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VACCINE ACCEPTANCE AS A MODERATOR OF COVID-19 OBSESSIONS, EMOTIONAL FATIGUE, AND DEATH ANXIETY IN PAKISTANI MEDICAL PROFESSIONALS

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Abstract

In the midst of the COVID-19 pandemic, there was an increase in feelings of fear and sadness. Following the administration of the COVID-19 immunization, which is anticipated to greatly lower the threat of health hazards, there is a possibility that the mental health of healthcare personnel may improve. The purpose of this study was to investigate the moderating effect that the acceptance of vaccinations by medical professionals had on the link between COVID-19 obsessions, emotional weariness, and dread of death. For the purpose of this investigation, a survey was administered to 280 members of the medical staff, which included physicians, nurses, and paramedical specialists. The methodology utilized was cross-sectional. 78 percent of the questionnaires were delivered to our office. During the time that data was being collected, each and every participant in the study had attained a vaccination. It has been discovered that COVID-19 fixation is connected to anxiety around the prospect of death. Despite the fact that there is a connection between COVID-19 fixation and death anxiety, this connection is moderated by the acceptance of vaccines. Our findings lead us to the conclusion that the COVID-19 obsessions and death fear experienced by medical staff members can be alleviated through the implementation of a vaccination.

Keywords: isolation wards, fear of death, covid-obsessions, medical professionals

Introduction

According to the Government of Pakistan (2021), the COVID-19 outbreak in Pakistan has resulted in the loss of 25,220 deaths and 1,135,858 confirmed cases. A total of 10,300 healthcare personnel contracted COVID-19, resulting in the unfortunate loss of 100 lives. The group consisted of 2 nurses, 26 paramedics, and 71 doctors (ANI, 2020). Medical specialists are now combating the COVID-19 outbreak, which is considered the most severe national calamity. The 2019 coronavirus outbreak has resulted in high transmission rates, severe illness, and fatalities, which have burdened healthcare systems (Petersen et al., 2020). Infectious diseases exert detrimental impacts on both the physical and emotional well-being. Healthcare professionals faced the risk of contracting or succumbing to COVID-19 when providing medical care to patients in isolation wards (Kursumovic et al., 2020).

Obsessive-Compulsive Disorder (OCD), as defined by the American Psychiatric Association (APA), is a chronic psychiatric condition characterized by the persistent occurrence of distressing thoughts, images, or desires that are repetitive, unwanted, and bothersome. To mitigate stress, individuals afflicted with compulsions engage in repetitive mental or behavioral patterns.

All persons experienced emotional and psychological distress throughout the COVID-19 pandemic and prevention measures, but medical students and frontline healthcare workers were most affected. These issues encompassed tension, worry, anger, depression, panic disorder, and the fear of contraction.COVID-19, transmission across surfaces, economic consequences, and individuals not belonging to a certain group (Fiorillo&Gorwood, 2020). The focus on contamination and SARS-CoV-2 may have stemmed from psychological factors associated with public anxieties, media alarm, and intensive health guidance. Furthermore, this can result in compulsive behaviors such as repetitive hand-washing, frequent bathing, and even harm to the skin (Goodman et al., 2014; Nazeer, 2020). Avoid public transit, park benches, and other communal areas to the best of your ability (Davide et al., 2020). According to Davide et al. (2020), there is a correlation between illness and infectious epidemics and an escalation in compulsive behavior. Garca-Reyna et al. (2021) characterized obsessive thoughts and clinical anxiety associated with COVID-19 as dysfunctional, upsetting, and widespread. Medical professionals observed a higher frequency of two OCD symptoms, namely excessive anxiety about contamination and excessive hand washing, during the COVID-19 pandemic (Mrklas et al., 2020). According to a separate study, medical workers who have an excessive preoccupation with COVID-19 frequently experience mental health disorders (Amin, 2020). Medical staff had a higher prevalence of insomnia, anxiety, depression, somatization, and OCD symptoms in comparison to non-medical workers. As per Zhang, Wang, et al. (2020), medical professionals had lower levels of psychological distress compared to nurses and technicians.

Healthcare personnel are at a higher risk of contracting the COVID-19 virus due to frequent interaction with patients, a significant number of severely unwell colleagues, and the widespread presence of the virus (Lai et al., 2020). Amidst a pandemic, individuals may exhibit heightened motivation towards work due to the apprehension of mortality (Menzies&Menzies, 2020). Gholami et al. (2021) reported a mortality rate of 1.5 percent among healthcare staff as a result of COVID-19. As per the findings of Mattila et al. (2020), a notable 5% of doctors experience profound fear related to their own mortality. COVID-19 isolation unit staff and nurses had a considerably greater dread of death compared to both the general population and doctors (Enea et

al., 2021). The epidemic has had an adverse effect on the mental well-being of staff members. Recent research indicates that medical professionals have the highest prevalence of burnout syndrome (Mushtaque et al., 2021; Zhang et al., 2020). The rapid surge of COVID-19 cases and deaths, coupled with insufficient staff and resources, poor therapies, and heightened stress, leads to emotional and mental fatigue and illness among healthcare professionals. Recent researches indicate that medical personnel experienced mental tiredness, panic attacks, and clinical anxiety during the COVID-19 epidemic. Enea et al. (2021) found that the preoccupation with COVID-19 had a significant influence on both death-related anxiety and emotional fatigue. Concerns have arisen over the mortality of healthcare workers as a result of numerous instances of illness or death since the onset of COVID-19 (Rahnamaei et al., 2021; Sonmez&Gul, 2021).

Pharmaceutical companies and researchers are currently engaged in developing large-scale immunizations to combat the transmission of COVID-19 and safeguard human life. Manning et al. (2021) assert that vaccination is a remarkably efficacious approach for managing infectious diseases. Immunizations have long been regarded as the benchmark for halting the fast dissemination of diseases. Individuals have the option to consider the guidance of medical professionals on COVID-19 vaccines prior to making a decision about receiving one. Vaccines manufactured by Sinovac, Sinopharm, Pfizer, Janssen, Oxford/AstraZeneca, and Sputnik V have obtained global authorization. Owing to a global shortage, governments are giving priority to immunizing high-risk populations against COVID-19. Individuals who are engaged in critical service provision, aged 65 and over, and those with many chronic ailments are more susceptible to increased risk (Kaur& Gupta, 2020).To effectively halt the outbreak and contain its transmission, it will be necessary to administer vaccinations to a population exceeding 82%. As stated by Sanche et al. (2020), this requires a broad consensus with limited opposition. Vaccine hesitancy remains widespread worldwide, and the ongoing epidemic has resulted in the delay of normal vaccinations, which have the potential to save loss of life. Primary responders encompass medical workers who are actively involved in the earliest stage of vaccine delivery; in certain nations, this figure may reach up to 70% (Kim et al., 2020). (Source: Reuters, 2020). In Saudi Arabia, 30% of medical professionals express a willingness to receive the COVID-19 vaccine, compared to 36% of medical professionals in the United States (Barry et al., 2020; Shekhar et al., 2021). According to a study conducted by KabambaNzaji et al. (2020), 28% of healthcare staff in the Democratic Republic of the Congo indicated their willingness to receive the COVID-19 immunization. Pakistan's Ministry of Health intends to procure the Sinopharm and Cansino vaccines from China. Pakistan is administering the Sinopharm vaccine, which is sourced from China, to protect its senior population and healthcare workers (Dawn News, 2021).

Aim of Study

The primary objective of this study was to investigate the attitudes of healthcare professionals working in isolation units in Pakistan towards receiving the COVID-19 vaccine, specifically in relation to their levels of worry, emotional tiredness, and fear of mortality.

Methodology

A survey was administered to the medical personnel working in the COVID-19 wards, which included attending physicians, registered nurses, and emergency medical technicians. For the

purpose of the study, individuals were selected using a method known as purposive sampling. The authorization was obtained by the administration of the hospital. The information was collected from a variety of hospitals located in Punjab, Pakistan. There were a total of 385,258 confirmed cases of COVID-19 in Punjab, and the disease was responsible for the deaths of 11,666 members of the population. According to the Government of Pakistan (2021), the hospitals in Punjab have a total of fifty medical centers and thirty-five isolation wards, which together have a capacity of 955 beds within their facilities. G power was used to determine the appropriate size of the sample (Kang, 2021). A total of 300 members of the medical staff were surveyed, and 280 of them provided responses that were considered valid for study. There was an active participation rate of around two-thirds among the individuals who were polled. Between June 15, 2021 and December 15, 2021, information was collected from a variety of medical facilities in Pakistan. For the time being, Pakistan is administering vaccinations to patients and frontline medical workers in accordance with the dosages suggested by Sinopharm. All individuals working in the healthcare industry in Pakistan are required to receive vaccination against COVID-19 as part of the government's mandate. In the context of the interaction between medical staff members' preoccupations with COVID-19, emotional exhaustion, and fear of death, the purpose of this cross-sectional study was to evaluate the function that vaccine acceptance plays as a moderator. It was recommended that physicians and other medical professionals fill out a consent form, which consists of questions about self-reporting and demographic information. All medical professionals, including doctors, nurses, and paramedical staff, who are currently employed in isolation units and are between the ages of 20 and 60 are the target population for this initiative. Individuals who had a documented history of serious mental diseases, such as crippling anxiety or depression, or chronic physical illnesses, such as hypertension or cardiovascular disease, were deemed ineligible to participate in the study. Such individuals were excluded from the study.

Research Instruments

Scales were utilized in this research project in order to evaluate a wide variety of characteristics. 1. For the purpose of determining the degree of COVID-19 fixation, the research utilized a questionnaire that was prepared by Lee (2020) and consisted of four different items. This survey makes use of a Likert scale with five points in order to determine the frequency of obsessive thoughts that are associated with COVID-19. As indicated by the coefficient alpha (α) value of 0.83, the sample that was chosen demonstrated a satisfactory level of dependability for the scale.

2. The Leiter and Maslach (2017) measure, which consists of eight questions and employs a seven-point Likert scale, was developed with the purpose of evaluating emotional exhaustion in medical professionals. The scale shown a high level of reliability, or $\alpha = 0.87$.

3. A selection of fifteen items that were generated from Templer's (1970) Death Anxiety Scale were utilized by us. This scale is a tool that was meant to evaluate the level of anxiety that individuals have around their own mortality. According to the reliability coefficient (α) of 0.90, this scale demonstrates an impressive level of internal consistency, which is worthy of praise. The participants were given a Likert scale with five points, ranging from strongly disagreeing to strongly agreeing, through which they were asked to score their level of agreement with each item.

4. Following the conclusion of the study, a twenty-item, seven-point Likert scale was utilized to evaluate the acceptance of vaccines. The measure was divided into five areas. Due to the fact that the scale had a Cronbach's alpha coefficient of 0.92, the research that was carried out by Sarathchandra and colleagues (2018) revealed a good level of dependability among the scale. In order to arrive at this conclusion, we conducted an analysis of two variables: the perceived safety of vaccinations and positive views on immunization. These measurements were utilized by researchers in Pakistan in order to investigate the relationships between vaccine uptake, obsession with COVID-19, emotional weariness, and fear of mortality among medical ward isolation staff.

Results

Table 1 Medical doctors demographic information (N=280)

Demographic Information	F (%)
Gender	
Male	144(52.0)
Female	136(48.0)
Age	
20-30	89(31.5)
31- 40	99(49.5)
41-50	25(7.5)
51-60	13(1.5)
Designation of participant	
Doctors	81(40.5)
Nurses	92(46.0)
Paramedical staff	27(13.5)

The demographic information that was gathered for the study is summarized as follows: Men made up 144 (52.0%) of the overall population, while women made up 136 (48.0%) of the individual population. Regarding the age range, 31.5 percent of the participants were in the age bracket of 20 to 30 years old, 99 percent were in the age bracket of 31 to 40 years old, 25 percent were in the age bracket of 41 to 50 years old, and 13 percent were in the age bracket of 51 to 60 years old. Within the group of individuals who took part, 81 (40.5%) were medical professionals, 92 (46.0%) were registered nurses, and 27 (13.5%) were paramedical workers. According to these

demographic parameters, one can gain an understanding of the composition of the individuals that participated in the study.

Table 2 Correlation Analysis

Variable	1	2	3	4	M (SDV)
1. CO	-	.65**	.43*	-.44*	5.23 (2.42)
2. E.E		-	.23*	.25	3.32 (1.36)
3. DA			-	-.53*	4.78 (.91)
4. VA				-	4.91 (2.61)

Note: CO= Covid-19 Obsession, E.E= emotional exhaustion, DA= death anxiety, VA=vaccine acceptance.

A depiction of the correlations between the variables of interest is provided in Table 2. The table presents statistically significant relationships between a number of different variables. A significant positive correlation was identified between COVID-19 obsession (CO) and emotional exhaustion (E.E) ($r = .65$, $p < .01$). Additionally, a moderate positive correlation was discovered between CO and death anxiety (DA) ($r = .43$, $p < .05$). These findings indicate that there is a substantial association between CO and E.E. Nevertheless, it was shown that there was a negative link between the level of attention paid to COVID-19 and the acceptance of vaccination (VA) ($r = -.44$, $p < .05$). Furthermore, it was seen that there existed a slight positive link between emotional weariness (E.E) and death fear (DA) ($r = .23$, $p < .05$). However, it was not revealed that there was a significant correlation between emotional fatigue (E.E) and vaccination acceptance (VA) ($r = .25$, $p > .05$). According to the findings of the study, there was a noteworthy and statistically significant negative association ($r = -.53$, $p < .01$) between death anxiety (DA) and vaccination appreciation (VA).

Table 3 Regression

Relationships	Beta	SE	T-value	P-value
CO -> DA	0.131	0.093	5.120	0.000
EE -> DA	0.015	0.076	0.097	0.923
CO *VA-> DA	0.233	0.040	4.393	0.000
EE *VA-> DA	-0.018	0.062	0.293	0.769

Note: CO= Covid-19 Obsession, E.E= emotional exhaustion, DA= death anxiety, VA=vaccine acceptance.

The regression results, as presented in Table 3, provide a diverse range of associations. Beta coefficients, also known as Beta, indicate the magnitude and direction of each relationship, whilst standard errors (SE), t-values, and p-values indicate the statistical significance of the link. The

values obtained from the analysis are as follows: the beta coefficient (β) is 0.131, the standard error (SE) is 0.093, the t-value is 5.120, and the p-value is less than 0.001. These results suggest a significant and positive correlation between COVID-19 obsession (CO) and death anxiety (DA). The values of the variables are as follows: Beta = 0.015, Standard Error (SE) = 0.076, t-value = 0.097, and p-value = 0.923. The fear of death remained untouched by emotional fatigue (EE). The interaction of COVID-19 concern and vaccination acceptance (CO * VA) had a positive effect on death anxiety, as indicated by the significant beta coefficient (Beta = 0.233, SE = 0.040, t = 4.393, $p < 0.001$). Based on the beta level (-0.018), SE level (0.062), t-value (0.293), and p-value (0.769), there was no significant impact of emotional tiredness on vaccination acceptance (EE * VA) on the dread of death. These findings illuminate the intricate relationship between the obsession on COVID-19, emotional weariness, acceptance of vaccines, and fear of death. E.E. is an abbreviation for emotional fatigue, DA represents death anxiety, and VA stands for vaccination acceptance; CO is short for obsession with COvid-19.

Discussion

According to the findings of this study, medical personnel who are willing to acquire the COVID-19 vaccine were found to have lower degrees of fear and dread around the possibility of mortality. Psychological pain and burnout syndrome were experienced by healthcare professionals who were working in quarantine units and attending to patients who were infected with COVID-19 (Mushtaque et al., 2021). According to Milligan and Almomani's research from 2020, the medical staffs that were providing care to patients who were infected with COVID-19 showed increased levels of anguish connected to mortality. This distress may have been caused by their increased exposure to an illness that may potentially be fatal. prior research has indicated that there is a significant presence of death anxiety among healthcare practitioners. These practitioners are confronted with the prospect or actual occurrence of patient mortality, in addition to their own higher vulnerability to COVID-19 infection (Lázaro-Pérez et al., 2020). The findings of this study match the findings of prior research.

We conducted an investigation of the degree of death anxiety that was associated with COVID-19 among healthcare workers. This could be ascribed to prolonged and frequent involvement with patients who are critically ill, patients who are contagious, giving personal care for patients who are dying, and exposure to mortality, or it could be a weakened sense of authority over the progression of patients. According to Menzies and Menzies's 2020 study, the findings provide support for previous research on "mortality apprehension" and psychological distress among those affected by the COVID-19 disaster. 63 percent of medical workers were found to be infected with COVID-19, according to the findings of the current study. The difficulties that have been encountered in the workplace as a result of COVID-19 have been documented in a number of studies. These difficulties include an excessive workload, a lack of human and material resources, concerns over safety, and the requirement for personal protective equipment (PPE) (Morgantini et al., 2020). According to Lucio-Moreno et al.'s research from 2020, the absence of personal protection equipment is a valid signal of anxiety as well as psychological distress and issues and problems. They are experiencing increased levels of fear and dread around COVID-19 as a consequence of this. The purpose of this study is to investigate the extent to which the acceptance of the COVID-19 vaccine has an effect on the connection between death dread and mental

obsessions. As can be shown in table 6, the acceptance of vaccinations had a negative impact on the clinical staff's preoccupation with COVID-19 and their fear of passing away. As a result, vaccination helped alleviate psychological distress among medical staff, such as preoccupations with COVID-19 and dread of death. According to the findings of a study that was carried out by Perez-Arce and colleagues (2021), the immediate aftermath of the COVID-19 vaccine as well as the long-term effects of the immunization have a favorable impact on mental well-being. Only a small percentage of medical professionals in Pakistan exhibited reluctance to get the COVID-19 vaccine at an early stage of the immunization campaign, according to a survey that was conducted not too long ago (Malik et al., 2021; Mushtaque, 2021). This indicated that the majority of medical professionals in Pakistan are willing to receive the vaccine. Multiple studies have shown that nurses who work in high-stress environments, such as operating rooms, emergency departments, and specialized units like critical care and cardiac care units, experience higher rates of mental health problems as a result of emotional exhaustion (Dadgari et al., 2015). For example, nurses who work in these environments are more likely to experience mental health problems. Both death dread and obsessive thoughts were experienced by COVID-19 nurses, according to the findings of Galehdar et al. (2020).

As can be shown in table 6, there was no significant impact of emotional exhaustion on the stress that medical professionals experience over the prospect of death. It is not possible to establish a connection between emotional exhaustion and the fear of passing away. According to Benedek et al. (2007), individuals who have a high level of resilience appear to have a reduced sensitivity to external stimuli, possess more robust interpersonal relationships, experience fewer instances of headaches and musculoskeletal disorders, and exhibit lower levels of sadness. Individuals who have weaker levels of self-control are more likely to experience mental health difficulties when confronted with severe cases of COVID-19, according to the findings of a study that was carried out by Li et al. (2020). There is a recommendation made by the World Health Organization (WHO) that frontline medical staff focuses the management of stress and mental health in addition to their physical well-being (World Health Organization, 2020).

As a result of the dissemination of research that demonstrated the effectiveness of vaccination in reducing the risk of contracting the Corona virus, the availability of vaccinations greatly expanded. Furthermore, immunizations against COVID-19 that have a 95% efficacy in preventing sickness have the potential to drastically reduce future rates of infection, hospitalizations, and fatalities (Moghadas et al., 2021). This is despite the fact that these vaccinations only offer a very limited level of protection against infection. According to research carried out by Saied et al. (2021), Schwarzinger (2021), and Karafillakis& Larson (2018), the degree of acceptance for COVID-19 vaccinations among medical professionals is significantly greater than the average acceptance rate across the globe. The use of vaccinations continues to lessen the overall burden of diseases and prevents the formation of outbreaks that are widespread. Furthermore, a vaccine has the potential to reduce the incidence of COVID-19, as well as the number of hospital admissions and death rates, particularly among vulnerable persons who have preexisting health disorders and risk factors. Furthermore, the research that we have conducted reveals that the implementation of vaccinations results in a reduction in the psychological suffering that is experienced by medical personnel. The findings of our research provide credence to the recommendations put out by the

Advisory Committee on Immunization Practices. These recommendations suggest that concentrated immunization efforts have the potential to successfully reduce the impact of COVID-19 on both public health and socioeconomic aspects (CDC, 2020).

The fact that our research relied on self-reported data regarding individuals' preoccupation with COVID-19 and their acceptance of vaccines opens the door to the possibility of bias. This is one of the limitations of our study. Furthermore, the scope of the study was limited to the region of Punjab within a particular nation within the United States of America.

Conclusion

Vaccination, according to the findings of this study, greatly reduces the amount of COVID-19-related obsessions and death anxiety that clinicians who work in isolation units experience. The rising amount of evidence suggests that immunization improves the mental well-being of medical professionals, and we add to this body of evidence. Research contributes to the improvement of public health and the formulation of policies. We are in agreement with the claims that have been made by medical professionals regarding the beneficial effects that vaccination has on mental health. These claims are based on a sample of Pakistani medical personnel that is representative of the entire community. In addition, we provide evidence that vaccination against COVID-19 considerably reduces the prevalence of psychological diseases that are related with being overly anxious or concerned.

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