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RESEARCH ARTICLE

ASSESSMENT OF POST TRAUMATIC STRESS LEVELS AMONG PATIENTS WITH MYOCARDIAL INFARCTION AT TERTIARY CARE CENTER OF ANDHRA PRADESH

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ABSTRACT

Objectives:

-) To assess the post traumatic stress levels among patients with myocardial infarction.
-) To find out the association between post traumatic stress levels with the socio demographic variables.

Material and methods: The present study was a Cross-sectional descriptive research design with a non-probability convenient sampling technique was used which 168 patients who are diagnosed as myocardial infarction at cardiology OPD, SVIMS, Tirupati. Data was collected by using demographic variables and PTSD scale (Edna B.Foa,2013) and data was analyzed by using mean, standard deviation, chi-square test. **Results:** The study findings revealed that 23.2% of patients are suffering with mild post traumatic stress, 71.4% were having moderate stress and 5.4% were having severe post traumatic stress. The mean and standard deviation shows that post traumatic stress levels was 1.82 ± 0.505 . **Conclusion:** The study findings concluded that 71.4% of Myocardial Infarction patients were having moderate stress levels. Patients developed a positive attitude towards stress coping strategies by instructional booklet. There is precising need for public awareness programs that define PTSD among MI patients in a simplified and understandable language and explain coping strategies to overcome PTSD and to minimize further complications.

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INTRODUCTION

Stress is a major component of cardiac events. it may not cause disease, but can trigger heart attack (www.heart.org, stress-and-heart-health): Myocardial infarction is one of the most common non-communicable/chronic disease, which cannot be transmitted from person to person. It gradually progresses and affects the blood supply to heart. It is a serious medical emergency that occurs due to the blockage of one of the arteries which is supplying blood to the heart. Due to which lack of oxygen to heart causes characteristic chest pain and death of myocardial tissue (National Health Portal, Gateway of authentic health information, 2016). Myocardial infarction (MI), also known as a heart attack, occurs when blood flow decreases or stops to a part of the heart, causing damage to the heart muscle. Myocardial Infarction (MI) is experienced as a traumatic event by some of the people who suffer from one attack and may result in post-traumatic stress disorder (PTSD) (Marie-Anne Roberge, 2008).

Post-traumatic stress disorder is a severe anxiety disorder that can develop after exposure to any event that results in physiological trauma. This event may involve the threat of death to oneself or to someone else or to one's own or someone's else physical, sexual or psychological integrity, overwhelming the individual's ability to cope (Kaplan and sadok, 2001). The development of post traumatic stress after a coronary event not only adversely effects psychiatric health, but leads to increased cardiovascular morbidity and mortality. There is increasing evidence that like major depression, post traumatic stress disorder is also a strong coronary risk factor⁽⁵⁾. Post-traumatic stress disorder (PTSD) can affect individuals who experience or witness a life-threatening or violent event. Individuals with PTSD experience a number of distressing symptoms that fall into three main categories:

-) Re-experiencing symptoms such as intrusive thoughts, nightmares or flashbacks.
-) Avoiding stimuli or reminders of the event and
-) Physiological arousal (e.g: hyper vigilance, exaggerated startle response). These clusters of symptoms may continue for at least one month during

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which they inflict clinically significant distress or impairment in daily functioning.

Prevalence rates of PTSD vary across cardiac populations: 4%–24% of patients who experience acute coronary syndrome, approximately 20% of patients with implantable cardio-verter defibrillators (ICDs), and 19%–38% of those who suffer a cardiac arrest reported clinically significant symptoms of post-traumatic stress. Overall, prevalence rates tend to attenuate somewhat with time. For example, 24% of MI patients in one investigation met criteria for PTSD in the first month post-MI and doubled the national average, only 15% continued to report these symptoms at 9 months. Unfortunately, the risk of recurrent acute coronary syndrome (i.e., heart attack or angina) is double for patients who develop PTSD, as compared to those without this diagnosis (Heather Tulloch, 2015)

Experiencing a heart attack may be so terrifying that it triggers post-traumatic stress disorder, and those who develop PTSD have twice the risk of having a second heart attack (Marie-Louise Gander, 2008). The goal will be to enable the patient re-establish psychologic equilibrium and return to pre trauma functioning if possible. This can often be accomplished by prescribing medication, discussing the disease condition, offering reassurance, educating the patient about post traumatic stress disorder, emphasizing on coping strategies (Manuela Kuhn, 2006).

MATERIALS AND METHODS

Study Design: The study was a cross-sectional descriptive research design with a non-probability convenient sampling technique was performed among 168 patients with myocardial infarction in Department of Cardiology, OPD, SVIMS, Tirupati.

Eligibility Criteria: The criteria were as following: Patients over an age of above 18 years to below 70 years, diagnosed with myocardial infarction and those who are willing to participate in the study and available at the time of data collection. Patients with deterioration of other diseases (such as pregnant women, mentally illnesses, hepatic and malignancies) were excluded in the study.

Procedure: Prior permission was obtained from head of the department of cardiology to conduct the study. 168 samples were selected by non-probability convenient sampling technique with minimum of 12-16 cases per day from 8 Am to 1 Pm. The samples were retrospectively selected from the register and made into a list. The investigator made them to sit comfortably and introduces herself to each participant and explained the purpose of the study and took a written consent and administered the questionnaire to the patients through interview schedule and the responses of the participants were recorded. The data collection work took 15-20 minutes from each participant. After completion of data collection with the help of A.V Aids the investigator explained coping strategies and then distributed an instructional booklet to each participant for future references and thanked them for their cooperation. The same procedure was followed for all 168 samples.

Instruments: The data was collected via the demographic characteristics questionnaire which included 15 questions, with 8 personal information questions such as age, gender, religion, education status, occupation, family monthly income, social

support and marital status and 7 questions related to the disease such as Number of attacks of MI, Number of diseased coronary vessels, Usage of number of cardiac medications, undergone any cardiac procedure and type of cardiac procedure, other co-morbid conditions, mental illnesses and physical activity and PTSD Scale (Scale self report for DSM-5) by Edna B.Foa, 2013. Items were measured by Likert's scale and their score was from 0 to 4. The reliability of questionnaire was established by split half method with Karl Pearson correlation coefficient formula with $r = 0.8$.

Statistical Analysis: SPSS version 12.0 for windows was used to analyze the data. To describe the characteristics of research units, firstly the descriptive statistics including central (mean & standard deviation) indicators and frequency distribution were calculated. Then chi-square test and item analysis were done for analysis of main variables.

RESULTS

Demographic characteristics: Altogether 168 myocardial infarction patients were participated in the present study shows that majority i.e., 42.9% are 51-60 years, 77.4% were female, 79.2% belongs to Hindu religion, 32.1% were illiterates, 36.9% laborers, 45.2% are less than Rs.3908/- 11,707/-, 85.7% are married, 62.5% are having single attack of MI, 57.1% are having single vessel diseased, 100% are using the cardiac medications, 65.5% are having 4-6 medications in a day, 97.6% are undergone cardiac procedures, 58.3% are undergone Percutaneous transluminal coronary angioplasty, 67.3 are having other health problems, 51.8% are diagnosed with hypertension, 32.7% are not having health problems. 100% of the patients are not having any mental illnesses, 88.7 % are not engaging in physical activity and 96.4% are having a good social support (Table-1).

Onset of symptoms related to post traumatic stress levels among patients with myocardial infarction: With respect to onset of symptoms after the trauma in 57.7% of the patients symptoms began after 6 months of the trauma whereas 42.3% of the patients had the symptoms less than 6 months and 71.4% are patients had the symptoms more than 1 month of period whereas 28.6% had the symptoms less than 1 month of period (Table-2).

Levels of post traumatic stress levels among patients with myocardial infarction, Mean and Standard deviation: Among 168 patients 23.2% of patients are suffering from mild post traumatic stress, 71.4% are having moderate stress and 5.4% are having severe post traumatic stress. The mean and standard deviation for PTSD scale was 1.82 and 0.505 (Table-3).

Item wise analysis of post traumatic stress levels among patients with myocardial infarction: Among the total sample of 168 patients 41.1% Patients talking to other people about trauma, 34.5% are having unwanted upsetting memories about the trauma, 38.1% are having bad dreams or nightmares about the trauma once a week, 47.6% are not at all relieving the traumatic event, 41.7% are reminding about the trauma 2-3 times in a week and feeling emotionally upset, 48.2% having physical reactions when reminded of the trauma, 35.7% trying to avoid thoughts or feelings related to trauma once a week, 37.5% are trying to avoid activities, situations or places related to trauma, 51.8% not being able to remember important parts of the trauma, 36.9% are seeing themselves or others in a negative way, 46.4% are blaming themselves or others, 35.1%

Table-1: Percentage and Frequency distribution of demographic variables among patients with myocardial infarction n=168

S.No	Demographic variable	Frequency	Percentage(%)	
1	Age	<40 Years	9	5.4
		41 - 50 Years	45	26.8
		51 - 60 Years	72	42.9
		61 - 70 Years	42	25
2	Gender	Male	38	22.6
		Female	130	77.4
3	Religion	Hindu	133	79.2
		Muslim	35	20.8
		Christian	0	0
4	Education	Illiterate	54	32.1
		Primary	50	29.8
		Secondary	25	14.9
		Intermediate	19	11.3
		Degree	11	6.5
5	Occupation	Post Graduate	9	5.4
		House Maker	37	22
		Laborer	62	36.9
		Private employee	5	3
		Govt. Employee	8	4.8
		Retired	35	20.8
6	Family Income	Business	15	8.9
		Others	6	3.6
		Rs.<3907	34	20.2
		Rs.3908 - 11707	76	45.2
		Rs 11708 – 19515	33	19.6
		Rs.19516 – 29199	12	7.1
		Rs.29200- 39032	8	4.8
Rs. 39033 - 78062	5	3		
7	Marital Status	Rs> 78063	0	0
		Married	144	85.7
		Unmarried	1	0.6
		Divorced /Seperated	0	0
		Widow /Widower	23	13.7
8	No. of Heart Attacks	Nil	1	0.6
		1 time	105	62.5
		2 times	62	36.9
9	No. Of Diseased coronary vessels	Single Vessel	96	57.1
		Double Vessel	69	41.1
		Triple vessel	2	1.2
		> 3 vessels	1	0.6
10	Using any Cardiac medications	Yes	168	100
		No	0	0
11	Daily usage of Medications in number	Below 3 tablets	45	26.8
		4 - 6 tablets	110	65.5
		7 - 9 tablets	13	7.7
12	Whether undergone any Cardiac procedure	Yes	164	97.6
		No	4	2.4
13	Type of Cardiac procedure	Nil	4	2.4
		Coronary Angiogram	63	37.5
		Coronary artery bypass grafting	1	0.6
		Mitral value replacement	1	0.6
		Percutaneous transluminal coronary angioplasty	98	58.3
		Permanent pacemaker implantation	1	0.6
14	Other Health Problems	Yes	113	67.3
		No	55	32.7
15	Type of Health Problem	Nil	55	32.7
		Diabetes mellitus	14	8.3
		Hypertension	87	51.8
		Both	12	7.1
16	Duration of Health problems	Nil	55	32.7
		<4 Years	32	19
		5 - 8 Years	51	30.4
		9 - 12 Years	24	14.3
		Above 12 Years	6	3.6
17	Previous Mental illnesses	Yes	0	0
		No	168	100
18	IF Yes, Consulted Psychiatrist	No Response	168	100
19	Engaging in Physical activity	Yes	19	11.3
		No	149	88.7
20	If Yes, Type of Physical Activity	No Response	149	88.7
		Aerobic activity	19	11.3
		Muscle strengthening	-	-
		Bone strengthening	-	-
		Stretching exercises	-	-
21	Duration of Exercises	No Response	149	88.7
		20 minutes	1	0.6
		30 minutes	9	5.4
		45 minutes	3	1.8
		60 minutes	5	3
		90 minutes	1	0.6
		22	Good Social Support	Yes
No	6	3.6		

Table 2. Onset of symptoms related to post traumatic stress levels among patients with myocardial infarction

n=168						
S. No	Demographic variable		No. of Patients	%	Mean	SD
1	Long after the trauma difficulties begin	Less than 6 Months	71	42.3	} 1.58	0.495
		More than 6 Months	97	57.7		
2	Trauma related difficulties	Less than 1 Month	48	28.6	} 1.71	0.453
		More than 1 Month	120	71.4		

Table 3. Levels of post traumatic stress levels among patients with myocardial infarction, Mean and Standard deviation n=168

S. No	Assess the post traumatic stress levels among patients with myocardial infarction	Frequency	Percentage	Mean	SD
1	Mild	39	23.2	} 1.82	0.505
2	Moderate	120	71.4		
3	Severe	9	5.4		

Table 4. Item wise analysis of post traumatic stress levels among patients with myocardial infarction

S.No.	Item wise analysis	No. of Patients	%
1.	Talking to other people about the trauma		
	Not at all	66	39.3
	Once a week or less / a little	69	41.1
	2 to 3 times week /somewhat	22	13.1
	4 or 5 times a week /severe	8	4.8
	6 or more times a week /severe	3	1.8
2.	Unwanted upsetting memories about the trauma		
	Not at all	49	29.2
	Once a week or less / a little	58	34.5
	2 to 3 times week /somewhat	45	26.8
	4 or 5 times a week /severe	11	6.5
	6 or more times a week /severe	5	3.0
3	Bad dreams or nightmares related to the trauma		
	Not at all	50	29.8
	Once a week or less / a little	64	38.1
	2 to 3 times week /somewhat	44	26.2
	4 or 5 times a week /severe	4	2.4
	6 or more times a week /severe	6	3.6
4	Reliving the traumatic event or feeling as if it were actually happening again		
	Not at all	80	47.6
	Once a week or less / a little	45	26.8
	2 to 3 times week /somewhat	22	13.1
	4 or 5 times a week /severe	16	9.5
	6 or more times a week /severe	5	3.0
5	Feeling very EMOTIONALLY upset when reminded of the trauma		
	Not at all		
	Once a week or less / a little	12	7.1
	2 to 3 times week /somewhat	22	13.1
	4 or 5 times a week /severe	70	41.7
	6 or more times a week /severe	55	32.7
6	Having PHYSICAL reactions when reminded of the trauma (for example, sweating, heart racing)		
	Not at all	23	13.7
	Once a week or less / a little	44	26.2
	2 to 3 times week /somewhat	81	48.2
	4 or 5 times a week /severe	14	8.3
	6 or more times a week /severe	6	3.6
7	Trying to avoid thoughts or feelings related to the trauma		
	Not at all	50	29.8
	Once a week or less / a little	60	35.7
	2 to 3 times week /somewhat	47	28.0
	4 or 5 times a week /severe	6	3.6
	6 or more times a week /severe	4	2.4
8	Trying to avoid activities, situations, or places that remind you of the trauma or that feel more dangerous since the trauma		
	Not at all		
	Once a week or less / a little	52	31.0
	2 to 3 times week /some what	63	37.5
	4 or 5 times a week /severe	41	24.4
	6 or more times a week /severe	10	6.0
		2	1.2

Continue

16	Acting more irritable or aggressive with others Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	23 62 71 9 3	13.7 36.9 42.3 5.4 1.8
17	Taking more risks or doing things that might cause you or others harm (for example, driving recklessly, taking drugs, having unprotected sex) Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	53 48 51 14 2	31.5 28.6 30.4 8.3 1.2
18	Being overly alert or on-guard (for example, checking to see who is around you, being uncomfortable with your back to a door) Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	66 56 33 13 0	39.3 33.3 19.6 7.7 0
19	Being jumpy or more easily startled (for example when someone walks up behind you) Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	22 21 61 55 9	13.1 12.5 36.3 32.7 5.4
20	Having trouble concentrating Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	28 51 64 22 3	16.7 30.4 38.1 13.1 1.8
21	Having trouble falling or staying asleep Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	36 58 55 15 4	21.4 34.5 32.7 8.9 2.4
22	These difficulties been bothering you Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	56 54 42 15 1	33.3 32.1 25.0 8.9 0.6
23	These difficulties been interfering with your everyday life (for example relationships, work, or other important activities) Not at all Once a week or less / a little 2 to 3 times week /somewhat 4 or 5 times a week /severe 6 or more times a week /severe	105 35 22 6 0	62.5 20.8 13.1 3.6 0
24	long after the trauma did these difficulties begin Less than 6 Month More than 6 Month	71 97	42.3 57.7
25	long have you had these trauma-related difficulties Less than 6 Month More than 6 Month	48 120	28.6 71.4

Table-5 : Association between demographic variables with post traumatic stress levels among patients with myocardial infarction

S. No	Variables	Level of Assessment						Chi-square 2	P Value
		Mild		Moderate		Severe			
		f	%	f	%	f	%		
1	Age							17.953	0.006*
	Below 40 Years	0	0	6	5	3	33.3		
	41 - 50 Years	8	20.5	35	29.2	2	22.2		
	51 - 60 Years	19	48.7	50	41.7	3	33.3		
	61 - 70 Years	12	30.8	29	24.2	1	11.1		
2	Gender							7.752	0.021*
	Male	5	12.8	28	23.3	5	55.6		
	Female	34	87.2	92	76.7	4	44.4		
3	Religion							2.573	0.276*
	Hindu	31	79.5	93	77.5	9	100		
	Muslim	8	20.5	27	22.5	0	0		
	Christian	0	0	0	0	0	0		

Continue

4	Education							18.034	0.054*
	Illiterate	14	35.9	39	32.5	1	11.1		
	Primary	8	20.5	39	32.5	3	33.3		
	Secondary	5	12.8	20	16.7	0	0		
	Intermediate	5	12.8	11	9.2	3	33.3		
	Degree	3	7.7	8	6.7	0	0		
Post Graduate	4	10.3	3	2.5	2	22.2			
5	Occupation							21.113	0.049*
	House Maker	3	7.7	34	28.3	0	0		
	Labourer	17	43.6	38	31.7	7	77.8		
	Private employee	2	5.1	3	2.5	0	0		
	Govt. Employee	2	5.1	6	5	0	0		
	Retired	9	23.1	26	21.7	0	0		
	Business	3	7.7	10	8.3	2	22.2		
Others	3	7.7	3	2.5	0	0			
6	Family Income							14.721	0.143*
	Rs.<3907	7	17.9	27	22.5	0	0		
	Rs.3908 - 11707	14	35.9	58	48.3	4	44.4		
	Rs 11708 - 19515	11	28.2	21	17.5	1	11.1		
	Rs.19516 - 29199	4	10.3	7	5.8	1	11.1		
	Rs.29200- 39032	2	5.1	4	3.3	2	22.2		
	Rs. 39033 - 78062	1	2.6	3	2.5	1	11.1		
Rs> 78063	0	0	0	0	0	0			
7	Marital Status							0.513	0.972*
	Married	34	87.2	102	85	8	88.9		
	Unmarried	0	0	1	0.8	0	0		
	Divorced /Separated	0	0	0	0	0	0		
	Widow /Widower	5	12.8	17	14.2	1	11.1		
8	No of. Heart Attacks							30.980	0.000**
	Nil	0	0	1	0.8	0	0		
	1 time	10	25.6	89	74.2	6	66.7		
	2 times	29	74.4	30	25	3	33.3		
9	Single Vessel	21	53.8	73	60.8	1	11.1	13.118	0.041*
	Double Vessel	17	43.6	45	37.5	8	88.9		
	Triple vessel	0	0	2	1.7	0	0		
	> 3 vessels	1	2.6	0	0	0	0		
	Using any Cardiac medications	39	100	120	1000	9	100		
10	Yes	0	0	0	0	0	0		
	No								
	Daily usage of Medications in number							12.403	0.015*
	<3 tablets	18	46.2	26	21.7	1	21.7		
4 - 6 tablets	20	51.3	82	68.3	8	68.3			
7 - 9 tablets	1	2.6	12	10	0	10			
11	Cardiac procedure							6.190	0.045*
	Yes	36	92.3	119	99.2	9	100		
	No	3	7.7	1	0.8	0	0		
12	Type of Cardiac procedure							2 = 21.270*; (p = 0.006) ;	df= 8;
	Coronary Angiogram	14	35.9	46	38.3	3	33.3		
	Coronary artery bypass grafting	0	0	0	0	1	11.1		
	Mitral valve replacement	0	0	1	0.8	0	0		
	Percutaneous transluminal coronary angioplasty	21	53.8	72	60	5	55.6		
13	Other Health Problems	20	51.3	85	70.8	8	88.9	2 = 7.129*;	0.028
	Yes	19	48.7	35	29.2	1	11.1		
	No								
14	Type of Health Problem							12.242	0.016*
	Diabetes mellitus	0	0	13	15.3	1	12.5		
	Hypertension	14	70	66	77.6	7	87.5		
	Both	6	30	6	7.1	0	0		

16	Duration of Health problems							5.661	0.0462
	Below 4 Years	4	20	26	30.6	2	30.6		
	5 - 8 Years	7	35	40	47.1	4	47.1		
	9 - 12 Years	7	35	16	18.8	1	18.8		
	Above 12 Years	2	10	3	3.5	1	3.5		
17	Previous Mental illnesses	0	0	0	0	0	0	-	NS
	Yes	39	120	9	39	120	9		
18	IF Yes Consulted Psychiatrist							-	NS
	No Response	39		120		9			
19	Engaging in Physical activity							1.362	0.506*
	Yes	5	12.8	12	10	2	22.2		
	No	34	87.2	108	90	7	77.8		
20	If Yes Type of Physical Activity	5	100		100	2	100	-	
	Aerobic activity	0	0	12	0	0	0		
	Muscle strengthening	0	0	0	0	0	0		
	Bone strengthening	0	0	0	0	0	0		
	Stretching exercises	0	0	0	0	0	0		
21	Duration of Exercises							3.993	0.678*
	20 minutes	0	0	1	8.3	0	0		
	30 minutes	3	60	6	50	0	0		
	45 minutes	1	20	1	8.3	1	50		
	60 minutes	1	20	3	25	1	50		
	90 minutes	0	0	1	8.3	0	0		
22	Good Social Support							2.489	0.288*
	Yes	39	100	114	95	9	100		
	No	0	0	6	5	0	0		

NOTE: **p<0.01 *P<0.05 NS-Not Significant

are having intense negative feelings, 35.1% are losing interest and participating in activities, 66.7% are feeling distant or cut-off from others, 38.1% are having difficulty in experiencing positive feelings, 42.3% are more irritable and aggressive with others, 31.5% are taking more risks or doing things that may cause harm to themselves or others, 39.3% are being overly alert or on-guard, 36.3% are being jumpy or more easily startled, 38.1% having trouble in concentrating, 34.5% having trouble falling asleep, 33.3% are bothered by this difficulty, 62.5% are having interference of this difficulty in their daily routine life, 57.7% of the patients had this difficulty after 6 months of the trauma, 71.4% of the patients had this difficulty more than 6 months (Table-4).

Association between demographic variables with post traumatic stress levels among patients with myocardial infarction: The association of demographic variables with post traumatic stress levels among patients with myocardial infarction shows No. of attacks of MI, shows significant association at $p<0.01$ and age, gender, religion, education, occupation, family income, marital status, No. of diseased coronary vessels, Daily usage of cardiac medications, Cardiac procedures, type of cardiac procedure undergone, other health problems, type of health problem, duration of health problem, engaging in physical activity, duration of physical activity, good social support at $p<0.05$. The other variables such as using any cardiac medications, previous mental illnesses, have consulted psychiatrist and type of physical activity were not found to have any significant association with post traumatic stress levels among patients with myocardial infarction (Table-5).

DISCUSSION

The purpose of the study was to assess the levels of post traumatic stress among patients with myocardial infarction attending cardiology OPD, SVIMS, Tirupati. The assessment helps to determine the extent of levels of post traumatic stress and common stress reduction strategies to relieve post traumatic stress.

Post traumatic stress disorders occur in many people who survive traumatic experiences. The symptoms of post traumatic stress disorder can arise suddenly, gradually or occasionally over time. Treatment for post traumatic stress disorder relieves symptoms by exploring thoughts and feelings about the trauma, works through feelings of guilt, self-blame, and mistrust helps to learn how to cope with and control intrusive memories (Barbara, 2000). The discussion of the present study was based on the findings obtained from the descriptive and inferential statistical analysis of collected data.

It was presented in the view of objectives of the study: The first objective of the study was to assess the post traumatic stress levels among patients with myocardial infarction. The level of post traumatic stress was evaluated in terms of severity. The results shows that 23.2% of patients are suffering from mild post traumatic stress, 71.4% are having moderate stress and 5.4% are having severe post traumatic stress. So the null hypothesis H_01 which states that there may be no significant difference between levels of post traumatic stress symptoms among MI was rejected. Nithin manly's Kokilavani, (2019) conducted a study to assess the level of post traumatic stress experience by non-experimental description research design and the sample size was 50 patients. The stress levels were assessed by using the rating scale developed by twen christeanson et. al. The results were among 50 patients, 35 were in mild post traumatic stress, 13 were in moderate PTS and 2 were in severe past traumatic stress (Nithin Manly, 2019). The second objective was to assess association between post traumatic stress levels with the socio demographic variables. The study findings revealed that the demographic variables like age, gender, religion, education, occupation, family income, marital status, No. of attacks of MI, No. of diseased coronary vessels, Daily usage of cardiac medications, Cardiac procedures, type of cardiac procedure undergone, other health problems, type of health problem, duration of health problem, engaging in physical activity, stretching exercises, good social support had significant association with levels of post traumatic stress with chi-square() values of

17.953, 7.752, 2.573, 18.034, 21.113, 14.721, 0.513, 30.980, 13.118, 12.403, 6.190, 21.270, 7.129, 12.242, 5.116, 1.362, 3.993, 2.489 respectively which were statistically significant at $p < 0.01$. While other variables were not found to have any significant association with post traumatic stress disorder. So the null hypothesis H_0 which states that there may be no significant association between the selected demographic variables and post traumatic stress levels among patients with myocardial infarction was rejected. White head et al., (2006) conducted a two-phase prospective study in four coronary care units to assess frequency and predictors of (PTSD). The assessment was done by the PTS self-report version and the sample size was 135. The results of the study were 20 patients (14.8%) showed a symptom pattern characteristic of PTSD at three months by using a conservative scoring criterion. The study concluded that patient vulnerability to PTSD three months after ACS is predictable on the basis of psychological state and chest pain at the time of admission (Whitehead, 2006).

Conclusion

The study findings concluded that 71.4% of Myocardial Infarction patients were having moderate stress levels. Patients developed a positive attitude towards stress coping strategies by instructional booklet. There is precising need for public awareness programs that define PTSD among MI patients in a simplified and understandable language and explain coping strategies to overcome PTSD and to minimize further complications.

Note: All tables enclosed next to the references.

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