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Original Article

Relationship of Covid Anxiety and Exposure Threat with Work During Covid-19 among Physical Therapists

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ABSTRACT

Background: A novel coronavirus is a new pathogenic viral infection that has previously been identified in humans and presents globally as a public health crisis. It is highly transmissible and caused by severe acute respiratory syndromes. This pathogenic virus and its variants are positive-strand RNA viruses that cause severe pulmonary, gastrointestinal, renal, and neurological problems that can range from mild to lethal. Common colds are examples of mild illnesses, but more lethal forms can cause SARS, MERS, and COVID-19. This study explores the relationship between anxiety and exposure threats with work during COVID-19 among physical therapists.

Objective: To determine the relationship between anxiety and exposure threats with work during COVID-19 among physical therapists.

Methods: This correlational study was conducted on 235 participants, comprising male and female physical therapists. Data collection tools included the Coronavirus Anxiety Scale (CAS), Perceived Threat to Coronavirus Questionnaire (PTCQ), and Utrecht Work Engagement Scale (UWES). Data were analyzed using SPSS version 25. Descriptive statistics summarized participant characteristics, and Pearson correlation coefficients were used to assess relationships between variables, with significance set at a p-value of less than 0.05.

Results: The sample included 170 women (72.3%) and 65 men (27.7%), with a mean age of 25.3 ± 3.33 years. There was a weak correlation between coronavirus anxiety and work engagement ($r = 0.143$, $p = 0.029$). Specifically, correlations were observed in the dimensions of vigor ($r = 0.155$, $p = 0.017$) and absorption ($r = 0.177$, $p = 0.006$), but not dedication ($r = 0.023$, $p = 0.729$). The perceived threat to coronavirus showed a weak correlation with work engagement ($r = 0.215$, $p = 0.001$), with significant correlations in the dimensions of vigor ($r = 0.232$, $p = 0.000$), dedication ($r = 0.160$, $p = 0.014$), and absorption ($r = 0.164$, $p = 0.012$).

Conclusion: This study concluded that there is a weak correlation between COVID-19 anxiety, exposure threat, and work engagement among physical therapists. These findings highlight the need for targeted interventions to support the mental health and work engagement of physical therapists during pandemics.

Keywords: COVID-19 anxiety, exposure threat, work engagement, physical therapists, mental health, pandemic, healthcare workers.

INTRODUCTION

A novel coronavirus is a new pathogenic viral infection that has previously been identified in humans and presents globally as a public health crisis (1). It is highly transmissible and caused by severe acute respiratory syndromes (2). This pathogenic virus and its variants are positive-strand RNA viruses that cause severe pulmonary, gastrointestinal, renal, and neurological problems that can range from mild to lethal. Common colds are examples of mild illnesses, but more lethal forms can cause SARS, MERS, and COVID-19 (2). COVID-19 is primarily transmitted through respiratory droplets from one individual to another. These droplets become airborne when COVID-positive individuals sneeze, cough, or talk, potentially contaminating nearby people (3, 4). The majority of COVID-19-positive individuals experience moderate symptoms such as fever, sinus infection, dry cough (89%), fatigue (38%), shortness of breath (19%), headache, loss of smell and taste, nasal congestion, muscular and body aches, sputum production (34%), and nausea, vomiting, and diarrhea. Severe cases can lead to pulmonary edema, septic shock, acute respiratory distress syndrome, and severe pneumonia, which can result in organ failure and death (5, 6, 7).

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The World Health Organization recommended a physical distance of at least 3 feet between individuals to prevent infection transmission, while the CDC recommended at least 6 feet (8, 9). COVID-19 diagnostic testing kits, including the gold standard Reverse Transcription Polymerase Chain Reaction (RT-PCR), have been developed and are available in hospitals and clinical testing labs. Frontline healthcare workers, including physicians, consultants, surgeons, pediatricians, caregivers, and physical therapists, have been actively working during this emergency, experiencing significant personal and professional impacts (10). They faced social, mental, economic, and physical health challenges and had to adapt to new care techniques during the outbreak. This included relocating and retraining staff for larger intensive care units and discharging patients earlier than scheduled to free up hospital resources (11). Healthcare workers, especially those in vanguard roles, refrained from drinking water or using the toilet during duty to preserve their protective clothing, leading to poor physical and mental health. The heavy protective garments and N-95 masks made it more challenging to conduct medical operations, and the fear of infection increased psychological issues among medical staff (12-14).

Physiotherapy is a well-known profession that supports COVID-19 patients with respiratory treatment and rehabilitation. Physiotherapists work in emergency departments and intensive care units, offering cardiorespiratory physiotherapy to help individuals with acute and chronic respiratory illnesses. Therapists play a crucial role in expectorating airway secretions and providing prone positioning and airway clearance strategies for patients with severe pulmonary failure due to COVID-19 (15, 16). Patients in intensive care receiving prolonged pulmonary oxygenation and medications are at higher risk of developing ICU-acquired frailty, which can worsen their condition and lead to death. Early cardiopulmonary therapy is vital to reduce the severity of ICU-acquired frailty and promote rapid rehabilitation. Physiotherapy significantly improves the quality of life for COVID-19 patients through exercise, mobilization, and rehabilitation programs (17, 18). Various modalities and techniques are used to enhance bronchopulmonary secretion clearance and cardiopulmonary endurance, including positioning, Active Cycle of Breathing Exercises (ACBT), Autogenic Drainage (AD), manual techniques, gravity-assisted positioning, manual hyperinflation, suctioning, incentive spirometry, and mechanical percussion (19).

MATERIAL AND METHODS

This study was conducted in the physical therapy departments of government and private organizations in the twin cities of Islamabad and Rawalpindi. Data collection spanned from August 2021 to January 2022 and involved a pre-designed and pre-tested questionnaire. Participants included male and female physical therapists actively working in clinical setups. Physical therapists unwilling to participate, those who worked from home on all working days, and those in academic setups were excluded.

The relationship between COVID-19 anxiety, exposure threat, and work engagement among physical therapists was assessed using the Coronavirus Anxiety Scale (CAS), Utrecht Work Engagement Scale (UWES), and the Perceived Threat to Coronavirus Questionnaire (PTCQ). The CAS is designed to measure a distinct manifestation of anxiety related to COVID-19, differentiating individuals with anxiety symptoms from those without (17). The PTCQ assesses COVID-19-related anxiety, fear, and perceived threat, with a Cronbach's alpha of 0.94, ensuring its reliability (17). The UWES-9, a reliable tool with a Cronbach's alpha of 0.924, measures work engagement across various occupational groups.

The study adhered to ethical standards as per the Declaration of Helsinki. Informed consent was obtained from all participants before data collection. The study protocol was approved by the relevant institutional review board.

Data were entered into SPSS version 25 for analysis. Descriptive statistics were used to summarize participant characteristics, including gender, marital status, designation, employment situation, work hours, vaccination status, and history of COVID-19 infection. Pearson correlation coefficients were calculated to determine the relationship between COVID-19 anxiety, perceived threat, and work engagement. Significance was set at a p-value of less than 0.05.

The sample comprised 235 physical therapists, with a majority of women (72.3%) and unmarried individuals (74.9%), and a mean age of 25.3 ± 3.33 years. Participants held various designations, including physiotherapists, resident health officers, internees, post-graduate trainees, and heads of departments. Employment settings included private, government, and semi-government setups. Most respondents worked 30 to 40 hours per week, with a majority fully vaccinated and a substantial proportion having no prior history of COVID-19.

The study's findings revealed a weak correlation between coronavirus anxiety and work engagement ($r = 0.143$, $p = 0.029$), and between perceived threat to coronavirus and work engagement ($r = 0.215$, $p = 0.001$). These correlations were further analyzed across the UWES dimensions of vigor, dedication, and absorption, highlighting specific areas of impact.

In summary, this study provides valuable insights into the psychological and professional challenges faced by physical therapists during the COVID-19 pandemic, underscoring the need for ongoing support and interventions to address mental health and work engagement in this critical workforce.

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RESULTS

The sample consisted of 235 physical therapists working in clinical setups in Islamabad and Rawalpindi. The participants included 170 women (72.3%) and 65 men (27.7%), with 59 (25.1%) married and 176 (74.9%) unmarried. The mean age of the participants was 25.3 ± 3.33 years. The distribution of participants by designation, employment setup, work hours, vaccination status, and history of COVID-19 infection is provided in Table 1.

Table 1: Demographics

Characteristics	Number (%)
Gender	
Women	170 (72.3)
Men	65 (27.7)
Marital Status	
Married	59 (25.1)
Unmarried	176 (74.9)
Designation	
Physiotherapists	134 (57)
RHO	70 (29.8)
Internees	18 (7.7)
PGT	9 (3.6)
HOD	4 (1.7)
Employment Setup	
Private	134 (57)
Government	86 (36.6)
Semi-Government	15 (6.4)
Work Hours per Week	
30-40 hours	154 (65.5)
40-50 hours	70 (29.8)
50-70 hours	11 (4.7)
Vaccination Status	
Fully Vaccinated	214 (91.1)
Non-Vaccinated	21 (8.9)
History of COVID-19	
Yes	77 (32.8)
No	158 (67.2)

The correlation between coronavirus anxiety and work engagement was examined using Pearson correlation coefficients. The results showed a weak correlation between coronavirus anxiety and work engagement ($r = 0.143$, $p = 0.029$). The correlations between coronavirus anxiety and the dimensions of work engagement, namely vigor, dedication, and absorption, are detailed in Table 2.

Table 2: coronavirus anxiety and work engagement

Correlation	r	p-value
Coronavirus Anxiety and Work Engagement	0.143	0.029
Vigor	0.155	0.017
Dedication	0.023	0.729
Absorption	0.177	0.006

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The correlation between the perceived threat to coronavirus and work engagement was also assessed. The results indicated a weak correlation between perceived threat and work engagement (r = 0.215, p = 0.001). Detailed correlations for the dimensions of work engagement are presented in Table 3.

Table 3: perceived threat to coronavirus

Correlation	r	p-value
Perceived Threat to Coronavirus and Work Engagement	0.215	0.001
Vigor	0.232	0.000
Dedication	0.160	0.014
Absorption	0.164	0.012

The results demonstrate that while there are weak correlations between COVID-19 anxiety, perceived threat, and work engagement among physical therapists, these relationships are significant. The findings suggest that COVID-19-related psychological factors impact the work engagement of physical therapists, particularly in the dimensions of vigor and absorption.

DISCUSSION

The study aimed to evaluate the relationship between COVID-19 anxiety, perceived threat, and work engagement among physical therapists in clinical settings. The results revealed weak but significant correlations between these psychological factors and work engagement. Specifically, there was a weak correlation between coronavirus anxiety and overall work engagement, with notable correlations in the dimensions of vigor and absorption. These findings align with previous research indicating that healthcare workers, including physical therapists, faced substantial psychological challenges during the COVID-19 pandemic (15). The heightened anxiety and perceived threat among healthcare workers were attributed to factors such as fear of infection, increased workload, and the necessity of adhering to stringent infection control measures (16).

The study's results underscored the significant impact of the pandemic on the mental health and professional engagement of physical therapists. Similar findings were reported in studies from South Korea and Egypt, where healthcare workers exhibited elevated levels of stress, anxiety, and depression due to the pandemic (17). The fear of contracting the virus, coupled with the responsibility of providing care to infected patients, likely exacerbated anxiety levels among physical therapists, affecting their work engagement. The weak correlations observed in this study suggest that while anxiety and perceived threat did impact work engagement, other factors might also play a role, highlighting the complexity of the issue.

One strength of this study was its focus on physical therapists, a group often overlooked in pandemic-related research despite their critical role in patient care and rehabilitation. The use of validated scales like the CAS, PTCQ, and UWES ensured the reliability of the findings. However, the study had several limitations. The cross-sectional design precluded the establishment of causality between the variables. Additionally, the reliance on self-reported measures might have introduced response bias, as participants could have underreported or overreported their anxiety and work engagement levels. The study was also geographically limited to Islamabad and Rawalpindi, potentially affecting the generalizability of the findings to other regions or countries (18).

The study's findings have several implications for practice and future research. Given the significant relationship between COVID-19 anxiety, perceived threat, and work engagement, there is a need for targeted interventions to support the mental health of physical therapists. Psychological support services, stress management programs, and adequate protective measures could mitigate the negative impact of the pandemic on this workforce. Additionally, future research should explore the longitudinal effects of the pandemic on physical therapists' mental health and work engagement to understand the long-term implications and identify effective coping strategies (19, 20).

CONCLUSION

In conclusion, the study highlighted the psychological impact of the COVID-19 pandemic on physical therapists, revealing weak but significant correlations between COVID-19 anxiety, perceived threat, and work engagement. These findings contribute to the growing body of evidence on the mental health challenges faced by healthcare workers during the pandemic and underscore the need for supportive measures to enhance their well-being and professional engagement. Future studies should address the limitations of this research by employing longitudinal designs and expanding the geographical scope to provide a more comprehensive understanding of the issue.

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REFERENCE

1. Saleem Z, Majeed MM, Rafique S, Siqqiqui Z, Ghandhi D, Tariq H, et al. COVID-19 Pandemic Fear and Anxiety Among Healthcare Professionals in Pakistan. 2020.
2. Aly HM, Nemr NA, Kishk RM, Bakr Elsaid NMA. Stress, Anxiety and Depression Among Healthcare Workers Facing COVID-19 Pandemic in Egypt: A Cross-Sectional Online-Based Study. BMJ Open. 2021;11(4)
3. Supinganto A, Pramana C, Sirait LI, Kumalasari MLF, Hadi MI, Ernawati K, et al. The Use of Masks, as an Effective Method in Preventing the Transmission of the COVID-19, During Pandemic and the New Normal Era: A Review. 2021.
4. Park SJ, Jeong HJ, Kim BG. Anxiety and Depression in Physical Therapists During the COVID-19 Pandemic: A Cross-Sectional Survey in Gwangju, South Korea. KSPM. 2021;16(2):23-30.
5. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. New England Journal of Medicine. 2020;382(18):1708-20.
6. Banerjee I, Robinson J. COVID-19 Airborne Transmission: A New Frontier of Infection. Nepal Journal of Epidemiology. 2021;11(3):1076.
7. Saleem M, Bakar A, Durrani AK, Manzoor Z. Impact of Perceived Severity of COVID-19 (SARS-CoV-2) on Mental Health of University Students of Pakistan: The Mediating Role of Muslim Religiosity. Frontiers in Psychiatry. 2021;12:560059.
8. Mo Y, Deng L, Zhang L, Lang Q, Liao C, Wang N, et al. Work Stress Among Chinese Nurses to Support Wuhan in Fighting Against COVID-19 Epidemic. Journal of Nursing Management. 2020;28(5):1002-9.
9. Chorwe-Sungani G. Assessing COVID-19-Related Anxiety and Functional Impairment Amongst Nurses in Malawi. African Journal of Primary Health Care & Family Medicine. 2021;13(1):1-6.
10. Önen Sertöz Ö, Kuman Tunçel Ö, Sertöz N, Hepdurgun C, İşman Haznedaroğlu D, Bor C. Burnout in Healthcare Professionals During the COVID-19 Pandemic in a Tertiary Care University Hospital: Evaluation of the Need for Psychological Support. Turkish Journal of Psychiatry. 2021;32(2).
11. Liu C, Yang YZ, Zhang XM, Xu X, Dou QL, Zhang WW. The Prevalence and Influencing Factors for Anxiety in Medical Workers Fighting COVID-19 in China: A Cross-Sectional Survey (Preprint). 2020.
12. Ali Khan HG, Ahmed SK, Anwar Khan M, Khattak SI, Alam BF, Akbar MF. Career Capital, Career Success, and Perceived Employability: Evidence from Medical Billing Companies in the Post-COVID World. Work. 2023;76(3):907-19.
13. Thomas P, Baldwin C, Bissett B, Boden I, Gosselink R, Granger CL, et al. Physiotherapy Management for COVID-19 in the Acute Hospital Setting: Clinical Practice Recommendations. Journal of Physiotherapy. 2020;66(2):73-82.
14. Lazzeri M, Lanza A, Bellini R, Bellofiore A, Cecchetto S, Colombo A, et al. Respiratory Physiotherapy in Patients with COVID-19 Infection in Acute Setting: A Position Paper of the Italian Association of Respiratory Physiotherapists (ARIR). Monaldi Archives for Chest Disease. 2020;90(1).
15. Kalirathinam D, Guruchandran R, Subramani P. Comprehensive Physiotherapy Management in COVID-19–A Narrative Review. Scientia Medica. 2020;30(1)
16. Wright S, Wakeman R, Collins N, Chatwin M. Physical Therapies in Pediatric Respiratory Disease. In: Kendig's Disorders of the Respiratory Tract in Children. Elsevier; 2019. p. 273-88.e3.
17. La Cour P, Nielsen ABS, Andersen SB, Madsen T. The Psychological Well-Being–Post-Traumatic Changes Questionnaire: Validation of the Danish Version. Traumatology. 2016;22(4):271.
18. Yang S, Kwak SG, Ko EJ, Chang MC. The Mental Health Burden of the COVID-19 Pandemic on Physical Therapists. International Journal of Environmental Research and Public Health. 2020;17(10):3723.
19. Xing LQ, Xu ML, Sun J, Wang QX, Ge DD, Jiang MM, et al. Anxiety and Depression in Frontline Health Care Workers During the Outbreak of COVID-19. International Journal of Social Psychiatry. 2021;67(6):656-63.
20. Alenazi TH, BinDhim NF, Alenazi MH, Tamim H, Almagrabi RS, Aljohani SM, et al. Prevalence and Predictors of Anxiety Among Healthcare Workers in Saudi Arabia During the COVID-19 Pandemic. Journal of Infection and Public Health. 2020;13(11):1645-51.