



MENTAL HEALTH IMPACT OF PANDEMIC COVID-19 AMONG HEALTH CARE WORKERS: A SYSTEMATIC REVIEW

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ABSTRACT

Basically, this study want to know what is the impact of COVID-19 among Health Care Workers (HCWs), including effect (stress, burnout, and anxiety). This systematic review was performed according to the Preferred Reporting Items for Systematic review. We conducted a systematic review by searching the following databases Proquest, Science Direct, Scopus, Sage, and MDPI from January 2020 to December 2020. The search was limited to the studies that reported mental health impact of COVID-19 in healthcare workers, such as psychological (emotional) trauma, acute stress disorder (ASD) and post-traumatic stress disorder (PTSD), mass traumatic event, secondary traumatic stress (STS), moral injury, sleep disorder. Case reports, duplicate publications, journal reviews, were excluded. The methodological quality of studies was assessed by the Appraisal tools From JBI tools. The initial search returned 34 articles. twelve studies were included in final analysis, with total of 14.205 subjects. Healthcare worker directly giving healthcare to suspected or confirmed COVID-19 patients may develop various mental issues such as anxiety, poor sleep quality, insomnia, parasomnia, changing personal life and enhanced negative effect. Physician and Nurse are healthcare workers professions most at risk of infection of COVID-19. Healthcare Workers have significant mental pressure during the COVID-19 pandemic. The different healthcare workers professions and gender have different levels of risk of mental disorders during COVID-19 pandemic.

Keywords: *Impact,, healthcare workers, pandemic, Covid-19, mental illness*

INTRODUCTION

The novel coronavirus was first identified in Wuhan, the largest urban area in China's Hubei province, and was first reported to the WHO Country Office in China, on December 31, 2019. The World Health Organization (WHO) declared the situation as a Public Health Emergency of International Concern (PHEIC) in January 30, 2020 and as a pandemic in March 11, 2020. The disease is spreading at alarming levels affecting 199 countries and territories across the world.¹ Based on data

from WHO as of December 31, 2020, there were more than 81 million confirmed cases of COVID-19, of which 382,206 new cases and 1.7 million total cases died.² According to the COVID-19 distribution map data released by the Task Force for Handling COVID-19 dated 31 December 2020, Indonesia reported 743,198 confirmed cases of COVID-19 with an increase of 8,074 cases in just within one day, there were 611,097 cases recovered and there were 22,138 cases died.

When people must stay at home to reduce the spread of this virus, health-care workers do the exact opposite. Health care workers were at the forefront of handling COVID-19 patients, making them vulnerable to be transmitted of the disease. Their work and the longer working hours (due to the increased number of infected people in hospital) put them at risk of infection. When health care workers infected by COVID-19, the medical services in the hospital was also disrupted due to a decreasing number of health workers who could work because they need to be isolated, hospitalized or even death due to COVID-19. Infected health care workers will also increase the risk of disease transmission to the patients or other employees in the hospitals and even creating a workplace cluster.

Thus, the assessment of risk factors that increasing COVID-19 transmission to health care workers needs to be evaluated. COVID-19 pandemic has putting health-care workers (HCW) under pressure with highly potential to affect their physical and mental health. Many study report mental and physical stress, difficulty in managing so many very sick patients, the increase in deaths generally and deaths of their colleagues.^{4,5} One study showed that poor sleep quality and high working pressure will increase the risk of COVID-19 transmission to health care workers.⁵ In another study, long working hours (> 8 hours/day) will also cause increase of the health care workers workload which can make them over exhausted and getting sick, including being affected by COVID-19.

According to Bandyopadhyay, et al, there were 152,888 cases of health workers infected with COVID-19 and 1413 cases of health workers who died due to being infected with COVID-19.⁷ Mean while, from the Ministry of Health Data's, there are 507 health workers who have died since the COVID-19 pandemic occurred in Indonesia.

The mental health of health care workers was also affected during the COVID-19 pandemic, not a few health workers experienced stress and excessive anxiety due to fear of having the disease since they give services to COVID-19 patients.^{5,9} According to Carey, J et al, from 3700 frontliners healthcare professional, 87% have experienced moderate to extreme stress, 62% have used emotional and mental health services (online counseling or a mental health app), 67% have tried a technology-based mental health service, 37% have increased their virtual therapy and psychiatry sessions per week, and 29% have used behavioral health coaching. The symptoms of mental health conditions of psychological well-being, including: anxiety (41%), Loneliness (24%), Serious psychological distress (24%), Depression (22%), Resilience (14%), suicidal ideation (7%), and flourishing (6%).

Martin et. al, observed that, during the outbreak of COVID-19, healthcare workers on the front line developed more sleep disturbances than non-healthcare professionals, and they had worse quality of sleep. In terms of insomnia type, among the healthcare workers 29 (29%) had sleep-onset insomnia, 24 (24%) sleep-maintenance and 30 (30%) waking up too early insomnia.

Creating a safe and comfortable work environment, giving psychological support, and paying attention to the working hours of health care workers are also need to be prioritized in overcoming the COVID-19 pandemic.

RESEARCH METHODS

The protocol for this review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Picture 1), which is showing the process of searching and selecting the research articles. We conducted a systematic review by

searching the following databases Proquest, Science Direct, Scopus, Sage, and MDPI from January 2020 to December 2020. The search was limited to the studies that reported mental health impact of COVID-19 in healthcare workers.

RESULTS AND DISCUSSION

According to study by Mata et al in 2015, that during disease epidemics, HCW at the forefront of the fight against illness are prone to stress responses. Stress that lead to changes in perception and development of many psychological morbidity especially as anxiety, depression, and PTSD.

Studies reported the mental health effects of outbreaks of serious infectious diseases among the medical staff in COVID-19 Pandemic, particularly when they have increased stress and workload associated with the risk of infection.

Nochaiwong study reported that emotional and psychosocial distress may be present in primary care providers who have unmediated contact with COVID-19 patients. Frontline healthcare healthcare directly treating suspected or confirmed COVID-19 patients may develop various mental issues, configuring the psychological consequences of acute infection outbreaks on their emotional health. Same with those study, Our systematic reviewed showed that COVID-19 pandemic gave mental illness to the Healthcare workers. From a study that we investigated, they found that poor sleep quality, and high working pressure were positively associated with high risks of COVID-19. Meanwhile, Gallegos et al reported 4 key correlations as highly dependent: Work area – Xenophobia ($p < 0.045$), Work with COVID patients - Traumatic stress ($p < 0.001$) and Total number of COVID patients perday – Traumatic stress ($p < 0.027$), and Total number of COVID patients - Compulsive checking ($p < 0.024$) and reassurance.

Overall concluding that normal levels of stress have increased (mild – moderate).¹⁷ Two studies by Demirjian et al and Ardebili et al provided information of the increasing of mental illness among HCWs during COVID-19 pandemic. Most of them showed anxiety (RR 1.23; 95% CI: 1.13–1.34, $p < 0.01$), and changing their personal life and enhanced negative effect.^{18,19} Luccini et al shown mental health and total workload levels of staff who treated COVID-19 patients were significantly worse than those who had no contact with COVID-19 patients, 33% increase was indicated in the nursing workload among those who worked with COVID-19 patients in ICU.

Wang X et al investigated risk factors for nosocomial COVID-19 infection among HCWs in a non- COVID-19 hospital yard. Their study reported among 118 of participants, 12 HCWs were infected by COVID-19.¹⁵ Study by Puci et al shown that, the extent of HCWs concerns about the COVID-19 pandemic (more than half of the HCWs reported being highly worried about this scenario) and offer noticeable insights on rising concerns among the occupational categories involved albeit to a different extent about the management of this international health crisis. As reasonably expected, the perceived risk was significantly higher for physicians and nurses than for other health care professionals, which is consistent with the direct biological exposition to SARS-CoV-2 associated with their bedside activity. The concern for the risk of infection among administrative staff was a little less considerable in comparison with the a fore mentioned professional categories. It is reasonable to hypothesize that this different level of concern is related to their profession, since the workplace has been identified as the highest top-score degree of infection risk.

Wang X et al investigation scores of 5 factors (sleep quality, sleep time, sleep

efficiency, sleep disorder, and daytime dysfunction) in PSQI were higher among infected HCWs (HR 1/4 2.97, 95% CI 1/4 1.864.76; P <0.001) and also for NSI, its 5 subscales (nursing profession and work, workload and time allocation, working environment and resources, patient care, management and interpersonal relations) were all higher in infected than uninfected nurse (HR 1/4 4.67, 95%CI 1/4 1.4215.45; P 1/4 0.011). San Martin et al study reported different type of insomnia among the healthcare workers: 29 HCWs had sleep-onset insomnia, 24 HCWs have sleep-maintenance and 30 HCWs have waking up too early insomnia, versus 16, 9 and 8 respectively in the non-health workers group. Parasomnias were reported in 58 of the participants in the health workers group, in opposition to 31 in the non-health workers group, not reaching statistical significance in this case (p=0,078), but showing a clear trend in this direction.

Xiao X et al study indicate that females are more willing to take part in the research, since 67.2% of sample is female, suggesting there are more female nurses and doctors, and that females are more likely to recognize that they need help. In accordance with study conducted by Bialek et al in 2019, stated that compared to male, females are more likely to experience stress and develop anxiety.

CONCLUSION

Healthcare Workers have significant mental health pressure during the COVID-19 pandemic, and the existential stress is related to the loss of infected patients, colleagues, or family members. The new recruited frontline medical staff for the intensive care unit typically do not have satisfactory psychological training to tackle exhausting work conditions which may eventually result in their encountering tough situations with respect to handling emotions and existential stress. In allocating insufficient

resources (e.g., ventilator support), COVID-19 frontline medical staff are often demanded to make desperate decisions concerning whose lives to save.²² Mental health disorders and neuro-psychiatric manifestations may be prevalent in high-risk healthcare workers.²³ The different professions (doctors, nurses, other staff) have different levels of risk of contracting Covid-19 infection, death resulting from Covid-19 and mental disorders during the pandemic.

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