



PERCEIVED STRESS AND ITS EFFECT ON MENTAL HEALTH IN DOCTORS DOING COVID 19 DUTIES: A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: COVID 19 pandemic has continued to affect the economy and healthcare worldwide. Healthcare systems and healthcare workers have been pushed to the limits in coping with the burden of COVID 19. This has affected the mental stamina and psyche of the healthcare workers

Materials & Methods: 205 participants met the inclusion criteria during the study period. Eight were excluded due to incomplete responses and refusal to consent. The remaining 197 participants were sent an online link with questions regarding their clinical activity, PSS - 10 - C, PHQ4. Statistical analysis was done using SPSS 22.

Result: Most of the sample were females (56%) and interns (64%). Fear of transmitting the infection to family members, losing career advancements, spending long periods in isolation after COVID duties were found to be ongoing stressors. 73% of the sample had some form of psychological distress, with 7% reporting severe symptoms. Despite the distress, 76% reported being proud to be a frontline worker.

Conclusion: The COVID pandemic has stretched the health systems to the limits over the past two years all around the world. Health care workers continue to bear the brunt of the pandemic. The work schedules, increased responsibilities, disturbed biological functions, decrease in social interactions have continued to cause psychological distress like anxiety, depression, burnout, compassion fatigue in healthcare professionals. Appropriate interventions are required at various levels of the health system.

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INTRODUCTION

COVID 19 was declared a pandemic by the WHO. Healthcare professionals were one of the most suffering sectors hit hard by the unprecedented crisis secondary to the COVID - 19 spread and lockdown. There isn't one reason why doctors' mental health is deteriorating due to this covid pandemic, especially in a country like India where the infrastructure is less where the doctors are overburdened due to lack of facilities and many more.

Work-related anxiety and mental disorders are becoming a common challenge among the doctors working 24/7 due to the covid pandemic. Healthcare professionals have a considerably higher chance of experiencing stress, anxiety, depression due to the workload, concern over their families, and losing a patient. Many physicians have been exposed to mental and physical exhaustion due to difficult treatment situations and working conditions.^(1,2) Disturbed sleep due to poor quality or work schedules contributed to a lack of mental and physical rejuvenation contributing to exhaustion.^(3,4) Erratic work schedules have contributed to a lack of physical activity, which is a known contributing factor to stress and poorer

psychological outcomes.⁽⁵⁾ This becomes a vicious cycle. Multiple studies have reported symptoms of depression, anxiety, stress, compassion fatigue, burnout in physicians, nurses⁽⁶⁾, residents⁽⁷⁾, and students⁽⁸⁾. The psychological distress in healthcare professionals was seen to persist throughout the four waves of COVID.⁽⁹⁾ Deteriorating mental health not only threatens the well-being of doctors but the society.

Many studies have documented stress and its relation to psychological distress. This study aims to assess perceived stress with the PSS - 10 - C and its relation to depression and stress. The study also aims to assess the psychological burden as the pandemic is on a downward curve with hopes of an end in sight.

Aims

To assess the mental health among the healthcare professionals during the COVID pandemic.

RESEARCH METHODOLOGY

- **Study Site:** Online (doctors)
- **Study Population:** Doctors /Healthcare Professionals

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- **Study Design:** Cross-Sectional (Analytical)
- **Sample size:** 205
- **Time frame:** 2 months
- **Inclusion Criteria:** 18-59 years of age, able to understand English, provides informed consent, healthcare professionals
- **Exclusion Criteria:** <18 years or above 59 years of age, cannot understand English, refuses to provide informed consent, non-healthcare professional
- **Methodology in detail:** Subjects were taken into the study after the inclusion criteria were met. A questionnaire was supplied for data collection through googleforms. Consent will be taken at the beginning of the study

The self-report questionnaire is prepared by the author in addition to the following tools.

PSS -10 -C is used to assess the stress and anxiety due to covid pandemic^(10,11)

PHQ-4is used to assess mental health (anxiety and depression)⁽¹²⁾

Statistical Methods: - Data will be analyzed using SPSS version 22 for Windows. Demographic variables will be described using frequencies, percentages. Mean and standard deviation will be calculated for scores on scales. A comparison of means will be made using the t-test and ANOVA. Association studies will be done using the chi-square test and Pearson's correlation test. P-value is set at 0.05

RESULTS

The study had 205 participants who met the inclusion and exclusion criteria. Five participants did not provide informed consent, and three responses were excluded as the responses were incomplete. Of the remaining 197 participants, the majority were females (56%) and interns (64%). Half the sample, around 52%, responded that they were participating in COVID duties. Around 39% of the sample were frustrated that the entrance exams were canceled/postponed. Around 41% report being stressed in isolation post-COVID duty, and 71% were scared about being a possible carrier risk of COVID to family and friends. The majority of the sample (68%) believed that the patients/public were somewhat adherent to COVID protocols. The mean age of the sample was 26.04 ± 5.81 . On the PSS-C questionnaire, 19% were positive for stress with a mean of 19.8 ± 5.8 . On the PHQ questionnaire, 31% were positive for anxiety with a mean of 2.08 ± 1.62 and 36% for depression with a mean of 2.17 ± 1.64 . For the severity of mental health distress, 73% of the sample had some form of symptoms with a total mean of 4.26 ± 2.92 . Around 44% had mild severity, 22% had moderate severity, 7% had severe symptoms. Despite the effect and fear of COVID, 76% reported being proud of being a frontline worker, and around 51% of the respondents reported that they relaxed post-COVID duty by talking to family/friends. Table 1

ANOVA tests (Table 2) between the different designation groups was statistically significant for PSS (F = 2.97, p = .033), PHQ4 (F = 3.65, p = 0.014). Being frustrated with cancellation of exams was statistically significant for PSS (F = 2.55, p = .038), PHQ4 (F = 4.02, p = 0.004). Being worried about transmitting COVID to family/friends was statistically significant for PSS (F = 2.58, p = .038). Being in isolation post

COVID duty was statistically significant for PSS (F = 8.74, p < 0.0001), PHQ4 (F = 7.924, p < 0.0001)

Table 1 Demographic distribution

Variable		N (Percent)
Gender	Male	87 (44.2)
	Female	110 (55.8)
Designation	Intern	126 (64)
	PG Student	30 (15.2)
	Faculty	34 (17.3)
Are you doing COVID duties	Consultant/Specialist	7 (3.6)
	No	95 (48.2)
Stress	Yes	102 (51.8)
	No	159 (80.7)
Anxiety	Yes	38 (19.3)
	No	136 (69)
Depression	Yes	61 (31)
	No	126 (64)
PHQ4 Severity	Yes	71 (36)
	Normal	54 (27.4)
	Mild	87 (44.2)
	Moderate	43 (21.8)
Severe		13 (6.6)
	How do you relax post-COVID duty after a stressful day?	
Medication	11 (5.6)	
Talk to the family/friends	100 (50.8)	
Spend time on social media	51 (25.9)	
Alcohol consumption/cigarette smoking	7 (3.6)	
Others	28 (14.2)	

Table 2 ANOVA studies

Variables	F value	Significance
Designation & PSS	2.97	.033
Designation & PHQ4	3.65	.014
Frustration with cancellation of exams & PSS	2.55	.038
Frustration with the cancellation of exams & PHQ4	4.02	.004
Fear of transmitting COVID to family/friends & PSS	2.58	.038
Isolation post COVID duty & PSS	8.74	<.0001
Isolation post COVID duty & PHQ4	7.92	<.0001

On Pearson's correlation studies (Table 3), age was found to have a significant negative correlation with PSS (r = -.168, p = 0.01), PHQ4 (r = -.158, p = 0.02). PSS scores had a significant positive correlation with PHQ4 (r = .570, p < 0.0001).

Table 3 Correlation studies

Variables	Pearson's coefficient	Spearman's coefficient	Significance
Age & PSS	-.168		0.01
Age & PHQ4	-.158		0.02
PSS & PHQ4	.570		<0.0001
Designation & PSS	-	-.172	0.016
Designation & PHQ4	-	-.183	0.01
Frustration with the cancellation of exams & PSS	-	.224	0.002
Frustration with the cancellation of exams & PHQ4	-	.193	0.007
Fear of transmitting COVID to family/friends & PSS	-	.265	<0.0001
Isolation post COVID duty & PSS	-	.361	<0.0001
Isolation post COVID duty & PHQ4	-	.326	<0.0001

On spearman's correlation studies (Table 3), designation had a significant negative correlation with PSS (r = -.172, p = 0.016), PHQ4 (r = -.183, p = 0.01). Being frustrated with cancellation of exams had a significant positive correlation with PSS (r = .224, p = 0.002), PHQ4 (r = .193, p = 0.007). Being worried about transmitting COVID to family/friends had a significant positive correlation with PSS (r = .265, p < 0.0001). Being in isolation post COVID duty had a significant positive correlation with PSS (r = .361, p < 0.0001), PHQ4 (r =

.326, $p < 0.0001$). None of the other findings were statistically significant.

DISCUSSION

The study had 205 participants who met the inclusion and exclusion criteria. Five participants did not provide informed consent, and three were excluded as the responses were incomplete. The majority of the sample were females (56%) and interns (64%). Around 41% report being stressed in isolation post-COVID duty, and 71% were scared about being a possible carrier risk of COVID to family and friends, with 68% believing that the patients/public were somewhat adherent to COVID protocols. 19% of the sample met the criteria for perceived stress, 31% met the criteria for depression, and 36% met the criteria for anxiety. The majority of the sample (73%) had some form of psychological distress, with 7% qualifying for severe psychological distress. Higher perceived stress and psychological distress scores were reported by participants who were frustrated with the delay in entrance exams, worried about carrying the infection to family/friends, and spent long times in isolation after COVID duties. All of the above reasons were significantly correlated to higher scores on PSS - 10 - C and PHQ4. Perceived stress was found to significantly cause psychological distress in the sample. This was similar to a study on residents, interns(7), which found that 42 % of the sample was depressed, with 44% and 51% qualifying for stress and anxiety, respectively. The contributing factors were identified as the number of COVID duties done and the number of elderly persons at home.^(7,13,14) The studies stressed the fear of transmitting infection while doing COVID duties. During the initial pandemic wave, healthcare workers faced discrimination in the community based on the possibility of being a conduit for the spread of infection in the community despite following safety protocol. This perceived stress also is a factor in causing psychological distress.⁽¹⁵⁾ Age and educational qualification influenced coping skills during the pandemic. Medical students were found to use more avoidant coping skills⁽⁸⁾, while health professionals aged 40 and above were found to employ a more of self - confident and optimistic approach than against helpless, pessimistic approach.⁽¹⁶⁾ Over the past two years, during the pandemic, there have been reports of compassion fatigue⁽¹⁷⁾ and intention to change jobs or quit profession⁽²⁾ in the next few years.

Deteriorating mental health not only threatens the well-being of doctors but the society. Hospital administrators should pay attention to burnout and compassion satisfaction to improve infection control behaviors. Management of healthcare workers may be constructive in emerging infectious diseases.^(18,19)

Despite the effect and fear of COVID, in this study, 76% reported being proud of being a frontline worker, and around 51% of the respondents said that they relaxed post-COVID duty by talking to family/friends. The measures suggested preventing burnout at an individual, organizational, and cultural level.⁽¹⁾

1. Individual-level: physical activity, balanced diet, good sleep hygiene, family support, meaningful relationships, reflective practices, and small group discussions.
2. Organizational level: blame-free environments for sharing experiences and advice, broad involvement in

management decisions, multi-disciplinary psychosocial support teams, safe areas to withdraw quickly from stressful situations, adequate time planning, social support.

3. Cultural level: involvement of healthcare workers in the development, implementation, testing, and evaluation of measures against burnout.

CONCLUSION

The COVID pandemic has stretched the health systems to the limits over the past two years worldwide. Health infrastructure in most countries was not prepared to handle a pandemic of this scale. Health care workers continue to bear the brunt of the pandemic. The work schedules, increased responsibilities, disturbed biological functions, decrease in social interactions have continued to cause psychological distress like anxiety, depression, burnout, compassion fatigue in healthcare professionals. Appropriate interventions are required at various levels of the health system.

Limitation

1. Cross-sectional study
2. Small sample size
3. Co-morbid medical conditions and personal characteristics (tolerance, coping skills) were not considered contributing factors in measuring psychological distress.

Implications: None

Conflict of Interest: None

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