

Frequency of Stress, Anxiety and Depression among Pakistani Physical Therapists and Their Coping Strategies during COVID-19

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Author's Contribution

^{1,3} Conception and design, Collection and assembly of data, ^{2,4} Analysis and interpretation of the data, ^{5,6} Critical revision of the article for important intellectual content, Statistical expertise, ^{1,6} Final approval and guarantor of the article.

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A B S T R A C T

Background: The COVID-19 pandemic is one of the most catastrophic events that mankind has seen in the 21st century. It imposed a massive psychological strain on every segment of the population, especially on health care providers who were and are exposed to elevated infection risks.

Objective: To assess the frequency of stress, anxiety and depression among Physical therapists and their coping strategies during COVID-19.

Methods: A cross-sectional observational study of 189 Physical therapists was undertaken in the 3rd COVID-19 wave during May and June. The questionnaire contained demographic information as well as inquired whether or not the respondents were contacted by COVID-19 patients at their workplace. DASS-21 was used to investigate the frequency of stress, anxiety, and depression and a 12-item checklist of the preferred coping strategies was completed by physical therapists, and results were analyzed by SPSS-21. The study was completed within 4 months.

Results: Among 189 physical therapists with a mean age of 27 ± 3.34 , 78 (41.3%) were males and 111 (58.7%) were females. Fifty (26.4%) of the participants reported moderate to severe depression levels. Fifty-seven (30.2%) reported moderate to severe anxiety levels and sixty-nine (36.5%) reported moderate to severe stress levels. The most commonly utilized coping strategy among all physical therapists was "taking protective measures (washing hands, wearing masks and measuring temp.)" during this pandemic.

Conclusion: The COVID-19 pandemic seems to have a substantial negative impact on the physiotherapist's mental health. A significant percentage of them reported negative emotional states, despite the declining positivity ratio in COVID during the months of data collection. These results indicate that mental health should not be overlooked in the event of a pandemic, and physical therapists should be provided with psychological support, with an emphasis on effective coping strategies during this pandemic.

Keywords: COVID-19; Physical therapists; Stress; Anxiety; Depression; Coping strategies.

Introduction

The novel Corona Virus Disease 2019 (COVID-19) is an infectious disease precipitated by Severe Acute Respiratory Syndrome Coronavirus II, which was initially diagnosed in Dec-2019 in Wuhan, China, and has since become an unprecedented worldwide healthcare crisis.¹ The WHO declared COVID-19 the sixth global public health emergency on Jan 30, 2020.² This current epidemic has engulfed the globe,

with a high mortality rate.² COVID patients usually experience fever, myalgia, nausea, weakness and a dry cough. Dyspnea and hypoxia are the symptoms of severe illness that can be felt within a week of COVID contact and can even lead to death.³

Aside from the biological sense, psychological resilience can be challenged as a result of the major changes in everyday life.⁴ Previous research has shown that infection

outbreaks are accompanied by severe psychosocial consequences that ultimately become more prevalent than the epidemic itself.⁵ Several research reports have reported the high prevalence of mental health issues in general population as well as health care workers (HCWs).⁶ A study of frontline HCWs in China revealed that 50% were depressed, 45% were anxious, and 34% were insomniac.⁷

In the pandemic of COVID-19, when the world suffers a halt of routine activities and people have been advised to adopt social distance in order to limit contacts between individuals to lower the risk of being infected, physical therapists, like other health care professionals, usually take the opposite route.⁶ In intensive care units and COVID wards, they are essential members of the multidisciplinary team. On an individual basis, they provide chest physiotherapy to patients with mild to moderate symptoms in order to alleviate dyspnea through the use of airway clearance methods such as active cycle of breathing technique (ACBT), forced expiratory technique (FET), percussion and vibrations, positive expiratory pressure (PEP) therapy, positioning and gravity-assisted postural drainage and suctioning.⁸ Assisted or stimulated cough maneuvers and mobilization are used to induce cough and sputum expectoration. The use of non-invasive ventilation is the first line of defence, especially for patients with severe symptoms.⁹ Historically, the primary goal of physiotherapy in critical care has been to manage respiratory problems, although there is now evidence that critical care survivors experience long-term fatigue and limitations in functional ability, which has led to the incorporation of home exercise, mobilization, and rehabilitation interventions into routine practice that would enhance quality of life.¹⁰ Aside from this, physiotherapists are still assisting other patients with their injuries and mobility issues during this pandemic. They are equally concerned about contracting an infection from any of their patients.¹¹

According to a review of meta-analyses, medical professionals had a prevalence of depression and anxiety of 24.83 percent and 24.94 percent during the COVID-19 pandemic, respectively.¹² A study of 2871 HCWs working in a COVID ward and ICU in Australia found that 21.6%, 28.6% and 28.0% were depressed, anxious, or stressed, respectively. Women reported severe depression, anxiety and stress symptoms. Although the female appears to be a factor, other factors may also play a role in psychological distress.¹³

There are strategies for coping with the mental health issues that physicians have reported in their workplace during this pandemic. "Trying to take precautions (rinsing hands, wearing masks, checking personal temperature)" or "consciously obtaining additional understanding of COVID-19"

were the most popular approaches used by physicians to deal with this unexpected situation.¹⁴ Another approach was "Telecommunication with family and friends to express worries and concerns," which appeared to be highly adopted by physicians, especially those who were appointed to the COVID ward in the current era, as compared to the SARS outbreak.¹⁵

Due to the novelty and rapid development of this crisis situation, no study has been conducted in developing countries, to ascertain the impact of this pandemic on the mental health of physical therapists and the coping strategies used by them.¹⁶ They are the one driving force during this pandemic situation behind every healthcare system. Their mental well-being must be looked after with the aim of enabling them to fulfil their duties efficiently. Therefore, it was vital to conduct a study to assess the frequency of mental health issues as well as coping strategies among physical therapists employed in hospital or clinical settings during the COVID-19 pandemic. This study's findings will help healthcare administrators establish recommendations and strategies to promote physical therapists' mental health at their work place.

Methodology

A cross-sectional study of 189 physical therapists was undertaken in the 3rd COVID wave from May to June 2021. Sample size was calculated using Daniel sample size¹⁷ formula with 95% Confidence interval (CI), 0.23 anticipated population proportion (P) and 0.06 absolute precision required. After approval from the institutional ethics review committee, data was collected via an online survey using a convenience sampling technique. According to the inclusion criteria, physical therapists of either gender, aged 24–40 years, from various private and public hospitals, both those assigned to the COVID ward and those who were not, were included in the study. Subjects who were not working in clinical settings or had any medical illness have been excluded. The study was completed within 4 months. For data collection, the modified survey had three sections: Part-1: contained demographic information, Part-2: Depression, Anxiety and Stress Scale- 21 Items (DASS-21), a short form of DASS-42,¹⁸ Part-3: 12-checklist of the preferred coping strategies. DASS-21 contains 7x3 questions each about determining depression, anxiety, and stress among physical therapists. With test-retest and split-half reliability ratings of 0.99 and 0.96, respectively, it is a valid and reliable questionnaire.¹⁹ The respondents were asked to rate their symptoms based on their experience of the previous week on a 4-point Likert scale, which ranges from 0 (Never) to 3 (Almost Always).²⁰ The twelve-checklist questionnaire is used to assess the prevalence of coping strategies used by them during the COVID-19 pandemic. Electronic informed consent was taken

from the study participants. After collection, data was saved to avoid any biasness and all data was entered into an SPSS file. The data was analyzed using SPSS and interpreted for further results. Demographics analyzed as percentages and frequencies. Suitable statistical analysis was applied, and in DASS-21, the scores of the 3 subscales were summed up and multiplied by 2 to calculate the total DASS score. The subscales on the DASS-21 were classified as normal, mild, moderate, severe, and extremely severe using the Lovibond, S.H. and Lovibond, P.F. approach.¹⁸ To interpret the prevalence, these categories were then grouped as normal/mild, moderate, and severe/extremely severe. Chi-square was applied to determine the association of sociodemographic variables to stress, anxiety and depression. A coping methods questionnaire based on Lee et al was used, in which all participants responded to 12 questions on a scale of 0 (never) to 3 (almost always).¹⁵

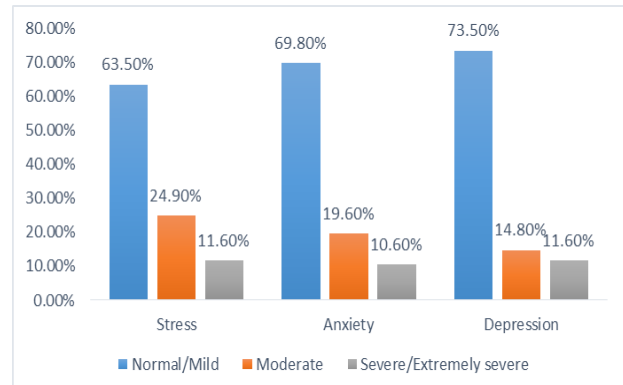
Results

Among 189 physical therapists with a mean age of 27.78 ± 3.34 , 78 (41.3%) were males and 111 (58.7%) were females. One hundred and thirteen physical therapists (59.8%) were working in hospitals, and 79 (40.2%) were working at their private clinics. Only forty-five (23.8%) participants had duty in the COVID ward. One hundred and thirty nine (73.5%) of them indicated a normal/mild depression level, 28 (14.8%) a moderate depression level, and 22 (11.6%) a severe/extremely severe depression level. Regarding anxiety, 132 (69.8%)

reported a normal/mild level of anxiety, 37 (19.6%) a moderate level, and 20 (10.6%) a severe/ extremely severe level. Concerning stress levels, 120 (63.5%) reported normal/mild, 47 (24.9%) moderate, and 22 (11.6%) severe/extremely severe. Figure 1 represents the reported level of emotional disturbance in participants.

Figure 1. Emotional disturbance in participants

Association between sociodemographic variables and DASS-21; stress, anxiety and depression levels was then evaluated. Gender was proven significant for stress and anxiety



levels. Working hours was proven significant to anxiety and depression levels. However, all three dependent variables were found to be associated with duty in the COVID ward. P-value is given in Table I.

Table I: Association between sociodemographic variables and DASS-21 stress, anxiety and depression levels during COVID-19 pandemic										
total=189		Stress subgroup			Anxiety subgroup			Depression subgroup		
		Mild	Moderate	Severe	Mild	Moderate	Severe	Mild	Moderate	Severe
Gender										
Male	78 (41.3%)	57	18	3	62	11	5	61	10	7
Female	111 (58.7%)	63	29	19	70	26	15	78	18	15
<i>p-value</i>		0.011*			0.050*			0.459		
Marital Status										
Married	67 (35.4%)	48	13	6	48	13	6	53	9	5
Unmarried	122(64.6%)	72	34	16	84	24	14	86	19	17
<i>p-value</i>		0.226			0.857			0.345		
Job setting										
Private clinic	76(40.2%)	45	20	11	51	17	8	52	16	8
Hospital	133(59.8%)	75	27	11	81	20	12	87	12	14
<i>p-value</i>		0.509			0.725			0.140		
Working Hours										
>6	99(52.4%)	65	22	12	58	29	12	66	21	12
<6	90(47.6%)	55	25	10	74	8	8	73	7	10
<i>p-value</i>		0.677			0.001*			0.028*		
Duty in COVID ward										
Yes	45(23.8%)	16	17	11	22	10	12	19	11	14
No	144(76.2%)	104	30	11	110	27	8	120	17	8
<i>p-value</i>		0.000*			0.000*			0.000*		

Table II: Summarized frequencies and percentages of used Coping strategies.				
Coping Strategies	Never	Sometimes	Often	Almost Always
Taking protective measures (washing hands, wearing a mask, measuring temperature, etc.)	1 (.5%)	23 (12.2%)	67 (35.4%)	98 (51.9%)
Actively acquiring more knowledge about COVID-19 (symptoms, transmission pathway, etc.)	4 (2.1%)	38 (20.1%)	88 (46.6%)	59 (31.2%)
Engaging in health-promoting behaviours (more rest, exercise, balanced diet, etc.)	10 (5.3%)	49 (25.9%)	85 (45.0%)	45 (23.8%)
Switching thoughts and facing the situations with a positive attitude	6 (3.2%)	54 (28.6%)	83 (43.9%)	46 (24.3%)
Engaging in recreational activities (online shopping, social media, internet surfing, etc.)	22 (11.6%)	91 (48.1%)	50 (26.5%)	26 (13.8%)
Chatting with family and friends by phone to share concerns and support.	6 (3.2%)	54 (28.6%)	86 (45.5%)	43 (22.8%)
Limiting oneself from watching too much news about COVID-19	16 (8.5%)	63 (33.3%)	62 (32.8%)	48 (25.4%)
Distracting oneself from thinking about COVID-19 issues by suppression or keeping busy	16 (8.5%)	66 (34.9%)	87 (46.0%)	20 (10.6%)
Acquiring mental health knowledge and information	11 (5.8%)	79 (41.8%)	67 (35.4%)	32 (16.9%)
Practicing relaxation methods (meditation, yoga, tai chi, etc.)	44 (23.3%)	75 (39.7%)	45 (23.8%)	25 (13.2%)
Venting emotions by crying, screaming, smashing things, etc.	78 (41.3%)	65 (34.4%)	29 (15.3%)	17 (9.0%)
Using alcohol or drugs	143 (75.7%)	34 (18.0%)	12 (6.3%)	0

"Taking preventive measures (cleaning hands, wearing a mask, and monitoring personal temperature)" was the most often used coping technique among all physical therapists, as well as "actively gaining more knowledge about COVID-19." "Alcohol and drugs" were the least-used technique. The results of coping strategies adopted by physical therapists are summarized in Table II.

Discussion

Among 189 physical therapists, 139 (73.5%) reported normal/ mild depression, while 50 (26.4%) reported moderate to extremely severe depression. Regarding anxiety, 132 (69.8%) reported a normal/ mild level and 57 (30.2%) reported a moderate to extremely severe level. In terms of stress, 120 (63.5%) reported a normal/ mild level and 69 (36.5%) reported a moderate to extremely severe level. Although our results reported a low prevalence as compared to previous literature studies related to the mental health issues of HCWs during this pandemic, such as Hummel et al. conducted a study in 2020 that included 354 medical professionals (189 physicians and 165 nurses) in which 108 (30.5%) reported moderate to extremely severe depression levels, 114 (32.2%) reported moderate to extremely severe anxiety levels, and 146 (41.25%) reported moderate to extremely severe stress levels.¹⁴ The study results might be varied due to different regions, small sample size, different populations, different time duration as this study was done in the 3rd wave of COVID from May to June and disease severity differences.

In this study, one-third of the physical therapists reported moderate to severe mental health issues, despite the fact that the positivity ratio was declining during data collection. An increased incidence of medical mistakes and patient care is

linked to mental distress.²¹ However, the mean scores for stress, anxiety, and depression among physical therapists were lower than those of physicians and nurses. These findings are encouraging in the sense that the physiotherapists, although facing significant obstacles and hazards, appeared to be psychologically equipped to manage the pandemic situation. A study on the population spared by the SARS victims revealed that having a strong sense of self-care helped them cope with the condition and make better psychological adjustments to the situation.²²

Sandesh et al. conducted a cross-sectional study at several hospitals in Karachi, Pakistan, in May 2020. One hundred and twelve healthcare professionals with a male to female ratio of 1.3:1 working in COVID wards were asked to fill out the questionnaires. Eighty-one (72.3%), 96 (85.7%), and 101 (90.1%) reported moderate to severe depression, anxiety, and stress levels, respectively.²³ According to the research findings, among 189 physiotherapists, 78 (41.3%) were male and 111 (58.7%) were female. Only 45 (23.8%) respondents were appointed to the COVID ward, although 113 (59.8%) were serving at hospitals. Fifty (26.4%) physical therapists reported a moderate to severe depression level, 57 (30.2%) reported a moderate to severe anxiety level, and 69 (36.5%) reported a moderate to severe stress level. Precautionary measures such as permanent face mask use, restrictions on visits to health centers, and proper sanitary guidelines were made mandatory for health care workers at this time in all medical units, including COVID-wards, according to the study findings. Furthermore, because of the initial deaths of doctors and nurses in the first wave of COVID due to the negligent behavior of coworkers and patients, as well as a lack of public awareness, COVID-19 seemed to be a predominant threat for all medical professionals.²⁴

Lai et al. conducted a cross-sectional survey in China in 2020 to determine the severity of psychological health outcomes for medical professionals who treated COVID-19 patients. A high percentage of participants, i.e. 50.4%, 44.6%, 34.0%, experienced depression, anxiety, and sleeplessness, respectively. These results suggest that front-line HCWs in China who were subjected to COVID-19 had a high risk of negative mental health impacts and needed psychiatric assistance or strategies.⁷ Our study result is in partial agreement because the questionnaires used were different and the sample specified was not restricted to physical therapists who served in COVID wards. A study limited to physical therapists assigned to the COVID ward could reveal a high prevalence.

"Taking precautionary measures" and "actively getting more knowledge about COVID-19" were the two most popular coping strategies used by physical therapists to deal with this unexpected situation. These results are in agreement with the studies among Taiwanese nurses throughout SARS and HCWs of China during COVID-19.^{15, 25} Another key strategy was "Telecommunication with loved ones," which appeared to be more adapted by the study participants than the nurses in Taiwan during SARS.¹⁵ However, there are more opportunities to cope than the SARS pandemic. Adopting health-promoting habits (i.e. taking proper rest, engaging in physical activity and intake of good nutrition), taking an optimistic perspective about the situation, minimizing one's exposure to COVID-19 news, and diverting oneself from worrying about COVID-19 concerns by staying busy are other coping methods adopted by physical therapists throughout this epidemic.

Our findings were consistent with previous research on COVID-19, which found higher levels of psychological distress during the epidemic.²⁶⁻²⁸ However, these studies mostly cover European countries, indicating that COVID-19 has a detrimental effect on the mind but neglecting the possibility of variations between countries

Most of the studies that have been done only focus on healthcare professionals elicited as frontline workers, but in this study, all physical therapists serving as frontline or non-frontline workers have been included. This may have varied the results from the literature. As the study had to be run online due to lockdown restrictions, it wasn't convenient to specify the population. A survey of physical therapists assigned to the COVID ward might demonstrate a high incidence rate.

Conclusion

The COVID-19 pandemic seems to have a substantial negative impact on the physiotherapist's mental health. A

significant percentage of them reported negative emotional states, despite the declining positivity ratio in COVID during the months of data collection. These results indicate that mental health should not be overlooked in the event of a pandemic, and physical therapists should be provided with psychological support, with an emphasis on effective coping strategies during this pandemic. Our results not only provide insight into coping strategies that were used by physical therapists during the COVID-19 era, but they might also be used as a reference for identifying coping strategies adopted by health care workers to cope with their mental health crises at work during the spread of any highly infectious disease.

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