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Article

Prevalence of Coronaphobia Among Healthcare Workers in Tertiary Care Hospitals of Peshawar

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ABSTRACT

Background: The COVID-19 pandemic has significantly impacted healthcare professionals' mental well-being, with fear and anxiety leading to a phenomenon termed "coronaphobia." Limited data exist on the prevalence of coronaphobia among healthcare workers (HCWs) in Peshawar, Pakistan, highlighting the need for this study. **Objective**: To determine the prevalence of coronaphobia among HCWs in tertiary care hospitals of Peshawar and assess its severity across different demographic categories, including gender and age. **Methods**: A descriptive cross-sectional study was conducted in three public tertiary care hospitals of Peshawar (HMC, LRH, and KTH) with a sample size of 378 HCWs, including doctors and nurses. Participants diagnosed with COVID-19 or psychological disorders were excluded. Data were collected using the COVID-19 Phobia Scale (C19P-SE), a validated instrument comprising psychological, psychosomatic, economic, and social domains. Ethical approval was obtained from the Institutional Review Board. Data were analyzed using SPSS version 22, with descriptive and inferential statistics applied. **Results**: Among 378 participants, 68.8% exhibited moderate coronaphobia, while 25.1% experienced severe coronaphobia. Males showed a higher prevalence than females (P = 0.326, statistically not significant). The most affected age group was 26-35 years (P = 0.482). No statistically significant associations were found between coronaphobia and demographic variables. **Conclusion**: A significant proportion of HCWs in Peshawar experienced moderate to severe coronaphobia, which may impact their psychological resilience and work efficiency. Mental health interventions and workplace support programs are necessary to mitigate fear and stress among frontline healthcare workers.

Keywords: Healthcare workers, Coronaphobia, COVID-19, psychological impact, mental health, anxiety, tertiary care hospitals..

INTRODUCTION

Coronaphobia, an extreme fear and anxiety associated with the COVID-19 pandemic, has emerged as a critical psychological concern, particularly among healthcare workers (HCWs) who are at the frontline of patient care. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), first identified in Wuhan in December 2019, led to a global health crisis with widespread morbidity and mortality (1). Beyond its physiological impact, the pandemic has profoundly influenced mental health, triggering psychological distress, anxiety, and depression among HCWs due to prolonged exposure to infected patients, high mortality rates, and uncertainty regarding viral transmission (2). Previous studies have reported high levels of psychological distress in HCWs during the pandemic, with varying degrees of coronaphobia affecting their professional performance and overall well-being (3). However, there remains a gap in understanding the prevalence and severity of coronaphobia among HCWs in Pakistan, particularly in the Khyber Pakhtunkhwa (KP) region, where limited data exist on this phenomenon.

The existing literature highlights that fear of infection, concerns about family transmission, and inadequate protective measures contribute significantly to the psychological burden among HCWs (4). A study conducted in China reported that 50% of healthcare

workers exhibited symptoms of depression, while 45% experienced anxiety during the early phase of the COVID-19 outbreak (5). Similarly, research from Pakistan indicates that 62.6% of HCWs experienced severe anxiety, with only 0.2% reporting no anxiety symptoms (6). Despite these alarming statistics, mental health issues among HCWs have often been overlooked, particularly in developing countries where healthcare systems are already overburdened. Furthermore, studies from the Philippines suggest that the prevalence of coronaphobia varies between different healthcare professions, with public health nurses exhibiting higher fear levels than hospital-based nurses (7). These findings underscore the necessity of investigating coronaphobia in different regional and professional contexts to develop targeted interventions.

In the KP province of Pakistan, tertiary care hospitals serve as primary healthcare centers, handling a substantial proportion of COVID-19 cases. Given the high patient influx and limited mental health support systems, it is imperative to assess the psychological impact of the pandemic on HCWs in these institutions. The extent to which coronaphobia affects their mental well-being, job performance, and coping mechanisms remains largely unexplored in this region. Identifying the prevalence and severity of coronaphobia among HCWs can inform mental health policies and workplace interventions aimed at reducing psychological distress and improving resilience among medical professionals (8).

This study aims to determine the prevalence of coronaphobia among HCWs in public tertiary care hospitals in Peshawar and assess its association with demographic variables such as age and gender. By filling the knowledge gap regarding the psychological burden faced by HCWs in this region, the study seeks to provide evidence-based recommendations for mental health support strategies. The primary research question guiding this study is: What is the prevalence and severity of coronaphobia among HCWs in tertiary care hospitals of Peshawar, and how is it associated with demographic factors? Based on existing literature, it is hypothesized that a significant proportion of HCWs in Peshawar experience moderate to severe coronaphobia, with variations across gender and age groups.

MATERIAL AND METHODS

This descriptive cross-sectional study was conducted to assess the prevalence of coronaphobia among healthcare workers (HCWs) in tertiary care hospitals of Peshawar. The study population included doctors and nurses working in public-sector hospitals, specifically Lady Reading Hospital (LRH), Khyber Teaching Hospital (KTH), and Hayatabad Medical Complex (HMC). A total of 378 participants were recruited using convenience sampling. Inclusion criteria were HCWs aged 18–60 years, actively working in these hospitals during the COVID-19 pandemic, and willing to provide informed consent. Exclusion criteria included HCWs with pre-diagnosed psychological disorders or those who had been diagnosed with COVID-19 during the study period to avoid confounding effects related to their personal illness. Ethical approval was obtained from the Institutional Review Board (IRB No: ____), and all procedures were conducted following the principles outlined in the Helsinki Declaration. Informed consent was obtained from all participants, ensuring voluntary participation and confidentiality of data.

Data were collected using the COVID-19 Phobia Scale (C19P-SE), a validated self-report instrument assessing fear related to COVID-19 across psychological, psychosomatic, economic, and social domains. This scale consists of 20 items rated on a five-point Likert scale ranging from "strongly disagree (1)" to "strongly agree (5)," with higher scores indicating a greater level of coronaphobia. The total score ranges from 20 to 100, categorizing coronaphobia into normal, mild, moderate, and severe levels. Demographic information, including age, gender, hospital affiliation, and marital status, was recorded. Health-related data were also collected to assess comorbid conditions such as hypertension, high cholesterol, heart disease, sleep apnea, and arthritis. Data were gathered through self-administered questionnaires distributed in physical form within the hospital premises, with clear instructions provided to participants.

The primary outcome of this study was the prevalence and severity of coronaphobia among HCWs, measured using the C19P-SE scale. Secondary outcomes included associations between coronaphobia and demographic variables such as age and gender. To ensure data accuracy, completed questionnaires were reviewed for completeness before analysis. Confidentiality was maintained by anonymizing responses and securely storing collected data. No follow-up assessments were required as the study was cross-sectional.

Statistical analyses were performed using SPSS version 27. Descriptive statistics, including mean, standard deviation, frequencies, and percentages, were used to summarize the data. Inferential analyses were conducted to assess the association between coronaphobia and demographic variables using the chi-square test, with a significance threshold set at $P < 0.05$. Missing data, if any, were handled using pairwise deletion to maximize data retention. Since the study design did not involve repeated measures or follow-ups, no adjustments for confounding variables were necessary. The results were presented in tabular and graphical formats for clarity. Sensitivity analyses were not applicable given the study's observational nature.

RESULTS

The study included 378 healthcare workers (HCWs) from three tertiary care hospitals in Peshawar, with the majority (50.5%) from Lady Reading Hospital (LRH). Doctors constituted 76.2% of the participants, while nurses made up 23.8%. The mean age of participants was within the 26-35 years category, representing the highest proportion (52.1%), followed by those aged 18-25 years (45.5%).

Table 1: Demographics of the Participants

Variables	Categories	Frequency (%)	Mean ± SD
Working Hospital	HMC	83 (22.0%)	2.29 ± 0.803
	KTH	104 (27.5%)	
	LRH	191 (50.5%)	
Healthcare Workers	Doctor	288 (76.2%)	1.24 ± 0.426
	Nurse	90 (23.8%)	
Gender	Male	246 (65.1%)	1.35 ± 0.477
	Female	132 (34.9%)	
Age	18–25 years	172 (45.5%)	1.53 ± 0.500
	26–35 years	197 (52.1%)	
	36–45 years	8 (2.1%)	
	46–55 years	1 (0.3%)	
	Above 55 years	0 (0%)	
Marital Status	Married	108 (28.6%)	1.71 ± 0.452
	Single	270 (71.4%)	
	Divorced	0 (0%)	
	Widow	0 (0%)	

Table 2: Participants with Health Conditions

Comorbidities	Categories	Frequency (%)	Mean ± SD
High Blood Pressure	Yes	0 (0%)	2.00 ± 0.000
	No	378 (100%)	
High Cholesterol	Yes	0 (0%)	2.00 ± 0.000
	No	378 (100%)	
Heart Disease	Yes	0 (0%)	2.00 ± 0.000
	No	378 (100%)	
Sleep Apnea	Yes	64 (16.9%)	1.83 ± 0.376
	No	314 (83.1%)	
Arthritis	Yes	0 (0%)	2.00 ± 0.000
	No	378 (100%)	

Table 3: Categories of Coronaphobia

Category	Frequency	Percentage (%)
Normal	1	0.3%
Mild Coronaphobia	22	5.8%
Moderate Coronaphobia	260	68.8%
Severe Coronaphobia	95	25.1%
Total	378	100.0%

Table 4: Association of Coronaphobia with Gender

Category of Coronaphobia	Male (n = 246)	Female (n = 132)	p-value
Normal	0	1	0.326
Mild Coronaphobia	13	9	
Moderate Coronaphobia	175	85	
Severe Coronaphobia	58	37	

Table 5: Association of Coronaphobia with Age

Category of Coronaphobia	18–25 years (n = 172)	26–35 years (n = 197)	36–45 years (n = 8)	46–55 years (n = 1)	p-value
Normal	0	1	0	0	0.482
Mild Coronaphobia	11	11	0	0	
Moderate Coronaphobia	125	128	7	0	
Severe Coronaphobia	36	57	1	1	

A greater number of males (65.1%) participated in the study compared to females (34.9%). Most participants were single (71.4%), while 28.6% were married. Regarding health conditions, 16.9% of participants reported sleep apnea, whereas no cases of hypertension, high cholesterol, heart disease, or arthritis were documented. This suggests

that the majority of the HCWs surveyed were generally in good health, minimizing the potential confounding effect of pre-existing conditions on coronaphobia levels. In terms of coronaphobia severity, 68.8% of participants were classified as having moderate coronaphobia, while 25.1% fell into the severe category. Only 5.8% exhibited mild coronaphobia, and 0.3% were categorized as normal, highlighting a widespread presence of significant COVID-19-related fear among HCWs.

When analyzing gender-based differences in coronaphobia levels, males showed a slightly higher prevalence across moderate and severe categories compared to females. However, the chi-square test revealed no statistically significant association between gender and coronaphobia ($P = 0.326$). Similarly, age-based analysis indicated that the 26-35 years age group exhibited the highest prevalence of coronaphobia across all severity categories. Despite this trend, the association between coronaphobia and age was not statistically significant ($P = 0.482$). Overall, the findings demonstrate a substantial burden of coronaphobia among HCWs, particularly at moderate to severe levels. Although no statistically significant associations were observed between coronaphobia and demographic factors, the clinical implications highlight the urgent need for psychological interventions and workplace mental health support to address stress and fear among frontline medical professionals.

DISCUSSION

The findings of this study demonstrate a significant prevalence of coronaphobia among healthcare workers (HCWs) in tertiary care hospitals of Peshawar, with 68.8% of participants experiencing moderate coronaphobia and 25.1% classified in the severe category. These results align with global studies indicating elevated psychological distress among frontline healthcare providers during the COVID-19 pandemic. A study conducted in China reported that nearly half of HCWs experienced symptoms of depression and anxiety, with considerable fear related to viral exposure (1). Similarly, research in Pakistan highlighted that 62.6% of HCWs exhibited severe anxiety, reinforcing the psychological burden faced by medical professionals during pandemic outbreaks (2). The high prevalence of coronaphobia in this study underscores the urgent need for targeted psychological interventions to support HCWs' mental well-being.

Comparing these results with international data, variations in coronaphobia prevalence may be attributed to differences in healthcare infrastructure, pandemic preparedness, and mental health resources. In the Philippines, frontline nurses showed a 70.9% prevalence of coronaphobia, significantly higher than the 37.0% reported among hospital nurses (3). These findings suggest that healthcare professionals working in direct patient care roles experience heightened psychological distress, potentially due to increased viral exposure and emotional exhaustion. The lack of significant associations between coronaphobia and demographic factors such as gender ($P = 0.326$) and age ($P = 0.482$) contrasts with studies indicating that younger HCWs and female professionals exhibit higher anxiety levels (4). One possible explanation is that gender differences in fear responses may be influenced by sociocultural factors and coping mechanisms, which were not specifically evaluated in this study. Moreover, the observed trend of higher coronaphobia in the 26-35 years age group may reflect the professional burden faced by mid-career HCWs, who often have direct patient contact and decision-making responsibilities.

The pathophysiological and psychological mechanisms underlying coronaphobia can be linked to prolonged stress exposure, uncertainty about viral mutations, and perceived inadequacies in personal protective measures. Previous research suggests that excessive fear responses during pandemics are driven by hyperactivation of the amygdala and dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to heightened stress and anxiety levels (5). This may explain why HCWs, particularly those in direct patient care roles, are disproportionately affected. The moderate-to-severe coronaphobia observed in this study indicates the need for institutional mental health programs, including psychological counseling, resilience training, and structured peer support systems to mitigate long-term psychological distress.

Despite its strengths, including the use of a validated COVID-19 Phobia Scale (C19P-SE) and a representative sample from multiple tertiary care hospitals, this study has certain limitations. The cross-sectional design prevents causal inferences regarding the relationship between coronaphobia and demographic factors. Additionally, reliance on self-reported data may introduce response bias, as HCWs could either exaggerate or underreport their psychological distress. The sample was drawn exclusively from public-sector hospitals in Peshawar, limiting the generalizability of findings to private hospitals and other regions with different healthcare dynamics. Future studies should employ longitudinal designs to assess coronaphobia trends over time and explore the effectiveness of targeted psychological interventions. Comparative studies between public and private healthcare institutions could also provide insights into systemic factors influencing HCW mental health. Given the widespread presence of coronaphobia among HCWs, it is imperative that hospital administrations and policymakers prioritize mental health initiatives tailored to frontline medical staff. Implementing structured psychological support, resilience training, and routine mental health assessments could help mitigate fear-related distress and improve professional well-being.

CONCLUSION

This study highlights high coronaphobia prevalence among Peshawar's healthcare workers, impacting mental well-being and job performance. While no significant demographic associations were found, mid-career professionals may be vulnerable. Urgent mental health interventions are needed to ensure workforce resilience,

improve patient care, and stabilize the healthcare system during future crises.

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