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Death Anxiety and WellBeing in Doctors During COVID-19: The Explanatory and Boosting Roles of Sleep Quality and Work Locality

Komal Meher[1], Mamoona Mushtaq[2], and Shameem Fatima[3]

Abstract

The COVID-19 pandemic, a global public health crisis, has triggered anxiety and fear of death in general public and particularly among health professionals. This study aimed to assess the direct and mediated associations between death anxiety, sleep quality, and subjective wellbeing in doctors working during the pandemic. A secondary aim was tested to analyze the interactive role of workplace locality in these associations. An indirect-effect model was tested on a sample of 244 doctors working during the pandemic. Findings revealed that the association between death anxiety and subjective wellbeing was mediated through sleep quality. Furthermore, death anxiety significantly and negatively predicted subjective wellbeing in doctors working in rural setups compared to those working in urban setups. The theoretical and practical implications of the findings are discussed.

[1]Riphah Institute of Clinical and Professional Psychology, RIPHAH International University, Lahore Campus, Pakistan
[2]Higher Education Department, Riphah Institute of Clinical and Professional Psychology, RIPHAH International University, Lahore, Pakistan
[3]Department of Humanities, COMSATS University Islamabad, Lahore

Corresponding Author:
Mamoona Mushtaq, Higher Education Department, Riphah Institute of Clinical and Professional Psychology, RIPHAH International University, Mader e Millat Road, Kot Lakhpat, Lahore 54000, Pakistan.
Email: mamoonamushtaq@gmail.com

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Introduction

The COVID-19 pandemic, a global public health crisis, is known to impact lives of all individuals (Arslan et al., 2020) and particularly health care providers. Uptil now, the pandemic has resulted in more than 4.55 million deaths around the world. As per reports, 1.25 million confirmed COVID-19 cases with more than 27,000 deaths have been reported in Pakistan (Worldometer, 2021). Lives of common people and health care providers from both the developed and developing countries are at risk due to coronavirus spread. However, in countries like Pakistan with weak economic structure and health care systems, the situation is particularly worse (Ali et al., 2020). The pandemic has triggered anxiety and a fear of death (Menzies & Menzies, 2020). Hence, a recently proposed construct, death anxiety, seems particularly relevant in this context. Death anxiety is a mental condition which is activated when people feel endangered by death (Princy & Kang, 2013). Death anxiety arises when people face life-threatening situations or high level of stress (Soleimani et al., 2016).

Death Anxiety Mitigates Subjective Wellbeing

Subjective wellbeing (SWB) is defined as an optimistic cognitive evaluation of one's life, which improves individuals' personal resources to cope with adversities (Yıldırım & Celik-Tanrıverdi, 2020). Wellbeing is considered the most important personal resource during times of stress or crisis. Literature has reported that natural disasters, pandemics, and fearful emergency situations impact wellbeing of health professionals which needs attention of researchers and counselors (e.g., Surya et al., 2017). Literature dictates that death anxiety is not only associated with fear of death related to COVID-19, but also plays a significant role in serious mental health consequences and poor wellbeing (Mansori et al., 2017; Paredesa et al., 2020). Recent studies in the context of the pandemic have revealed cross-sectional associations of coronavirus-related stress and death anxiety with poor wellbeing outcomes (e.g., Arslan, 2021; Yıldırım & Guler, 2021). To cope with adverse life experiences and death anxiety associated with the pandemic, promotion of wellbeing has been emphasized as an important strategic footstep (Arslan, 2020; Fatima et al., 2018).

Death Anxiety and Wellbeing in Health Professionals

In the context of the pandemic, health care professionals and doctors are particularly at risk of death anxiety due to several reasons. Primarily, they are vulnerable to coronavirus infection because of close contacts with the infected patients and a lack of personal protective equipment during the treatment process. As per report of the chief

of the World Health Organization, around 115,000 health care workers have lost their lives to COVID-19 which is an alarming sign (Euronews, 2021). In addition, family members of health professionals are also at a higher risk of being infected by the corona virus and in turn more vulnerable to disease and death (Spoorthy et al., 2020). The situation appears to be very stressful for health professionals to see their colleagues and loved ones passing away and suffering from the infection (Roy et al., 2020). The situation may give rise to a heightened feeling of death anxiety in them. Fear of death and related stress has been particularly salient during the earlier waves of the pandemic when even vaccination was not invented. Even after the invention of vaccination, multiple variants of corona virus are appearing with variant symptoms in different countries across the globe. Hence, no single and authentic treatment and vaccination seems to fight the coronavirus. At the same time, health professionals have been overburdened with extra work load since the inception of COVID-19 which further increases their vulnerability to mental health issues including sleep disturbances (e.g., Abdulah & Musa, 2020; Jahrami et al., 2021; Kang et al., 2020; Roy et al., 2020). More specifically, a sense of life insecurity and uncertainty in the context of the pandemic has been reported to be a predictor of poor mental health and subjective wellbeing (Satici et al., 2020). In health professionals, a heightened feeling of death anxiety may pose a higher threat to their wellbeing. Given the evidence that greater coronavirus perceived risk and related sufferings predicted greater death obsessions and death anxiety (Arslan, 2021), health professionals are at a higher risk of death anxiety and poor wellbeing.

Sleep Quality Mediates the Link Between Death Anxiety and Subjective Wellbeing

Latest literature has examined the impact of coronavirus-related fears and anxieties and particularly of death anxiety on mental health and wellbeing outcomes in the context of pandemic (e.g., Arslan, 2021; Paredesa et al., 2020; Yıldırım & Guler, 2021), little is known about underlying mechanisms that may explain this impact. Death anxiety influences the subjective wellbeing in many ways (Princy & Kang, 2013). Some likely mechanisms may include psychobiological factors which can explain the negative association of COVID related death anxiety with poor wellbeing. Poor sleep quality is one among these factors that can enhance and explain the link between death anxiety and poor wellbeing in doctors working during COVID Pandemic. Poor sleep quality refers to symptoms of insomnia, daytime sleepiness, and disturbances in the circadian rhythm (Alvaro et al., 2013). Sleep is a vital life process and a powerful source of mental health and wellbeing; and poor sleep quality may have undesirable consequences for mental and physical health and for wellbeing of individuals (Jahrami et al., 2021).

More recent studies have sought to analyze the association of death anxiety with sleep quality. Sleep disturbances may be triggered due to stress-related factors in the environment or due to health-compromising routine (András et al., 2009). The bidirectional relationships between anxiety and sleep are well established (e.g., Alvaro

et al., 2013). Hence, COVID-related death anxiety may likely be a factor contributing to sleep disturbances and poor sleep quality in doctors. Empirical studies have revealed that the participants' anxiety levels predict sleep quality in the context of COVID pandemic (Bigalke et al., 2020; Zhao et al., 2020). Empirical studies on the specific association of death anxiety with sleep quality are not available on samples of doctors during the context of pandemic. However, a related study found an association between death anxiety and poor sleep quality in cardiac patients with pacemaker implants (Sert & Ozer, 2020). Collectively, the literature indicates death anxiety as a correlate of decreased sleep quality in diverse samples.

Fear of death alongside more workload during the pandemic context may place medical professionals and doctors at risk of poor sleep quality which in turn may reduce their subjective wellbeing (Jahrami et al., 2021). Herewith, the research has highlighted high death anxiety and poor sleep quality as the potential sources which increase the likelihood of developing psychopathology and decrease satisfaction with life (Spoorthy et al., 2020). Accordingly, recent studies have reported elevated anxiety levels and reduced sleep quality (Pappa et al., 2020) and an association between anxiety levels and poor sleep quality (Gupta et al., 2020) among medical professionals during the pandemic.

Working Locality Moderates the Link: Death Anxiety-Subjective Wellbeing

Medical professionals and doctors continued working in hospitals and clinics in rural and urban localities. Stark differences have been observed in working in urban or rural setting. In rural localities, people keep close contacts and feel it difficult to maintain social distance (Waddimba et al., 2016). Whereas, individuals from urban areas are highly motivated by economic self-interests. They have a strong inclination to achieve their personal goals, and are less likely to keep close contacts (Teixeira-Poit et al., 2017). Also, individuals from urban setups are more likely to maintain social distance. Literature suggests that individuals working in rural and urban setups are different in their feelings of death anxiety and perception of subjective wellbeing (Armstrong, 1991; Li et al., 2015). Pakistani cultural context also supports differences in death anxiety and subjective wellbeing between rural and urban work localities. Accordingly, many assumptions have led us to test the assumption that work locality would moderate the association between death anxiety and subjective wellbeing during the COVID-19 pandemic. First, the infrastructures of rural and urban hospitals and clinics are different. Commonly, in rural settings, screening, diagnostic, and treatment facilities are not satisfactory or up to date and doctors work with less resources for long working hours (Shaukat et al., 2020; Teixeira-Poit et al., 2017). Usually only one doctor is available at all time to check the patients. Second, people from rural areas firmly believe on dogma or theory of determinism (Abdulla, 2018). The theory proposes that they think ailments and diseases come from God and we cannot change them (Armstrong, 1991). Hence, they do not believe on social distancing protocols of the pandemic and do not follow the instructions regarding the treatment, prescription, and advice of the doctor, which

increases the risk of corona virus infection and associated death anxiety in the treating doctors (Waddimba et al., 2016). Third, subjective factors related to the doctors such as frustration of working with limited opportunities of learning and growth in rural communities may also lead to poor wellbeing in doctors working there (Armstrong, 1991; Teixeira-Poit et al., 2017). Contrarily, the hospitals in urban setting are well equipped with all facilities and provide opportunities to the doctors to handle their patients effectively (Armstrong, 1991; Shaukat et al., 2020; Teixeira-Poit et al., 2017). The people living in urban areas are more knowledgeable, adaptive to changing circumstances, concerned about the risks to their health, believe on social distancing protocols of the pandemic, and more likely to follow the advice of the doctors and get well earlier than those living in rural areas (Li et al., 2015). Also, the urban developed setups provide abundance of growth and learning opportunities and satisfaction in the doctors (Wang et al., 2019).

Empirical evidence suggests that doctors working in rural areas tend to be more anxious about their future and less satisfied with their lives (Li et al., 2015; Waddimba et al., 2016; Wang et al., 2019). Consistent with the literature, Wang et al. (2019) reported poor mental health, more anxiety, and poor subjective wellbeing in rural oriented medical students. Keeping in view the above discussion, the study proposes that the associations between death anxiety and subjective wellbeing would be moderated by working setups of the doctors.

Research Gaps and the Current Study

In response to the call to action to study and combat the adverse impacts of the pandemic on wellbeing (Arslan, 2020), understanding the risk factors and their prevention is a crucial step to fight the coronavirus. Earlier studies have predicted wellbeing from stress and anxiety, commonly in general and clinical population with little evidence available for death anxiety as a predictor of wellbeing among doctors. The current study extends the literature by focusing on subjective wellbeing of doctors during COVID-19 pandemic, which is a global public health crisis. The pandemic is particularly stressful to doctors because they and their families are at higher risk of coronavirus infection and death. Hence, the study purposes to assess the associations of death anxiety and sleep quality with wellbeing in doctors and to assess the interactive role of workplace locality in these associations. Specific study hypotheses are:

H1: Death anxiety would negatively predict subjective wellbeing of doctors working during COVID-19 pandemic.

H2: Poor sleep quality would mediate the negative association between death anxiety and subjective wellbeing.

H3: Working locality would moderate the direct negative association between death anxiety and subjective wellbeing.

Method

Sample Selection and Participants

A sample of 244 doctors was approached through online Google forms. The Google form link was publicized through emails, social media apps, and smartphone applications including WhatsApp, Twitter, Instagram, and Facebook. The link directed to an online Google form that stated the study's nature, purpose, and inclusion criteria. Inclusion criteria included adult doctors in age range between 19 and 60 years; being men and women; residing in rural and urban localities in Pakistan; working during the pandemic in government, semi government, and private sector hospitals; and living with intact families. Next page of the Google form directed the participants to informed consent. The only participants who consented to participate could access the next steps requiring participants' responses to demographic information and study measures. Participant's confidentiality was assured and maintained by keeping their identity anonymous.

Descriptive analysis of demographic characteristics revealed that all participants were Muslims, Pakistani, adults in age range 22–52 years (M age = 30.73, *SD* = 7.60), and belonging to South Asian ethnic background. The study sample was equally distributed in terms of gender with equal (50%) representation of male and female doctors. Fifty nine percent of the whole sample were practicing in urban setup and the rest (41%) were practicing in rural setup. The sample was fairly proportionate across job type (36% on house job; 37% on contract, 27% permanent) with the dominance of married participants (79%). Their working hours were asked on a continuous scale and ranged between 3 and 18 hours with mean working hours 8.12 (*SD* = 3.07).

Assessment Measures

Demographic Information. Participants responded to a demographic information sheet including items asking age, gender, marital status, job nature, job locality, family setup of doctors, and working hours.

Death Anxiety. Comprising 17 items, the scale assessed the level of death anxiety in forms of dysphoria, fear of death, and avoidance of death (Wei et al., 2017). Responses were obtained on a 5-point Likert format from strongly disagree (1) to strongly agree (5). Sample items included: "Whenever thinking of death, I have often felt scared." A higher composite score calculated by adding item scores on 17 items with a potential score range 17–85 represented a higher level of death anxiety. In the current study, Cronbach's alpha (.86) of the scale indicated good internal consistency.

Sleep Quality. The Pittsburgh Sleep Quality Index (Buysse et al., 1989) was used to evaluate the subjective sleep quality in terms of sleeping difficulty and sleep problems. Comprising 19 items assessed seven components during the past month: sleep quality,

sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping pills, and daytime stress. Items were like "Wake up in the middle of the night or early morning," and "Cannot breathe comfortably during the sleep." Items were scored on a 0–3 Likert scale. The scale yielded a composite score representing an index of sleep quality. The final composite score with a potential range of 0–21 indicated poor sleep quality from a higher score. Cronbach Alpha (.85) of the scale in the study indicted good internal consistency.

Subjective Wellbeing. The Satisfaction with Life Scale (Diener et al., 1985) evaluated cognitive judgment of subjective wellbeing from 5 items. Participants responded to items on a 7-point Likert format from 1 (strongly disagree) to 7 (strongly agree). Items were like "For most things my life is close to my ideal," and "the conditions of my life are excellent". Item scores were added to compute a composite score with a potential score range from 5 to 35. A higher composite score represented a greater subjective wellbeing. Cronbach's alpha of the scale (.87) indicated a good internal consistency of the measure in the study.

Procedure

After obtaining approval of the study from Research Review Committee Riphah University, permission from the selected scales' authors was obtained for using the scales in the study. A formal consent was obtained from the participants in the Google form. Eligibility criteria, response format, and clear instructions were provided in the form. Confidentiality of their responses was assured and anonymity was maintained. After completing the form, they were cordially thanked for their cooperation.

Data Analysis and Results

Before proceeding for final data analysis, data were screened for outliers and missing values. The threshold selection, extreme value analysis procedure was adopted for identification and removal of outliers (Cabras & Morales, 2006). During missing data analysis, it was observed that none of the study variable had more than 3% missing data. Missing values were handled by adopting single imputation method and using "replace missing values with series median."

Descriptive statistics (Means, *SD*, and alpha reliability coefficients) of the study variables were generated (see Table 1). The between group t-tests compared doctors practicing in rural with those practicing in urban set up on death anxiety, sleep quality, and subjective wellbeing. Independent sample t test showed no significant gender differences on the three studied variables (see Table 1). Group differences were significant on subjective wellbeing across working locality groups with a consistent better subjective wellbeing reported by doctors practicing in urban setup (M = 24.54, *SD* = 6.40) compared with those practicing in rural setup (M = 21.90, *SD* = 8.00) who reported more variant and poor subjective wellbeing (see Table 1).

Table 1. Descriptive Statistics of Demographic Variables and Significance of Group Differences (N = 244).

Variables	Full Sample		Groups	Tests of Significance
	Mean (SD)	α	Mean (*SD*)	
Age	30.73 (7.60)	—	—	—
Working hours	8.12 (3.07)	—	—	—
Death anxiety	8.12 (3.07)	.86	Men = 46.20 (12.26)	Independent sample
			Women =47.08 (12.93)	t test = −0.55, p > .05
			Urban = 47.53 (13.23)	Independent sample
			Rural = 46.02 (12.12)	t test = 0.92, p > .05
Sleep quality	11.44 (3.49)	.85	Men = 11.16 (3.46)	Independent sample
			Women = 11.73 (3.51)	t test = −1.29, p > .05
			Urban = 11.70 (3.43)	Independent sample
			Rural = 11.26 (3.53)	t test = 0.96, p > .05
Subjective wellbeing	23.46 (7.20)	.87	Men = 23.37 (7.26)	Independent sample
			Women = 23.55 (7.17)	t test = −0.20, p > .05
			Urban = 21.90 (8.00)	Independent sample
			Rural = 24.54 (6.40)	t test = −2.86, p < .01

Table 2. Correlations Between Death Anxiety, Sleep Quality, and Subjective Wellbeing.

	Variables	M (*SD*)	α	2	3	4	5
1	Age	30.73 (7.60)	—	.16* (.01)	−.01 (.91)	.05 (.29)	−.18** (.003)
2	Working hours	8.12 (3.07)	—	—	.06 (.36)	.10 (.11)	−.09 ((.16)
3	Death anxiety	8.12 (3.07)	.86		—	.27*** (.000)	−.20** (.002)
4	Sleep quality	11.44 (3.49)	.85			—	−.33*** (.000)
5	Subjective wellbeing	23.46 (7.20)	.87				—

Note: * = p < .05, ** = p < .01, *** = p < .001; Values in parentheses are p values for correlation coefficients.

Bivariate correlation coefficients were computed for the demographics which were assessed on a continuous scale. The results revealed that age was a significant negative correlate of subjective wellbeing (r = −.19, p < .01). However, working hours was not found to be a significant correlate of any of the three studied variables. Also, bivariate correlation coefficients were calculated between death anxiety, sleep quality, and subjective wellbeing for full sample as well as for two groups (participants practicing in rural vs. urban setups). The results in Table 2 showed that death anxiety was positively correlated with poor sleep quality and negatively correlated with subjective wellbeing, while poor sleep quality was negatively correlated with subjective wellbeing for the full sample as well as for the participants working in rural setting. While for the participants

working in urban setup, sleep quality was weakly positively correlated with death anxiety and strongly positively correlated with subjective wellbeing.

Next, a mediation model was calculated analyzing model 4 in Process to evaluate the mediating role of sleep quality in association between death anxiety and subjective wellbeing. Notably, Process gives unstandardized regression weights, therefore, raw scores on all study variables were standardized (with M = 0, *SD* = 1) before final data analysis. The significance of the mediation was also assessed from Sobel z test. The results from Table 3 (Model 4) revealed that after controlling the potential confounding due to demographics, death anxiety was turned out to be a significant positive predictor of poor sleep quality in regression equation 1. In regression equation 2, death anxiety significantly negatively predicted subjective wellbeing after controlling the potential confounding due to demographics. Further analyses showed that when sleep quality was added in regression equation 3, the significant total regression weight of death anxiety was reduced from −0.20 to −0.12, with a significant indirect regression weight of −0.08. Also, the Sobel z value (−3.10, $p < .01$) supported the significance of mediating role of sleep quality.

Finally, a mediated moderation hypothesis was tested analyzing model 5 in Process to assess the moderating role of working locality (rural vs. urban) on the direct negative association between death anxiety and subjective wellbeing in the tested mediation model. The significance of conditional direct association was noted. The results from Table 3, Model 5, and regression equation 4 revealed that working locality (rural vs. urban) significantly interacted with death anxiety to negatively predict subjective wellbeing. Further interpretation of the finding from the conditional direct effects indicated that death anxiety was a stronger negative predictor of subjective wellbeing in doctors working in rural localities compared with those working in urban localities.

Discussion

The study sought to analyze whether sleep quality explains the association of death anxiety with subjective wellbeing in doctors during COVID-19 and whether death anxiety similarly or differently predicts subjective wellbeing in doctors working in rural versus urban setups. Generally, the findings were supportive of the hypotheses. Findings from the first hypothesis showed that death anxiety negatively predicted subjective wellbeing in doctors. Consistent with the literature (e.g., Arslan, 2021; Yıldırım & Guler, 2021), the finding seems justified because many stressors associated with coronavirus such as high infection rates, stressful situations in hospitals, lesser medical facilities in Pakistani hospitals, feelings of uncertainty and insecurities, and death of coworkers may reduce wellbeing in response to death anxiety.

Regarding second hypothesis, results showed that poor sleep quality partially explained the association between death anxiety and subjective wellbeing. Indeed, the results provide a preliminary evidence for sleep quality mediating the association of death anxiety with subjective wellbeing among doctors working during the pandemic. The findings suggest that poor sleep quality explains the adverse impacts of death

Table 3. Moderated Mediation Model Showing Mediating Role of Sleep Quality in Relation Between Death Anxiety and Subjective Wellbeing in Doctors Working in Urban and Rural Localities.

Predictors	Outcome							
	Model 4						Model 5	
	Regression 1		Regression 2		Regression 3		Regression 4	
	Sleep quality		Subjective wellbeing		Subjective wellbeing		Subjective wellbeing	
	B	*SE*	B	*SE*	B	*SE*	B	*SE*
Working hour	.03	.02	−.02	.02	−.01	.02	−.01	.02
Gender	.17	.12	−.03	.13	.02	.12	.01	.12
Job nature	−.21*	.08	−.11	.08	−.18*	.08	−.23**	.08
Age	.13	.07	−.15*	.07	−.11	.07	−.09	.06
Death anxiety	.25***	.06	−.20**	.06	−.12*	.06	−.49*	.19
Sleep quality					−.31***	.06	−.30***	.06
Work locality							.40**	.12
Death anxiety X work locality							.24*	.12
R^2	.11		.08		.17		.22	
Model fit F (df)	6.13*** (5, 238)		4.39** (5, 238)		8.07*** (6, 237)		8.31 (8, 235)	
Effects	Total effect = −.20 (.06**); direct effect = −.12 (.06*); indirect effect = −.08** (.02), Sobel z = −3.10**							
Cond. direct effects	Rural = −.25 (.09**); Urban = −.01 (.08)							

Note: * = $p < .05$, ** = $p < .01$; *** = $p < .001$: Model 4 was calculated in process; Values shown are regression weights; Raw scores were standardized before calculating mediation in process; Number of bootstrap samples for bias corrected confidence interval was 5000.

anxiety on subjective wellbeing and increases the risk of psychological health challenges. Though a direct supporting evidence for the mediating role of sleep quality in association between the studied variables is not present, yet consistent with the current findings, recent evidence suggests that anxiety levels in general public predict poor sleep quality in the context of COVID pandemic (Bigalke et al., 2020; Zhao et al., 2020), and poor sleep quality in turn has consequences for poor mental health and wellbeing (Jahrami et al., 2021). The mediating role of sleep quality is very important and well justified in that the stressful environment of hospitals and an elevated risk of the coronavirus infection and associated death risks in doctors and their families may increase death anxiety and decrease sleep quality, which in turn may reduce wellbeing in doctors (Huang & Zhao, 2020). We may expect that complete or partial lockdown

during the pandemic may have offered increased sleep and family time opportunities to some individuals but the COVID outbreak has reduced these opportunities for health professionals and doctors working for longer duration with an added burden of stressful exposure to deceased coworkers and patients and an increased risk of corona viral infection. Although, the study did not directly ask questions about sleep opportunities during the pandemic, but the evidence from a metanalyses report indicated that a considerable portion of health professionals experienced insomnia and sleep disturbances during the pandemic (Pappa et al., 2020).

The findings are noteworthy in other ways that allow a better understanding of the existing literature from a different perspective. Primarily, the current results provide an evidence for the studied mediated associations in a South Asian cultural context while majority of the earlier literature on health workers is available from Western, American, or Chinese context. In addition, the present findings contribute in the existing knowledge by adding that sleep quality mediates the link between death anxiety and subjective wellbeing. As the pandemic is still going on with new more dangerous variants of coronavirus, so the results imply that strategies aimed at improving sleep quality may likely improve subjective wellbeing of doctors. Particularly, although the total effect of death anxiety on subjective wellbeing is reduced in the presence of sleep quality, the direct effect still remains significant. Hence, the findings suggest that poor sleep quality, though partially explains this effect, the significant driving force on subjective wellbeing is death anxiety. In addition, age was a negative correlate of subjective wellbeing suggesting that older doctors tended to report poorer subjective wellbeing. It is quite likely because coronavirus poses a higher threat to older adults compared to young adults leading to decreased wellbeing in older doctors. Also, young doctors are in a young and energetic life stage of fighting with challenges and adjusting to challenging situations with more probability of better wellbeing.

Subsequently, results analyzing third hypothesis showed that workplace locality moderated the direct association of death anxiety with subjective wellbeing. Further interpretation of the finding from the conditional direct effects indicated that death anxiety was a stronger negative predictor of subjective wellbeing in doctors working in rural setup compared to those working in urban setup. This finding implies that during the pandemic the workplace locality significantly interacted with death anxiety to negatively predict subjective wellbeing. Consistent with the earlier literature implying the significance of workplace locality in increasing or decreasing wellbeing (Armstrong, 1991), the current finding has confirmed the boosting effect of workplace locality on the association of death anxiety with wellbeing.

Limitations, Strengths, and Implications

Findings from the present study should be interpreted while considering certain limitations. Primarily, cross-sectional study design limits us drawing causal inferences about the studied associative patterns. Bidirectional associations between death anxiety, sleep quality, and wellbeing are quite likely. Longitudinal research designs would be

imperative for implying the causative reasoning as the virus spread, outbreaks of different variants of the virus, and associated death risks are changing with time. Second, self-report measures were used for data collection leaving the possibility of self-report bias to inflate some of the significant correlations and limiting the external validity of the findings.

Despite limitations, the study has several strengths in providing an understanding of risk factors of wellbeing among doctors during the pandemic. The understanding and prevention of risk factors is a crucial step to fight the adversities of coronavirus. The findings of the study offer insight into the differential impact of a global pandemic and associated death anxiety on wellbeing of doctors, with implications for worsened wellbeing in doctors working in rural clinical setups. In addition, findings highlight the imperative role of sleep quality in explaining the death anxiety—wellbeing link during the global pandemic. The findings provide important implications for future research and clinical practice, mental health providers, and policy makers to develop prevention and intervention strategies for preventing adverse factors, nurturing wellbeing, and also to be better prepared for similar future adversities. Mainly, considering the highly unfavorable effects of the virus on physical, psychological, and mental health, promotion of wellbeing has been emphasized as an important strategic footstep (e.g., Arslan, 2020). Hence, understanding the role of the protective and detrimental factors is essential for counselors and professionals to design intervention strategies to improve wellbeing. Findings have implications for ministry of health which has an important role in improving health infrastructure and providing better health services and treatment facilities in rural areas. This would ultimately increase satisfaction in doctors working in rural setups. Also, the ministry of health is recommended to plan different professional development training for doctors in rural setups as well as counseling services to doctors working with infected patients. The findings suggest that counselors need to plan appropriate interventions targeting death anxiety and strategies to improve sleep quality in order to promote wellbeing in doctors.

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ORCID iD

Mamoona Mushtaq https://orcid.org/0000-0001-9624-2116

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Author Biographies

Komal Meher has completed her MS in Clinical Psychology from Riphah Institute of Clinical Psychology, Riphah International University, Lahore campus.

Memoona Mushtaq received her Ph.D. from University of the Punjab in the field of Applied Psychology. Currently, she is a Professor and Head, Department of Psychology at Government Mao College Lahore. She is serving as a visiting faculty at Ripha International University Lahore campus. She is the author of many publications in well reputed international and national journals.

Shameem Fatima received her Ph.D. from University of the Punjab in the field of Applied Psychology with specialization in neuropsychology. Currently, she is associate Professor and Head, Department of Humanities at the COMSATS University Islamabad, Lahore campus. Her primary research interests include executive functions, neuropsychological assessment, forensic psychology, and neuro-developmental disorders and wellbeing of adolescents and adults. She has achieved many awards including but not limited to Punjab university talent Award in 2000, 5^{th} & 7^{Th} HEC outstanding Research Awards, CUI Lahore Research Productivity Award 2016, 2017, 2018, & 2019, CUI Lahore Best Researcher Award 2017. She has a book titled "Dysexecutive Syndromes" on her credit. She is the author of many publications in well reputed international and national journals.