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Medicine

A CROSS-SECTIONAL STUDY OF PSYCHIATRIC MORBIDITY IN COVID WARRIORS WORKING IN L - 3 DESIGNATED HOSPITAL.

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ABSTRACT
BACKGROUND: Covid 19 infection has not only affected Health care workers physically but also poses higher risk of being psychologically stressed and developing psychiatric morbidity.
AIM: Mental health assessment of health care workers in Covid Hospital, SRN associated with MLN Medical College, Prayagraj.
MATERIAL & METHODS: A cross-sectional survey was carried using Survey Monkey as per Covid 19 norms, study collected demographic data and mental health parameter from 224 health care workers in our COVID designated L3 tertiary care hospital in city of Prayagraj, Northern India from May1, 2020 to August 31, 2020. The degree of symptoms of depression, anxiety, insomnia was assessed using the 9-item Patient Health Questionnaire (PHQI), the 7-item Generalized Anxiety Disorder scale (GAD), the 7-item Insomnia Severity Index (ISI) respectively. Multivariable logistic regression analysis was performed to identify factors associated with mental health outcomes.
RESULTS: There was no statistical difference among the studied groups on assessment of anxiety on GAD 7 scale, insomnia on ISI scale and depression on PHQ 9. Though it was found to have minor depressive complaints, problems of anxiety and Insomnia but have not been significant to cause Psychiatric illness,
CONCLUSION: In this study no significant psychiatric morbidity was seen. However, we did observe depressive features, anxiety about personal and familial health and problems in initiation and quality of sleep.

KEYWORDS : Covid -19, Anxiety, Depression, Insomnia, Healthcare worker

INTRODUCTION:
Coronavirus disease 2019 (COVID-19) is a World Health Organization (WHO) declared pandemic and has created a state of emergency all over the world.

In India many general speciality hospitals have been designated COVID Hospitals to deal with ever increasing rise of Covid cases, Doctors and Health care workers across all speciality have been involved in active ICU and isolation duty, the authors themselves have been a part of this rostering and the fear of being exposed to infection with no known cure and a lack of vaccine causes a lot of stress. Couple this with adjustment problems due to managing work, family and home scenarios, compounded by the lack of usual helps and backups imposed by the lockdown, we expect ever increasing Psychiatric illness to soon become a common cause of morbidity and directly or indirectly may contribute to mortality.

MATERIAL & METHODS
This cross-sectional survey was carried using Survey Monkey using WhatsApp platform to minimise risk of personal exposure and social distancing norms. The study collected demographic data and mental health parameter from 224 healthy health care workers in our COVID designated L3 tertiary care hospital from May1, 2020, to August 31, 2020. The online survey included questions on sociodemographic and clinical variables. The degree of symptoms of depression, anxiety, insomnia was assessed by the 9-item Patient Health Questionnaire, the 7-item Generalized Anxiety Disorder scale, the 7-item Insomnia Severity Index respectively. Bivariate logistic regression analysis was performed to identify factors associated with mental health outcomes. Each item in the questionnaire was further compared between two major professional groups, i.e. doctors and nurses.

RESULTS
Table 1 Presents sociodemographic features of the 224 medical health workers (183 medical doctors and 30 nurses, 2 paramedical staff and 1 other staff). Among these groups they were subjected to above mentioned questionnaire to have assessment of various Psychological manifestations among survey respondents (Table 2). There was no statistical difference among the various studied groups on assessment of anxiety on GAD 7 scale, insomnia on ISI scale and depression on PHQ 9. (Table 3)

Table 3 shows various factors affecting (correlates of) psychological manifestations among respondents, though there was no significant difference among the various factors among the subgroups who were assessed in survey.

Table 4 shows assessment of individual questions using PHQI, GAD, ISI questionnaires in the subgroups. For answers in A1, A2, A3, A6 and A7 in anxiety scale, (i.e. Feeling nervous, anxious or on edge, not being able to stop or control worrying, worrying too much about different things, becoming easily annoyed or irritable and feeling afraid as of something might happen respectively) there was statistical difference among doctor and paramedics (p=0.0007, 0.0228 , 0.0064, 0.0101, 0.0366 respectively). Though for rest of questions there was no significant difference in doctors and paramedics.

On individual assessment of Depression scale D2(Feeling down , depressed ,or hopeless), D3 (Trouble falling or staying asleep, or sleeping too much), D4(Feeling tired or having little energy) and D5(Poor appetite or over eating) were seen more in doctors than paramedics and this difference was of statistical significance p (p= 0.0117) for D2, (p=0.0499) for D3, (p= 0.0007) for D4 and (p= 0.0033) for D5.

Subjects on evaluation of Insomnia severity Index there was found to have more insomnia related problems more in doctors than in nurses and this difference was found to be significant for all questions I1 (Difficulty falling asleep)(p =0.0046), I2(Difficulty staying asleep)(p =0.0022) , I3(Problem waking up too early)(p=0.0004) and I4(sleep dissatisfaction)(p=0.0001), I5(Interferes with your daily functioning) (p=0.0208), I6 (noticeable by others) (p=0.0145) and I7(distress caused by others)(p= 0.0039).

DISCUSSION –
The survey although using online platform has included well-validated scales used for surveys such as GAD-7, PHQ-9 and ISI.

The prevalence rates of depressive symptoms, anxiety and Insomnia symptoms have been based on cut off scores of 10 on PHQ-9 and 15 on GAD-7 and 10 on ISI.

A comparison of our findings with those of the National Mental Health Survey (NMHS) [7] and the survey carried out by Indian Psychiatric Society(I.P.S), shows that psychiatric morbidity of common mental illnesses is lesser in our study than the estimated prevalence of 10% in the NMHS.[8].This is a counterintuitive observation however the I.P.S. used a lower cut off score in their studies, they have a sample size

which was heterogenous involving people who were not directly involved in COVID duties and thus the overall size was much larger than ours.

It can be seen in our study also that minor depressive complaints, problems of anxiety and Insomnia have been reported but they have not been significant to cause Psychiatric illness, most of the health workers been engaged in COVID-19 duties also report a sense of fulfilment and pride and a good peer support system of COVID -19 Warriors has emanated this has significantly lead to increased bonding amongst themselves with peers in the workplace and with families in spite of occasional problems of duty rostering, shortage of safety kits and increased workload and sometimes a novel challenge which were not expected in their specialities of work, this is especially true for doctors who make up the majority of our survey. Health care workers have always stood up to difficult challenges, they have been used to working with limited resources and their resilience has again shown through in spite of themselves turning COVID-19 Positive and hearing of sad losses of their colleagues due to this pandemic. The self-actualisation and religious affiliation and familial and friend and co-workers support too may have been significant factors and the very fact that working itself prevents Acute and Post Traumatic stress can be argued to have had a positive influence, this can be a subject of another study. The difference in the prevalence rates cannot be completely attributed to the difference in the methodology when we compare our study to similar surveys like the web-based survey from China, which evaluated the psychological problems among the Chinese people ($n = 1074$) close to the COVID-19 pandemic peak and subsequent lockdown they reported anxiety (mild/moderate/severe as evident from Beck's Anxiety Inventory) in 29% of participants and depression (mild/moderate/severe as evident from Beck's Depression Inventory) in 37% of their participants also poor mental well-being in one-third of its participants.[8,10]

Grover, et al[7] in their survey had 47.1% of the participants who were HCWs and when the prevalence of psychiatric morbidity was compared between the HCWs mild depression (i.e., PHQ-9 score of 5-9) was also included as an indicator of depression. However, when the cut-off of ≥ 10 was used for depression, there was no significant different between the 2 groups which is similar to our study. Amongst HCW and non-HCWs, it was seen that the prevalence of depression to be significantly higher among the non-HCWs [7] with the lower cut off.

Similarly, the mental health problems faced by the HCWs in China during the COVID-19 crisis suggests a significant proportion of HCWs (36.9%) suffered from subthreshold mental health disturbances (as assessed by PHQ-9, GAD-7, ISI) and about 22.4%–50% of HCWs reported experiencing depression, anxiety, significant distress and insomnia[8].

Our findings are comparable to these studies among HCWs, if mild anxiety and mild depression are taken into account. Hence, it is possible that lockdown period has led to a significant increase in the mental morbidity of mostly milder intensity in the general public and health care workers, the resilience factors and positive benefits of self-actualisation may also be protective, however a longer study period and a follow up of our own sample may show more positive correlation as Psychiatric illnesses have an Incubation period and more studies need to be done on health care workers specifically working with COVID-19 patients like in our hospital.

Table 1: Demographics of the health care workers(HCW) who were part of the survey.

	Total (n=216)	Doctors (n=183)	Nurses (n=30)	Paramedical Staff (n=2)	Others (n=1)
Sex					
Male	108	100	5	2	1
Female	108	83	25	0	0
Marital Status					
Single	127	116	9	1	1
Married and living with spouse	73	56	16	1	0
Married and living away from spouse	15	10	5	0	0
Separated	1	1	0	0	0

Others					
Education					
10th pass	14	6	7	1	0
Graduate	105	87	16	1	1
Post graduate	97	90	7	0	0
Any pre-existing medical or mental illness					
Yes	21	20	1	0	0
No	195	163	29	2	1
Any family history of mental illness					
Yes	15	11	3	1	0
No	201	172	27	1	1
Quarantined during this pandemic					
Yes	36	28	7	1	0
No	180	155	23	1	1

Table 2: Psychological manifestations among survey respondents

	Total (216)	Doctors (183)	Nurses (30)	Paramedical Staff (2)	Other staff (1)
Anxiety					
Yes	27	26	1	0	0
No	189	157	29	2	1
Depression					
Yes	23	23	0	0	0
No	193	160	30	2	1
Insomnia					
Yes	15	0	0	1	0
No	201	169	30	1	1

Table 3: Factors affecting (correlates of) psychological manifestations among respondents.

Variable			Odds Ratio (95% CI)	P value
Correlates for Anxiety				
	Anxiety +nt	Anxiety -nt		
Sex				
Male (n=108)	16	92	1.5336 (0.6761-3.4784)	0.3061
Female (n=108)	11	97		
Profession				
Doctor (n=183)	26	157	5.2994 (0.6938-40.4788)	0.1079
Nurse or other paramedical staff (n=33)	1	32		
Marital status				
Single/Separated/Married and living away from spouse (n=143)	21	122	1.9221 (0.7397-4.9950)	0.1799
Married and living with spouse (n=73)	6	67		
Having any pre-existing medical or mental condition				
Yes (n=21)	5	16	2.4574 (0.8198-7.3664)	0.1085
No (n=195)	22	173		
Correlates for Depression				
	Depression +nt	Depression -nt		
Sex				
Male (n=108)	15	93	2.0161 (0.8170-4.9755)	0.1282
Female (n=108)	8	100		
Profession				
Doctor (n=183)	23	160	-	-
Nurse or other paramedical staff (n=33)	0	33		
Marital status				
Single/Separated/Married and living away from spouse (n=143)	19	124	2.6431 (0.8644-8.0822)	0.0883
Married and living with spouse (n=73)	4	69		

Having any pre-existing medical or mental condition				
Yes (n=21)	3	18	1.4583 (0.39475.3881)	0.5715
No (n=195)	20	175		
Correlates for Insomnia				
	Insomnia +nt	Insomnia -nt		
Sex				
Male (n=108)	8	100	1.1543 (0.40343.3032)	0.7891
Female (n=108)	7	101		
Profession				
Doctor (n=183)	13	170	1.1853 (0.25485.5132)	0.8284

Nurse or other paramedical staff (n=33)	2	31		
Marital status				
Single/Separated/Married and living away from spouse (n=143)	15	128	-	-
Married and living with spouse (n=73)	0	73		
Having any pre-existing medical or mental condition				
Yes (n=21)	3	18	2.5417 (0.6558- 9.8500)	0.1771
No (n=195)	12	183		

Table 4 Assessment of various variables of questionnaire.

		TOTAL	DOCTORS	PARAMEDICS	P-Value
Anxiety	A1 (Feeling nervous, anxious or on edge))	0.75±0.91	0.83±0.92	0.23±0.63	0.0007
	A2(Not being able to stop or control worrying)	0.75±0.94	0.61±0.87	0.23±0.63	0.0228
	A3(Worrying too much about different things)	0.68±0.89	0.75±0.91	0.27±0.70	0.0064
	A4 (Trouble relaxing)	0.54±0.84	0.58±0.85	0.30±0.70	0.0886
	A5(Being so restless that it is hard to sit still)	0.29±0.61	0.22±0.65	0.10±0.30	0.3221
	A6(Becoming easily annoyed or irritable)	0.67±0.85	0.73±0.88	0.30±0.53	0.0101
	A7(Feeling afraid as if something awful might happen)	0.68±0.87	0.73±0.89	0.37±0.72	0.0366
Depression	D1(Little interest or pleasure in doing things)	0.58±0.88	0.61±0.90	0.40±0.72	0.2257
	D2(Feeling down, depressed or hopeless)	0.55±0.82	0.61±0.86	0.20±0.48	0.0117
	D3(Trouble falling or staying asleep, or sleeping too much)	0.64±0.93	0.69±0.94	0.33±0.80	0.0499
	D4(Feeling tired or having little energy)	0.73±0.93	0.81±0.96	0.20±0.41	0.0007
	D5(Poor appetite or over eating)	0.47±0.81	0.54±0.86	0.07±0.25	0.0033
	D6(Feeling bad about yourself or that you are a failure or you have let yourself or your family down	0.26±0.58	0.28±0.61	0.13±0.34	0.1909
	D7(Trouble concentrating on things such as reading the newspaper or watching television)	0.41±0.80	0.45±0.84	0.17±0.38	0.0744
	D8(Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual)	0.26±0.58	0.27±0.61	0.17±0.38	0.3855
	D9(Thoughts that you would be better off dead or of hurting yourself in some way)	0.19±0.52	0.20±0.54	0.13±0.34	0.4927
Insomnia	I1(Difficulty falling asleep)	0.55±0.80	0.61±0.82	0.17±0.46	0.0046
	I2(Difficulty staying asleep)	0.53±0.85	0.61±0.89	0.10±0.30	0.0022
	I3(Problem waking up too early)	0.74±0.96	0.84±1.00	0.17±0.38	0.0004
	I4(sleep dissatisfaction)	1.20±1.10	1.32±1.11	0.43±0.57	0.0001
	I5 (Interfere with your daily functioning)	0.76±0.99	0.82±1.00	0.37±0.85	0.0208
	I6(noticeable by others)	0.48±0.77	0.54±0.80	0.17±0.46	0.0145
	I7(distress caused by others)	0.58±0.91	0.65±0.96	0.13±0.43	0.0039

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