INFLUENCE OF DEATH ANXIETY ON THE PREVENTIVE PRACTICES OF HEALTHCARE PROFESSIONALS DURING COVID-19 OUTBREAK

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ABSTRACT

OBJECTIVES: To ascertain the degree of death anxiety in healthcare professionals and their preventive practices during the ongoing pandemic and to find correlations between these two variables.

METHODS: This cross-sectional study was conducted on healthcare professionals working in Combined Military Hospital, Lahore, Pakistan, from July 2020 to February 2021. A descriptive online questionnaire was distributed to measure demography, death anxiety using Collette-Lester Fear of Death Scale Revised and preventive practices using the prevention section of WHO European Region COVID-19 survey tool and guidance. Data were analyzed using SPSS version 24.

RESULTS: Out of 136 subjects, 65 (47.8%) were male and 71 (52.2%) were female. Median (IQR) age of the participants was 28 (26-40) years. Median total degree of death anxiety was 83 (66-107). The four subscales showed Median (IQR) scores as follows: your own death 18 (12-27), your own dying 20 (15-27), the death of others 23 (18-28), and the dying of others 22 (16-29). Death anxiety was mild in 55 (40.4%), moderate in 65 (47.8%) and high in 16 (11.8%) participants. Significant association of female gender (p=0.002), experience of death of a patient (p=0.001) or loved one (p=0.001) was found with death anxiety. Zero participants recorded a high preventive practice score.

CONCLUSION: A significant proportion of healthcare professionals suffered from undiagnosed moderate levels of death anxiety. The level of preventive practices amongst healthcare professionals was moderate to low. Death anxiety had no correlation with preventive practices. Further study is required to investigate the reason behind these unconventional findings.

KEYWORDS: Death (MeSH); Anxiety (MeSH); Preventive Measures (MeSH); Prevention & Control (MeSH); COVID-19 (MeSH); Healthcare Professionals (MeSH); Delivery of Health Care (MeSH).

INTRODUCTION

It was the 30th of January, 2020 when the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), termed COVID-19 completely disconcerted the world. Consequently, World Health Organization was forced to call a Public Health Emergency of International Concern (PHEIC), which is only the sixth PHEIC in history.[1] This pandemic engendered worldwide deaths especially in developing countries that neither had adequate resources nor the proper equipment to deal with the destruction.[2] Compared to other respiratory viruses this disease has an unusually high mortality rate, becoming a source of significant psychological distress for the masses.[3] With such lethal prowess to it, mass hysteria, anxiety, and fear were inevitable consequences. The increasing number of patients and suspected cases added to considerable consternation, public apprehension, and poor mental health around the globe.[4] The advent of COVID-19 in Pakistan precipitated substantial physical and psychological strain among healthcare professionals.[5] This was mostly due to the lack of personal protective equipment (PPE), compromised medical facilities, and a disproportionate shortage of beds and isolation wards.

One of the most basic and humane forms of psychological distress is death anxiety. Death anxiety is a feeling of panic, fear, or apprehension caused by contemplating death, being detached from reality, or thinking about the afterlife. This fear of ceasing to exist one day is an integral part of an individual's existence which greatly influences the choices that individual makes. Interestingly, it has been suggested that the fear of death may be the root cause of multiple mental health disorders and, if left untreated, may have serious ramifications.[6] Given the demanding nature of their profession, this fear in healthcare professionals is even more debilitating.[7] Various biases extant in the medical community add to the hesitation of healthcare workers towards treating mental health. Unfortunately, it has been reported that many of the health professionals who worked in COVID-19 units experienced depression, anxiety, and frustration but did not receive adequate care.[8] Emotions especially fear and anxiety can be overwhelming to the point they start altering old-formed habits. Fortunately, there are some

TABLE I: PEARSON CORRELATION FOR ASSOCIATION OF PREVENTIVE PRACTICES WITH DEATH ANXIETY (TOTAL AND SUB SCORES)

		Preventive Practices	DA 1	DA 2	DA 3	DA 4	Total DA
Preventive Practices	Pearson correlation	1	0.009	-0.91	0.154	0.042	0.095
	Sig. (2-tailed)		0.919	0.291	0.074	0.631	0.273
DA 1	Pearson correlation	0.009	1	0.622	0.477	0.476	0.408
	Sig. (2-tailed)	0.919		0.000*	0.000*	0.000*	0.000*
DA 2	Pearson correlation	-0.091	0.622	1	0.477	0.440	0.408
	Sig. (2-tailed)	0.291	0.000*		0.000*	0.000*	0.000*
DA 3	Pearson correlation	0.154	0.477	0.477	1	0.539	0.448
	Sig. (2-tailed)	0.074	0.000*	0.000*		0.000*	0.000*
DA 4	Pearson correlation	0.042	0.476	0.440	0.539	1	0.438
	Sig. (2-tailed)	0.631	0.000*	0.000*	0.000*		0.000*
Total DA	Pearson correlation	0.095	0.408	0.408	0.448	0.438	1
	Sig. (2-tailed)	0.273	0.000*	0.000*	0.000*	0.000*	

*P-value <0.05 is considered statistically significant. DA: Death Anxiety; DA 1: Your own Death, DA 2: Your own Dying, DA 3: Death of Others, DA 4: Dying of Others, Total DA: Total Death Anxiety

TABLE II: CHI-SQUARE TEST TO FIND STATISTICALLY SIGNIFICANT ASSOCIATIONS BETWEEN DEATH ANXIETY AND HYPOTHESIZED CONTRIBUTING FACTORS

Contributing factors	Pearson Chi-Squared value (χ^2)	p-value
Gender	12.992	0.002*
Experience of loss of a loved one	44.033	0.000*
Past experience with death of a patient	44.420	0.000*
Influence of religious views	2.591	0.566

* P-value<0.05 is considered statistically significant

TABLE III: PREVENTIVE PRACTICE SUBCATEGORIES EXPRESSED AS INDIVIDUAL PERCENTAGES (N = 136)

Preventive Practice	Yes %	No %
Hand washing for 20 seconds	83.1	16.9
Avoiding touching your eyes, nose, and mouth with unwashed hands	83.8	14.7
Use of Disinfectants when soap not available for hands	86.8	12.5
Staying home when you are sick or when you have a cold	78.7	12.5
Herbal supplements	48.5	47.8
Covering your mouth when you cough	80.9	16.9
Caution when opening letters	65.4	26.5
Getting the flu vaccine	35.3	61
Wearing a face mask	83.1	16.2
Using Antibiotics	46.3	51.5
Using homeopathic remedies	28.7	65.4
Physical Distancing	84.6	15.4
Self-Isolation	53.7	14.7
Disinfecting surfaces	72.1	24.3
Disinfecting mobile phone	71.3	27.2
Eating garlic and ginger	45.6	52.2

habits that have proven to be extremely effective in preventing transmission of COVID-19 such as mask-wearing, hand hygiene, and social distancing.[9] Therefore, this research aims to determine the levels of undiagnosed death anxiety amongst healthcare professionals and its impact, if any; on the preventive measures they took against COVID-19. The objective of this study was to ascertain if prevalent death anxiety amongst healthcare professionals has a significance impact on their COVID-19 preventive practices amidst the ongoing pandemic-to support and promote effective awareness campaigns.

METHODS

This cross-sectional survey was conducted on healthcare professionals working in Combined Military Hospital (CMH), Lahore, Pakistan, from July 2020 to February 2021.

Sample size was calculated (n=133) using the Cochran formula: with a 95% confidence level, 6% margin of error, and 50% anticipated proportion.[10]

Study was approved by the Ethical Review Committee of the CMH Lahore.

The inclusion criteria consisted of mentally and physically healthy healthcare professionals; male and female doctors from any specialty, nurses, and allied health professionals. Participants with diagnosed mental illnesses such as depression, anxiety, or schizophrenia were excluded.

Informed consent was taken from all study participants, selected through non-probability convenience sampling technique.

A Google Forms self-report online questionnaire was developed and an invitation to participate was sent via text message to 145 participants (aged 23 years and above). The questionnaire included three sections. Section 1 evaluated participants' demographic information, years of practice, specialty, current health status, religious beliefs, and past experience with death. Section 2 assessed preventive practices through 16 items regarding different measures; facilitated by the prevention section of WHO European Region COVID-19 survey tool and guidance with high Cronbach's Alpha of 0.69.[11] Section 3 evaluated death anxiety through the widely used 32 items Collette-Lester Fear of Death Scale-Revised (CLFODS-R) which has total internal reliability of 0.91. A high Cronbach's Alpha coefficient denotes homogeneity in its subscales; death of self, dying of self, death of others, and dying of others.[12] Participant confidentiality and anonymity were maintained by assigning each

questionnaire a sequential code which was used during data entry and analysis.

Data were analyzed using SPSS version 24. The normality of the continuous variables was determined using Shapiro-Wilk's test. Non-normally distributed quantitative variables were presented as medians and interquartile ranges (IQR: Q3-Q1). Normally distributed data were presented as means with standard deviation rounded to two decimal places. Standard criteria were established as P<0.05 considered statistically significant and the alpha level set to 5%. Death anxiety was assessed by separately scoring each subscale from CLFODS-R and then adding them to give total scores. The total scores range was divided into lower, middle, and upper thirds and labeled as low ≤ 74, moderate 74-112, and high ≥ 112, respectively. Higher scores indicate higher levels of death anxiety. The total scores for preventive practices were calculated by adding the score for each response (yes=3, no=2, not applicable=1). Total scores range was divided into lower, middle, and upper thirds and designated as low ≤26, moderate 26-37, and high ≥37, respectively. Higher scores indicate thorough practice of preventive measures. Pearson's correlation coefficient was used to find any significant correlation between death anxiety and preventive practice scores. Chi -squared test to find statistically significant associations between death anxiety and hypothesized contributing factors e.g. gender, religious beliefs, and past experiences with death (loved ones and patients).

RESULTS

From the 145 responses collected, 136 participants met the set inclusion criteria; out of which 65 (47.8%) were male and 71 (52.2%) female.

The overall median (IQR) age of the participants was 28 (26-40) years. The median total degree of death anxiety was 83 (66-107). The four subscales showed scores as follows: your own death 18 (12-27), your own dying 20 (15-27), the death of others 23(18-28), and the dying of others 22(16-29). Using the scoring method, we obtained 55 (40.4%) individuals with low total

anxiety, 65 (47.8%) with moderate, and 16 (11.8%) with high death anxiety. The mean total preventive practice score for all the respondents was 26.22±3.36 with 59 (43.4%) falling into the low category and 77 (55.6%) in the moderate. Zero (0%) participants had scores pertaining to good or thorough preventive practice. The preventive practices score was correlated to the total death anxiety and then to the individual subcategories of death anxiety. As shown in Table I we can appreciate no significant association. Chi squared analysis showed a significant association between total death anxiety and gender (p=0.002), the experience of loss of loved one (p=0.000), and past experience with the death of patients (p=0.000) as expressed in Table II. Females in this study reported overall increased death anxiety with 15 responses falling into the high death anxiety category (total death anxiety>118) versus only 1 male participant in the same set.

We analyzed the different preventive practice subcategories to evaluate the degree to which our sample adhered to the practices. Our results revealed that the preventive practices followed by the majority of the sample group were 'use of disinfectants when soap not available for hands' (86.8%), 'avoiding touching your eyes, nose and mouth with unwashed hands' (83.8 %), 'hand washing for 20 seconds' (83.1%), 'wearing a face mask' (83.1%) and 'covering your nose and mouth when you cough' sneeze (80.9%).

DISCUSSION

Unlike relevant literature, our results revealed lower levels of death anxiety and inadequate preventive practice amongst Pakistani healthcare workers. There was no correlation between death anxiety and preventative practices. After extensive literature review, we found that this is the first instance in Pakistan where such an association has been studied.

Following the rapid surge in COVID-19 deaths, many front-line health workers reported heightened fear, anxiety, and death anxiety.[13] This should hypothetically lead to rigorous practice of prevention (i.e. face masks,

sanitizers) in an attempt to survive.[14] Howbeit, our study proved that professionals scoring higher levels of death anxiety did not score high for preventive practices. The remaining majority (80.2%) experienced low or intermediate death anxiety. This desensitization could be a product of the self 'numbing' methods most healthcare professionals use to deal with the emotional impact of witnessing death.[15] Others may be consciously unaware of their death anxiety which may progress to taxing levels if left unaddressed.

In accord with previous researches, there was a direct correlation between the female gender and higher levels of death anxiety.[6] The disparity could be due to the fact that women are more emotionally expressive and willing to accept their anxiety.[16] Female professionals who generally suffer from undiagnosed depression and anxiety more often than men are likely to present with death anxiety under pandemic circumstances.[17] Another correlation was found between higher levels of death anxiety and previously experiencing the loss of a loved one. Numerous studies suggest that such experiences put one more at risk for developing an array of psychiatric disorders.[18]

Cumulative preventive practices of healthcare professionals were lacking; zero participants reported thorough practice despite being highly susceptible to COVID-19. Lack of protective gear and understanding of the disease might have contributed to these inadequate practices and subsequent rising numbers of infected healthcare professionals.[19] By December 2020, it was reported that up to 100 healthcare professionals have died from COVID in Pakistan.[20] Physical and emotional burnout due to the cumbersome workload may also justify this 'negligence' towards self-care. A study in New Zealand revealed that burnout can lead to feelings of depersonalization and a sense of apathy towards oneself and one's surroundings.[21] The risky environment of Pakistan's hospitals may build feelings of hopelessness as well; resulting in abandonment of preventive measures. Proper provision of PPE

could be a protective factor against this physician burnout, hopelessness, and negligence.[22]

There are some limitations to consider. We were unable to collect a large number of responses owing to the unavailability of health care workers busy with the pandemic workload. Due to the limited sample size and tertiary care setting of sample collection the results may not be generalized for the entire population. The use of a self-report measure to assess death anxiety may have overlooked those respondents who were consciously unaware, in denial, or avoidant of their death anxiety.[23] More investigation needs to be carried out to find whether other factors such as work experience and individual personality types also impacted death anxiety levels.

CONCLUSION

Our findings verify that moderate levels of death anxiety are prevalent amongst healthcare professionals during the pandemic. Death anxiety was not associated with preventive practices, though statistics on the respective variables have been revealed. Corrective measures should be taken to address the death anxiety and lack of preventive practices amongst healthcare workers of Pakistan. Further large-scale studies can be designed to investigate these findings.

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Following authors have made substantial contributions to the manuscript as under:

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Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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