REVIEW ARTICLE

COVID-19 Pandemic and Mental Health Problems among Healthcare Professionals: A Review

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Abstract

The prevalence of novel coronavirus disease (COVID-19) is increasing day by day locally, nationally, and internationally. The common mental health problems experienced by the healthcare workers (HCWs) are anxiety, stress, depression, and insomnia. In all, 59% of HCWs are experiencing moderate to severe perceived stress. Symptoms of depression and anxiety were found in one of five healthcare professionals. The occurrence of anxiety and depression was high among female HCWs and nursing staff. The prevalence of anxiety for doctors was 21.73% and nurses was 25.80%. The prevalence rate of depression for nurses was 29.65% and for the doctors was 24.5%. Four in 10 HCWs are experiencing sleeping difficulties and/or insomnia. Estimated insomnia prevalence rate was 38.9%. The possible solutions to overcome the mental health problems among HCWs are increased manpower, community awareness, adequate knowledge about virus prevention and transmission, social isolation, and adequate supply of personal protective equipments (PPEs).

Keywords: Anxiety, Coronavirus, COVID-19, Depression, Healthcare professionals, Insomnia, Mental health, Stress.

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Introduction

The prevalence of novel coronavirus disease (COVID-19) is increasing day by day locally, nationally, and internationally. The COVID-19 pandemic is a major health crisis affecting several nations, with over 6,194,533 cases and 376,320 confirmed deaths reported to date (June 02, 2020). Throughout the world, around 216 countries developed this infectious disease, and healthcare workers (HCWs) are the frontline warriors fight against this condition and actively participating in the screening and treatment process.[1]

Objectives

The aim of this review is to better understand the research findings on mental health issues experienced by healthcare workers (HCW) due to COVID-19 pandemic.

Literature Search

The following databases were utilized for literature search such as PubMed, Google Scholar, Cochrane Library, Embase. Psychological issues or stress or anxiety or depression or mental health problems or psychiatric issues and COVID-19, corona, novel corona virus and HCW, or doctors, or medical staff, or nurses, or healthcare professionals were the key terms used for the literature search.

Articles published in the last 5 months (January 2020–May 2020) were retrieved. Author reviewed the articles in the form of letter to the editor, original research article, review, commentary, and correspondence. A total of 14 studies were included in the review.

Overview

The holistic health of the healthcare workforce is the heart of every well-functioning health system. Medical healthcare providers are experiencing increased workload and increased total health expenditures due to COVID-19 pandemic. Risk of exposure is high among HCWs who are directly involved in the care of patient with COVID-19 than others. The common mental health problems experienced by the HCWs are anxiety, stress, depression, and insomnia. The pandemic burden of COVID-19 illness could lead to caregiver burnout. Lengthy working hours, inadequate personal protective equipment, media news, fatigue, lack of support system, insomnia, and the risk of getting infection for themselves and their family members are the major causes of psychological distress among HCWs. Increased infection rate and death among medical staff is another important reason for mental health problems among HCW. HCWs are experiencing frustration, helplessness, adjustment problems, stigma, fear of discrimination in the medical staff due to the sudden role reversal from HCW to a patient[2–5] (Table 1).

Perceived Stress

In all, 59% of healthcare workers are experiencing moderate to severe perceived stress.[6] Perceived risk of infection to themselves and their family members, increasing patient mortality, lack of personal protective equipment, degree of contact with confirmed or suspected cases, multiple needs of the patients, stigma are the factors associated with stress.[7]

Anxiety

Symptoms of depression and anxiety were found in one out of five healthcare professionals.[6] The occurrence of anxiety and

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Table 1: Studies related to COVID-19 pandemic and mental health problems among HCW

Author and Year	*Study design*	*Sample and sample size*	*Setting*	*Instrument used*	*Findings*
Cai et al. (2020)	Cross-sectional study	534 frontline medical staff Nurses–248 Doctors–233 Medical technicians–48 Hospital staff–5	Hubei, China	Questionnaire by Lee et al., 2005	Medical staffs were having emotional stress and anxiety
Kang et al. (2020)	Cross-sectional study	994 medical and nursing staff	Wuhan	Patient health questionnaire-9, generalized anxiety disorder, insomnia severity index and the impact of event scale-revised	36.9% had subthreshold mental health disturbances, 34.4% had mild disturbances, 22.4% had moderate disturbances, and 6.2% had severe disturbances
Lai et al. (2020)	Cross-sectional region stratified study	1,257 healthcare workers Nurses–764 Physicians–493	34 hospitals in China	9-item patient health questionnaire, the 7-item generalized anxiety disorder scale, the 7-item insomnia severity index, and the 22-item impact of event scale-revised	Depression–50.4%, anxiety–44.6%, insomnia–34.0%, and distress–71.5%.
Xiao et al. (2020)	Cross-sectional observational study	180 medical staff (Doctors or nurses)	Wuhan	Self-rating anxiety scale, the general self-efficacy scale, the Stanford acute stress reaction questionnaire, the Pittsburgh sleep quality index, and the social support rate scale	Levels of social support were significantly associated with self-efficacy and sleep quality and negatively associated with the degree of anxiety and stress.
Liu et al. (2020)	Cross-sectional study	512 medical staff doctors, nurses and administrative workers	Hubei, China	Zung self-rating Anxiety scale	Prevalence of anxiety–12.5% Mild–10.35% Moderate–1.36% Severe–0.78%
Liang et al. (2020)	Cross-sectional study	59 doctors and nurses from COVID-19-associated departments and others	Guangdong Province	Zung's self-rating depression scale (SDS), Zung's self-rating anxiety scale (SAS).	Several staff were experiencing clinically significant depressisve symptoms
Mohindra et al. (2020)	Qualitative analysis	Frontline healthcare providers (HP) involved in the care of patients with COVID-19 or suspected COVID-19 Sample size–Not specified	Tertiary hospital in North India	Interviews with HP	The main themes identified were: (1) Positive motivational factors (a) Intellectual (b) Emotional (2) Negatives, frustrations associated with patient care (3) Personal fears and annoyances experienced by doctors
Du et al. (2020)	Cross-sectional survey	134 Frontline healthcare workers	Four hospitals in Wuhan.	Beck depression Inventory II Beck Anxiety Inventory Perceived Stress Scale	Depression–12.7% Anxiety–20.1% Moderate to severe perceived stress–59%

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Author and Year	*Study design*	*Sample and sample size*	*Setting*	*Instrument used*	*Findings*
Guo J et al. (2020)	A systematic review and meta-analysis	33,062 Healthcare workers	Thirteen studies from China, Wuhan, Singapore	SASSDS	Depression–22.8%, Anxiety–23.2% Insomnia–38.9%
Lu et al. (2020)	Cross-sectional survey	2,299 participants Medical staff–2042 Administrative staff–257	Fujian provincial hospital	Numeric rating scale (NRS) on fear, hamilton anxiety scale (HAMA), and Hamilton depression scale (HAMD)	Medical staffs were 1.4 times more likely to feel fear, twice more likely to suffer anxiety and depression.
Qi J et al. (2020)	Cross-sectional study	1,306 participants Frontline medical workers–801 Non-FMW-505	Hubei Province, China	Pittsburgh sleep quality index (PSQI), Athens insomnia scale (AIS), and visual analogue scale (VAS)	Frontline medical workers (FMW) had higher prevalence of sleep disturbances and worse sleep quality than non-FMW.
Tan et al. (2020)	Cross-sectional study	470 participants Medical healthcare personnel-296 Non-medical healthcare personnel–174	2 major tertiary institutions in Singapore	Depression, anxiety, and stress scales (DASS-21) and the impact of events scale–revised (IES-R) instrument	Medical healthcare personnel Depression–8.1% Anxiety–10.8% Stress–6.4% PTSD–5.7% Nonmedical healthcare personnel Depression–10.3% Anxiety–20.7% Stress–6.9% PTSD–10.9%
Zhang et al. (2020)	Cross-sectional study	2,182 participants nonmedical health workers–1,255 Medical health workers–927	China	Insomnia severity index (ISI), the symptom check list-revised (SCL-90-R), and the patient health questionnaire-4 (PHQ-4)	Compared with non-medical health workers, medical health workers had a higher prevalence of insomnia (38.4 vs 30.5%) anxiety (13.0 vs 8.5%), depression (12.2 vs 9.5%), somatization (1.6 vs 0.4%) and obsessive-compulsive symptoms (5.3 vs 2.2%).
Zhu et al. (2020)	Cross-sectional survey	5,062 Health workers	Wuhan, China	Impact of event scale-revised (IES-R), patient health questionnaire-9 (PHQ-9), and generalized anxiety disorder 7-item (GAD-7)	Stress–29.8% Depression–13.5% Anxiety–24.1%

depression were high among female HCWs and nursing staff. The pooled prevalence rate of anxiety was 20.92% for males and 29.06% for females. The prevalence of anxiety for doctors was 21.73% and nurses was 25.80%. The pooled prevalence rate for mild anxiety was 17.93% and severe anxiety was 6.88%.[8–14]

Depression

The pooled depression prevalence rate for men was 20.34%, and women was 26.87%.[6,8–11] The prevalence rate of depression for nurses was 29.65%, whereas for the doctors it was 24.5%.[6,8–11] Regarding the severity of the depression, pooled prevalence rate for mild depression was 24.60% and moderate/severe depression was 16.18%.[6,12,13,15]

Insomnia

Four in 10 HCWs are experiencing sleeping difficulties and/or insomnia.[5] Estimated insomnia prevalence rate was 38.9%.[16,17]

Discussion

The occurrence of mental health problems, such as anxiety and depression among HCWs, differed based on the gender, handling

confirmed/suspected cases and occupation. Affective symptoms were high among female HCPs and nurses when compared to male and medical staff, respectively. Rate of anxiety was high among HCWs who were treated confirmed cases, quarantined, and handled suspect cases. The risk of exposure is very high among nurses who are spending more time with patients, collecting sputum, and providing direct care.[18]

Nurses are witnessing the infection of coworkers and family members, protective measures, and medical violence which increases their stress and anxiety. Support system plays a major role in mediating the mental health problems. Increased social support enhances the self-efficacy and sleep quality of the HCWs, whereas decreased social support lead to anxiety and stress among them.[3,4]

HCW's attention, understanding, and decision-making ability are affected by their mental health problems which hinder the fight against 2019 novel corona virus and also affect their overall well-being.[19] Thus, protection of HCW's mental health is very important for control of the COVID-19 pandemic and their own long-term health. Hospital authorities' support, adequate supplies, and provision of facilities are needed to retain and encourage HCWs in future epidemics. Research has identified five things required for the HCWs from their employer are hear me, protect me, prepare me, support me, and care for me during the COVID-19 pandemic situation.[20]

Conclusion

The increasing burden of COVID-19 pandemic leads to mental health problems among HCWs. In order to maintain the overall well-being of the HCWs and volunteers, time-limited and culturally sensitive mental health interventions can be taught to them on day-to-day basis. Multidisciplinary mental health teams at regional and national level have to be set up by the health authorities in order to deal with mental health issues and provide constant and consistent psychological support to both patients and HCW. HCWs who are having direct contact with COVID-19 patients can undergo regular screening in order to evaluate stress, anxiety, depression and PTSD in them. The possible solutions to overcome the mental health problems among HCWs are increased manpower, community awareness, adequate knowledge about virus prevention and transmission, social isolation, and adequate supply of personal protective equipments.

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