ORIGINAL ARTICLE :

BURDEN OF MENTAL MORBIDITIES AMONG HEALTH CARE WORKERS IN A TERTIARY CARE HOSPITAL OF WEST BENGAL DURING COVID19 PANDEMIC :A CROSS SECTIONAL STUDY

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ABSTRACT

Introduction: Healthcare workers (HCWs) are constantly on the frontlines, facing the brunt of the COVID 19 pandemic in their personal, professional, and social lives. They are not only the front liners battling this pandemic since the beginning, this pandemic has also taken a toll on the lives of healthcare workers over the past two years. Facing the stress and burnout since the pandemic has begun, currently, during the third wave of the pandemic, there might be an increase in mental health issues among HCWs in this state. The aim of the study is to assess the magnitude of anxiety and depression during the third wave of COVID-19 pandemic among the healthcare workers in a tertiary care hospital in West Bengal.

Materials and methods: The observational study was conducted at IPGMER & SSKM Hospital, a tertiary care teaching hospital in Kolkata, West Bengal, over a period of one week from January 19 to January 26, 2022. A cross-sectional rapid survey was conducted using an online questionnaire containing the Beck Anxiety Inventory (BAI) and Beck Depression Inventory-II (BDI-II) among HCWs in the hospital using a Google Proforma through various social media groups. A total of 86 HCWs participated over a period of one week. The data was analysed using SPSS 16 software. Descriptive statistics and univariate logistic regression were used.

Result: In the present study, it was found that among 86 people, 61 of them were aged between 26-40 years, half of them, i.e., 45 people, were male, and more than one-fifth (22.1%) (n = 86) had moderate to severe anxiety. Most of the participants, i.e., 39 of them (45.3%), had clinical depression ranging from borderline to extreme. No significant association of moderate to severe anxiety and depression and socio-demographic characteristics was noticed, except for the significantly higher preponderance of anxiety in female gender (p value= 0.0001) Anxiety showed a good positive correlation with depression (p value less than 0.001) and all who had severe anxiety was also suffering from either severe or extreme depression.

Conclusion: An alarming proportion of anxiety and depression was noticed among HCWs. The prevalence of anxiety and depression (severe grade) among HCWs are 6% and 8% respectively. So awareness regarding their own mental health, preventive therapies, and proper diagnosis and treatment of cases are needed.

Key Words: mental health, healthcare workers, COVID 19, anxiety, depression

INTRODUCTION

The world has been constantly facing the wrath of the Corona virus pandemic since its inception in Wuhan, China, in 2019. It was declared a global pandemic on March 11, 2020, by the World Health Organization (WHO), and as of January 20, 2020, it has affected more than 338 million people worldwide and almost 38 million people in India.[1] Currently, India is witnessing the third wave of the coronavirus disease.[2] Since its beginning, healthcare workers have been on the front lines, serving the people in need by putting their own lives at risk. In the history of mankind, several previous infectious outbreaks and pandemics have impacted the physical as well as mental health of the front-liners, that is, the healthcare workers, not only during the acute phase but also in their aftermath.[3] India, a third world country that has a constant discrepancy between healthcare needs and delivery due to the scarcity of healthcare resources, puts a huge burden on its healthcare infrastructure and health workers to deal with the pandemic situation in the country. Among healthcare workers, a significant number of deaths due to COVID -19 has been seen in the past two years, with a large number of people getting affected every day due to the chance of exposure on a daily basis. Also, a never ending pandemic prevailing for more than two years has put their lives at a standstill and caused major

burnout among health professionals, both mentally and physically.[4] Exhausting working hours, being overburdened with work pressure, a shortage of healthcare facilities, stigma, and social isolation associated with the disease are taking a toll on not only the physical but also the mental health of healthcare workers.[5] Excessive stress in healthcare workers during the pandemic has increased the prevalence of several mental health issues, among them depression, anxiety, social avoidance, panic attacks, altered sleep patterns, and increased interpersonal conflicts, to name a few.[6] There are other complex issues that can interplay with the mental health of doctors. The majority of the clinical workloads, especially in big hospitals and medical colleges, lie on the shoulders of junior doctors. Due to the COVID outbreak, the majority of exams are postponed, and counseling is delayed for more than a year (a missing batch) with uncertain dates, which puts an additional burden of stress on working junior doctors both physically and mentally. Moreover, aspiring MBBS students, of whom a large share usually stay at home and prepare for the postgraduate medical entrance examination (NEET PG) exam, were also frustrated, and their services during these crisis hours were missed. This problem raised outrage, leading to mass protests from resident doctors all over India.[7] High academic and work pressure during this tough time also affects the mental health of resident doctors, leading to suicides at workplaces.[8–10] As we have proceeded toward the third wave of the disease, with numerous nationwide lockdowns and restrictions put on our daily lives, the impact on the mental health and burnout of healthcare workers is also on an increasing trend. Only a few studies were conducted in India regarding the effect of the COVID 19 pandemic on the mental health of healthcare workers. Chatterjee et al. noticed very high anxiety and depression among HCWs due to COVID-19.[11] Several mental health organizations, including NIMHANS, identified the problem and planned to start a nationwide mental health consultation service.[12,13] However, existing data is scarce to roll out these initiatives.

In this outset, current study was conducted to assess the impact of third wave of COVID-19 in terms of prevalence of depression and anxiety among HCWs in a tertiary-care hospital of West Bengal. The objectives of the study are :

1. To assess the level of anxiety and depression among the study population

2. To assess any correlation between severity of anxiety and depression.

MATERIALS AND METHODS:

Permission from institutional ethical committee (IPGME and R/IEC/2020/636.) was sought before conducting the survey.

An online cross-sectional survey has been conducted using a structured Google Proforma, which was shared by various verified social media groups of health care workers in that tertiary care hospital. Data were collected over a period of one week, from January 10 to January 16, 2022. Identities of participants are verified as HCWs before considering the response. The study was conducted in IPGMER & SSKM Hospital, a tertiary care teaching hospital in Kolkata, West Bengal.

Statistics: Univariate binary logistic regression is used using the 'Enter' method to identify associated factors of two outcomes:

1. Moderate to severe anxiety, and
2. Moderate to severe depression

Inclusion criteria: All the workers in the hospitals, including doctors, nursing staff, paramedical staff, and administrative workers, were included in this study.

Exclusion criteria: incomplete forms and responses from non-health care worker participants were excluded.

Sample size and sampling: Internet based consecutive sampling method was used. Sample size was calculated using the formula below. [14]

$$n = \frac{Z_{1-\frac{\alpha}{2}}{}^2 \times p \times (1-p)}{d^2}$$

Where "z" is the standard normal deviation at 95% confidence = 1.96 (two-tailed). "p" is the proportion of anxiety/ depression in study subjects, and "d" is allowable error. According to Thakur et al., the proportion of anxiety among government employees was 33.1%, considering 10% allowable error, minimum sample size needed for study was 85.[15]

$$n = \frac{1.96^2 \times 0.33 \times 0.67}{0.1^2} = 85$$

Thus, 86 participants were included in the study. Due to lockdown and the increased work burden on healthcare workers during the 3rd wave of the pandemic, offline data collection was

not possible. Thus, a Google Form was circulated to verified social media groups of healthcare workers, and internet based consecutive sampling was used for the collection of responses. All inadequately filled forms were excluded, and a total of 86 participants were included in the final analysis.

Study tools: A google form containing 3 sections

a. Socio-demographic variables, including age, gender, education, religion, family type, residency, and marital status, were taken using socio demographic questionnaire.[16,17]
b. Beck Anxiety Inventory (BAI) and
c. Beck Depression Inventory II (BDI):

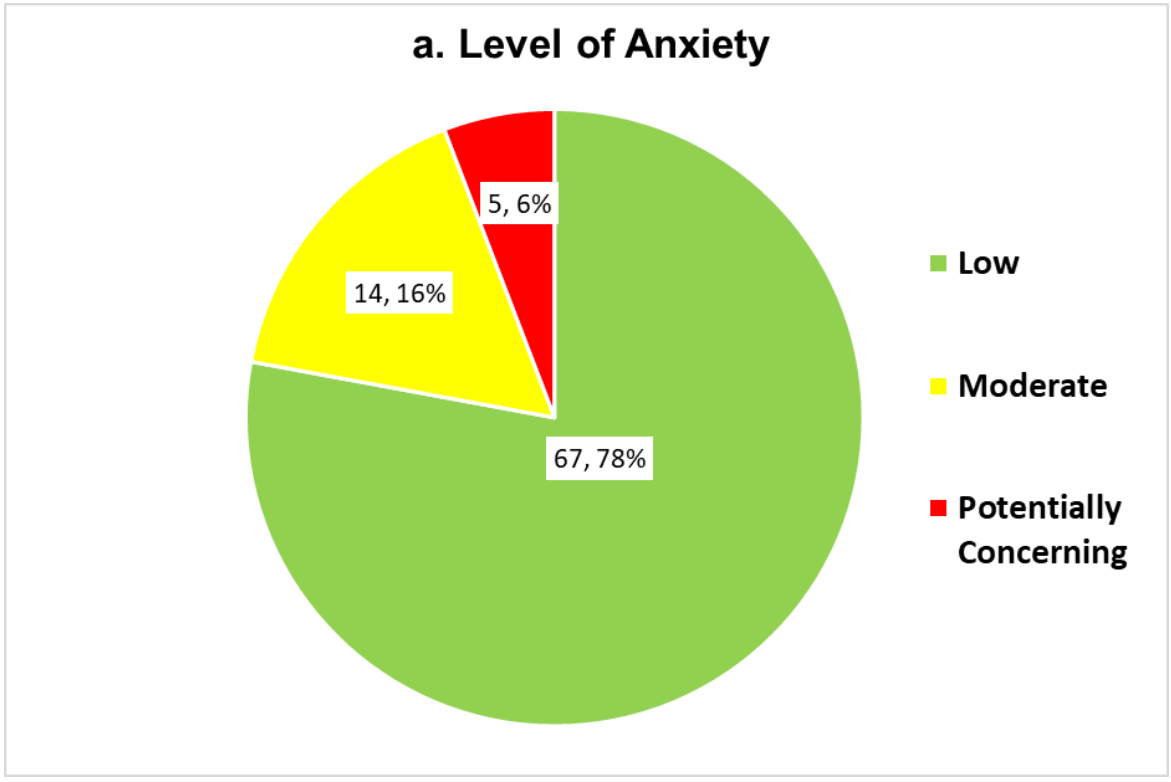
1. **Beck Anxiety Inventory (BAI):** This is a validated 21- item self-report questionnaire [test-retest reliability = 0.75] developed by Aaron T. Beck and measures the severity of symptoms of anxiety on a 4-point Likert scale ranging from 0 to 3. The total attainable score ranged from 0 to 63, among which 0-7 points reflect minimal anxiety; 8-15 indicate mild anxiety; 16- 25 reflect moderate anxiety; and > 25 indicate severe anxiety.[18,19]

2. **2. Beck Depression Inventory II (BDI-II):** It is a validated 21 items self-report questionnaire [Test Retest reliability=0.93, interclass correlation coefficient = 0.95] developed by Beck, Steer, and Brown, that measures the severity of depression as per the standard case definition under Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition (DSM-IV).[20] A 4-point Likert scale with attainable score ranged from 0 to 63. Among which 1-10 points were categorized as normal; mild mood disturbance was denoted by 11-16; 17-20 categorized as borderline clinical depression; 21- 30 meant for moderate depression; 31-40 noted as severe depression; and >40 were diagnosed as extreme depression.[21]

Statistical Analysis: The data was entered in Microsoft Excel spreadsheet, and the final analysis was done using Statistical Package for Social Sciences (SPSS) software, IBM, Chicago, USA, version 16.0. The data normality was checked using the Kolmogorov-Smirnov test, where P value<0.05 denoted lack of normality in data. Spearman Rho correlation coefficient is calculated as both BAI and BDI were not normally distributed. Binary logistic regression was used to identify risk in terms of odds ratio (OR) for having moderate to severe depression and moderate to severe anxiety. Statistical significance was considered at P value < 0.05.

RESULT

Background Characteristics: The total number of participants (n) was 86. The majority, i.e., 61 (70.9%) of them, were aged between 26 and 40 years. Nine were aged up to 25 years (10.5%), and 16 of them were aged more than 40 years (18.6%). The mean (SD) age was 32.9 (7.9) years and ranged from 19 to 57 years, with a median of 31 years. Among them, 45 (52.3%) were male. Most of them, i.e., 48 people, had education up to the graduate level (53.5%), followed by 38 up to the postgraduate level (44.2%), and only two (2.3%) had education up to the higher secondary level. Among them, 80 participants (93%) were Hindu, four (4.7%) were Muslim, and one of each belonged to a Christian or Indigenous religion. Almost two-thirds of them, i.e., 57 of them (66.3%), belonged to the nuclear family, followed by 20 from the joint (23.2%), and 9 from the semi-nuclear family (10.5%) (mentioned as the others in Table 1). Almost three-fourths of them, i.e., 65 of them (75.6%), had urban residence, followed by 25 from semi urban (18.6%), and 5 from rural (5.8%). Among them, 47 participants were married (57%). The proportion of unmarried and widowed participants was 40.7% and 2.3%, respectively. Regarding socioeconomic status, the majority of them did not attempt the question in the Google Proforma, so it could not be included.



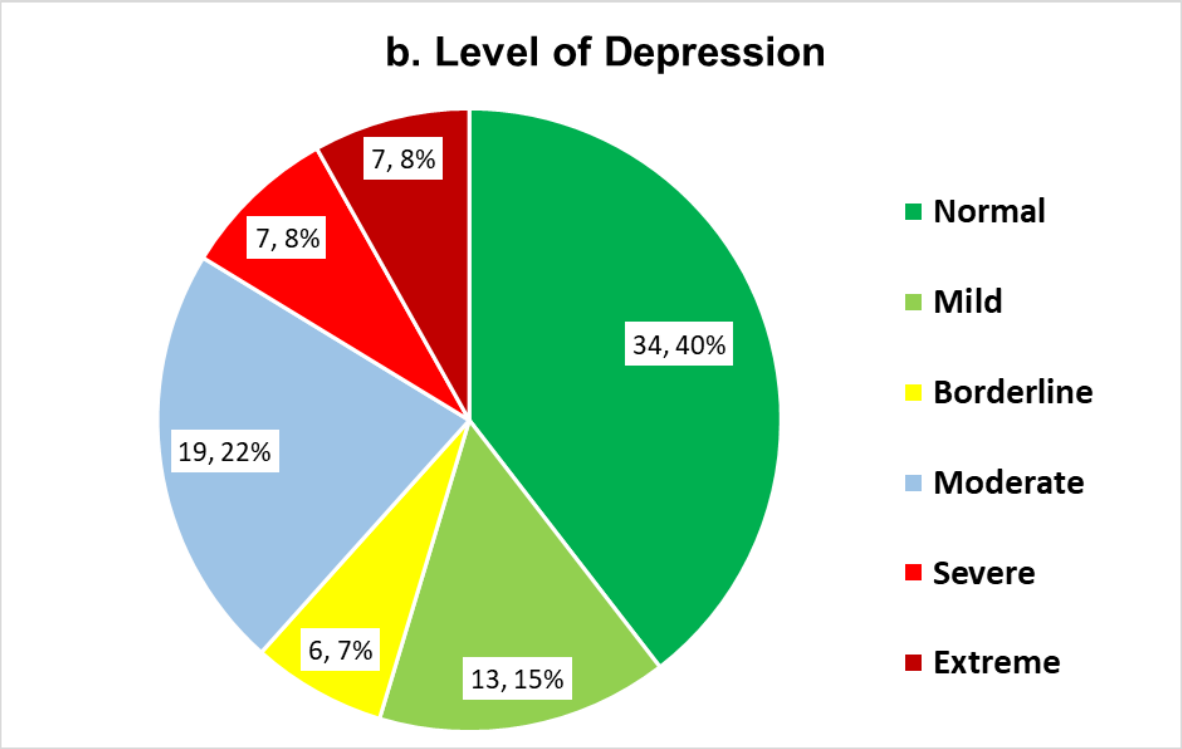


Figure 1: Level of Anxiety and Depression among Study Subjects (n = 86)

In the study, 34 participants (39.5%) had no depression. A total of 33 (38.3 %) of the participants had complaints of either moderate, severe, or extreme depressive symptoms, among which severe and extreme depression were found among 7 (8.1%). Five participants among the group had co morbid severe anxiety along with severe depression.

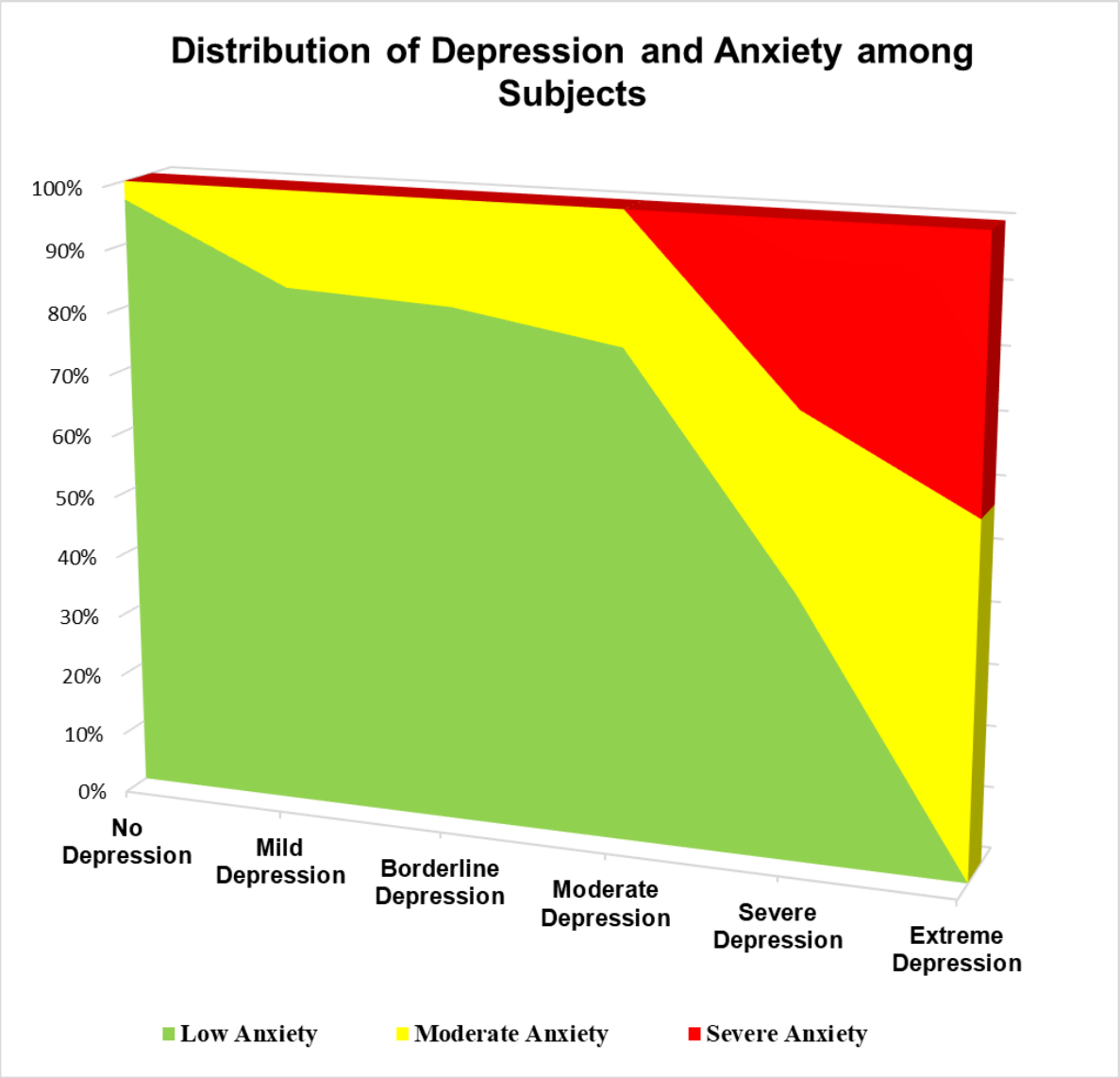


Figure 2: Distribution of Anxiety and Depression among Subjects (n = 86)

Level of Depression and Anxiety: Majority had low anxiety (77.9%). Proportion of Moderate and potentially concerning anxiety were 16.3% and 5.8% respectively. **[Figure 1]** Mean (SD) BAI score was 13.2 (10.9) and ranged from 0 to 43 with a median (IQR) of 9.5 (5-19). Response of various anxiety symptoms are shown in **Table 1**. More than one-third (39.5%) had normal or no clinical depression. Some (15.1%) had mild mood disturbances. The proportions of borderline, moderate, severe and extreme depression were 7%, 22.1%, 8.1% and 8.1% respectively. **[Figure 1]**. Response to various depressive symptoms are shown in **Table 2.** Mean (SD) BDI score was 17.5 (14.1) ranged from 0 to 58 with a median (IQR) of 15 (5-26). Most of the participants who had low anxiety had no depression (49.3%), or mild depression (16.4%). Only three (4.4%) participants had low anxiety and severe depression. None of the subjects with low anxiety had extreme

depression. Most of the participants with moderate anxiety had either moderate depression (28.6%) or severe depression (14.3%) or extreme depression (28.6%). Five participants who had severe anxiety had either severe depression (40%) or extreme depression (60%). **[Figure 2]**

Table 1: Symptoms of Anxiety among Study Subjects (n = 86)

Symptoms	**Not at all Num (%)**	**Mild Num (%)**	**Moderate Num (%)**	**Severe Num (%)**
Feeling numbness or tingling	57 (66.3)	22 (25.6)	5 (5.8)	2 (2.3)
Feeling hot	55 (64)	20 (23.2)	9 (10.5)	2 (2.3)
Wobbliness in legs	64 (74.4)	14 (16.3)	8 (9.3)	0 (0)
Unable to relax	30 (34.9)	33 (38.4)	13 (15.1)	10 (11.6)
Fear of worst happening	27 (31.4)	35 (40.7)	14 (16.3)	10 (11.6)
Dizzy or lightheaded	51 (59.3)	18 (20.9)	11 (12.8)	6 (7)
Heart pounding / racing	43 (50)	26 (30.2)	10 (11.6)	8.1 (7)
Unsteady	50 (58.1)	21 (24.4)	12 (14)	3 (3.5)
Terrified or afraid	42 (48.8)	29 (33.7)	9 (10.5)	6 (7)
Nervous	31 (36)	31 (36)	13 (15.2)	11 (12.8)
Feeling of choking	66 (76.7)	11 (12.8)	7 (8.2)	2 (2.3)
Hands trembling	63 (73.3)	12 (14)	8 (9.2)	3 (3.5)
Shaky / unsteady	62 (72.2)	15 (17.4)	8 (9.2)	1 (1.2)
Fear of losing control	52 (60.5)	22 (25.6)	8 (9.2)	4 (4.7)
Difficulty in breathing	65 (75.6)	17 (19.7)	3 (3.5)	1 (1.2)
Fear of dying	59 (68.6)	16 (18.6)	5 (5.8)	6 (7)
Scared	38 (44.2)	30 (34.9)	13 (15.1)	5 (5.8)
Indigestion	32 (37.2)	33 (38.4)	10 (11.6)	11 (12.8)
Faint / lightheaded	62 (72.1)	15 (17.4)	5 (5.8)	4 (4.7)
Face flushed	60 (69.8)	16 (18.6)	7 (8.1)	3 (3.5)
Hot / cold sweats	45 (52.3)	30 (34.9)	9 (10.5)	2 (2.3)

Table 2: Symptoms of Depression among Study Subjects (n = 86)

Symptoms	Not at all Num (%)	Mild Num (%)	Moderate Num (%)	Severe Num (%)
Sadness	23 (26.7)	33 (38.4)	22 (25.6)	8 (9.3)
Pessimism	42 (48.8)	25 (29.1)	12 (14)	7 (8.1)
Past Failure	40 (46.5)	29 (33.7)	11 (12.8)	6 (7)
Loss of Pleasure	33 (38.4)	32 (37.2)	17 (19.7)	4 (4.7)
Guilty Feelings	45 (52.3)	21 (24.4)	14 (16.3)	6 (7)
Punishment Feelings	50 (58.1)	19 (22.1)	12 (14)	5 (5.8)
Self-Dislike	52 (60.5)	17 (19.7)	13 (15.1)	4 (4.7)
Self-Criticalness	43 (50)	25 (29)	12 (14)	6 (7)
Suicidal Thoughts or Wishes	71 (82.6)	13 (15.1)	2 (2.3)	0 (0)
Crying	50 (58.2)	16 (18.6)	10 (11.6)	10 (11.6)
Agitation	38 (44.2)	27 (31.4)	19 (22.1)	2 (2.3)
Loss of Interest	39 (45.3)	26 (30.3)	14 (16.3)	7 (8.1)
Indecisiveness	40 (46.5)	23 (26.7)	12 (14)	11 (12.8)
Worthlessness	51 (59.3)	17 (19.8)	15 (17.4)	3 (3.5)
Loss of Energy	33 (38.4)	26 (30.2)	14 (16.3)	13 (15.1)
Changes in Sleeping Pattern	36 (41.9)	24 (27.9)	15 (17.4)	11 (12.8)
Irritability	38 (44.2)	24 (27.9)	17 (19.8)	7 (8.1)
Changes in Appetite	42 (48.8)	25 (29.1)	10 (11.6)	9 (10.5)
Concentration Difficulty	33 (38.4)	18 (20.9)	28 (32.6)	7 (8.1)
Tiredness or Fatigue	26 (30.2)	26 (30.2)	20 (23.3)	14 (16.3)
Loss of Interest in Sex	60 (69.7)	14 (16.3)	9 (10.5)	3 (3.5)

Table 3: Factors of Moderate to Severe Anxiety - Univariate Logistic Regression (n = 86)

Variable	Groups	N	Moderate to Severe Anxiety		
			Num (%)	OR (CI)	P value
Age	**Up to 25**	9	1 (11.1)	1	-

	26 to 40	61	14 (23)	2.38 (0.27-20.72)	0.431
	> 40	16	4 (25)	2.67 (0.25-28.44)	0.417
Gender	**Male**	45	3 (6.7)	1	-
	Female	41	16 (39)	8.96 (2.37-33.84)	**0.001***
Education	**Up to Graduate**	48	11 (22.9)	1.12 (0.39-3.12)	0.836
	Post Graduate	38	8 (23.8)	1	-
Religion	**Hindu**	80	19 (23.8)	1	-
	Others	6	0 (0)	0 (0-0)	0.999
Family Type	**Nuclear**	57	12 (21.1)	1	-
	Others	29	7 (24.1)	1.19 (0.41-3.45)	0.745
Residence	**Urban**	65	15 (23.1)	1.28 (0.37-4.37)	0.699
	Others	21	4 (19)	1	-
Marital Status	**Married**	49	10 (20.4)	1	-
	Others	37	9 (24.3)	1.25 (0.45-3.49)	0.665
Moderate to Severe Depression	**No**	53	4 (7.5)	1	
	Yes	33	15 (45.5)	10.21 (2.99-34.86)	**<0.001***

*** Statistically Significant**

Table 4: Factors of Moderate to Severe Depression - Univariate Logistic Regression (n = 86)

Variable	**Groups**	**N**	**Moderate to Severe Depression**		
			Num (%)	**OR (CI)**	**P value**
Age	**Up to 25**	9	1 (11.1)	1	-

	26 to 40	61	25 (41.0)	5.56 (0.65-47.25)	0.116
	> 40	16	7 (43.8)	6.22 (0.62-62.16)	0.120
Gender	**Male**	45	14 (31.1)	1	-
	Female	41	19 (46.3)	1.91 (0.79-4.61)	0.149
Education	**Up to Graduate**	48	17 (35.4)	1	-
	Post Graduate	38	16 (42.1)	1.33 (0.55-3.18)	0.527
Religion	**Hindu**	80	30 (37.5)	1	-
	Others	6	3 (50)	1.67 (0.32-8.79)	0.547
Family Type	**Nuclear**	57	23 (40.4)	1.29 (0.51-3.26)	0.597
	Others	29	10 (34.5)	1	-
Residence	**Urban**	65	27 (41.5)	1.78 (0.61-5.17)	0.292
	Others	21	6 (28.6)	1	-
Marital Status	**Married**	49	19 (38.8)	1.04 (0.43-2.51)	0.929
	Others	37	14 (37.8)	1	-
Moderate to Severe Anxiety	**No**	67	18 (26.9)	1	**-**
	Yes	19	15 (78.9)	10.21 (2.99-34.86)	**<0.001***

*** Statistically Significant**

Table 5: Correlation between Beck's Anxiety Inventory score and Beck's Depression Inventory Score (n = 86)

Parameters		**BAI**
BDI	Spearman Rho ¥	0.729
	P Value	<0.001

¥ Spearman Rho is used as both scores were not normally distributed, as evident from Kolmogorov Smirnov test P value <0.05

Risk factors of Depression and Anxiety: A good and statistically significant positive correlation was noted among BAI and BDI scores [Spearman Rho correlation coefficient 0.729, P value <0.001], (Table 4) which denotes a significant increase in the level of anxiety with an increase in depression. It is well an established fact that people with both depression and anxiety have higher mental co-morbidity and an increased future risk of psychiatric emergencies like self harm, suicide, and poor quality of life. As moderate to severe depression and/or anxiety are very detrimental and usually require both pharmacological and nonpharmacological intervention, we have tried to find out risk factors for moderate to severe depression and moderate to severe anxiety. Age, education, religion, family type, residence, and marital status were not significantly associated with moderate to severe anxiety. Female gender showed 8.96 times higher risk of having moderate to severe anxiety compared to males, which was statistically significant (P value = 0.001) **(Table 1).** Those who had moderate to severe depression had a 10.21 times higher risk of having moderate to severe anxiety, and this was statistically significant. (P value<0.001). Age, gender, education, religion, family type, residence, and marital status were not significantly associated with moderate to severe depression. Only a statistically significant positive association between moderate to severe depression and moderate to severe anxiety was noted (P value<0.00). Positive associations indicated people with severe anxiety are more likely to develop severe depression and vice versa. (Table 2)

DISCUSSION

COVID-19 pandemic has put a halt to the lifestyles of people around the globe. Multiple restrictions and prohibitions have been put on our daily lives. Healthcare workers are the people who have served the major healthcare needs of our country tirelessly during the pandemic for the last two years. Several of them have been infected with the illness, and there have been a significant number of fatalities reported among healthcare workers in the past due to the ongoing pandemic, which seems to be a never ending one. Uncertainty of life , lack of proper knowledge regarding the severity and fatality of the upcoming waves, the fatality of the second

wave in India—all these are responsible factors for increased stress and reasons to negatively impact the mental health of healthcare workers in our country.[22,23]

In our study, among the 86 study subjects, the majority of them belong to the age group of 26-40 years (70.9%), with the mean age being 32.9 years. This can be due to the limitation of doing an online survey, where young populations are more likely to respond than people of extreme ages due to a lack of knowledge regarding the use of social media.[24] The majority of them were male (52.3%), educated up to graduation level (53.5%), belonged to nuclear families (66.3%), and had urban residency (75.6%). The majority were married (57%). A similar online survey done by Grover et al. in 2020 on 1871 people yields similar socio-demographic findings.[25]

The majority of them had a low level of anxiety (77.9%), whereas 22.1% of the population had symptoms of either severe or extreme anxiety. The symptoms of anxiety manifest mainly as a feeling of numbness or tingling, fever, wobbling of the legs, restlessness, nervousness, dizziness, and others. In a study done by Bhowmick et al. in 2020 in West Bengal, 89.4% of healthcare workers were found to have significant anxiety symptoms.[26] Another metanalysis by Dutta et al. in 2021, including 33 studies, stress was found to be significantly high among the healthcare population, with a prevalence of 32.5%.[27] Mathur et al. found acute stress reactions among 9.5% of Indian HCWs.[28]

In our study, 39.5% of the subjects had no depression. A total of 38.3 % of the participants had complaints of either moderate, severe, or extreme depressive symptoms, among which severe and extreme depression were found in 8.1%. Five participants among the group had co morbid severe anxiety along with severe depression. Chatterjee et al. (2020) noticed a 34.9% prevalence of depression among HCWs.[11] Grover et al. noticed that during the first wave of COVID-19 50.7% of the participants were found to have depressive symptoms. The reason for the lower prevalence in our study group may be related to their coping with prolonged exposure to this pandemic.[29] The risk factors for the development of depression or anxiety symptoms were assessed among the participants in our study, and it was found that female sex was a risk factor as they had almost 9 times higher risk than males. In a study conducted by Mi *et al*. in China, a similar result was found among healthcare workers, where the psychological impact of COVID-19 was more prevalent among females and those with a past history of psychiatric illness.[30] Hazarika et al. also found a higher risk in the female gender and in those with a pre-existing mental illness. It has been observed in several studies that the impact of COVID 19 on

the mental health and psychological wellbeing of healthcare workers is greater than that of the general population.[3,6,31,32] In the study conducted by Selvaraj et al. on 777 doctors in India, stress level and insomnia were found to be significantly higher than in the general population during the pandemic.[5] In fact, Tan et al. noticed higher level of perceived stress and anxiety among nonmedical and allied healthcare workers like technicians, pharmacists, administrations, etc.[33]

In our study, among the study population, approximately 5.8% had potentially concerning anxiety symptoms and total 16.2 % had either severe or extreme depressive symptoms. This is a major concerning factor as it shows a significant number of healthcare workers are suffering due to impact of COVID 19 on mental health. As a consequence of this, not only the personal and professional sectors of healthcare workers will be affected, but it can also seriously affect the quality of patient care in healthcare institutions.

The adverse impact on the mental health of healthcare workers owing to the ongoing pandemic calls for attention and early interventional measures. Where pharmacotherapy in terms of antidepressant and anxiolytic medication is necessary for people with severe illnesses, psychotherapy in terms of behavioural therapy includes: Cognitive behavioural therapies to treat the cognitive distortions give rise to stress and anxiety symptoms. [34]Relaxation techniques for stress management, such as deep breathing and meditation, are used as tools to decrease negative and stressful thoughts. Mindfulness based cognitive behavioural techniques are also effective where the patient becomes aware of their bodily events and feelings and thus can control anxiety or depressing thoughts.[35] Maintenance of sleep hygiene is needed to prevent insomnia, and regular exercise is also needed to reduce anxiety symptoms as well as depressive symptoms. Supportive psychotherapies for the person and their families can be of tremendous help to overcome the mental healthcare needs of these people.[3,6,33,36,37] In the ongoing pandemic situation, there are several restrictions and hindrances affecting the interaction and widespread reach of mental healthcare facilities for this vulnerable population. To overcome this, telephone or online based consultation services are an excellent option to raise awareness of mental healthcare services among a broader population. Premier institutes like NIMHANS (National Institute of Mental Health and Neurosciences) in Bangalore have started providing such services to the general population. [13] In the recent Union Budget 2022-2023 it was announced that round the clock free tele-counselling for mental health will be available, and the

government will soon launch a national tele-mental health programme to ensure 24 hour continuity of service.[38,39]

The uniqueness of our study is that it is the first study of its kind to be done during the third wave of the COVID-19 pandemic. Apart from frontline healthcare workers (doctors, nurses), other nonmedical healthcare staff of the hospital, such as people in administration, pharmacy, etc., are also included in this study.

LIMITATIONS

A small sample size and no control group are included for comparison purposes. Also, we could not assess the participants for any medical co-morbidity as the question was not attempted by many, which can be a precipitating factor for the worsening of mental health.

CONCLUSION

An alarming proportion of anxiety and depression was noticed among HCWs. The prevalence of anxiety and depression (severe grade) among HCWs are 6% and 8% respectively.The ongoing prolonged pandemic situation and currently the third wave of COVID 19 infection have taken a toll on the mental health of frontline healthcare workers. Prolonged working hours, inadequate rest, isolation from family members, uncertainty regarding the health of themselves and their families, a lack of proper healthcare infrastructure, dealing with the mortality and morbidity due to COVID 19 on an everyday basis—all these are responsible for increased mental health issues in this population. In spite of that, there is a lack of awareness among healthcare workers and doctors regarding the mental healthcare of health workers, and no proper treatment facility or proper treatment guidelines are widely available. To overcome this situation, we must increase psychiatric awareness among the medical profession and healthcare workers and also need a strong infrastructure for timely diagnosis, screening, and management of mental health issues in this population.

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