign	0.508	0.426	0.018	0.71	0.335	0.647	0.085	0.029	0.55	0.105	0.094	
**correlation is significant at the 0.01level(2-tailed)													
*correlation is significant at the 0.05 level(1-tailed)													

Table 4 Shown The Correlation Between Demographical Variables And Coping Behavior Sub-dimension

Variables		Age	Gender	Religion	Education	Occupation	Monthly family income	Type of house	Type of family	Number of family member	Total earner in family
Active coping	r- value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	sig.	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Emotional coping	r- value	0.245	**,-.345***	0.092	-0.211	**,-.457****	-0.023	**,-336***	-0.135	-0.137	0.178
	sig.	0.177	0.046	0.617	0.25	0.009	0.901	0.060	0.465	0.455	0.330
Instrumental support	r- value	-0.218	0.000	0.098	**.551****	**.326***	-0.218	0.000	-0.143	0.158	0.000
	sig.	0.231	1.000	0.595	0.001	0.069	0.23	1.000	0.435	0.388	1.000
Positive reframing	r- value	0.036	-0.258	0.067	-0.153	**,-.608****	-0.149	**,-.365***	-0.098	-0.237	0.129
	sig.	0.843	0.154	0.717	0.402	0.000	0.415	0.040	0.595	0.191	0.481
Planning	r- value	-0.256	-0.289	0.098	-0.224	**,-.630****	**.655****	**.535****	-0.143	**,-.650****	0.000
	sig.	0.157	0.109	0.595	0.214	0.000	0.000	0.002	0.435	0.000	1.000
Humour	r- value	-0.072	-0.258	-0.067	-0.293	0.252	-0.05	0.000	0.095	0.030	**0.387***
	sig.	0.692	0.154	0.717	0.104	0.164	0.787	1.000	0.595	0.870	0.029
Acceptance	r- value	-0.175	0.000	0.149	-0.219	0.232	-0.111	0.000	-0.21	0.203	-0.144
	sig.	0.327	1.000	0.415	0.23	0.201	0.545	1.000	0.23	0.266	0.431
Religious	r- value	0.001	0.000	0.067	0.293	0.104	0.248	**.365***	-0.098	0.177	0.129
	sig.	0.995	1.000	0.717	0.104	0.572	0.17	0.040	0.593	0.333	0.481
Self-distraction	r- value	-0.179	0.000	**,-0.683****	0.265	0.109	0.218	0.000	**.429***	0.259	**.378***
	sig.	0.327	1.000	0.000	0.142	0.554	0.23	1.000	0.014	0.153	0.038
Denial	r- value	-0.179	0.000	**,-0.683****	0.265	0.109	0.218	0.000	**.429***	0.259	0.259
	sig.	0.327	1.000	0.000	0.142	0.554	0.23	1.000	0.014	0.153	0.153
Substance use	r- value	-0.032	0.000	**.447***	0.094	-0.166	-0.222	0.204	-0.218	-0.280	-0.289
	sig.	0.862	1.000	0.01	0.611	0.364	0.222	0.262	0.23	0.121	0.109
Behaviour disengagement	r- value	0.076	0.000	-0.098	**,-0.429***	0.022	-0.073	0.000	0.143	0.006	0.189
	sig.	0.68	1.000	0.595	0.014	0.906	0.692	1.000	0.435	0.973	0.300
Vanting	r- value	0.042	0.160	-0.124	**.424***	0.101	0.154	**0.452****	0.182	0.142	0.080
	sig.	0.821	0.381	0.499	0.016	0.582	0.4	0.009	0.32	0.439	0.663
Self-blame	r- value	-0.054	0.258	-0.067	0.153	-0.222	-0.05	0.000	0.098	-0.039	0.129
	sig.	0.769	0.154	0.717	0.402	0.221	0.787	1.000	0.598	0.833	0.401
**correlation is significant at the 0.01 level(2-tailed)											
*correlation is significant at the 0.05 level(1-tailed)											

DISCUSSION-

The aim of the present study was to investigate the type of stress coping behaviour technique in the patients of Acute MI. We find in the current study most of MI patients used adaptive coping which is negatively correlate. It means adaptive coping behaviour technique is negatively correlated in progression of MI and maladaptive coping positively

correlated, it means increasing the maladaptive coping behaviour techniques there is more chance of progression in MI.

Very few studies have found similar results, such as Chung (2011) investigated that MI patients had mostly used problem focused type of coping behaviour technique, problem focused coping behaviour is long term process, other coping behaviour technique is emotion focused coping strategies which is used the reducing actual situations such as stopping/inhibition negative thoughts or emotion, praying, eating more foods, drinking alcohol, using drugs. Releasing pent-up emotion, distracting one self, mediating, blame, disclaiming, seeking social support. Another study Son, Thomas & Friedman (2012); Kanninen, Punamaki & Quata (2002); Soloman, Avitzus, Mikulincer (1989) and Gills (2005) found the coping strategies have partial mediator between different level of stress and acute myocardial infract. Some studies have also argued that the coping strategies are significant moderating variables that affect the level of negative perception of stress when an individual exposed the stressor (Fuller & Conner, 1990; Miller, 1979).

CONCLUSION-

From the finding of the present study we concluded that the maladaptive coping behaviour had positively correlated in the progression of acute myocardial infract.

Conflict Of Interest- authors are declaring that no conflict of interest.

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