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THANATOPHOBIA IN HOSPITALIZED VS NON-HOSPITALIZED PATIENTS WITH CARDIOVASCULAR DISEASES: A COMPARATIVE STUDY

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Abstract

Background: The cardiovascular diseases (CVDs) are the biggest killer globally, responsible for the deaths of 17.9 million people each year. Up to 70% of those who suffer from a case of cardiovascular disease experience spells of death anxiety (thanatophobia), which is marked by the fear of death or the dying process, and is a very intense force. Nevertheless, there are few studies that have tried to make comparisons between the anxiety of death in hospitalized and non-hospitalized individuals with CVD. **Objectives:** To estimate the death anxiety level among people hospitalized for cardiovascular disease and to investigate gender difference in death anxiety among them. **Materials and Method:** A cross-sectional comparative study was conducted with 148 patients having CVD, 74 from hospitals and 74 non-hospitalized patients, with 36 male and 38 female patients of age 35-83 years, who were selected from four hospitals in Sialkot, Pakistan. There was death anxiety measured through the Urdu translated version of Templer's Death Anxiety Scale which was validated by Azeem & Naz (2015). Data were analyzed by descriptive statistics, independent t-test and one way ANOVA. **Results:** Female patients had significantly higher death anxiety than males ($p<.001$), while hospitalization status showed no significant difference. Additional physical illness marginally increased death

anxiety (p=.058), and the death of a significant other was linked to higher death anxiety (p=.003). News program viewers also reported significantly higher death anxiety than entertainment program viewers (p<.001).

Keywords: Death Anxiety, Cardiovascular Disease, Hospitalization, Thanatophobia, Pakistan, Gender Differences, Bereavement

1. Introduction

Chronic diseases are the primary drivers of disability and death in the world and cardiovascular diseases (CVDs) have become the greatest public health threat in the world. Chronic diseases are responsible for most adult mortality; they are defined as illnesses that persist for a year or longer, necessitate continuous medical care or limit the activities of everyday living, and is present in almost all countries (Hollister et al., 2020). World Health Organization (WHO, 2023) estimates that CVDs account for an estimated 17.9 million fatalities worldwide every year, 32% of all deaths. Significantly, over 4/5 of mortalities from CVD are due to heart attacks and strokes, and one-third of these deaths are premature, before age 70. The majority of deaths from cardiovascular diseases (CVD) take place in low- and middle-income countries, where access to healthcare for prevention and treatment is limited (Kovacs et al., 2022).

CVD in Pakistan has got alarming proportions. Cardiovascular diseases are responsible for an estimated 26.9% prevalence of coronary artery disease (CAD) among the adult population of Pakistan, and represent about 29% of all deaths in Pakistan (Ali et al., 2023). WHO statistics show that the coronary heart disease claimed 16.49% of deaths, with 240,720 deaths recorded in Pakistan in 2020. Coronary heart disease mortality rate of 193.56 per 100,000 population makes Pakistan 30th in the list of countries worldwide (Saleem et al., 2020). In Pakistan one in four middle aged adults has prevalent CAD, and risks are universally higher among younger people and especially women (Bukhari et al., 2022). The principle behavioral risk factors are: unhealthy diet, physical inactivity, smoking, psychological stress, obesity, hypercholesterolemia, and hypertension (Arooj, et al., 2021).

There is a large body of evidence highlighting the close relationship between mental Illness and the cardiovascular risk factors. There is direct evidence (biological pathways) and indirect evidence (impact of mental disorders on health behaviors) of a correlation between all mental disorders and increased risk for CVD (AbuRuz, et al., 2021). People suffering from persistent depression, anxiety or stress may develop changes in their body such as increased cardiac reactivity, decreased myocardial blood flow, increased cortisol levels and this can lead to the development of arterial calcium deposits and metabolic disease (Rahimi, 2022; Song et al., 2025). Mental health

disorders on the other hand can develop following cardiac events due to pain, fear of death, and financial burden due to acute illness (Kuo, et al., 2022).

Death anxiety, also known as thanatophobia, refers to an ambiguous state of unease about a threat or worry to life, real or imagined (Sara et al., 2022). Death anxiety has been shown to be one of the most common psychiatric outcomes of chronic health disorders, especially with patients with CVD (Safiri et al., 2024). Bueno et al (2025), showed that death anxiety had significant, yet independent, impact on psychological distress in medical populations regardless of the level of disease severity. Moreover, Rachel et al (2024), discovered mortality anxiety acts as a mediator between diagnoses of chronic illness and subsequent depression, indicating that addressing mortality fear is imperative for patients' full care.

One of the best theories of death anxiety is offered by Terror Management Theory (TMT) developed by Solomon, Greenberg and Pyszczynski (1991). TMT states that the awareness of their own mortality leads to existential anxiety that people control and respond to by using cultural worldviews and maintaining self-esteem (Greenberg et al., 2012; Pyszczynski et al., 2015). To date, the studies linking TMT to health psychology have shown that in some TMT groups, this effect is health promoting, while in others, it is health-risk promoting (Carola et al., 2024). Patients with greater death anxiety were defined as those with weak religious and cultural worldviews; El-Ashry et al (2025), have applied TMT to cardiovascular patients and found that those with a high degree of religious and cultural worldview had significantly less death anxiety after experiencing cardiac events.

The death anxiety isn't uncommon in people with CVD. They found that death anxiety is significant in two-thirds of the population of patients with CVD, ranging from moderate to severe (Hashim et al., 2022). According to Kuo et al (2022), 68% of patients who were hospitalized for acute coronary syndrome had clinically significant death anxiety. These risk factors include coronary heart disease, congestive heart failure, stroke and sudden cardiac death, all of which are exacerbated by high levels of anxiety (Rahimi et al., 2020). Between 38-70% of HCF patients experience clinically significant levels of anxiety (Sara et al., 2022). Recent literature suggests that psychosocial stresses may exert comparable effects on cardiovascular morbidity as do other established cardiovascular risk factors (Shoaib et al., 2025).

The question of death anxiety and hospitalization has been studied by several recent studies. In a study by Abbas et al. (2022), it was found that greater illness salience in hospital settings was responsible for the differences in death anxiety between hospitalized and outpatient groups of individuals with CVD. In contrast, Bibi & Khalid et

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al, (2020) found that the anxiety of death was similar in non-hospitalized patients, as CVD is a chronic threat, and therefore can persist in causing the anxiety for death. Gender differences have been observed and documented across all aspects (Ilyas & Kausar, 2025) reported that female cardiac patients had significantly higher score on death anxiety measures as compared to males, which was explained by differential gender socialisation.

A correlate of death anxiety that has come into prominence in recent years is a recent bereavement. AbuRuz (2021) reported on higher death anxiety after death of a close family member which peaked up to 18 months after the event. Sara et al (2022) identified that death anxiety was 40% higher in the CVD population after bereavement, which occurred even after accounting for the level of disease. Parents can only imagine how much the family dynamics changed during the COVID-19 pandemic and how that has impacted the attachment system in people today. This is in line with the ideas of attachment theory, which suggests that loss of loved ones can bring up attachment-anxieties and sensitise people to their own mortality (Rahimi et al., 2022; Song et al., 2025).

Parents' positive religious values, coping mechanisms were examined as potential moderators of death anxiety. Belonging to more religious groups was linked to reduced death anxiety among Pakistani people with the disease of cardiovascular system in the studies of Siddique et al., 2025 confirming the TMT predictions. The study by Ilyas & Kausar, 2025, showed strong evidence that Islamic religious coping mechanisms such as prayer, acceptance of God's will, and anticipation of the afterlife were all shown to alleviate death anxiety in the patients with chronic disease and who are Muslim. The relationship is complex found that the protective aspect of religiosity was found only in those with profound intrinsic religious orientation (Shoaib & Kausar, 2025).

The link between media usage and death anxiety is a new topic of research. When exposed to content related to news about health matters, unemployment status death anxiety rose in people with chronic diseases (Kovacs et al., 2022). Within Pakistan, those who like to watch entertainment programs showed higher level of death anxiety as compared to news watchers, thus indicating the underlying psychological distress in the viewer (Ali, 2023)

1.1 Rationale of the Study

Even though there is strong evidence demonstrating a connection between death-related anxiety and subsequent negative cardiovascular events, there has been little research specifically examining death anxiety in a CVD sample and no studies directly comparing death anxiety in the hospitalized vs the non-hospitalized sample. Illness

salience and death cues experienced in a hospital setting further increases death anxiety and other cues such as death may be experienced in community-dwelling settings and may be equally distressful. The findings have clinical implications: if there is greater death anxiety in hospitalized patients, these patients could benefit from targeted psychological interventions during the hospital stay, whereas if death anxiety is the same in both groups, universal screening of all settings where patients receive cardiovascular disease care is warranted. Further, correlates of the demographics and clinical issues should be determined, such as gender, marital status, recent bereavement, and media use, in order to stratify the risks and deliver tailored interventions.

1.2 Objectives of the Study

This study aimed to:

1. Compare death anxiety levels between hospitalized and non-hospitalized patients with cardiovascular diseases
2. Measure death anxiety among CVD patients in relation to demographic variables.
3. Examine associations between clinical variables (physical illness presence, recent bereavement) and death anxiety
4. Explore the relationship between media consumption patterns and death anxiety in CVD patients

1.3 Hypothesis

H1: There is likely to be a significant difference in death anxiety levels between hospitalized and non-hospitalized patients with cardiovascular diseases.

H2: There is likely to be a significant difference in death anxiety levels between male and female CVD patients.

H3: Good physical health (absence of additional physical illness beyond CVD) is likely to be associated with lower death anxiety.

H4: Patients who have experienced death of a close relative or friend during the past six months are likely to demonstrate higher death anxiety compared to those who have not.

2. Methodology

2.1 Research Design and Participants

A cross-sectional comparative research design was used to compare death anxiety among patients with cardiovascular diseases admitted to hospital compared to subjects who were not admitted to hospital. A purposive sample of 148 CVD patients (74 hospitalized and 74 not hospitalized) were selected from the four health care facilities of Sialkot including Combined Military Hospital, Islam Center Healthcare, Civil Hospital and Pak Medical center. 36 males and 38 females were selected in each group, ranging in age from 35-83 years. Consent forms wherein patients gave informed consent to

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participate and were able to answer the Urdu versions of questionnaires were included. Patients with co-morbid psychological disorders, degree of cognitive disturbance or critical illness that would prevent participation were excluded.

2.2 Measures and Procedure

The data was obtained by a semi-structured demographic sheet and a 15-item true/false scale of death anxiety (DAS) in Urdu language using the package of Templer (Azeem & Naz, 2015) having acceptable internal consistency (α=.79). After institutional approval and written informed consent participants filled out the questionnaire by self-report or by a researcher for those who had limited literacy skills. Analysis of the data was performed using SPSS-25 software, and statistical tests of independent t-test and one-way ANOVA were conducted at $p<.05$ level of significance to compare the death anxiety for the following variables: hospitalization status, gender, recent bereavement, and other demographic variables. Firm adherence to all ethical guidelines was adhered to.

3. Results

Table 1: *Summary of socio-demographic and clinical characteristics of the entire sample.*

Variables	*f*	*%*
Gender		
Male	36	48.6
Female	38	51.4
Age of Participants		
35 - 46	20	27.0
47 - 58	22	29.7
59 - 70	18	24.3
71 - 83	14	18.9
Education		
Illiterate	18	24.3
Matric	20	27.0
Intermediate	17	23.0
Higher education	19	25.7
Marital Status		
Unmarried	8	10.8
Married	52	70.3
Divorced	5	6.8
Widow / er	9	12.2

Monthly Income		
Less than 14,000	21	28.4
Between 14,000 – 30,0000	34	45.9
Above 30,0000	19	25.7
Job Status		
Jobless	28	37.8
Govt/ Private Job	46	62.2
Religious Interest		
Moderate	54	73.0
Low	20	27.0
Death of close relative/ friend during past six months		
Yes	32	48.6
No	39	51.4
Physical Illness		
Yes	35	47.3
No	39	52.7
Psychological Illness		
No	74	100
Television Program		
News	39	52.7
Entertainment Programs	35	47.3

Results of the current study revealed that, independent samples t-test death anxiety significantly differed between men and women for female patients (M=23.44, SD=2.30) score was significantly higher from male patients (M=21.74, SD=1.71; t=-4.05, p<.001) (Table 2). No significant difference was found between hospitalized (M=22.01, SD=1.73) and non-hospitalized (M=22.16, SD=1.78; t=-.852, p=.003) patients (Table 3). Additional physical illness (M=25.88, SD=3.70) appeared to have a tendency to increase death anxiety relative to no additional physical illness (M=22.22, SD=1.78; t=-1.901, p=.058) (Table 4). High death anxiety was significantly related to the patient's death of a significant other with a mean score of 24.44 (SD=2.56) compared with normal death 21.91 (SD=1.82) (t=2.8, p=.003) (Table 5). A one-way ANOVA revealed that the level of death anxiety reported by participants showed a significant difference between type of television program (F=17.41, p<.001, η^2=2.97), with viewers of news programs reporting higher levels of death anxiety than viewers of entertainment programs (M=25.86, SD=3.56 vs. M=21.66, SD=1.74) (Table 6).

Table 2: *Mean, Standard deviation and t-test of all model variables*

Comparison of scores on death anxiety related to Gender

	Male		Female				95% CI	
Measures	M	SD	M	SD	t	P	LL	UL
Death anxiety	21.74	1.71	23.44	2.30	-4.05	.000	-1.039	-.360

C.I= confidence Interval; LL= Lower limit; UL= Upper limit. P= < .05

Table 3: *Comparison of scores on death anxiety related to Patient Category*

	Hospitalized		Non-hospitalized				95% CI	
Measures	**M**	**SD**	**M**	**SD**	**t**	**p**	**LL**	**UL**
Death anxiety	22.01	1.73	22.16	1.78	-.852	.003	.496	.196

C.I= confidence Interval; LL= Lower limit; UL= Upper limit. P= < .05

Table 4: *Comparison of scores on death anxiety related to Physical Illness*

	Yes		No				95% CI	
Measures	**M**	**SD**	**M**	**SD**	**t**	**p**	**LL**	**UL**
Death anxiety	25.88	3.70	22.22	1.78	-1.901	.058	.6866	.0116

C.I= confidence Interval; LL= Lower limit; UL= Upper limit. P= < .05

Table 5: *Comparison of scores on death anxiety related to Death of significant other*

	Yes		No				95% CI	
Measures	**M**	**SD**	**M**	**SD**	**t**	**p**	**LL**	**UL**
Death anxiety	24.44	2.56	21.91	1.82	2.8	.003	.183	.876

C.I= confidence Interval; LL= Lower limit; UL= Upper limit. P= < .05

One-way Analysis

Table 6: *Comparisons of Death Anxiety on the basis of television programs in hospitalized and non-hospitalized patients*

Variable	**Television Program**	**M**	***SD***	**F**	***p***	**η 2**
Death Anxiety				17.41	.000	2.97
	News	25.86	3.56			
	Entertainment	21.66	1.74			

4. Discussion

The present study aimed to investigate a gender, patient status, physical comorbidity, bereavement history and media consumption difference in death anxiety. Findings, which are consistent with existing research in Pakistani and international contexts regarding death anxiety, bring an important insight.

There was a difference when a higher death anxiety was seen among women as compared to men. The results support international meta-analytic synthesis of data showing that women, on average, are more likely to have a high level of death anxiety than men, which may be attributed to women's emotional sensitivity, tendency to ruminate, and relational self-concept (Bennett et al., 2025; Rachel et al., 2024). In a similar way, Ilyas & Kausar (2025), discovered greater death anxiety in women than men in the Pakistani context, almost due to the assumed roles of the women in society and context of caring and responsibility towards family after death. A study by Siddique added that Pakistani women usually carry inner concerns of leaving the parents/husband who need care and the children, which might heighten worries of death (Siddique et al., 2025).

However, there were no notable differences between those who were hospitalized and those who were not, both of which contradicted intuitive expectations, and findings from Safisi et al., 2024, who studied the disruptive effects of expectant and unexpected acute stressors in patients with chronic illnesses, mirrored findings here. Supporting this notion, no death anxiety difference between those hospitalized and older adults living in the community was seen by (Bibi & Khalid, 2020) in Pakistan, which found that the relationship between death anxiety and the prior hospitalization status of older adults may be more important than the current hospital admission status. The small mean difference and high statistically significant p-value (.003) could be due to high statistical power, not necessarily clinical meaningfulness.

Patients who had other physical diseases had an elevated death anxiety that was near significant ($p = .058$). This is further supported by international research, which has shown that an additional comorbid condition is associated with corresponding increased levels of existential distress (Bennett et al., 2025). In Pakistan, Parveen & Khan, 2025, identified that in patients receiving hemodialysis, death anxiety was significantly higher in patients with comorbid diabetes compared to patients without the comorbidity, thus highlighting the compounding impact of multimorbidity.

Death anxiety was significantly higher for patients with the death of a close other. This powerful result mirrors the attachment theory models of explanation of bereavement as affecting meaning-making systems and priming mortality salience

(Hollister at al., 2020; Song et al., 2025). A research study by Ali (2023) identified prolonged increase in death anxiety reported by bereaved adults in the city of Karachi in Pakistani research with people experiencing death of their loved ones, especially sudden death in conditions where they have lost a primary attachment figure. The loss effect may be exacerbated in some cultures like that of Pakistan with joint families where the loss ripples through several layers of the relationship (Hashim et al., 2022).

A large and significant effect showed up in that the death anxiety scores of the news program viewers were significantly higher than the scores for the entertainment program viewers. This result is in line with research on media effects internationally for such media violence: (Song et al., 2025; Carola et al., 2024) found that watching graphic news or news with fear tone over terror, disaster or pandemic more than once increases state death anxiety. A research study reported that high levels of news exposure in Pakistani context predicted the death anxiety and morbid thoughts (Saleem et al., 2020). An extraordinarily large effect size (η^2 = 2.97) implies that the media content may be one of the most powerful modifiable predictors of death anxiety, ahead of clinical variables, or its effect size may be just as great.

It is concluded from these findings, that a complex line-up of demographic (gender), experiential (bereavement, media exposure) and clinical (comorbidity) factors all play a role in shaping death anxiety. It is noteworthy that the Pakistani cultural context, which involves high levels of family cohesion, beliefs around death, and high crisis news exposure, may moderate these relationships (Bibi & Khalid, 2025). Death anxiety should be commonly assessed among bereaved, female, and multimorbid patients in Pakistan and other similar environments and patients' media consumption should be evaluated. It is possible that psychoeducational strategies teaching mindful news consumption and cognitive reframing of death anxiety will be helpful.

5. Conclusion

The present study supports that female patients and those who had a significant other who died have significantly stronger death anxiety, and the viewing of news television programs had a tendency to increase death anxiety, but that hospitalization status did not seem to be a significant predictor of death anxiety beyond the other variables examined. This is consistent with national and international research studies, the findings are multidimensional and can be explained by cross-cultural, gender-related emotional disposition, bereavement and mortality salience (increased awareness of death due to losses), cumulative physical comorbid loads, and media channels that constantly remind of mortality threat. Given the Pakistani context in which intense coverage of news on crises might only add to fear regardless of clinical factors it is

interesting to note the large effect of news viewing. Routine assessment of death anxiety is recommended for female, bereaved, and multimorbid patients, as well as a psychoeducational component which includes teaching of death-related thoughts and from a cognitive mindful approach. The protective factors like religious coping and family support in the context of Pakistani culture should be studied in future to provide culturally sensitive interventions.

5.1 Limitations and Recommendations

First, due to cross-sectional design, no causal conclusions can be drawn from this study and further long-term studies with the focus of death anxiety over time or after certain events (e.g., bereavement, hospitalization) are recommended. Second, this sample might not be representative of the population from a wide range of socio-economic and rural setting of Pakistan and future research should include multi-site sampling from different geographical area. Third, Self-Report measures allow for Social Desirability effects, especially in the case of fear of death: Including implicit/qualitative measures would improve validity. Fourth, a near significant finding for physical illness ($p = .058$) needs others to be replicated with large samples for sufficient statistical power. Also, the type of television program was generally classified; further research needs to measure the actual amounts of news watched and to evaluate the type of news content (e.g., violent, health-related) when developing media-based interventions.

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