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ORIGINAL ARTICLE

Mental Health Status of Health Care Professionals During COVID-19 Pandemic at a Tertiary Care Hospital of Central Punjab

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ABSTRACT

Introduction: Frontline medical workers are at risk of not just adverse physical outcomes from Corona Virus Disease 2019 (COVID-19) but psychological ones too. Healthcare workers might develop symptoms of Post-traumatic stress disorder, depression, anxiety and substance use disorders.

Objective: To assess the mental health status of health care professionals during COVID-19 Pandemic at a tertiary care hospital of Central Punjab.

Methodology: Study design: Cross-Sectional study. Study setting: Sheikh Zayed Medical College/Hospital, R.Y.Khan. Study Duration: 20th May 2020 to 20th August 2020. Study subjects: Healthcare professionals including medical and paramedical staff. Sample size: A total of 215 Subjects were included in the study. Sampling technique: Convenient sampling technique. Inclusion criteria: Male and female health care professionals of SZMC/H, R.Y.Khan present in a single working shift. Exclusion criteria: Subjects who refused to give informed verbal consent and those absent from the shift of data collection. Data collection method: Data was collected on pre-designed questionnaire. The questionnaire included information regarding age, sex, job title, working station, etc. Data analysis: Data was entered in and analyzed by using SPSS Version. 21. Numerical variables like age was presented as mean ± standard deviation. Categorical variables like sex, job title, working station were shown as percentages.

Results: Our study shows that sex ratio was Male (41.4%) and Female (58.6%). We compared the subjects on variables of Sex, Job title and Ward/Department. The prevalence of depression among Males was Normal 69.7%, Borderline 18.0% and Abnormal 12.4% while in Females it was Normal 56.3%, Borderline 20.6% and Abnormal 23.0%. The prevalence of anxiety among Males was Normal 67.4%, Borderline 18.0% and Abnormal 14.6% while in Females it was Normal 38.1%, Borderline 28.6% and Abnormal 33.3%. Our study on the basis of Job title showed that Medical Staff has prevalence of depression of Normal 67.8%, Borderline 18.3% and Abnormal 13.9% while in Paramedical Staff it was Normal 31.4%, Borderline 25.7% and Abnormal 42.9%. The prevalence of anxiety among Medical Staff was Normal 55.6%, Borderline 22.8% and Abnormal 21.7% while in Paramedical Staff it was Normal 22.9%, Borderline 31.4% and Abnormal 45.7%. On the basis of Wards/Department, the prevalence of Depression in Medicine and Allied was Normal 62.7%, Borderline 23.9% and Abnormal 13.4%; in Surgery and Allied was Normal 67.2%, Borderline 22.4% and Abnormal 10.3%; in Paeds and Gynae/Obs. was Normal 63.5%, Borderline 11.5% and Abnormal 25.0%; in Flu Filter Clinic/Isolation Ward/ICU was Normal 50.0%, Borderline 18.4% and Abnormal 31.6%. The prevalence of Anxiety in Medicine and Allied was Normal 52.2%, Borderline 20.9% and Abnormal 26.9%; in Surgery and Allied was Normal 55.2%, Borderline 24.1% and Abnormal 20.7%; in Paeds and Gynae/Obs. was Normal 46.2%, Borderline 26.9% and Abnormal 26.9%; in Flu Filter Clinic/Isolation Ward/ICU was Normal 44.7%, Borderline 26.3% and Abnormal 28.9%.

Conclusion: COVID-19 Pandemic has some major effects on the mental health status of health care professionals in terms of depression and anxiety that need to be addressed by providing better health care facilities, by arranging awareness seminars and counseling sessions.

Keywords: Health Care Professionals, COVID-19, Anxiety, Depression

INTRODUCTION

Corona virus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2).[1] It was first identified in December 2019 in Wuhan, Hubei, China, and has resulted in an ongoing pandemic.[2][3] The first confirmed case has been traced back to 17 November 2019 in Hubei.[12] As of 9 July 2020, more than 12.1 million cases have been reported across 188 countries and territories, resulting in more than 552,000 deaths. More than 6.69 million people have recovered.[4]

Facing this large scale infectious threat, people are under increased psychological pressure. Data derived from previous epidemics, such as the Severe Acute Respiratory Syndrome (SARS) in 2003 and the H1N1 influenza in 2009, illustrate that the community suffered considerable fear and panic, resulting in a significant psychological impact.[5][6] This seems to be the case with COVID-19, as well. A very recent general public survey during the initial phase of the COVID-19 outbreak in China, where the epidemic began, showed that about one-third of the participants reported moderate-to-severe anxiety, whilst more than half rated the psychological impact as moderate-to-severe.[7] Our personal experience in the outpatient clinics and wards in Pakistan coincides with the aforementioned report. During the past few months, we have experienced a significant increase in telephone contacts and visits from patients or relatives expressing distress and fear about the virus and the surrounding uncertainty. Patients with mental health conditions, such as depression and anxiety have been reporting relapses in their mental state, such as fear-triggered panic attacks or resurface of psychosomatic symptoms; patients with medical co-morbidities, such as cardiovascular disease, have been expressing distress and associated worsening of symptoms, in particular angina and worsening of heart failure status. Even though children have been reported to be less susceptible to COVID-19 infection[8], we have witnessed considerable psychological implications on them: the shutting down of schools and playgrounds, the restriction of outdoor activities alongside their parents' fears of contamination have been triggering manifestations of anxiety, such as panic attacks and psychosomatic symptoms.

The general population, however, are not the only ones at risk during this COVID_19 pandemic. Frontline medical workers are also at risk of not just adverse physical outcomes from corona virus disease 2019 (COVID-19) but psychological ones too. Experience from SARS and H1N1 epidemics underline that the psychological strain on healthcare professionals, who find themselves at the frontline of attempts to quell the outbreak, is significant.[5][9] In the early rapid expansion phase of the SARS outbreak, similar to the current course of COVID-19 pandemic, healthcare professionals reported feelings of extreme vulnerability, uncertainty and threat to life, alongside somatic and cognitive symptoms of anxiety[5], whilst during the 2009 H1N1 pandemic more than half of healthcare workers in a Greek tertiary hospital

reported moderately high anxiety and subsequent psychological distress.[9]

Research from countries where COVID-19 cases spiked months ago shows high rates of psychological suffering & that the front-line health-care providers are likely to experience more collective trauma and PTSD. For months, front-line health-care providers have faced war-like circumstances—prolonged suffering, more deaths than usual, and in many cases, a lack of adequate resources to respond. Psychologists counseling those workers have observed anxiety, depression, panic, paranoia, and suicidality. They are also seeing cases of acute stress disorder and early indicators of posttraumatic stress disorder (PTSD), although some caution it's too early to render a PTSD diagnosis.

In a survey of heath care workers in hospitals equipped with fever clinics or wards for patients with COVID-19 in Wuhan and other regions in China, more than 70% of health-care providers studied reported experiencing psychological burden i.e. high rates of symptoms of depression, anxiety, insomnia, and distress; especially nurses, women, those in Wuhan, and frontline health care workers directly engaged in the diagnosis, treatment, and care for patients with COVID-19[10] while nearly half of those surveyed in Italy reported PTSD symptoms. [11]

OBJECTIVE

The objective of this study was to assess the level of depression and anxiety among health care professionals of a tertiary care hospital in Central Punjab (Sheikh Zayed Hospital, Rahim Yar Khan) during COVID-19 pandemic.

METHODOLOGY

Study design: Cross-Sectional Study
Study setting: Sheikh Zayed Medical College/Hospital, Rahim Yar Khan
Study duration: May 2020 to 20th August 2020
Study subjects: Health Care Professionals of Sheikh Zayed Hospital, Rahim Yar Khan including medical and paramedical staff.
Sample size: A total of 215 Health Care Professionals were included in the study by taking Overall Prevalence as 35%, Power as 80%, Confidence Interval of 95% and Margin of Error as 5%.
Sampling technique: Convenient Sampling Technique
Inclusion criteria: All the Male and Female health care professionals of Sheikh Zayed Medical College/Hospital, Rahim Yar Khan present in a single shift of almost 300 on the day of Data Collection.
Exclusion criteria: Health Care Professionals who refused to give informed verbal consent or who were absent during the shift on the day of data collection.
Data collection and analysis: Data was collected on a pre-designed questionnaire on hospital anxiety and depression scale (HADS) during a single working shift of hospital on a random day by the authors under the guidance and supervision of principal author. The questionnaire comprised of different questions regarding the level of depression and anxiety in relation to the ongoing COVID-19 Pandemic. It also included information regarding age, sex, field of service/ward, job title/rank/post in that ward, etc. of the health care professionals. Departments of Paeds & Gynae/Obs were combined, separately from other departments, because these two were receiving patients directly in their OPDs unlike others. Data was entered in and analyzed by using SPSS Version. xs21. Numerical variables like age was presented as mean ± standard deviation. Categorical variables like sex, field of service/ward, job title/rank/post in that ward etc. were presented as percentages.
Ethical approval: Ethical approval was sought from Institutional Review Board and informed verbal consent was taken from all of the study subjects before taking the data.

RESULTS

This study assessed the Mental Health Status of Health Care Professionals in regards to COVID-19 Pandemic. For a total of 215 study subjects; Mean age was 26.6±3.94 years; 89 (41.4%) were males while 126 (58.6%) were females; 67 (31.2%) were from Medicine & Allied, 58 (27.0%) were from Surgery & Allied, 52 (24.2%) were from Paeds & Gynae/Obs and 38 (17.7%) were from Flu Filter & Isolation/ICU; 180 (83.72%) were from Medical Staff while 35 (16.28%) were from Paramedical Staff; Mean Depression Score was 6.94±4.196 while Mean Anxiety Score was 7.83±4.275.

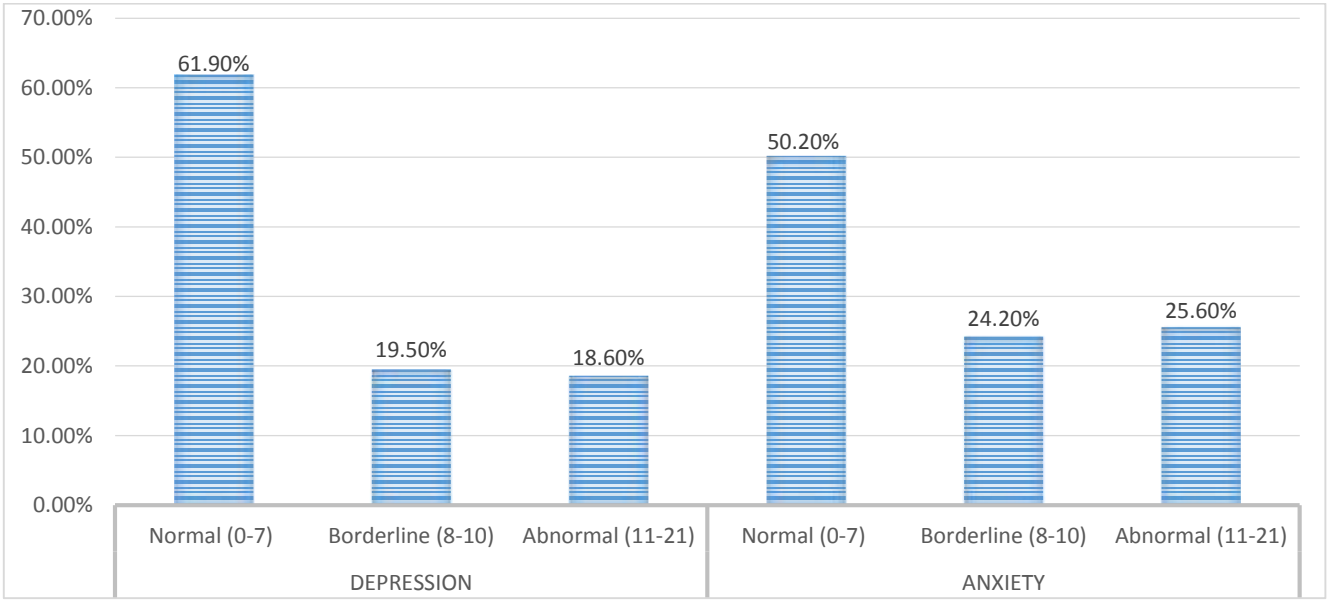

Figure- I : Overall Frequency of Depression and Anxiety among Study Subjects

This bar chart shows that the prevalence of depression among total 215 study subjects was as; Normal 133 (61.90%), Borderline 42 (19.50%), Abnormal 40 (18.60%) while the prevalence of anxiety was as; Normal 108 (50.20%), Borderline 52 (24.20%), Abnormal 55 (25.60%).

Table I: Frequency of Depression and Anxiety against different Variables

Variable		Depression				Anxiety			
		Normal (0-7)	Borderline (8-10)	Abnormal (11-21)	Total	Normal (0-7)	Borderline (8-10)	Abnormal (11-21)	Total
Sex	Male	62 (69.7%)	16 (18.0%)	11 (12.4%)	89 (100%)	60 (67.4%)	16 (18.0%)	13 (14.6%)	89 (100%)
	Female	71 (56.3%)	26 (20.6%)	29 (23.0%)	126 (100%)	48 (38.1%)	36 (28.6%)	42 (33.3%)	126 (100%)
	p-Value	.088				.000			
Job Title	Medical Staff	122 (67.8%)	33 (18.3%)	25 (13.9%)	180 (100%)	100 (55.6%)	41 (22.8%)	39 (21.7%)	180 (100%)
	Paramedical Staff	11 (31.4%)	9 (25.7%)	15 (42.9%)	35 (100%)	8 (22.9%)	11 (31.4%)	16 (45.7%)	35 (100%)
	p-Value	.000				.001			
Ward/ Dept.	Medicine & Allied	42 (62.7%)	16 (23.9%)	9 (13.4%)	67 (100%)	35 (52.2%)	14 (20.9%)	18 (26.9%)	67 (100%)
	Surgery & Allied	39 (67.2%)	13 (22.4%)	6 (10.3%)	58 (100%)	32 (55.2%)	14 (24.1%)	12 (20.7%)	58 (100%)
	Paeds & Gynae/Obs	33 (63.5%)	6 (11.5%)	13 (25.0%)	52 (100%)	24 (46.2%)	14 (36.9%)	14 (26.9%)	52 (100%)
	Flu Filter & Isolation/ ICU	19 (50.0%)	7 (18.4%)	12 (31.6%)	38 (100%)	17 (44.7%)	10 (26.3%)	11 (28.9%)	38 (100%)
	p-Value	.075				.914			

This table shows that out of 215 study subjects, the prevalence of depression was found higher in Females 29 (23.0%) than in Males 11 (12.4%)with P=.088 while the prevalence of anxiety was also found higher in Females 42 (33.3%) than in Males 13 (14.6%) with P=.000.

On the basis of Job Title, the prevalence of depression was found higher in Paramedical Staff 15 (42.9%) than in Medical Staff 25 (13.9%) with P=.000 while the prevalence of anxiety was also found higher in Paramedical Staff 15 (45.7%) than in Medical Staff 39 (21.7%) with P=.001.

As far as Ward/Dept. is concerned, the prevalence of depression was found highest in Flu Filter & Isolation/ICU at 12 (31.6%), in Paeds & Gynae/Obs at 13 (25.0%), in Medicine & Allied at 9 (13.4%) and in Surgery & Allied at 6 (10.3%) with P=.075 ; while the prevalence of anxiety was also found highest in Flu Filter & Isolation/ICU at 11 (28.9%), in Paeds & Gynae/Obs at 14 (26.9%),in Medicine & Allied at 18 (26.9%) and in Surgery & Allied at 12 (20.7%) with P=.914.

DISCUSSION

This cross-sectional study includes a survey from 215 health care workers working on the front-line in a single shift, during the COVID-19 global pandemic in a tertiary health care facility. The study included health professionals from both genders, medical and paramedical staff and catering all departments. Overall, the professionals showed more psychological effects as compared to the general population, during the disease. This pattern was in pertinent to the surveys done in China, where the frequency of Depression and Anxiety to be 50.4% and 44.6%, respectively in Health Professionals [10] and 16.5 % and 28.8% respectively in General Public.[7]The results were compared on the basis of 3 parameters, i.e. Sex, Job Title and Ward/Department which were further tested by assessing mental health status in Male/Female, Medical/Paramedical Staff and Medicine&Allied/Surgery&Allied/Paeds&Gynae&Obs./Flufilter&Isolation&ICU, respectively.

In this survey, the overall prevalence of depression and anxiety was 18.6% and 25.6% respectively, among the study subjects. Our study further indicated that being a woman and having a technical title were associated with experiencing more depression and anxiety. The ratio of study subjects was,89(41.4%) were Males while 126(58.6%) were Females. When assessed for the mental health status, 43.6% of the females fall in the borderline and severe depression category as compared to the males, where 30.4% were either borderline depressive or depressed. Similarly, the females were more anxious as compared to the males, as 61.9% were falling in the borderline and anxiousness category combined, while the prevalence in males was 32.9%. The reason of psychological effects may include feelings of vulnerability or loss of control and concerns about health of self, spread of virus, health of family and others, changes in work, and being isolated. The fact that COVID-19 is human-to-human transmissible, associated with high morbidity, and potentially fatal may intensify the perception of personal danger.[10]

The cross-sectional comparison of the Job title being from Medical Staff or Paramedical Staff showed overall trend of more mental health effects on the Paramedical staff as compared to the Medical staff. The most frequent concern was for infection of family and friends and the consequences of the disease on their health. The perceived risk for being infected was considered moderately high and more than half agreed to some degree that being infected with the COVID-19 would have a major consequence on their health. The A/H1N1 influenza pandemic also showed the similar thoughts to which COVID is related to mostly. The Health Care Workers had to restrict their social contacts and felt isolated by their family members and friends because of their hospital work, some would even take a leave to avoid infection, adding on to the fear of termination and guilt of being not able to do their duty. However, worries and degree of worry were significantly associated with intentional absenteeism, restriction of social contacts, and psychological distress.[9] The percentage of tendency of and depression in Paramedical staff is found to be 68.6% as compared to 32.2% in Medical Staff. Similarly, for Anxiety, the ratio was 77.1% in Paramedical Staff and 44.5% in Medical Staff. This comparable difference may also be due to the incomplete information and knowledge in Paramedical staff regarding the signs and symptoms, morbidity and severity and prevention and treatment regarding the COVID-19 pandemic. The paramedical staff is often also deprived of the basic preventive kits and measures due to availability of the limited resources. They are often non-affording too own preventive kits and measures through their personal resources. The rising graphs of mortality associated with the disease, with them being highly exposed leads to their mental distress. These findings indicate that assessing and intervening for the psychological impact of the infectious outbreak on HCWs, especially on nurses and auxiliary staff, is of particular importance in planning for the current and future outbreaks of infectious diseases. Hospital policies should also take into account auxiliary staff's concerns and worries, and since we found that perceived sufficiency of information was associated with lower degree of worry, hospital managers should try to provide for auxiliary staff's information needs, in order to provide a favorable working environment in times of extreme public health-related concerns.[9]

The study also made a department wise comparison of the psychological effects of global pandemic on the health care workers of this hospital setting. It was done to assess the difference of the different frontlines handling and managing the COVID-19 patients. The results showed that 37.3% of the Health Workers in Medicine and Allied were in the danger zone of Depression while 32.7% in Surgery and Allied, 36.5% in Paeds/Gynae&Obs. and 50.0% working in Flu Filter Clinic/Isolation/ICU. This was probably due to the fact that HCW

working in the Flu Filter/Isolation/ICU were directly managing the suspected as well as confirmed cases of Corona. The level of exposure as well as risk of contraction of virus may have developed derogatory effects on the mental health of the Health Care Professionals. Similarly, Medicine department is the next tier suggesting medicine and is concerned with the treatment of the patient. Surgery showing the least prevalence as Elective procedures can be held back and are mostly dealing with Emergency Trauma cases. In the same way, the risk of Anxiety (borderline and anxious) in Medicine and Allied is in 47.8%, 44.8% in Surgery and Allied, 63.8% in Paeds/Gynae&Obs., and 55.2% in Flu Filter Clinic/Isolation/ICU. The higher prevalence in Paeds/Gynae&Obs. is may be due to the fact that there is higher frequency of female health care professional in these departments, them are more prone to Mental distress as discussed earlier. In addition to that they are working in that field of health profession in which the care cannot be delayed. The professional and the patient both have to remain in close contact with each other, with minimal observation of SOPs, which in turn leads to the fear of contraction of Virus and thus aggravating Anxiety. Similar is the reason of high levels of Anxiety in the study subjects working in close contact with the COVID-19 suspected or confirmed patients, like in Flu Filter Clinic/Isolation/ICU. Confidence in fighting the outbreak was negatively correlated with anxiety levels among EFO (Emergency and Fever Outpatient) professionals. Confidence is a display of perseverance and optimism, which can reduce the degree of individual stress response and avoid psychological disorder. Confident HCW tend to have more abundant clinical professional knowledge and abilities, and can effectively manage their time and task. Confidence can help to stimulate professional potential, overcome pressure and difficulties, and maintain a good physical and mental state. In addition, Professional attitude is a positive predictor of stress coping tendency.[13]

So, working as a frontline health care worker with direct engagement of patients with COVID-19 was an independent risk factor for all symptoms like depression, anxiety and mental distress.

CONCLUSION

COVID-19 Pandemic has some major effects on the mental health status of health care professionals in terms of depression and anxiety that need to be addressed by providing better health care facilities, by arranging awareness seminars and counseling sessions or by devising better working environment and policies specifically among the departments who are dealing COVID-19 patients directly like flu filter clinic, isolation ward and ICU.

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