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A cross-sectional online survey of relationship between the psychological impacts of Coronavirus Disease 2019 (COVID–19) lockdown and the resilience among physiotherapy professionals in India

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ABSTRACT

Introduction: Novel coronavirus disease 2019 (COVID-19) has caused a rapidly evolving confused state. Like other front line health care workers (HCWs), physiotherapists are also providing their valuable services to COVID-19 patients. Caring COVID-19 patients is exhaustive both physically and mentally due to associated risks. So physiotherapists are prone to development of psychological problems like depression and anxiety during COVID-19 pandemic and lockdown. Main objective of study was to assess relationship between psychological impact of COVID-19 lockdown in the form of depression and anxiety, and the resilience among physiotherapists across India. *Methods*: Present cross-sectional online survey was conducted in the rural tertiary health-care center from Maharashtra, India, with sample size was 378. Data were recorded with consecutive sampling method from study participants on socio-demographic details, Beck's Depression Inventory (BDI), Generalized Anxiety Disorder 7 item (GAD – 7) scale and Brief Resilience Scale (BRS). After the collection, data were analyzed using version 15.0 of SPSS software, Chi-square test, Fisher's exact test and Pearson's correlation test. *Results*: Prevalence of depression and anxiety among study participants were 31% and 37.8% respectively. As regards depression, 56 (14.8%) had mild, 23 (6.1%) had borderline, 29 (7.7%) had moderate, 8 (2.1%) had severe and 1 (0.3%) had extreme depression. As regards anxiety, 96 (25.4%) had mild, 32 (8.5%) had moderate and 15 (3.9%) had severe anxiety. As regards resilience level, 86 (22.8%) had low, 281 (74.3%) had normal and 11 (2.9%) had high resilience. Those respondents who had high resilience had lower rates of depression on BDI and lower rates of anxiety on GAD–7. *Conclusion*: Programs to strengthen resilience should be priority. In longer run, increasing resilience

of physiotherapists can have mental health promoting value during the stressful event of COVID-19 lockdown.

Keywords: Anxiety, COVID-19, Depression, Lockdown, Resilience.

1. INTRODUCTION

Background

In December 2019, novel corona virus disease-19 (COVID-19) outbreak emerged in Wuhan, China and its rapid global spread has gathered an attention of the world (Wang et al., 2020; Li et al., 2020; Zhu et al., 2020; Lancet, 2020). In March 2020, COVID-19 was declared as a pandemic by WHO amid its global spread across the countries (Eurosurveillance, 2020). COVID-19 pandemic is tackled by government and local authorities of the affected countries by following the different strategies (Burdorf et al., 2020). On one hand COVID-19 pandemic is being fought by medical interventions whereas on the other hand different governments have adapted to different ways of maintaining social distancing to avoid as far as possible the human spread of this virus (Cascella et al., 2020). These strategies involve educating the masses the advantage of social distancing and also applying such rules and regulations where people are forced to follow social distancing. One such strategy used by India and several other countries is to have either a complete or partial lock down. In India, first case of COVID-19 was detected in Kerala on 30th January 2020. Since then count is steadily increasing. Since 25th March 2020, there is ongoing country wide lock down in India to prevent spread of COVID-19. This lock down period is having two sides. One important side is that it is very important in preventing and slowing the community transmission of coronavirus, but at same time other side being perceived by people as socially isolating and being lost in touch from world. Being socially isolated, working in high risk situations and having contact with infected people are common causes of mental health problems among HCWs including the physiotherapists (Wu et al., 2009; Maunder et al., 2003). The COVID-19 lockdown is still going on in India with some relaxations in the various services. This has led to most of the people being confined to their homes and a temporary closure of the academic institutions, factories, clinics, etc. (Yale Medicine, 2020).

Rationale for the study

Physiotherapy professionals working in government and multi-specialty hospitals being a part of the health care team are involved in the fight against COVID-19 (Physio-pedia, 2020a; Physio-pedia, 2020b). But there are many who had been sitting at their homes because their clinics are closed due to lockdown or the nursing homes or hospitals where they were working are functioning only for emergency services. Those working in the academic sector are also at home due to the academic institutions being closed (Sheikh, 2020). The process of unlock has started in the country and clinics and nursing homes have started functioning in many areas but with the reports of WHO saying that COVID-19 is here to stay for a long time the uncertainty regarding the response of patients and as a result their professional life is bound to create stress and anxiety in a lot of physiotherapists especially amongst those working in private sectors and those who are self-employed (Quebec, 2020). There is reluctance in patients to visit clinics and hospital due to COVID-19 pandemic (Medicaldevice-network, 2020). Surveys have indicated that many professionals feel that the coronavirus disease (COVID-19) pandemic is the most stressful time of their entire professional career (AJMC, 2020).

The job of a physiotherapist on most occasions require them to be in close proximity with the patients, and with isolation and social distancing being promoted to prevent the coronavirus pandemic it can be stressful for the physiotherapist to deal with patients (Natureasia, 2020). Coronavirus it is felt by some to have significantly resulted in a large number of psychological consequences (Li et al., 2020). With the effects of coronavirus here to stay for quite some time it is going to be a stressful period for many physiotherapists. Apart from doctors and nurses, physiotherapists are also serving as HCWs in patient care during the COVID-19 pandemic. In fight against COVID-19, HCWs including the physiotherapists are facing greater amount of not only physical pressure in form of risk of getting infected and possibly dying because of COVID-19, but they are also facing psychological pressure in form of frustration, overwork, discrimination from society, isolation, self-quarantine, handling patients and caretakers with negative emotions and behaviors, lack or loss of contact with their own family members, exhaustion, stress, anxiety and depression. Other psychological problems like insomnia, fear, anger and denial are also common. Although HCWs are frontline warriors, they are prone to psychological consequences due to COVID-19. They are directly coming in contact with confirmed or suspected cases of COVID-19 while treating those who are sources of potential infection. So, risk is very high to life of physiotherapists as they are the serving HCWs in this pandemic.

Psychological problems among physiotherapists during current pandemic are secondary to inadequate personal protective equipment (PPE), increased work load in terms of shortage of manpower as well as excessive working hours at hospitals, media

news and feelings of getting inadequate support (Cai et al., 2020; Lee et al., 2018; Styra et al., 2008). Working without PPE is putting HCWs feeling frightened and worried about their own health and of others. Psychological problems among HCWs during such period not only affecting their decision making capacity, understanding and concentration at the work place, but they could also have long-lasting deleterious effects on their wellbeing. That's why protecting and promoting mental health of our HCWs is most important task to effectively deal with COVID-19. Patients and HCWs are vulnerable to psychological impact of COVID-19 (Xiang et al., 2020). Once HCWs become victim to COVID-19 infection, it instills frustration, feelings of helplessness and adjustment issues that might be secondary to stigma and fear of discrimination in medical staff (Rana et al., 2020). More than decade ago, during outbreak of severe acute respiratory syndrome (SARS), HCWs were found at high risk of developing psychological problems like depression, anxiety and stress (Wu et al., 2005a; Wu et al., 2005b). During COVID-19 pandemic, gap in mental health services has been widened potentially which is testing resilience of HCWs (Liu et al., 2020). Resilience is defined as an ability to recover from or to bounce back from the stress, to adapt to stressful circumstances, to not become ill in face of any major adversity, and to function above the norm in spite of facing adverse or stressful circumstances (Smith et al., 2008). During current pandemic, there has been increased in mental health issues among HCWs like stress, anxiety and depression (Duan and Zhu, 2020). Based on previous literature, data is available regarding the psychological impact of COVID-19 on HCWs like doctors and nurses as well as on health sciences students (HSSs) (Ghogare et al., 2020). But the research regarding the psychological impact of COVID-19 on physiotherapists in Indian setting is lacking. Present study will help to bridge this research gap.

Objective of the study

Primary objective of the study is to find out magnitudes of depression and anxiety, and their relationship with resilience among Indian physiotherapists during COVID-19 lockdown.

Pre-specified hypothesis of the study

Based on previous study findings, we hypothesized that respondents with high resilience will have lower rates of depression and anxiety (Ghogare et al., 2020; Cao et al., 2020). Alternate hypothesis (H_0) is that there is no association between psychological impact of COVID-19 and level of resilience among the physiotherapist.

Research question of the present study

"Does there exist a relationship between the psychological impact of COVID-19 and the level of resilience among physiotherapists?" represents research question of the current study.

2. MATERIALS AND METHODS

Study design

This was the cross-sectional internet based (https://docs.google.com/forms/) online survey.

Study setting, location and relevant dates

Study was conducted by the departments of Cardiorespiratory Physiotherapy, Musculoskeletal physiotherapy, Electrotherapy and Psychiatry of a teaching hospital affiliated to the rural health sciences university from Maharashtra state of India. Present online survey conducted over period of 30 days from 24th July 2020 to 23rdAugust 2020 through predesigned questionnaire, using consecutive sampling method.

Eligibility criteria for study participants, and sources and methods of selection of study participants

Inclusion/ eligibility criteria adopted for present study were participants in age group of 21 to 60 years, and those who were physiotherapists by profession. Exclusion criteria were those not willing to participate in study by refusing to give consent and those outside the stated age group of 21 to 60 years. Identity of every participant was strictly kept anonymous. Before starting survey, all study participants were provided details of time taken to complete survey, nature of survey and information that filling in survey needs to give consent by participants. Survey questionnaire was circulated using WhatsApp and email to study participants.

Data sources/ measurement

The present survey was in English language. In the survey, we have used three scales named – Beck's depression inventory (BDI), generalized anxiety disorder – 7 item scale (GAD–7) and brief resilience scale (BRS).

Beck's depression inventory (BDI) is an English self-report rating inventory with 21 item and it assesses symptoms as well as characteristic attitudes of patients suffering from depression (Beck et al., 1961). Scores of 1 to 10 indicate normal ups and downs, 11 to 16 indicate mild depression, 17 to 20 indicate borderline depression, 21 to 30 indicate moderate depression, 31 to 40 indicate severe depression and over 40 indicates extreme depression (Beck et al., 1961). This inventory is having high internal consistency that ranges from .73 to .92 and has a mean of .86 (Beck et al., 1988). This high internal consistency of BDI is demonstrated by the alpha coefficients of .81 and .86 for non-psychiatric population and psychiatric population respectively (Beck et al., 1988). A study had observed that internal consistency of BDI was around 0.9 and retest reliability ranged from 0.73 to 0.96 (Wang et al., 2013). They concluded that BDI is a relevant psychometric instrument with high reliability and high capacity to discriminate between depressed and non-depressed subjects (Wang et al., 2013). They also concluded that BDI can be viewed as cost effective questionnaire to assess the severity of depression, with its broad applicability in area of research (Wang et al., 2013). An Indian study had observed that BDI has high sensitivity of 90.9% with low specificity of 17.6% (Basker et al., 2007). The same study had observed that 4 week test retest reliability was good (r = 0.82) (Basker et al., 2007). Additionally, BDI had adequate face validity, content validity, high convergent validity, high discriminant validity and very good internal consistency (alpha = 0.96) (Basker et al., 2007). That Indian study concluded that BDI proved to be a psychometrically sound measure for screening depression in Indian setting (Basker et al., 2007).

Generalized Anxiety Disorder 7-item (GAD-7) scale was used to categorize anxiety. GAD-7 is an English scale with total of seven items and each of the items is rated on scores from 0 to 3. On GAD, the scores of 0 to 4 indicate no or minimal anxiety, while the scores of 5 to 9, 10 to 14 and 15 to 21 indicate mild, moderate and severe anxiety respectively (Spitzer et al., 2006). Spitzer *et al*. (2006) found that GAD 7 has high sensitivity (89%) and specificity (82%). They have also observed that GAD 7 has good reliability, and good criterion, factorial and procedural validity. GAD-7 has been used in a number of studies to screen for anxiety and assess its severity in different patient populations including India (Mina et al., 2015).

Brief resilience scale (BRS) was used to measure the resilience which is an ability to bounce back or recover from stress (Smith et al., 2008). It provides unique important information about people coping with health-related stressors. It is measurement of coping with difficulties. BRS consists of 6-items. Each item is rated on scale of 1-5. For scoring, add responses varying from 1 to 5 for all 6 items giving range from 6 to 30. Then divide the total sum by the total number of questions/items answered. On BRS, the scores of 1 to 2.99, 3 to 4.30 and 4.31 to 5 indicate low, normal and high levels of resilience respectively (Smith et al., 2008). Factor analysis reveals single factor with Eigen values above 1.0, which accounted for 73.54% of total variance. A study had done reliability analysis of BRS by using Cronbach's Alpha which value was .93, indicating that scale has good reliability (Amat et al., 2014). Study has demonstrated that BRS is appropriate to be used by college personnel and counselors to examine and identify resiliency among college students (Amat et al., 2014).

Bias

It was open and voluntary online survey. They were not provided any incentives for participation in survey. Participants could only fill survey once through a device, i.e., users with same IP address were not able to participate in the survey twice, thus preventing the duplication of responses.

Study sample size

Prior to obtaining the IEC clearance, sample size was calculated using sample size formula for cross-sectional study. The formula was $n = 4\ pq/L^2$, where "p" is the prevalence of the psychiatric disorders like anxiety and depression, "q"$= 100 - p$, and "L" is the allowable error and it is 20% of the p (Ghogare and Patil, 2020). By considering the prevalence of psychiatric disorders among the physiotherapists based on previous study findings, we have selected "p" as 21 (Comley-White and Potterton, 2018; Yang et al., 2020). So, at p = 21, 95% confidence and 20% allowable error of margin, the minimum sample size required was 377.045 which was rounded to 378. When the survey responses hit completely solved number of 378, the web based open e-survey link was closed for accepting further responses and analysis was carried out on required calculated sample size.

Statistical methods

Data were entered with the help of Microsoft Excel version 2007. Final data were analyzed with the help of SPSS statistical software version 15 (IBM, Chicago, Illinois, United States of America). Continuous data were presented as mean and standard deviation;

while the categorical data were presented as frequency and percentage. Chi-square test and Fisher exact test were used to determine the level of significance. Association of resilience with the depression and anxiety was assessed by Chi-square test and Fisher exact test. The cut-off value for the significance level was set at ≤ 0.05.

3. RESULTS

Distribution of socio-demographic variables and COVID-19 related variables among study participants

Table 1 shows that among socio-demographic variables, majority belonged to age group of 21 to 35 years (60.6%), male gender (56.6%), private sector job (82.8%), clinician work role (71.4%), Gujarat state (23.8%) and urban residence (69.0%). Among COVID-19 lockdown related variables, majority had their clinics/hospitals/physiotherapy colleges (75.4%) opened during lockdown, had perceived increased use of internet (78.8%) during lockdown, had worry related to their job/clinical practice (39.9%) during lockdown and reduced number of patients visiting them for physiotherapy sessions compared to earlier (87.6%) due to lockdown.

Table 1 Socio-demographic and COVID-19 lockdown related variables among study participants (n = 378)

Socio-demographic and COVID-19 lockdown related variables	Number (%)
Age group (years)	
21 – 35	229 (60.6)
36 – 45	119 (31.5)
46 – 60	30 (7.9)
Gender	
Male	214 (56.6)
Female	164 (43.4)
Work setup	
Private sector	313 (82.8)
Government sector	65 (17.2)
Work role	
Academician	108 (28.6)
Clinician	270 (71.4)
Residence	
Urban	261 (69.0)
Semi–urban	70 (18.5)
Rural	47 (12.5)
Clinics/ hospitals/ colleges opened during COVID-19 lockdown	
Yes	285 (75.4)
No	93 (24.6)
Internet use during COVID-19 lockdown	
No change	63 (16.7)
Increased from before	298 (78.8)
Reduced from before	17 (4.5)
Worry related to	
Contracting COVID-19	125 (33.1)
Job/ practice during lockdown	151 (39.9)
Impaired socialization during lockdown	66 (17.5)
Boredom due to lockdown	36 (9.5)
Number of patients coming for Physiotherapy sessions during COVID-19 Lockdown	
No change	33 (8.7)
Reduced from before	331 (87.6)
Increased from before	14 (3.7)

COVID-19: Coronavirus disease 2019.

Distribution of depression and its severity among study participants as per the BDI scores

Table 2 and Figure 1 show that as per the BDI scores, 14.8% had mild, 6.1% had borderline, 7.7% had moderate, 2.1% had severe and 0.3% had extreme depression.

Table 2 Distribution of depression and its severity level among study participants (n = 378)

Severity of Depression as per the BDI scores	Score range	Number (%)
No depression	1 – 10	261 (69.0)
Mild depression	11 – 16	56 (14.8)
Borderline depression	17 – 20	23 (6.1)
Moderate depression	21 – 30	29 (7.7)
Severe depression	31 – 40	8 (2.1)
Extreme depression	> 40	1 (0.3)

BDI: Beck's Depression Inventory. Mean ± SD (Range) score of BDI = 8.53 ± 8.35 (0 – 48).

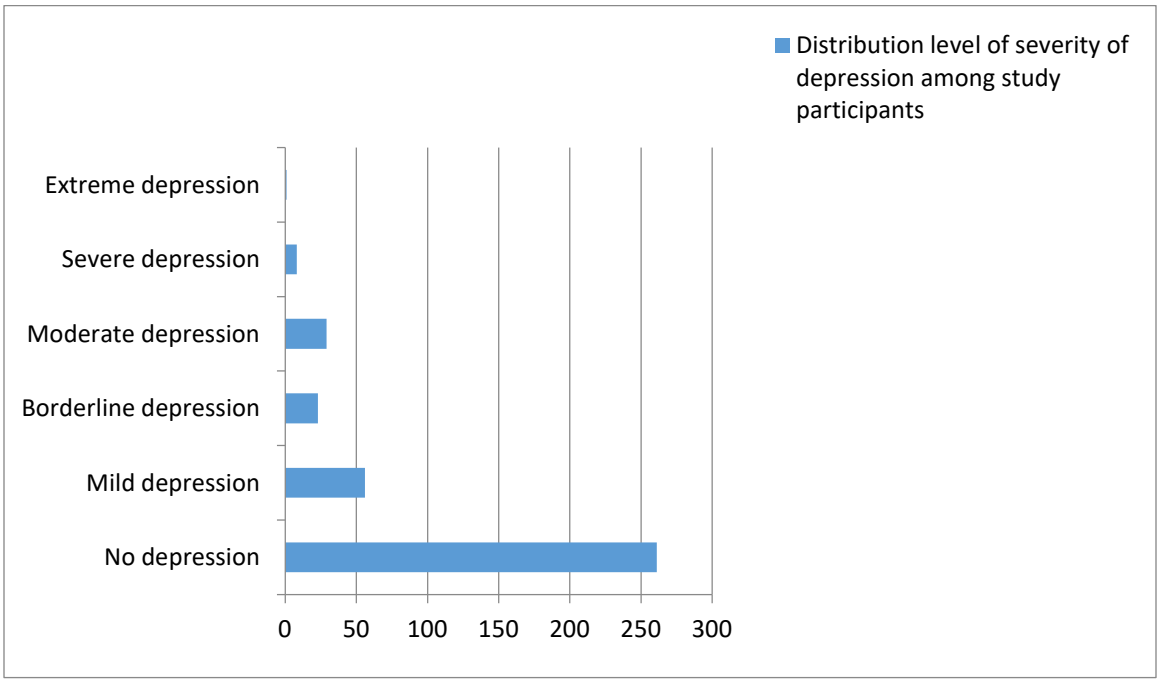

Figure 1 Bar chart showing the distribution level of severity of depression among study participants

Distribution of anxiety and its severity among study participants as per the GAD–7 scores

Table 3 and Figure 2 show that as per the GAD–7 scores, 25.4% had mild, 8.5% had moderate and 3.9% had severe anxiety.

Table 3 Distribution of anxiety and its severity level among study participants (n = 378)

Severity of Anxiety as per the GAD–7 scores	Score range	Number (%)
No anxiety	0 – 4	235 (62.2)
Mild anxiety	5 – 9	96 (25.4)
Moderate anxiety	10 – 14	32 (8.5)
Severe anxiety	15 – 21	15 (3.9)

GAD – 7: Generalized Anxiety Disorder 7 item severity scale. Mean ± SD (Range) score of GAD – 7 = 4.10 ± 4.42 (0 – 19).

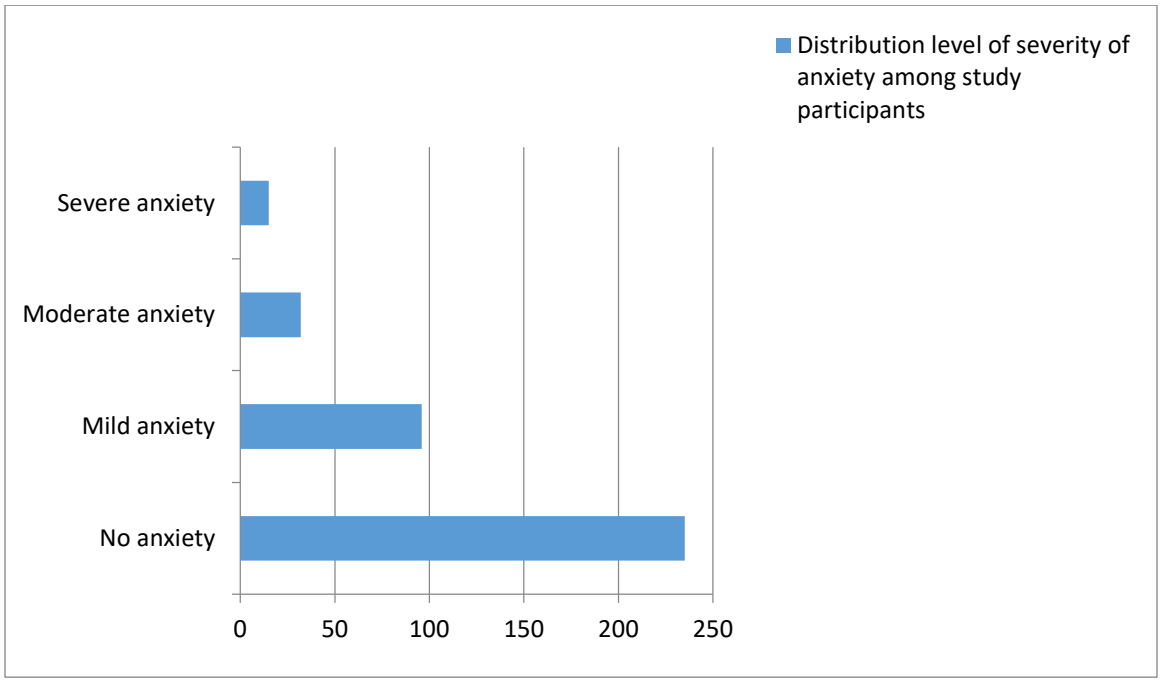

Figure 2 Bar chart showing the distribution level of severity of anxiety among study participants

Distribution of resilience and its levels among study participants as per the BRS scores

Table 4 and Figure 3 show that as per the BRS scores, 22.8%, 74.3% and 2.9% had low, normal and high resilience level.

Table 4 Distribution of resilience and its level among study participants (n = 378)

Level of Resilience as per the BRS scores	Score range	n (%)
Low resilience	1.00 – 2.99	86 (22.8)
Normal resilience	3.00 – 4.30	281 (74.3)
High resilience	4.31 – 5.00	11 (2.9)

BRS: Brief Resilience Scale. Mean ± SD (Range) score of BRS = 3.20 ± 0.43 (2.16 – 4.33).

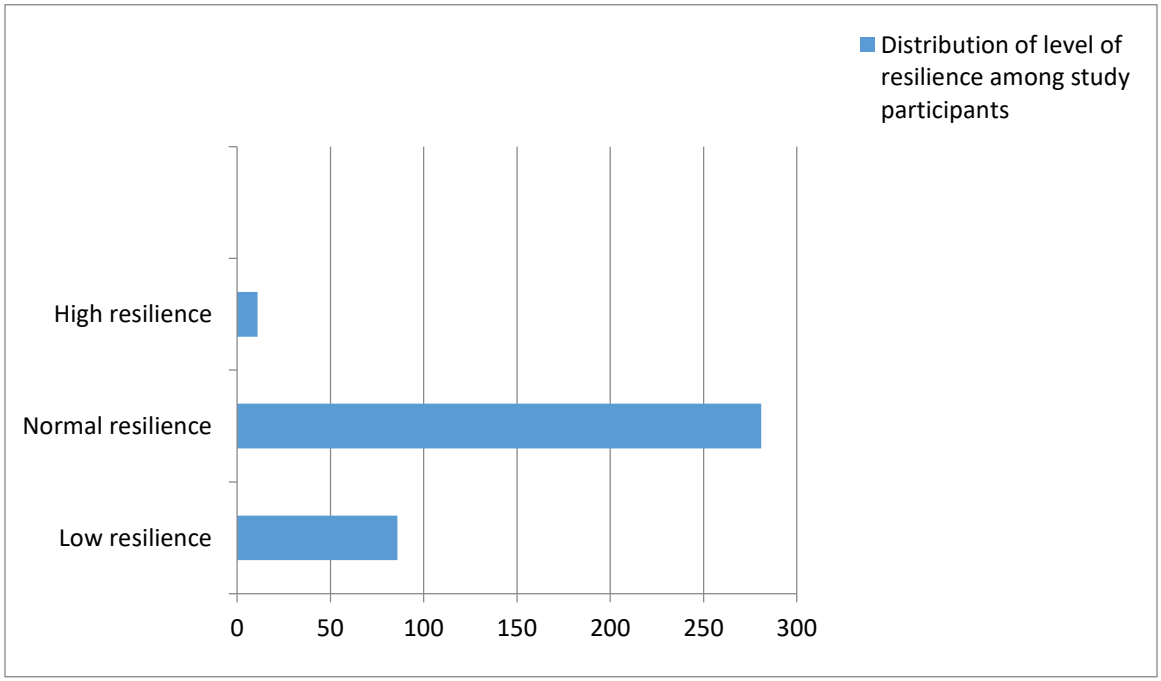

Figure 3 Bar chart showing the distribution of level of resilience among study participants

Association between socio-demographic variables, COVID-19 lockdown related variables and depression among study participants

Table 5 shows that among socio-demographic variables, age group of 21 to 35 years, female gender and being a clinician were associated with presence of depression. Among COVID-19 related variables, non-opening of clinics/hospitals/physiotherapy colleges during lockdown, increased use of internet during lockdown and worry related to job/private practice during lockdown were associated with presence of depression.

Table 5 Association between socio-demographic variables, COVID-19 lockdown related variables and depression as assessed by BDI scale scores (n = 378)

Socio-demographic and COVID-19 lockdown related variables	BDI – Depression		P
	Present (n_1 = 117)	Absent (n_2 = 261)	
Age group (years)			
21 – 35	82 (70.1)	147 (56.3)	0.03
36 – 45	29 (24.8)	90 (34.5)	
46 – 60	6 (5.1)	24 (9.2)	
Gender			
Male	57 (48.7)	157 (60.2)	0.03
Female	60 (51.3)	104 (39.8)	
Work setup			
Private sector	96 (82.1)	217 (83.1)	0.79
Government sector	21 (17.9)	44 (16.9)	
Work role			
Academician	25 (21.4)	83 (31.8)	0.03
Clinician	92 (78.6)	178 (68.2)	
Residence			
Urban	85 (72.6)	176 (67.4)	0.30
Semi–urban	22 (18.8)	48 (18.4)	
Rural	10 (8.6)	37 (14.2)	
Clinics/ Hospitals/ Physiotherapy colleges opened during COVID-19 lockdown			
Yes	64 (54.7)	221 (84.7)	< 0.00
No	53 (45.3)	40 (15.3)	
Internet use during COVID-19 lockdown			
No change	11 (9.4)	52 (19.9)	0.01
Increased from before	98 (83.8)	200 (76.6)	
Reduced from before	8 (6.8)	9 (3.5)	
Worry related to			
Being contracting COVID-19	37 (31.6)	88 (33.7)	0.001
Job/practice	58 (49.6)	93 (35.7)	
Impaired socialization	8 (6.8)	58 (22.2)	
Boredom	14 (12.0)	22 (8.4)	
Number of patients coming for the physiotherapy during			

COVID-19 lockdown			
No change	7 (6.0)	26 (9.9)	0.29
Increased from before	6 (5.1)	8 (3.1)	
Reduced from before	104 (88.9)	227 (87.0)	

BDI: Beck's Depression Inventory.

Association between socio-demographic variables, COVID-19 lockdown related variables and anxiety among study participants

Table 6 shows that among socio-demographic variables, age group of 21 to 35 years, female gender and being a clinician were associated with presence of anxiety. Among COVID-19 related variables, non-opening of clinics/hospitals/physiotherapy colleges due to lockdown, increased internet use during lockdown and worry related to contracting COVID-19 were associated with presence of anxiety.

Table 6 Association between socio-demographic variables, COVID-19 lockdown related variables and anxiety as assessed by GAD–7 scale scores

Socio-demographic and COVID-19 lockdown related variables	GAD–7 – Anxiety		P
	Present (n_1 = 143)	Absent (n_2 = 235)	
Age group (years)			
21 – 35	99 (69.2)	130 (55.3)	0.01
36 – 45	41 (28.7)	78 (33.2)	
46 – 60	3 (2.1)	27 (11.5)	
Gender			
Male	69 (48.3)	145 (61.7)	0.01
Female	74 (51.7)	90 (38.2)	
Work setup			
Private sector	120 (83.9)	193 (82.1)	0.65
Government sector	23 (16.1)	42 (17.9)	
Work role			
Academician	32 (22.4)	76 (32.3)	0.03
Clinician	111 (77.6)	159 (67.7)	
Residence			
Urban	104 (72.7)	157 (66.8)	0.28
Semi–urban	26 (18.2)	44 (18.7)	
Rural	13 (9.1)	34 (14.5)	
Clinics/ Hospitals/ Physiotherapy colleges opened during the COVID-19 lockdown			
Yes	92 (64.3)	193 (82.1)	0.00
No	51 (35.7)	42 (17.9)	
Internet use during COVID-19 lockdown			
No change	14 (9.8)	49 (20.9)	0.01
Increased from before	121 (84.6)	177 (75.3)	
Reduced from before	8 (5.6)	9 (3.8)	
Worry related to			
Being contracting COVID-19	53 (37.1)	72 (30.6)	0.00
Job/practice	62 (43.3)	89 (37.9)	

Impaired socialization	9 (6.3)	57 (24.3)	
Boredom	19 (13.3)	17 (7.2)	
Number of patients coming for the physiotherapy during COVID-19 lockdown			
No change	7 (4.9)	26 (11.1)	0.11
Increased from before	130 (90.9)	201 (85.5)	
Reduced from before	6 (4.2)	8 (3.4)	

GAD–7: Generalized Anxiety Disorder 7 item anxiety severity scale.

Association between depression, anxiety and resilience among study participants

Table 7 shows that those respondents who had high resilience had lower rates of depression on BDI and lower rates of anxiety on GAD–7.

Table 7 Association between depression, anxiety and resilience among study participants (n = 378)

Depression and Anxiety among study participants	BRS – Resilience level			P
	Low (n_1 = 86)	Normal (n_2 = 281)	High (n_3 = 11)	
Depression				
Present	40 (46.5)	77 (27.4)	0	0.00
Absent	46 (53.5)	204 (72.6)	11 (100)	
Anxiety				
Present	49 (57.0)	94 (33.5)	0	0.00
Absent	37 (43.0)	187 (66.5)	11 (100)	

4. DISCUSSION

Socio-demographic and COVID-19 lockdown related variables

In the present study, majority (60.6%) of the study participants belonged to an age group of 21 to 35 years. A study had observed that majority (32.3%) of the physiotherapists were in age group of 20 – 29 years (Yang et al., 2020). Findings of the present study and that of Yang et al, (2020) might reflect that younger population of physiotherapists were more interested in participating in an online survey which might be secondary to their more familiarity with gadgets like smartphones for solving an online survey. In the present study, male physiotherapists (56.6%) had outnumbered female physiotherapists. A study had observed a similar finding that male physiotherapists (52.3%) outnumbered female physiotherapists (Yang et al., 2020). In the present study, majority of the physiotherapists (82.8%) worked in private sector as compared to government sector. In the current study, 71.4% physiotherapists were clinician and 28.6% were academician working in various physiotherapy colleges across India. In the current study, physiotherapists from Gujarat state (23.8%) had outnumbered those from other states of India. In the present study, we have recruited responses from physiotherapists across the multiple states of India, whereas a Korean study had recruited responses from physiotherapists across three university hospitals in Korea (Yang et al., 2020).

In the current study, physiotherapists from urban residence (69.0%) had outnumbered those from rural area of residence. Similar finding was observed by a study which found that majority of the study participants belonged to urban area of residence (Ghogare et al., 2020). In the current study, 75.4% physiotherapists admitted that their clinics/hospitals/physiotherapy colleges were opened during the COVID-19 lockdown, but 87.6% physiotherapists reported of reduction in patient number for physiotherapy sessions due to COVID-19 lockdown. In the current study, 39.9% physiotherapists admitted of having worry related to their job/practice due to COVID-19 lockdown induced reduced patient visits and not able to fully serve their patients due to COVID-19 lockdown. In the current study, 78.8% study participants perceived that there was an increase in use of internet secondary to COVID-19 lockdown induced boredom. A study had observed that majority of their study participants had moderately increased perceived use of internet due to COVID-19 lockdown induced boredom (Ghogare et al., 2020).

Relationship between socio-demographic variables, COVID-19 lockdown related variables and psychological impact of COVID-19 lockdown among study participants

In the present study, among the socio-demographic variables, age group of 21 to 35 years, female gender and practicing as a clinician during COVID-19 lockdown were associated with the presence of depression. A study had observed that younger physiotherapist in age group of 20 to 29 years had depression secondary to COVID-19 pandemic (Yang et al., 2020). Other socio-demographic variables in their study like gender and working status were not associated with depression (Yang et al., 2020). Such a difference in the two study findings may be secondary to differences in the methodologies including differences in study design, study setting and inclusion criteria. In the present study, among the COVID-19 related variables, non-opening of clinics/hospitals/physiotherapy colleges during COVID-19 lockdown, increased use of internet during COVID-19 lockdown and worry related to job/practice during COVID-19 lockdown were associated with the presence of depression.

In the present study, among the socio-demographic variables, age group of 21 – 35 years, female gender and practicing as a clinician during COVID-19 lockdown were associated with the presence of anxiety. A study had observed that among socio-demographic variables, none of the variables like age, gender and working role were associated with the presence of anxiety (Yang et al., 2020). Such a difference in the two study findings may be secondary to differences in the methodologies including differences in study design, study setting and inclusion criteria. In the present study, among the COVID-19 related variables, non-opening of clinic/hospitals/physiotherapy colleges due to COVID-19 lockdown, increased internet use during COVID-19 lockdown and worry related to contracting COVID-19 were associated with the presence of anxiety.

Distribution of and relationship between depression, anxiety and resilience among study participants during COVID-19 lockdown

In the present study, based on BDI scores, 14.8% had mild, 6.1% had borderline, 7.7% had moderate, 2.1% had severe and 0.3% had extreme depression. The prevalence of depression in present study was 31%. A study had observed that the prevalence of depression among physiotherapists secondary to COVID-19 pandemic was 18.5% which was lower than that of present study finding (Yang et al., 2020). Moreover, present study had divided depression into various levels of severity like mild, borderline, moderate, severe and extreme which was not the feature of the Korean study (Yang et al., 2020). In the present study, based on GAD – 7 scale scores, 25.4% had mild, 8.5% had moderate and 3.9% had severe anxiety. The prevalence of anxiety in present study was 37.8%. A study had observed that based on GAD – 7 scale scores, the prevalence of anxiety secondary to COVID-19 pandemic was 32.3% which was closer to the present study finding (Yang et al., 2020). The National Mental Health Survey of India in 2015-16 showed that average prevalence of depression and anxiety were 0.8% and 3.6% (Murthy, 2017), which were lower than present study finding in Indian setting and that of a study conducted in Korean setting (Yang et al., 2020). Such a difference might suggest that COVID-19 pandemic and the lockdown had caused increase in psychological issues like depression and anxiety among the physiotherapists across the globe. In the present study, based on BRS scores, 22.8% had low, 74.3% had normal and 2.9% had high resilience. Another Indian study had observed that based on BRS scores, 42.0% had low, 56.7% had normal and 1.3% had high resilience level (Ghogare et al., 2020). Both the Indian studies indicated the similar pattern of distribution of resilience in decreasing order of normal followed by low followed by high level of resilience. The present study findings show that those respondents who had high resilience had lower rates of depression on BDI and lower rates of anxiety on GAD–7. Similarly another Indian study had observed that among their study participants who had high resilience had lower rates of depression, anxiety and stress based on depression, anxiety and stress – 21 item scale (DASS – 21) scores (Ghogare et al., 2020).

Limitations

The present study has few limitations. Firstly, although the respondents have answered self-administered questionnaires based on their actual performance, an overestimation or an exaggeration may exist as a questionable factor. Secondly, the previous history of mental illnesses was not assessed among the study participants.

5. CONCLUSION

We recommend that national as well as international councils of Physiotherapists and Physiotherapy colleges/universities should address physiotherapists' psychological needs more frequently in the present and in the future, especially during the periods of crisis like COVID-19 outbreak and lockdown. The results of the current study highlighted the importance of the establishment of psychological support programs for Physiotherapists during infectious disease outbreak to strengthen their mental health through boosting their resilience. It is advisable that the government in collaboration with professional bodies and relevant experts should

develop plan for implementation of psycho-educational programs in emergency preparedness. Such programs would help Physiotherapists to deal effectively with depression, and anxiety through the strengthening of resilience and coping skills.

What is already known on this topic?

It has been already known that like other HCWs, physiotherapists are also prone to development of psychiatric issues like depression and anxiety secondary to COVID-19 pandemic and lockdown.

What this study adds?

This study has added the knowledge regarding the relationship between the psychological impacts of COVID-19 pandemic induced lockdown in the form of depression and anxiety, and the resilience among Indian physiotherapists during COVID-19 lockdown. Such a relationship was not assessed in previous studies among the physiotherapists and this study has attempted to address it.

Conflict of interest

The authors declare that there are no conflicts of interests.

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Research quality and ethics statement

The authors of this study declare that this scientific work complies with reporting quality, formatting and reproducibility guidelines set forth by the EQUATOR Network. The authors also attest that this clinical investigation study was approved by institutional ethics committee (IEC) of the university, and the corresponding approval number is – [IEC/2020-21/8935, dated 3rdJuly 2020].

Author's contribution

Rakesh Kumar Sinha: Concepts, Design, Definition of intellectual content, Literature search, Data acquisition, Data analysis, Manuscript editing, Manuscript review, Guarantor.

Saumi Sinha: Concepts, Design, Definition of intellectual content, Literature search, Data acquisition, Data analysis, Manuscript editing, Manuscript review, Guarantor.

Ashish Bele: Literature search, Data analysis, Statistical analysis, Manuscript editing, Manuscript review, Guarantor.

Ajinkya Sureshrao Ghogare: Literature search, Data analysis, Statistical analysis, Manuscript editing, Manuscript review, Guarantor.

Data and materials availability

All data associated with this study are present in the paper.

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