

FACTORS INFLUENCING MENTAL HEALTH OUTCOMES AMONG HEALTH CARE PROVIDERS EXPOSED TO COVID19 WORKING AT MAYO HOSPITAL, LAHORE

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ABSTRACT

Background: Facing the deadly COVID-19 pandemic, health care providers especially those on the frontline and directly involved in the management of COVID patients faced severe mental health problems as compared to general population.

Objectives: To evaluate the factors associated with mental health outcomes among health care providers working in Mayo Hospital, Lahore.

Methods: Out of 200, 100 participants working in different departments of Mayo Hospital completed the survey by filling an online questionnaire comprising 23 questions during period of one month June 01, 2020 to July 01, 2020. Participants were assessed for symptoms of anxiety, depression, hopelessness, poor concentration on work and indecisiveness. Particular COVID-19 related risk factors were also studied.

Results: Among the respondents, 68.5% were females and 31.5% were males. 87.6% were doctors and remaining 12.4% belonged to other departments of health care system. 65.2% participants reported symptoms of anxiety, 41.6% reported deterioration in performance, 50% hopelessness, 61.8% symptoms of depression, 41.6% lack of concentration at work and 30.3% reported studying COVID related information in free time. Severe symptoms were reported in frontline workers, female gender, young age and having a close friend or relative infected.

Conclusions: Majority experienced anxiety while dealing with febrile patients, and deterioration in performance of health care providers was observed. This study analyses the impact of COVID-19 on mental health of health care providers either directly or indirectly involved in managing patients categorizing the health care providers as high-risk population.

Keywords: Health Care Workers, Mental Health, Corona Virus, Mayo Hospital

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INTRODUCTION

The World has been engulfed with a novel pneumonia (termed as COVID-19) caused by SARS-CoV-2 since December 2019, which started within the City of Wuhan, China and spread globally. On 30 January, 2020, the

World Health Organization declared the COVID-19 outbreak a global public health emergency¹ and in March, 2020 it was declared a pandemic by WHO. The first COVID-19 confirmed patient in Pakistan was reported on 26 February 2020² in Karachi and since then the Virus has spread all over Pakistan with 469,482 confirmed cases and 9,816 deaths as of 27 December, 2020.

In this scenario, the health care providers on the frontlines, those who are involved in dealing directly with suspecting, diagnosing and managing the disease, and all healthcare providers in general have been facing mental health problems and psychological stress³. The lack of

available PPE, extensive media coverage, increasing number of cases and hence workload, and lack of definitive treatment may all play a role collectively in contributing to the mental stress of healthcare providers. Previous studies have shown detrimental mental and psychological effects to the SARS pandemic back in 2003⁴⁻⁵ with workers fearing spreading the disease to their families, reluctance to work⁶ and high stress and anxiety levels⁷, also these effects due to Covid-19 have also been demonstrated⁸⁻¹⁰. Similar problems have risen after COVID-19 converting to an epidemic in Pakistan. The health workers require something to act as a support system in the work setting, to pamper and reinforce their mental needs and their activity needs to kept in check repeatedly – this becomes necessary during epidemics and emergencies¹¹ and plays a pivotal role in the outcome of the management efforts.

Mayo Hospital, Lahore has been dedicated to the management of COVID-19 patients since the start of the pandemic and has been declared as a dedicated COVID-19 Centre since with doctors from different subspecialties all playing their part in managing different aspects of the pandemic. The Expo-Centre quarantine facility has also been under the administration and management of doctors of Mayo Hospital, Lahore since the start. A telemedicine department has also been setup for the effective counselling of patients. The detrimental mental effects of COVID-19 have been demonstrated well in different countries comprising a variety of populations including health personnel¹² but any such evidence of the effects on the psychological well-being of healthcare personnel on the frontlines at Mayo Hospital, Lahore or in the country as a whole is very scanty.

The purpose of this study is to address this deficiency by evaluating the psychological health outcomes in healthcare personnel by materializing the stress encountered and relating it to the different potential risk factors involved in influencing them. The healthcare providers of Mayo Hospital, Lahore have been chosen for this study as they amount to a significant fraction of the healthcare staff dealing with COVID-19 and hence will accurately represent frontline healthcare providers dealing with the disease throughout the country. This will provide assessment of the mental health burden of healthcare providers and will certainly help us in understanding and promoting mental well being amongst healthcare providers on the frontline throughout the country.

METHODS

This study is cross sectional, online survey based, including participants working in different capacities of health care providers in Mayo hospital, Lahore. The study was conducted from June 01, 2020 to July 01, 2020 during the peak of 1st wave of COVID-19. 200 participants were asked to respond out of which 100 responded (50%). All of them were working under same conditions. Online consent was provided by all the respondents. It was an anonymous survey and the

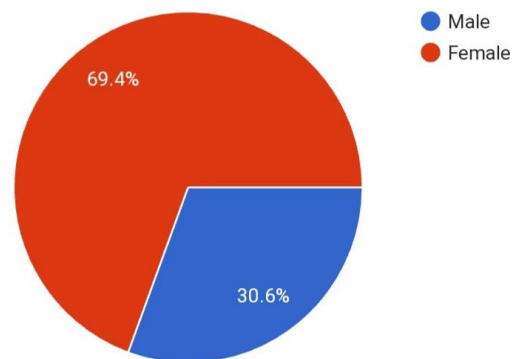
information was kept confidential. The participants were free to refuse the survey at any instant.

An online questionnaire comprising of 23 questions was circulated among the participants using different social media including WhatsApp groups. The questionnaire consisted of gender, age, marital status, health care provider in addition to other factors affecting the mental health. The responses were collected and mental health outcomes were assessed based on following factors: anxiety while dealing with febrile patients, deterioration in performance, hopelessness despite continuous effort, symptoms of depression, lack of concentration at work and studying COVID-19 related information in free time. Statistical analysis was done by SPSS version 25.0. The study was validated by the university departmental clinical research ethical board.

RESULTS

This single center study carried out in a duration of one month included health care workers currently working in Mayo hospital, Lahore. Total of 200 health care providers 87 were asked to participate in the study by filling online questionnaire, but only 100 of them responded (50%). All of them were exposed to same working environment, were performing their duties under same SOPs. Among the respondents, 68.5% were females and 31.5% were males. About 60% of them were having mean age range from 25-35 years. 29.62% of participants have been working in this hospital setup for 10 years.

Fig.1 Gender



Among these health care providers, 87.6% were doctors [fig.2] with following capacity of working [fig.3]:
Fig.2

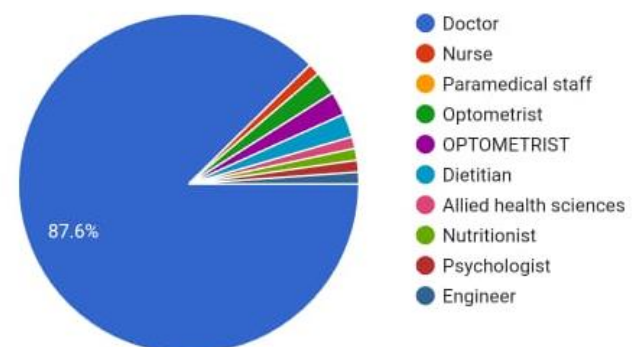
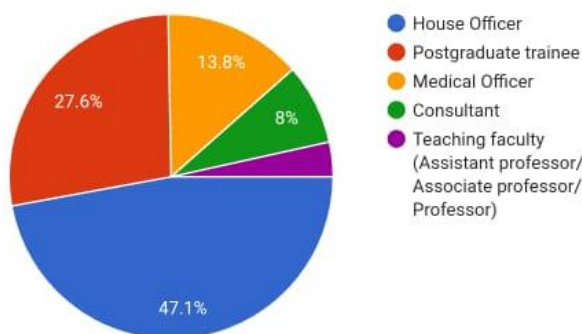


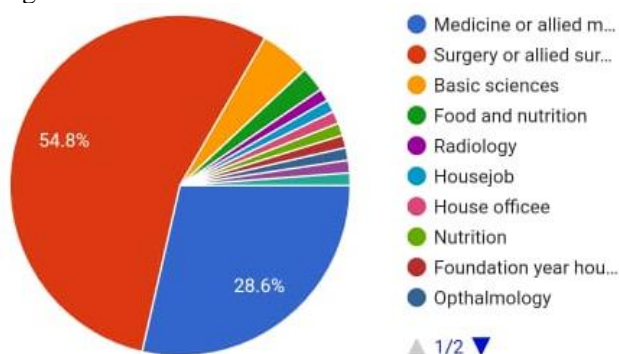
Fig.3



Remaining 12.4% of participants included paramedical staff, nurses, and laboratory technicians.

Among doctors, distribution in different fields was as follow [fig.4]:

Fig.4



This survey showed that major portion of health care providers followed the SOPs set by hospital administration, and continued working in the exposed environment performing their duties fully. 58.4% always wore masks and took precautionary measures like PPE, gloves etc. Even in open spaces. 71.9% neither showed any reluctance to going into infectious environment for work nor they thought of quitting their jobs. Frequent changes in infection control measure policies created a sense of uncertainty in about 78.7% of the respondents but still 71.9% of them showed strict compliance to these precautionary procedures. Daily exposure to the infectious environment was associated with increased fear of getting one self-infected (78.7%) and infecting the near ones (86.5%) and were afraid of going back to their homes. Due to hospital exposure only 30.3% of health care respondents experienced rejection in neighborhood. Despite all the fears of getting infected and end up infecting others, many health care workers had shown non-compliance regarding preventive measures. It had been shown by approximately 28.1% of respondents and witnessed by 74.2% of them.

Following factors influencing psychological health outcomes in health care personnel were studied and subjected to statistical analysis as follow:

Table 1: Mental health factors

Mental health factors	Yes	No
Anxiety while dealing with febrile patients	65.2%	14.8%
Deterioration in performance	41.6%	58.4%
Hopelessness despite continuous effort	50%	50%
Symptoms of depression	61.8%	38.2%
Lack of concentration at work	41.6%	58.4%
Studying COVID-19 related information in free time	30.3%	69.7%

DISCUSSION

This cross-sectional study included 100 participants and showed that there is an increased prevalence of adverse mental health symptoms among healthcare providers dealing with COVID-19 patients in Mayo hospital, Lahore. Overall, 65.2% and 61.8% of all the volunteers documented symptoms of learnt helplessness and uncertainty (anxiety) respectively. Respondents were working in different departments of Mayo Hospital in different capacities, treating COVID-19 patients or exposed to the virus in many ways. In our study, majority of the volunteers were female, most were unmarried with ages ranging from 22 to 45 years and majority were doctors with nurses, paramedical staff, optometrists, psychologists comprising the rest. Doctors especially those working on the frontline expressed more intense symptoms on all parameters. Dealing directly with the diagnosis and management of COVID-19 patients was a particularly high-risk factor for severe mental health outcomes overall. Our study results reflect the deleterious effects on the mental health of physicians and other health care providers involved in the COVID-19 pandemic.

In this study, factors influencing psychological health outcomes in health care providers included anxiety while dealing with febrile patients, symptoms of depression, deterioration in performance, hopelessness despite continuous efforts and lack of concentration at work. In a study conducted during the acute SARS outbreak in 2003, 89% of health care workers who were working under high-risk conditions reported severe mental symptoms¹³. The way health care providers respond to an infectious disease epidemic is very complex. Causes of anxiety and depression include fear of getting infected with COVID-19, feeling afraid to go home because of fear of infecting family members, pessimistic feelings despite continuous efforts, sense of uncertainty, feeling reluctant to go home, poor concentration and feelings of loneliness¹⁴. Knowing that COVID-19 can be transmitted from one human to another,^{1,3} its high morbidity and mortality rate¹⁵ may add to the personal fears associated with COVID-19. In addition, insufficient medical facilities and rising number of cases of COVID-19 play important role on the psychological health of health care workers¹⁶. Magnavita et al. showed that, in spite of fact that the aggregate prevalence

of psychological disorders in the entire health care population is equivocal to that recorded during normal medical visits to the workplace, in the exposed personnel, the risk of both anxiety and depression, double as compared to the controls¹⁷. Of note, 68.5% of all participants were women and this proof is in correlation with the previous studies conducted with respect to gender and the recent literature on pandemics. It is said that women are two to three times more likely to develop symptoms of stress and depression. Consistently, women have more sensitized pituitary-hypothalamic axis.

In another study conducted on psychological health among health care providers and the general population during COVID-19 in Italy, learnt helplessness symptoms were more frequent in frontline healthcare personnel and in general population as compared to secondary healthcare providers. Our study also showed that 87.6% of all respondents were doctors who showed symptoms of anxiety and depression. High traumatic symptom score was associated with being a front-line healthcare worker, having a colleague infected, hospitalized, or deceased and female gender.

LIMITATIONS

Various limitations have been found in this study. Firstly, it included participants only from Mayo Hospital which limited the scope of study. Secondly, the duration of study was only one month but because of worsening situation of pandemic, further investigation of factors affecting the psychological health is required. Thirdly, the inability of this study to differentiate between existing psychological symptoms and new incidence mental health symptoms. Lastly, response bias can exist because of varying levels of interest and stress levels of respondents.

CONCLUSIONS

One hundred out of 200 participant responded to this online survey-based study, out of which 65.2% experienced anxiety while dealing with febrile patients, 41.6% experienced deterioration in performance, 50% hopelessness and 61.8% reported symptoms of depression. This study highlights that apart from high morbidity and mortality rate of COVID-19, the influence on psychological health of health care providers should also be addressed. Urgent necessary interventions should be taken to reduce the psychological burden and increase the strength of our medical system in order to decrease the probability of adverse results occurring.

ETHICAL APPROVAL

The study was approved by the Institutional Review Board of Institute of Ophthalmology, King Edward Medical University / Mayo Hospital, Lahore.

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AUTHOR'S CONTRIBUTIONS

CAN, HAM: Manuscript writing, Data collection, Statistical analysis

MS, SH, IM: Manuscript review, Data collection

MAA: Manuscript writing, Statistical analysis