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DEATH ANXIETY, COPING STRATEGIES, AND PSYCHOLOGICAL DISTRESS AMONG MYOCARDIAL INFARCTION PATIENTS IN LAHORE, PAKISTAN

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Abstract

The current study was conducted to examine the connection between Death Anxiety, Coping strategies and its association with Psychological distress among myocardial infarction patients in Lahore, Pakistan. In the quantitative research, the co-relational method was conducted to determine the relationship among variables in the study. Both male *(N=50)* and female *(N=50)* participants were recruited *(N=100)* from the purposive sampling strategy from different private and government hospitals in Lahore. The age range of the myocardial infarction patientswas set from 35-55 years (M*age*= 45; SD= 6 .13). The psychological assessment was done after getting a consent from the participants. The information was gathered by administering a demographic sheet, the Death and Dying Distress Scale (DADDS) by (Krause *et al*., 2011); Brief Cope Scale by (Carver, 1997), and Kessler's psychological distress Scale (Kessler *et al*., 1992).It has been indicated that there is a positive relationship among death anxiety and psychological distress to those patients suffering with myocardial infarction. It has been also revealed that gender differences determine the severity of different variables suffering in myocardial infarction. The male and female had different strategies to cope with the problems and the coping strategies has a main role to deal with the death anxiety and distress that directs effect the individual's quality of life. The current study sheds on the importance of psychological factors for the management of any illness and the quality of life.

Keywords

Death Anxiety, Coping Strategies, Psychological Distress, Infarction Patients, Pakistan

1. Introduction:

Myocardial infarction (MI) is the medical term, mostly known as a heart attack. European Society of Cardiology with the collaboration of other institutes determined the explanation of Myocardial Infection as; A life-threatening condition in which usually blood flow has been disrupted towards the heart muscles that become the cause of tissue damage. The coronary arteries are also caused by blockage due to different reasons such as; plaque, cholesterol, fat, or cellular waste (Thygesen *et al*., 2018). It has been indicated that MI is one of the leading causes of death not only in Australia but also in developed countries. A recent meta-analysis conducted, in which it is indicated that myocardial infarction suffered by one patient among 313 patients, that is three million people across the world, and 90% of the countries are unaware of its acute type called familial hypercholesterolemia (FH) (Beheshti *et al*., 2020). Furthermore, the prevalence rate in the United States (US) is 79,000 each year (Benjamin *et al*., 2017), and one million deaths annually (Alaour *et al*., 2018). Unfortunately, analyzing the burden of MI in Low and Middle-Income countries (LMICs) is still a great challenge due to the lack of resources and assessment factor, however, the illness is reported increasingly over the last decades including in Pakistan (Rehman *et al*., 2019). In the acute phase of hospitalization and after diagnosis of MI, it has been indicated in different studies that coping strategies among participants decreased that usually leads to different psychological problems such as anxiety, depression, and distress (Sugay *et al*., 2020). Psychological distress is the most common manifestation to deal with fear and anxiety among patients with myocardial infection (MI) (Norlund *et al*., 2018). Different studies highlighted that more than 30% of patients with MI reported depressive symptoms, distress, and anxiety issues that lead to poor quality of life (Sreenivasan *et al.,* 2021). Psychological distress increases the prevalence rate of new cardiac events among patients with MI, and escalations healthcare costs or mortality as well. Furthermore, death anxiety is the most common that leads towards MI leads to panic attacks, the study indicated that depression scores were also observed high with death anxiety among patients with MI (Yildirim & Kocatepe, 2021). Thus, MI is the emotional, physical and social problem of an individual. So, the purpose of the current study is to investigate the association between death anxiety, coping strategies, and its impact on individuals' psychological distress among Myocardial Infarction patients in Pakistan.

2. The Rationale of the study

Myocardial infarction is the most common problem affecting health care globally. The prevalence of MI has been rapidly increasing across the globe affecting both developed and developing countries like Pakistan. However, the rationale of the current study is to investigate the association between death anxiety, coping strategies, and its impact on individuals' psychological distress among Myocardial Infarction patients in Pakistan. Secondly, the current study will explore the predictive value of psychological distress after the first heart attack

among MI patients while examining the gender differences in Pakistan.

3. Method

The present study was conducted to explore death anxiety, coping strategies, and psychological distress in participants with Myocardial infarction in Pakistan.

4. Research Design

A correlational research design was used to explore death anxiety, coping strategies, and psychological distress among participants with Myocardial infarction. The sample was collected by using a purposive sampling technique. The participants (N=100) aged between 35 to 55 years were recruited from different private and government hospitals in Lahore, Pakistan as the formal sample size recommendations by Andy Field Were N=100 (Field, 2013) for good practice.

5. Study Setting

The study sites consented to hospitals both private and government hospitals located in the catchment area of Lahore, Pakistan. The sample was recruited by administering the checklist of inclusion criteria and after completion of the written and verbal consent both from patients and the family members.

6. Inclusion Criteria

The following were the criteria to recruit the participants;

- The participants aged between 35-55 years included in the study
- The Patients diagnosed with myocardial infarction (MI) after the first heart attack
- The participants suffered from MI diagnosed for at least 6 months
- Only outpatients on the follow-up check-ups with no diagnosed comorbidity were included
- Those who were able to read and write participated
- Those who were able to give a consent form both verbal and written form were included

7. Exclusion Criteria

The following criteria used to exclude the participants;

- Age range more than 55 years
- Myocardial Infarction patients with more than one heart attack
- Myocardial Infarction patients with any other comorbidity

8. Research Tools

The demographic form was filled out by the researcher for those who fulfil the inclusion criteria or have given consent to take part in the current study. The demographic form includes; age, gender, education, number of heart attacks, and duration of a first heart attack. Different psychological assessment forms were completed by researchers these were;

8.1 Death and Dying Distress Scale (DADDS) (Krause et al., 2011)

The assessment scale of DADDS is used to measure the anxiety and distress related to death. The scale consisted of 15 items. The scale based on the five- point Likert criteria that assess items from “0-5”. The “O” response measures not any distress level or “5” shows high level of distress among individuals. The reliability of the scale can be determined through Cronbach’s alpha that was 0.85 -0.88 (Smith, 2017).

8.2 Brief Coping Scale (BCS) (Carver, 1997)

The Brief Coping Scale is used to assess the frequency in which an individual uses different coping styles and strategies. The scale consisted of 28 items. The assessment of the items response based on Likert criteria consisted in 1 to 4 levels. The score of "1" indicates; Have not been doing at all, and "4" shows; have been doing a lot. Furthermore, the scale also consisted of the subscales that were enhanced to measure; active coping, self-distraction, substance use, denial, development of emotional support system, venting, humor, flexibility of positive reframing, religion and self-blaming statements. The reliability of the scale could be measured from Cronbach's alpha that is 0.81-0.85 (Mark, 2015).

8.3 Psychological Distress Scale (Kessler & Mroczek, 1992)

The Psychological Distress Scale (K10) authored by Kessler, is an assessment instrument designed to measure individual's stress level. The scale consisted of 10 items about exploring the emotional states that creates stress level. The severity of the items can be measured from the response of five level scale. Every item scoring consisted from 1 to 5 scoring. The 1 item indicated "none of the time individual feel distress" or 5 item indicated "all of the time individual feel distress. The scoring of the items would be done by computing all the scores. The minimum score is 10 and the maximum scores are 50. The minimum scores indicted low level of distress and maximum score indicates the high score of distress among individual.

9. Ethical Consideration

The procedure was started while presenting in the board of the university. The study proposal was presented to Ethical Board of Kinnaird College for Women Lahore. The permission from the university board was the first achievement for further processing. At the second stage, the authors emailed has been searched out and contacted them for using the assessment scales in the current study while presenting the objective and rationale of the study. It was communicated to the authors that scale will be translated into Urdu as well due to native language. At the end, permission process was started from all government and private hospitals these are; Fatima Memorial Hospital, Iqra Medical Complex, Services Institute of Medical Sciences, and National Hospital and Medical Centre on the reassurance that the data will be by all means taken care of confidential and the data will be used for research purpose. The researcher checked the eligibility of the participants before recruitment for the project by applying the checklist titled as a screening tool. The information leaflet was prepared for the participants to be known about the purpose of the research. The copy of information sheet was given to the family of the recruited participants. It was assured to the participants they have the right to leave the study at any stage if they feel discomfort. The consent form was signed from the recruited participants.

10. Statistical Analyses

The data was analyzed through Statistical Package for Social Sciences (SPSS) 21 version to examine the results of the variables. The study was explored

to find out the relationship between death anxiety, coping strategies, and its impact on the individual's psychological distress among myocardial infarction patients; Pearson Product Moment Correlation was used. Multiple Linear Regressions analysis was used to explore and regulate the role of death anxiety and coping strategies on psychological distress among myocardial infarction patients. An Independent samples t-test was used to find out the significant gender differences among myocardial infarction patients.

11. Results

The study was conducted to explore death anxiety, coping strategies, and psychological distress among participants with Myocardial infarction in Pakistan. Reliability analysis of the scales was done to determine the psychometric properties of the questionnaires which were used in this research. The "Pearson Product Moment Correlation Coefficient" was conducted to investigate relationships between death anxiety, coping strategies, and psychological distress among myocardial infarction patients. Regression investigation was conducted to examine the predictors of psychological distress among myocardial infarction patients. An Independent Samples t-test was conducted to determine the major differences in gender. The results concluded from the reliability analysis that the different assessment instruments were reliable to be used in the current study. The reliability can be determined from the Cronbach alpha values presented in the above-mentioned table that reached the acceptable range of all instruments. The data was distributed on the normal ranges of skewness that is from -2 to +2 for all assessment scales. The correlation test was conducted to explore the relationship between death anxiety, coping strategies the psychological distress among infarction patients.

Table 1.1 The table shows the Psychometrics Properties (N=100)

Variables	k	M	SD	*a*	Skewness
Death And Dying Scale	15	47.30	10.72	0.96	-0.14
Brief Cope Scale	28	75.96	10.40	0.78	0.09
Kessler Psychological Distress Scale	10	33.67	8.46	0.97	-0.43

Note: k= Total no. of items, a= Cronbach's alpha, M= Mean, SD= Standard Deviation

Table 1.2 Inter Correlation between Death Anxiety, Coping Strategies and Psychological Distress among Myocardial Infarction Patients (N=100)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.DA	-	.10	-.38**	-.30**	-.35**	-.29**	-26*	.29**	.23*	.22*	.22*	.30**	-.25*	.33**	-.29**	.36**	-.27**	.31**	.58**
2.BCS		-	-.31**	-.23*	-.14	-.19	.49**	.62**	.57**	.64**	.67**	.75**	-.52**	.75**	-.24*	.64**	.17	.69**	.18
3.PR			-	.88**	.78**	.84**	-.67**	-.88**	-.69**	-.76**	-.64**	-.79**	.59**	-.81**	.89**	-.86**	.79**	-.87**	-.56**
4.Plg				-	.77**	.90**	-.72**	-.80**	-.68**	-.82**	-.64**	-.72**	.46**	-.74**	.97**	-.72**	.86**	-.83**	-.49**
5.Hum					-	.71**	-.48**	-.66**	-.76**	-.61**	-.72**	-.57**	.53**	-.57**	.76**	-.62**	.62**	-.69**	-.55**
6.Acc						-	-.75**	-.79**	-.69**	-.74**	-.56**	-.63**	.36**	-.68**	.94**	-.66**	.89**	-.80**	-.44**
7.Rel							-	.79**	.56**	.71**	.48**	.68**	-.39**	.78**	-.75**	.67**	-.61**	.78**	.26**
8.SelfB								-	.79**	.85**	.72**	.86**	-.69**	.91**	-.81**	.90**	-.61**	.96**	.48**
9.Vent									-	.73**	.91**	.68**	-.62**	.71**	-.69**	.71**	-.42**	.85**	.47**
10.BehDi										-	.81**	.90**	-.62**	.88**	-.82**	.74**	-.50**	.91**	.39**
11.InsAp											-	.77**	-.57**	.75**	-.65**	.66**	-.25*	.83**	.43**
12.ESup												-	-.68**	.96**	-.72**	.88**	-.39**	.92**	.46**
13.SubUs													-	-.68**	.43**	-.68**	.21*	-.65**	-.48**
14.Den														-	-.75**	.90**	-.46**	.95**	.48**
15.ActiC															-	-.72**	.87**	-.84**	-.46**
16.SelfDi																-	-.51**	.92**	.55**
17.AppC																	-	-.56**	.-.39**
18.AvoiC																		-	.50**
19.K10																			-
M	3.15	2.41	2.77	2.62	2.45	2.74	2.58	2.19	2.45	2.43	2.51	2.36	1.38	2.28	2.62	2.42	2.60	2.19	3.37
SD	.71	.26	1.16	.99	1.02	.96	.71	1.05	1.00	.90	1.03	1.04	.54	.99	.95	1.04	.47	.70	.85

Note: N=100; M= mean; SD= standard deviation; DA= Death Anxiety; BCS= Brief Cope Scale; PR= Positive reframing; Plg=Planning; Hum= Humor; Acc= Acceptance; Rel= Religion; SelfB=Self-Blame; Vent= Venting; BehDi= Behavioral Disengagement; InsAp= Instrumental Approach; ESup= Emotional Support; SubUs= Substance Use;Den= Denial; ActiC= Active Coping; SelfDi= Self Disengagement; AppC= Approach Coping; AvoiC= Avoidant Coping; K10= Kessler Psychological Distress Scale

The results indicated that there was a highly significant positive relationship between death anxiety the psychological distress among myocardial infarction patients which means that when death anxiety increases it leads to an increase in psychological distress. There was no significant relationship of coping strategies and psychological distress as a whole but the subscales of coping strategies were having significant positive and negative relationships with the psychological distress among the patients who were suffering from myocardial infarction. The subscales of the coping strategies had highly significant positive relationship with the psychological distress; the subscales of coping strategies include; religion, self-blame, venting, behavioral disengagement, instrumental approach, emotional support, self- distraction and avoidant coping among the myocardial infarction patients. This clearly showed that the self-blame, venting out behavior, the need of emotional support and self- distraction as well as avoidant coping

increases then the psychological distress increase too. On the other hand, the subscales of coping strategies had highly significant negative relationship with planning, positive reframing, humor, substance use, active coping and approach coping with the psychological distress. This basically shows that when the psychological distress increases than activities related to thinking decrease like planning, positive reframing, humor, active coping as well as approach copping among myocardial infarction patients.

Table 1.3 Multiple Linear Regression Analysis showing Death Anxiety, Coping Strategies andPsychological Distress among Myocardial Infarction Patients (N=100)

Predictors	R^2	B
Model		
1		
DeathA		0.37***
PR		0.12
Plg		-0.25
Humo		-0.27
rAcc		0.14
Rel		-0.43*
SB		-0.44
Ven	0.60***	0.41
BehDi		0.04
s		-0.30
InsApp		-0.08
SubUs		0.78
eDen		0.74
AC		-0.65
AppC		0.28
AvoiC		

*Note: DeathA= Death Anxiety; BCS= Brief Cope Scale; PR= Positive reframing; Plg=Planning; Humor= Humor; Acc= Acceptance; Rel= religion; SB=Self-Blame; Ven= Venting; BehDis= Behavioral Disengagement;InsApp= Instrumental Approach; SubUse= Substance Use; Den= Denial; AC= Active Coping; AppC= Approach Coping; AvoiC= Avoid Coping; *p<.05, **p<.01, ***p<.001*

To determine the prediction among study instruments, enter method was used to identify the predictors of psychological distress among myocardial infarction patients. Death anxiety and coping strategies were determined as a predictor although the distress contributed to the outcome variable. The Durbin method was used to testify to the assumption of the independent errors ranged between 1 and 3 1.42 indicating that this assumption was met. The tolerance level of multi-collinearity was conducted to examine another assumption of not perfect and the value determined was 0.2 so this assumption was met too. Furthermore, the errors were normally distributed. In model 1, death anxiety and the subscales of the coping strategies were entered and the regression model showed substantial outcomes, $R^2=0.60$, $F\ (15, 84) = 8.22$, $p<.001$. In this particular study death anxiety emerged to be the significant positive predictor of psychological distress among myocardial infarction patients. On the other hand, the subscales of coping strategies didn't act out as a significant predictor of psychological distress among myocardial infarction patients. Only one subscale of the coping strategy that is religion acted out as the negative significant predictor of Psychological distress among myocardial infarction patients. To further explore the results, an independent samples t-test was conducted to figure out group differences in death anxiety, coping strategies, and psychological distress among male and female myocardial infarction patients. No significant outliers were found and all the dependent variables were approximately normally distributed for each group of the independent variables. For all the independent variables assumption of the homogeneity of variance was met. Results showed that there were significant differences in the demonstration of death anxiety, coping strategies, and psychological distress among gender in the myocardial infarction patients which suggested that males and females differ in their reactions to the same condition and circumstances. The results clearly showed that females had more death anxiety as well as more psychological distress as compared to males. Furthermore, it was seen that males opted for the strategies like approach coping, active coping, acceptance, planning, and positive reframing more than females. Females on the other hand opted for coping strategies that were avoidant in nature like; venting, self-distraction, self-blaming, denial as well as behavioral disengagement.

Table 1.4 Group Differences in Death Anxiety, Coping Strategies and Psychological Distress among Myocardial Infarction Patients

	Myocardial Infarction Patients						95% Cl		
	Male		Female						
Variable	M	SD	M	SD	t(*df*)	*P*	LL	UL	Cohens *d*
DeathA	2.68	0.55	3.62	0.52	-8.74(98)	0.00	-1.16	-0.73	1.76
BCS	2.33	0.25	2.50	0.24	-3.38(98)	0.00	-0.26	-0.07	0.69

PR	3.60	0.78	1.93	0.83	10.33(98)	0.00	1.35	1.99	2.07
Planning	3.18	0.75	2.05	0.89	6.89(98)	0.00	0.80	1.46	1.37
Humor	3.12	0.79	1.77	0.75	8.75(98)	0.00	1.04	1.66	1.75
Acc	3.27	0.64	2.21	0.93	6.63(98)	0.00	0.74	1.38	1.33
Religion	2.29	0.50	2.87	0.77	-4.46(98)	0.00	-0.84	-0.32	0.89
SB	1.53	0.75	2.85	0.89	-8.05(98)	0.00	-1.65	-0.99	1.60
Venting	1.85	0.69	3.05	0.90	-7.47(98)	0.00	-1.52	-0.88	1.50
BehDis	1.96	0.63	2.90	0.89	-6.11(98)	0.00	-1.25	-0.63	1.22
InsApp	1.93	0.70	3.09	0.99	-6.77(98)	0.00	-1.50	-0.82	1.35
EmoSup	1.73	0.74	2.99	0.91	-7.60(98)	0.00	-1.59	-0.93	1.52
SubUse	1.68	0.57	1.08	0.27	6.72(98)	0.00	0.42	0.78	1.35
Denial	1.65	0.68	2.91	0.83	-8.30(98)	0.00	-1.56	-0.96	1.66
ActiveC	3.17	0.68	2.07	0.87	7.04(98)	0.00	0.79	1.41	1.41
SelfDis	1.66	0.73	3.17	0.71	-10.46(98)	0.00	-1.80	-1.22	2.10
AppC	2.81	0.35	2.39	0.47	5.08(98)	0.00	0.26	0.59	1.01
AvoiC	1.72	0.46	2.66	0.58	-8.92(98)	0.00	-1.15	-0.73	1.80
K10	2.68	0.60	4.05	0.37	-13.75(98)	0.00	-1.56	-1.17	2.75

Note: Male=50; Female=50; M= mean; SD= standard deviation; DeathA= Death Anxiety; BCS= Brief Cope Scale; PR= Positive reframing; Planning=Planning; Humor= Humor; Acc= Acceptance; Religion= religion; SB=Self-Blame; Venting= Venting; BehDis= Behavioral Disengagement; InsApp= Instrumental Approach; EmoSup= Emotional Support; SubUse= Substance Use; Denial= Denial; ActiveC= Active Coping; SelfDis= Self Disengagement; AppC= Approach Coping; AvoidC= Avoid Coping; K10= Kessler Psychological Distress Scale.

12. Discussion

The current study was determined to explore the association between death anxiety, coping strategies, and psychological distress in patients of myocardial infarction in Lahore, Pakistan. It has been indicated that there was a highly significant relationship between death anxiety, coping strategies, and psychological distress. The study conducted on cancer patients indicated that death anxiety and psychological distress positively correlated with each other or other non-communicable diseases (Fay & Cella, 2018). The current study examines that when death anxiety increases with that psychological distress also increases which also affects their quality of life as well as how they face the different challenges of life. Different researchers (Nijst *et al*., 2017) indicated that people who have fear of death adopt different coping strategies which are avoidant in nature like; behavioral disengagement, denial, and not accepting the current illness in which they are suffering. The present study also concluded that the coping strategies decrease with the severity of the illness and those who are able to use their coping strategy they prefer to remain in the avoidant situation. Cheung and Mark (2019),

explored that when death anxiety and psychological distress increase it leads to a decrease in the mental well-being and rational thinking of the individuals explored in the current study as well, furthermore death anxiety and psychological distress decrease humor among the myocardial infarction patients too. Lee and Irwin's (2018) study also indicated that death anxiety plays a great role in psychological distress and acts as its predictor. Another study conducted by the Jung and Kim (2017) provided similar conclusions where that death anxiety predicted psychological distress. In Pakistani culture, there was a study by Khan (2018) who claimed that when Allah gives any problem or disease to the individual which leads to psychological distress then there is hopelessness in the individual. The individual feel rejected by Allah and he thinks that Allah doesn't like Him that's why he gave him the problem. This can further lead him towards other self-distraction activities like meditation, yoga, reading books, watching movies, or in extreme cases substance use too. The current study explored that when psychological distress increases religious activities decrease due to the lack of coping strategies but in some cases, vice versa could happen. The gender differences we explored in the study between death anxiety, coping strategies, and the effect of psychological distress among myocardial infarction patients. Results showed that there were significant differences in the demonstration of death anxiety, coping strategies, and the effect of psychological distress among male and female myocardial infarction patients which suggested that males and females differ in their reactions to the same condition and circumstances. To support this research there was a previous study conducted by Neimeyer and Fortner (2019) who stated that elder women were more anxious about their death as compared to elderly men in their study. Thus, it can be concluded from this study that there was a highly significant positive relationship between death anxiety and psychological distress among myocardial infarction patients which showed that when death anxiety increases it leads to an escalation in psychological distress and a reduction in the coping strategy among different gender in Lahore, Pakistan.

13. Implications

This study will contribute to the literature in the field of non-communicable psychological disturbs and how these factors increase the severity of the individual problem. This study can also support psychologists to develop a psychological management plan to deal with the underlying issues to improve the quality of life among patients suffering from myocardial infarction in the context of Pakistan.

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