

A cross-sectional observational study to assess the need for mental health check-up as a part of annual health check-up in health care workers

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Abstract

Background: Healthcare workers (HCWs) are the frontline warriors in dealing with the COVID-19 pandemic and similar health crises. In developing countries, HCWs face high stress because they have to deal with the increased patient load and limited infrastructure. Long-term exposure to stress, anxiety, and depression may lead to impaired mental health in HCWs. It is, therefore, essential to assess the mental health of HCWs as a part of their annual health check-up.

Objective: The present cross-sectional observational study was aimed to assess the mental health of HCWs by analysing the stress, anxiety and depression during their annual health check-up at a tertiary care hospital in North India.

Methods: Total 200 participants, including the consultants, and junior and senior resident doctors, were included in the study. The stress level was analyzed using PSS-10, and anxiety and depression were analyzed using GAD-7 and PHQ-9 respectively.

Results: The mean PSS-10 score was 9.39 ± 8.53 , indicating low stress among HCWs; the mean GAD-7 score was 5.20 ± 4.19 , indicating mild anxiety in HCWs and the mean PHQ-9 score was 3.41 ± 3.59 , indicating minimal depression among HCWs.

Conclusion: The present study revealed that the HCWs faced minimal to mild stress, anxiety, and depression. It is therefore recommended that the mental health check-up should be made a regular part of the annual health check-up in HCWs so that adequate, timely steps are taken to address the same.

Keywords: Stress, anxiety, depression, mental health, healthcare workers

Introduction

Since the dawn of modern healthcare technology, healthcare workers (HCWs) have remained the frontline warriors in many pandemics, including the recent coronavirus pandemic and other similar health crises. Even if HCWs are healthcare crisis management specialists, they

are nevertheless susceptible to the psychological effects of a health crisis. Among healthcare professionals, those on the frontline who deal with patients directly are more at concern than others. The causes of these negative psychological effects in individuals include an excessive workload, long work hours, a lack of personal safety equipment, overly enthusiastic media coverage and a sense of being under-supported. The incidence of COVID infection among medical professionals significantly contributes to such psychological effects [1-3].

The abrupt transition from an HCW to a patient may leave the medical personnel feeling helpless, stigmatized, and fearful of discrimination [4]. Over a decade ago, the data released during the SARS outbreak revealed that HCWs are more likely to experience stress, anxiety, and depression during pandemic times [5]. There is a similar school of thinking about the recent COVID-19 epidemic, and research done recently to evaluate the psychological effects of this pandemic on HCWs revealed affected mental health [3].

According to published research, HCWs are at an alarmingly high risk of psychological discomfort, anxiety, emotional exhaustion, and burnout. This is notably true for depression, whose incidence among HCWs in high-income countries ranged from 21.53% to 32.77%, which is greater than the global average (4.4%). HCWs must handle stress at work in addition to pressures in their personal lives, and they are susceptible to extremely high levels of academic and professional stress. Therefore, prolonged exposure to high pressure has a deleterious effect on HCWs and possibly compromises patient care quality and safety. This may arise from patient unhappiness, high HCW turnover rates, medical mistakes, and related financial expenditures [6].

Assessment and management of the mental health of the HCWs should not be a one-time task but should be included in the annual health check-up program. In this study, we called for including mental health check-ups of HCWs as a part of their total annual health check-up and assessed the same by analyzing the stress, anxiety, and depression during their annual health check-up.

Material and Methods

Ethics Approval: Institution ethics committee

Sample size: 200

Inclusion criteria

Subjects above 18 years of age.

Subjects who gave written informed consent.

Both male and female subjects were included.

Exclusion criteria: Subjects who did not give written consent.

Study design: Present cross-sectional observational study was conducted at a tertiary care hospital in Himachal Pradesh, India. Total 200 participants, including the consultants, and junior and senior resident doctors, were included in the study. Informed consent was obtained from each participant, and prior permission from the institutional ethics committee was also obtained to conduct the study. Socio-demographic data, medical, psychiatric, and substance use history were recorded on a self-designed proforma. Assessment of stress, anxiety, and depression was done using PSS-10, GAD-7 and PHQ-9 scales, respectively.

Instruments used

1. Perceived stress scale-10 (PSS-10)

The PSS-10 has 10 items, four of which are positive and six of which are negative. Each

question asks participants to rate how frequently they have felt or thought a certain manner during the previous month on a 5-point Likert scale, with 0 being the least frequent and 4 being the most frequent. Scores can be between 0 and 40, with higher composite scores indicating higher stress levels. Total scores of 0 to 13 indicate mild stress, 14 to 26 indicate moderate stress and 27 to 40 indicate severe stress ^[7].

2. Generalized Anxiety Disorder-7 (GAD-7)

Each of the seven questions in the GAD-7 was graded from 0 to 3, with 3 being the highest possible score. A total score was calculated for each individual across all seven aspects, ranging from 0 to 21; a greater number denotes a higher level of anxiety. A total score between 0-4 denotes minimal anxiety, 5-9 mild anxiety, 10-14 moderate anxiety and 15-21 severe anxiety ^[8].

3. Patient Health Questionnaire-9 (PHQ-9)

PHQ-9 is a self-report measure that asks nine questions about depression symptoms. The questions covered symptoms such as loss of interest, depression, difficulty sleeping, fatigue, problems with appetite or attention, psychomotor agitation or retardation, poor self-perception and suicidal thinking. The responses to the questions ranged from "not at all" to "a few days", "more than one-half of the days" and "almost every day" on a 4-point Likert scale. The PHQ-9 score serves as a severity indicator and ranges from 0 to 27, with a high score indicating a high level of depression. A score of 0-4 indicates minimal depression, 5-9 mild depression, 10-14, moderate depression, 15-19 and moderately severe depression, while 20-27 denotes severe depression ^[9].

Data analysis

Data was analyzed using GraphPad Prism. Descriptive statistics were applied to calculate the mean and standard deviation. A number or percentage was used to represent the proportions. Data is presented using the appropriate tables and graphs.

Results

Out of the total 200 HCWs, 113 (56.5%) HCWs were males, and 87 (43.5%) were females. 173 (86.5%) HCWs were from urban areas, whereas 27 (13.50%) belonged to rural domiciles. Family structure was nuclear in 162 (81%) and 38 (19%) in joint family HCWs. History of hypertension, diabetes mellitus, asthma, and thyroid disorders was present in 46 (23%) HCWs, but no history of mental disorder was obtained other than smoking and alcohol use which was reported by 9 (4.5%) HCWs (Table 1).

Table 1: Socio-demographic and other variables

Variable	Subdomain	N (%)
Gender	Male	113 (56.5%)
	Female	87 (43.5%)
Locality	Urban	173 (86.5%)
	Rural	27 (13.50%)
Family structure	Nuclear	162 (81%)
	Joint Family	38 (19%)
Medical history	Hypertension, diabetes mellitus, asthma and thyroid disorders	46 (23%)
History of Substance use	Alcohol or smoking	9 (4.5%)

The mean PSS-10 score was 9.39 ± 8.53 , indicating low stress among HCWs; the mean score on GAD-7 was 5.20 ± 4.19 , indicating mild anxiety in HCWs; and the mean score of PHQ-9

was 3.41 ± 3.59 , indicating minimal depression among HCWs (Table 2).

Table 2: Scores of HCWs on PSS-10, GAD-7 and PHQ-9 with the severity of stress, anxiety, and depression

Variable	Assessment Tool	Mean \pm SD	Severity Level
Stress	PSS-10	9.39 ± 8.53	Low stress
Anxiety	GAD-7	5.20 ± 4.19	Mild anxiety
Depression	PHQ-9	3.41 ± 3.59	Minimal depression

Figure 1: Among total 200 HCWs, mild stress was found in 145(72.50%) HCWs, moderate stress was reported in 45 (22.50%) HCWs and severe stress was observed in 10(5%) HCWs.

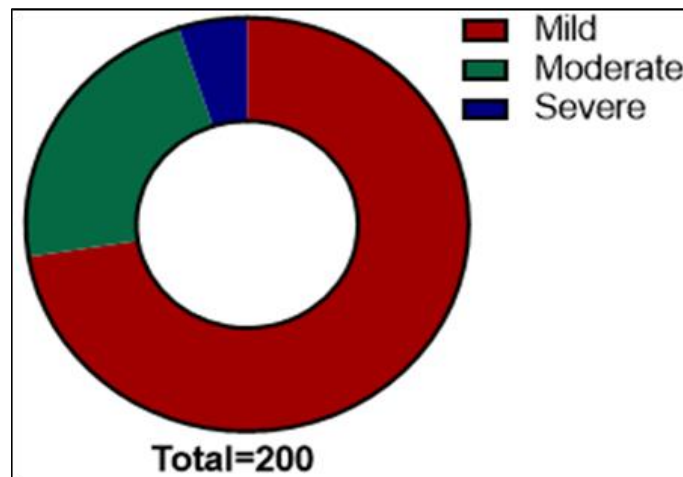


Fig 1: Stress levels among HCWs as per PSS-10 scoring

Figure 2: Minimal anxiety was found in 94 (47%) HCWs, mild anxiety was reported in 79(39.50%) HCWs, moderate anxiety was observed in 20 (10%) HCWs and severe anxiety was revealed in 7(3.50%) HCWs.

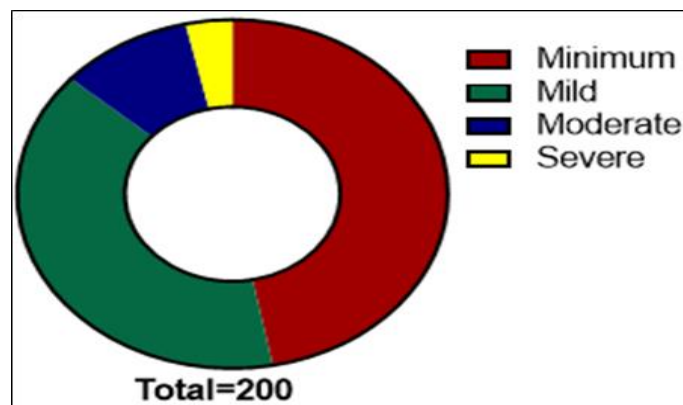


Fig 2: Anxiety levels among HCWs as per GAD-7 scoring

Figure 3: Minimal depression was observed in 145(72.50%) HCWs, mild depression was seen in 46(23%) HCWs, moderate depression was reported by 6 (3%) HCWs, moderately severe depression was found in 2(1%) HCWs, and severe depression noted in 1(0.5%) HCW.

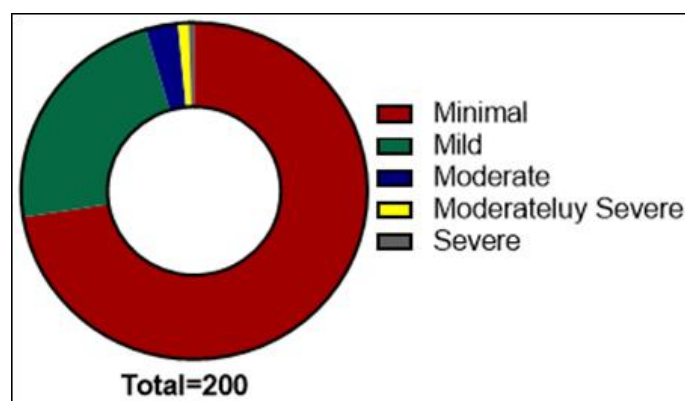


Fig 3: Severity of depression among HCWs as per PHQ-9 scoring

Discussion

In the present study conducted on 200 HCWs, stress was found to be of mild level in 72.50%, moderate in 22.50% and severe in 5% HCWs.

Chrzan-Rodak *et al.* [10], while assessing the stress level in HCWs, observed 16.83 ± 4.47 as the mean score on PSS-10, which indicates a moderate stress level contrary to the finding of the present study. Further analysis revealed that stress level was mild in 23.4% of participants, moderate in 52.6% and severe in 24.1%.

Analyzing perceived stress and related variables among HCWs working in public health facilities in Southern Ethiopia during the COVID-19 pandemic, Teshome *et al.* [11] also noted that nearly two-thirds (61.8%) of the participants reported feeling stressed. In another study conducted among HCWs in China during the COVID-19 epidemic, Zhang *et al.* [12] also observed signs of psychological stress in 358 (33.6%) staff members while analyzing them for perceived stress. Inconsistent results may occur in various studies because these studies have been conducted during the COVID-19 pandemic, which is comparatively a more stressful period for HCWs compared to the post-pandemic times.

Alharthy *et al.* [13] used the GAD-7 instrument to measure the anxiety levels of HCWs working in the emergency department. GAD-7 scores indicating anxiety disorders with mild to moderate anxiety levels were seen in 23.7% and 20.7% of the HCWs, respectively, whereas 7.6% of the HCWs had scores suggesting severe anxiety. The GAD-7 scores of emergency medical service personnel were the highest, followed by that of physicians and nurses. These anxiety scores on GAD-7 are comparable to that of our study.

In another study conducted on HCWs during the pandemic, Mihaylova *et al.* [14] also reported mild generalized anxiety in one-third and moderate or severe anxiety symptoms in around one-fifth of HCWs.

While evaluating the mental health characteristics of HCWs who have been interacting with COVID-19 patients, Wankowicz *et al.* [15] noted that 284 (64.4%) had anxiety symptoms based on the GAD-7 scores and 312 (70.7%) participants had depressive symptoms based on the PHQ-9 scores.

Lawati *et al.* [16] analyzed depressive symptoms among primary healthcare workers (HCWs) during the COVID-19 pandemic in the Muscat governorate. They observed that out of 423 participants, 78 (18.1%) subjects were deemed to have depressive symptoms.

The results of the above studies are consistent with the present study, where minimal, mild, moderate, moderately severe and severe depression was seen in 72.50%, 23%, 3%, 1% and 0.5% of participants, respectively.

Thus, it is crucial to take action to minimize stress, anxiety, and depression because HCWs who are in lower distress have stronger mental resilience. By reducing their workload and offering social support (both material and emotional), HCWs may be able to balance their personal and professional lives better, take better care of their families and themselves, feel as though they are handling their tasks successfully, and experience less stress, anxiety, and

depression.

Limitations of our study

As our study was cross-sectional, the results are based upon a one-time assessment; follow-up of the cases was not carried out; thus it cannot assess cause-and-effect relationship.

Conclusion

The present study observed minimal to mild stress, anxiety, and depression levels among the HCWs. The stress, anxiety, and depression experienced by HCWs is a matter of great concern and call for prompt action to prevent, recognize, and treat depression in HCWs. Building a robust healthcare system significantly fosters a caring and sympathetic atmosphere. To further add to the understanding and treatment of depression among HCWs, longitudinal research on mental health issues is needed, and it is recommended to include the mental health check-up of HCWs as a part of annual regular health check-ups so that timely remedial steps are taken to control and contain the same.

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