

A Comparative Study of Mental Health of Non- Psychiatric and Psychiatric Doctors and Nurses in hospitals during COVID-19 Pandemic : A Cross-sectional Study

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ABSTRACT

Background: Since its inception in December 2019 in the Hubei province of China, the novel coronavirus disease (COVID-19) is spreading rapidly both locally and internationally. The mental health of medical and nursing staff has been greatly challenged during the immediate wake of the viral epidemic

Settings and Design: Cross sectional study

Methods and Material: After ethics committee approval, an informed consent taken from all four group participants through online mode (50 Non-Psychiatric Doctors, 50 Psychiatric doctors, 50 Nurses from Non-Psychiatric department and 50 nurses from Psychiatric Department). The self-report questionnaire is prepared by using the following tools. Semi Structured Intake proforma containing social demographic data, type of department and any medical comorbidities. DASS-21 questionnaire- Depression, anxiety and stress scale, 21 Item self-report questionnaire.

Results: In the study, among 200 health care workers, aged 25 to 52, out of which 46 male and 154 females. 163 participants are married, and with working experience of (16%) <2 years, (27%) 2-5 years, (56.5%) >5 years. Type of family being 70% nuclear, 29% joint. Preference to stay during pandemic being at home (73%), away from home (27%). Distress to risk of transmission to family members and presence of medical co-morbidities being high in nurses. 22.5% have symptoms of depression-psychiatric doctors (4%), non-psychiatric doctors(4.5%). Psychiatric nurses (8%), non-psychiatric nurses (9%). 49.5% have symptoms of anxiety- psychiatric doctors (5.5%), non-psychiatric doctors (7%), psychiatric nurses(10.5%), non-psychiatric nurses(26.5%). Distress being 52.5%- psychiatric doctors (10.5%), non-psychiatric doctors (12%), psychiatric nurses (13%), non-psychiatric nurses (17%).

Conclusion: This cross sectional survey revealed high prevalence of mental health symptoms among health care workers -52.5%, 49.5%, 22.5% of all participants reported symptoms of distress, anxiety and depression respectively. Non psychiatric participants reported more severe symptom on all measurements, out of which nurses had more severity of symptoms. Together, our findings present concerns about the psychological well-being of doctors and nurses involved in COVID-19 pandemic.

Keywords: COVID-19, mental health, depression, anxiety, distress.

INTRODUCTION

Since its inception in December 2019 in the Hubei province of China, the novel coronavirus disease (COVID-19) is spreading rapidly both locally and internationally (Li et al., 2020; Zhu et al., 2020). In only a span of a month, the disease caused by the virus was

considered a public health emergency by the World Health Organization and was declared a pandemic by March 2020 (WHO, 2020). Amidst the development of this infectious disease in 206 countries throughout the world, health care workers remain the main persons involved in the screening and treatment of this condition throughout. Despite remaining the crisis management

personnel, the HCW are not themselves immune to the psychological consequences due to COVID-19. Among the healthcare workers also, the front-line workers involved directly in handling these patients are at greater risk than others. The reasons for such adverse psychological outcomes in them range from excessive workload/work hours, inadequate personal protective equipment, over-enthusiastic media news, feeling inadequately supported (Cai et al., 2020; Tam et al., 2004; Lee et al., 2018; Styra et al., 2008). Another important reason for such psychological impact is the infection rate among medical staff.

Despite the low mortality rate of 2 %, the COVID-19 virus has a high transmission rate and the mortality is higher than that caused by severe acute respiratory syndrome (SARS) and middle east respiratory syndrome (MERS) combined (Mahase, 2020).

The aim of current study was to evaluate mental health outcomes among health care workers working and treating patients during COVID-19 by quantifying the magnitude of symptoms of depression, anxiety, and distress and by analyzing potential risk factors associated with these symptoms. This study aimed to provide an assessment of the mental health burden of health care workers, which can serve as important evidence to direct the promotion of mental wellbeing among health care workers.

Aim of the Study :

To assess and compare mental health of non- psychiatric and psychiatric doctors and nurses in hospitals during COVID-19 Pandemic.

Objectives of the Study :

- Comparison of socio-demographic variables among four groups in relation to mental health.
- To assess and compare mental health (anxiety, depression, and stress) among four group participants during COVID-19 pandemic

Review of Literature

A cross sectional study (Kang et al 2020) on the mental health of medical and nursing staff in Wuhan. Notably, among 994 medical and nursing staff working in Wuhan, 36.9% had subthreshold mental health disturbances (mean PHQ-9: 2.4), 34.4% had mild disturbances (mean PHQ-9: 5.4), 22.4% had moderate disturbances (mean PHQ-9: 9.0), and 6.2% had severe disturbance (mean PHQ-9: 15.1) in the immediate wake of the viral epidemic.

A cross sectional study (Lai et al 2020) of 1257 contacted individuals completed the survey, with a participation

rate of 68.7%. A total of 813 (64.7%) were aged 26 to 40 years, and 964 (76.7%) were women. Of all participants, 764 (60.8%) were nurses, and 493 (39.2%) were physicians; 760 (60.5%) worked in hospitals in Wuhan, and 522 (41.5%) were frontline health care workers. A considerable proportion of participants reported symptoms of depression (634 [50.4%]), anxiety (560 [44.6%]), insomnia (427 [34.0%]), and distress (899 [71.5%]). Nurses, women, frontline health care workers, and those working in Wuhan, China, reported more severe degrees of all measurements of mental health symptoms than other health care workers. Frontline health care workers engaged in direct diagnosis, treatment, and care of patients with COVID-19 were associated with a higher risk of symptoms of depression (OR, 1.52; 95% CI, 1.11-2.09; $P = .01$), anxiety (OR, 1.57; 95% CI, 1.22-2.02; $P < .001$), insomnia (OR, 2.97; 95% CI, 1.92-4.60; $P < .001$), and distress (OR, 1.60; 95% CI, 1.25-2.04; $P < .001$).

In a review study (Spoorthy et al 2020) Review of all the 6 articles showed that current research focused on assessing several aspects of mental health affected in HCW due to COVID-19. Several sociodemographic variables like gender, profession, age, place of work, department of work and psychological variables like poor social support, self-efficacy were associated with increased stress, anxiety, depressive symptoms, insomnia in HCW. There is increasing evidence that suggests that COVID-19 can be an independent risk factor for stress in HCW.

MATERIALS AND METHODS

After obtaining ethics committee approval, a informed consent taken from all four group participants through online mode (50 Non-Psychiatric Doctors and 50 Psychiatric doctors, 50 Nurses from Non- Psychiatric department and 50 nurses from Psychiatric Department), Total Sample Size is 200 individuals. The self-report questionnaire is prepared by using the following tools. Semi Structured Intake proforma containing social demographic data, type of department, profession, work experience, any substance use, and any medical comorbidities. DASS-21 questionnaire- Depression, anxiety and stress scale, 21 Item self report questionnaire and the study design is cross sectional study.

Inclusion Criteria: 18-65 years of age, Able to understand English, Provides informed consent, Residents (Junior and senior), consultants and nurses working in various hospitals in and around Hyderabad.

Exclusion criteria: <18 years or above 65 years of age, Cannot understand English, Refuses to provide informed consent, Evidence of previous psychiatric history and complaints. Period of study is 1 month during COVID-

19 Pandemic.

Methodology

Subjects will be taken into the study after the inclusion criteria are met. Questionnaire will be supplied for data collection through google forms. Consent will be taken at the beginning of the study.

STATISTICAL ANALYSIS

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

A total of 206 participants were screened for this study out of which six participants did not give consent for participation in the study(96% response rate). Sociodemographic factors of Doctors and Nurses dealing with COVID -19 in Table 1. Out of study participants, aged 25 to 52 , out of which 46 male and 154 females. 163

Table-1: Sociodemographic data of Doctors and Nurses dealing with COVID-19.

Variable	Frequency (Percentage)/Mean(SD)
Gender	
Male	46(37)
Female	154(63)
Age	38.09+9.963
Marital Status	
Married	163(81.5)
Unmarried	34(17)
Others	3(1.5)
Profession	
Doctors	100(50)
Nurses	100(50)
Department	
Psychiatry	100(50)
Gen medicine	25(12.5)
Gen surgery	15(7.5)
Others	10(5)
Working Experience	
<2yrs	32(16)
2-5yrs	55(27.5)
>5yrs	113(56.5)
Stay	
At home	146(73)
At hostel	54(27)
Type of family	
Nuclear	147(73.5)
Extended nuclear	15(7.5)
joint	38(19)
Prefer to stay during quarantine	
At home	80(40)
Away from home	120(60)
Medical comorbidities	
Yes	115(57.5)
No	85(42.5)
Substance use	
Never	95(47.5)
Occasional	98(49)
Often	7(3.5)
always	0

Table 2: Clinical characteristics of Doctor and Nurses dealing with COVID-19

Variable	Frequency (Percentage)
Ever diagnosed with COVID-19	
YES	76(38)
NO	124(62)
Any family members or colleagues diagnosed with COVID-19	
Yes	186(93)
No	14(7)
Depression	
Yes	45(22.5)
No	155(77.5)
Anxiety	
Yes	99(49.5)
No	101(50.5)
Distress	
Yes	105(52.5)
No	95(47.5)

and nurses dealing with COVID-19 include the factors that they have ever been diagnosed with COVID-19 -38%, any family members, colleagues diagnosed with COVID-19 -93%, Out of 200, 45 participants reported depressive symptoms, 99 participants reported anxiety symptoms, 105 reported distress symptoms. This cross sectional study revealed high prevalence of mental health symptoms among Doctors and Nurses-52.5%, 49.5%, 22.5% of all participants reported symptoms of distress, anxiety and depression respectively.

As depicted in table 3 and 4, 22.5%(200) have symptoms of depression-psychiatric doctors(4%), non psychiatric doctors(4.5%). psychiatric nurses(8%), non psychiatric nurses(9%). 49.5% have symptoms of anxiety – psychiatric doctors(5.5%), non psychiatric doctors(7%), psychiatric nurses(10.5%), non psychiatric nurses(26.5%). Distress being 52.5%- psychiatric doctors(10.5%), non psychiatric doctors(12%), psychiatric nurses(13%), non psychiatric nurses (17%).

Several variables were associated with the occurrence of depression, anxiety, and stress. In anxiety and stress outcome, the associated variables were as following: women, years of working> 10 years, nursing staff in non psychiatric departments, presence of medical comorbidities or chronic diseases, family members or colleagues diagnosed with COVID-19, having history of COVID-19

Table 3: Distribution of prevalence of depression, anxiety and distress among four group participants

	Department		Chi-Square	P Value
	Psychiatry	Non- Psychiatry		
Depression	19	26	1.405	0.236
Anxiety	35	64	16.822	0.000
Stress	62	74	3.309	0.069

Table 4: Factors associated with depression, anxiety, distress in Doctors and nurses in dealing with COVID- 19

	Profession		Chi-Square	P Value
	Doctors	Nurses		
Depression	17	28	3.47	0.063
Anxiety	42	57	4.5	0.034
Stress	56	80	13.235	0.000

participants are married, and working in tertiary care hospital with working experience of (16%) <2 years ,(27.5%) 2-5 years, (56.5%) >5 years. Type of family being 73.5% nuclear, 7.5% extended nuclear 38% joint. Preference to stay during pandemic being at home (40), away from home(60). 115 participants are having medical comorbidities.

As depicted in table 2, clinical characteristics of doctors

positive. And also distress to risk of transmission to family members is maximum in nurses and also presence of medical comorbidities being high in nurses in both psychiatric and non psychiatric group.

DISCUSSION

This cross sectional study revealed high prevalence of mental health symptoms among health care workers -

52.5%, 49.5%, 22.5% of all participants reported symptoms of distress, anxiety and depression respectively. Non psychiatric participants reported more anxiety symptoms($p=0.000$), Nursing staff reported distress symptoms($p=0.000$). Together, our findings present concerns about the psychological well-being of doctors and nurses involved in COVID-19 pandemic. Consequently, guiding policies and psychological interventions to maintain their psychological well-being and mental health is important.

Follow-up studies on healthcare workers are needed to assess for progression or even a potential rebound effect of psychological manifestations when the imminent threat of COVID-19 subsides. Safety of family had the highest role in reducing stress along with corrective guidance, effective safeguards for the prevention of disease and positive attitude from their colleagues (more in female staff). Kang et al. (2020) reported that the degree of contact with confirmed or suspected cases and access to psychological materials/resources is related to the extent of mental health disturbances. The degree of contact was directly related whereas the access to psychological help inversely related to the proportion of mental health disturbances.

The subject's self-perceived physical health was poor in participants with higher mental health problems (Kang et al., 2020). The only study from India showed that certain positive motivational factors like supportive and proud family and colleagues, positive role models, validation and appreciation by peers/patients, positive caretaking experience, a sense of validation of existence, knowledge and acceptance of the possible inevitability of infection need to be strengthened to boost the morale of HP (spoorthy et al 2020).

One solution proposed by the HP interviewed to overcome the negatives include setting up of multidisciplinary teams and screening questionnaires (Mohindra et al., 2020) In the general population, this can lead to the development of new psychiatric symptoms, worsening of pre-existing illnesses. Irrespective of getting exposed or being infected people can develop a fear of falling ill or dying, excessive worry /anxiety, helplessness, tendency to blame other people who are ill.

CONCLUSION

Health authorities and government should consider setting up multidisciplinary mental health teams at regional and national levels for dealing with mental health issues and providing psychological support to both patients and frontline workers. Evaluation can be done by using electronic media through web applications like whatsapp, facebook, etc. Regular screening of medical personnel involved in treating, diagnosing patients with COVID-19 should be done for evaluating stress, depression, and anxiety in them. The mental health issues in frontline health workers such as Doctors and Nurses shall be timely addressed preferably by psychotherapeutic means based on the stress adaptation model is important.

CONFLICT OF INTEREST:

The authors declared no conflict of interest.

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