Proceedings of the 3rd International Conference on Modern Medicine and Global Health
DOI: 10.54254/2753-8818/82/2025.21007

Influencing Factors, Diagnosis and Prevention Strategies of Psychological Problems of Medical Staff During the COVID-19 Epidemic

Chengyu Zhou[1,a,*]

[1]*School of Public Health, Guangdong Pharmaceutical University, Guangzhou, 510006, China*
a. 2100201162@stu.gdpu.edu.cn
**corresponding author*

Abstract: It is essential to pay attention to the mental health of healthcare workers during the COVID-19 pandemic. At present, existing studies mainly describe the problems existing in various regions and countries, and there are few summaries on the mental health of medical staff. This article analyzes and summarizes the influencing factors, diagnosis, and prevention and treatment strategies of mental health problems of medical staff during the COVID-19 outbreak. The key factors include insufficient social support, high-risk exposure in the clinical environment, and heavy workload, especially in intensive care. In addition, women, young staff, nurses, and people with a history of mental illness are more susceptible to psychological distress. This article also discusses diagnostic methods and outlines prevention strategies, including policy intervention, strengthening social and emotional support, equitable workload distribution, and reducing stigma. The results can be applied to the care of medical staff, the formulation of public health strategies, and provide some reference for future research.

Keywords: Mental health, medical staff, COVID-19.

1. Introduction

Different from physiological ailments, psychological difficulties are a group of issues brought on by internal psychological causes, namely the brain's central nervous system. They have the power to subtly alter someone's emotions, perspective, and personality. Global mental health issues have become a major public health challenge, with over 700 million people suffering from mental illnesses such as depression and anxiety, resulting in economic losses of approximately $1 trillion annually due to mental health problems. In recent years, the impact of crises such as COVID-19 epidemic has made mental health problems more prominent. Due to societal constraints and online education, over 60% of Indonesian vocational high school students reported mental health issues during the COVID-19 epidemic, according to research on the subject [1]. In the United States, the percentage of individuals experiencing severe psychological discomfort rose from 3.5% to 4.2% within the years 2018 and 2021 [2]. Studies abroad have shown that stress, excessive workload, and other factors are all causes of psychological problems [3].

In the past few decades, climate change, overpopulation, poverty, frequent wars and other issues have caused an increase in the incidence of diseases, including infectious diseases. Due to heavy clinical workload, mental health problems of healthcare workers have become more and more serious.

© 2025 The Authors. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (https://creativecommons.org/licenses/by/4.0/).

DOI: 10.54254/2753-8818/82/2025.21007

According to a cross-sectional assessment on the psychology and stress of medical personnel in China during the COVID-19 policy opening, Shanghai's medical professionals had far higher than average levels of worry and despair. Compared to non-medical workers, medical staff had greater levels of anxiety (13.1%/7.6%) and depression (24.7%/16.0%) [3]. According to a Middle East survey, the prevalence of stress, anxiety, and depression among health care professionals during the COVID-19 pandemic was 61.4%, 70.9%, and 70.9%, respectively, in the Middle East and North Africa—MENA—region. Similarly, another research by Arafa et al. looked at the levels in various countries, such Saudi Arabia and Egypt, and discovered that 55.9% of healthcare professionals in both countries had stress, 58.9% had anxiousness, and 69% had depression [4]. Medical professionals on the front rows of the COVID-19 pandemic in Turkey, as well as those who are separated from their families for longer than a week during the epidemic, are particularly vulnerable [5]. The problems of medical staff mental health are serious.

At present, there is no systematic review of the psychological status of medical staff during the global COVID-19 epidemic. This review of literature will focus on the mental health problems of medical staff in COVID-19, discussing factors of mental health problems. This review will also summarize the diagnostic methods and treatment measures for mental health problems among medical staff. Preventive measures in the area of public health will also be included.

2. Risk factors

2.1. Social factors

According to a review's findings, medical staff members' self-efficacy rose and their degrees of stress and anxiety decreased as a result of gaining social support [6].The effects on healthcare workers have received less attention, despite the fact that physicians and nurses already have poor mental health and higher rates of workplace burnout, anxiety, depression, and suicide than other professions [7].For instance, during epidemics, governments maintain to prioritize the population's physical and biological demands while ignoring their unfulfilled psychological requirements [6].

A study in Thailand also mentions that Management and policy are of great importance. Twelve percent of those surveyed reported this. Transparency in strategy and the improvement of interaction and input channels were among the management and strategy-related concerns.

Additionally, 15.8% of those surveyed claimed to have received financial remuneration. According to several physicians and nurses, the salary is not commensurate with the amount of effort put in [8].

The above research indicates that social factors mainly include social attention, policy decisions, and economic support.

2.2. Environmental factors

Poor work environment may lead to the occurrence of psychological disorders. In the study by Kang et al., the severity of mental health conditions is correlated with the amount of interaction with verified or suspected cases and the availability of psychological resources and documentation [6].

Employees in both non-intensive care and ICUs (intensive care units) with COVID-19 were around three times more likely to experience emotional tiredness. But for those who worked at a hospital, the hazards remained the same. Medical personnel who work in acute care units are more vulnerable to psychological issues. This may be related to workload and pressure [8] .

The workload issue is reported by 17.2% of respondents in Thailand. In order to care for COVID-19 patients, the respondents wanted more time to themselves, a reduction in job stress, and an increase in staff [8]. Inaccurate and conflicting information, poor organizational readiness, and a lack of training, organization, and support at work are also widespread and extremely worrisome [7].

DOI: 10.54254/2753-8818/82/2025.21007

Respondents' HARS, BDI, and ASDI scores were greater for those who felt they were given inadequate information than for those who felt they were given acceptable information. Participants who thought the protection was poor had higher average HARS, BDI, and ASD scores than those who thought it was sufficient, according to the safety precautions [9]. In the nation of Thailand, 11.8 percent of those polled said that they thought their mental health would get better if they had enough safety gear [8].

The influence of colleagues has also been noted. The significance of hospital and colleague support has been highlighted in a study; this subject was also covered in earlier research. While reported support from coworkers was negatively connected with less personal success, perceived assistance from the institution was negatively connected with emotional tiredness, depersonalization, anxiety, and sadness [8].

2.3. Personal factors

According to Lai J, having a middle-level professional title and being a woman were linked to increased levels of nervousness, hopelessness, and discomfort [6]. For Natasha, female sex and a young age are significant contributors to mental disease [7]. In the words of Cai et al., the group under study might have a variety of effects on the worry's topic. Medical personnel between the ages of 31 and 40 were more concerned about contaminating their families, while those over 50 were more stressed out by patient deaths. Concern about their own security was another significant concern among employees between the ages of 41 and 50 [6]. Furthermore, Thailand's findings aligned with Chinese research showing that men were more likely to experience depression, post-traumatic stress disorder (PTSD), depersonalization, and an absence of individual accomplishment [8]. The above research found that women, high positions, and youth are the risk factors for anxiety and depression.

According to the current review, nurses experience greater amounts of depression and anxiety episodes than medical professionals, regardless of their marital status and occupation [6]. In every psychological evaluation, nurses did higher compared to doctors and other expert. All three clinical signs showed no discernible differences between doctors and other medical workers [9].

However, based on a Singaporean study, unmarried physicians are more likely to experience psychological disorders than married nurses [6]. This may be because married people can receive more encouragement and support from their partners.

A study's multivariable examination revealed that previously present schizophrenia was the main risk factor for other psychological outcomes. The study discovered that the odds of anxiety, sadness, and PTSD were higher among those with underlying mental diseases (ORs 2.89, 3.47, and 4.06) [8] In the research they conducted, Natasha et al. also discovered that pre-existing mental disease or an ongoing physical issue were significant risk variables linked to depressive disorders, anxiety, and exhaustion [7]. The HP expressed a few personal concerns and fears about a number of elements in the Indian study. These include the potential for illness transmission, isolation or quarantine, endangering relatives and other staff members, apprehension about not wearing protective gear appropriately, and anxiety about domestic issues brought on by lockdown and health protection [6]. Insufficient defense against COVID-19, an elevated likelihood of being exposed to COVID-19, and possessing a close family relation with probable COVID-19 are also factors that pose a risk, stated by Natasha et al. [7].

The perceived prejudice attached to forefront employment is another important consideration [7].

3. Diagnosis

The vast majority of psychological problems are measured through questionnaire surveys.

DOI: 10.54254/2753-8818/82/2025.21007

Three measures to evaluate mood disorders, anxiety, and acute psychological stress were included in the questionnaire for the study Mental health effects of the COVID-19 pandemic on Spanish medical care workers: the Acute Stress Disorder Inventory (ASDI), the Beck Depression Inventory (BDI), and the Hamilton Anxiety Scale (HARS). The ASDI is an inventory of indications depending on the DSM-5's clinical standards for Acute Stress Disorder [9].

In their study of medical staff in Wuhan, Kang et al. used the Impact of Event Scale-Revised, Generalized Anxiety Disorder, Insomnia Severity Index, and Patient Health Questionnaire-9.

Liang and other researchers employed Zung's self-rating anxiety scale (SAS) and Zung's self-rating depression scale (SDS) to examine the personnel during the COVID-19 pandemic in Guangdong Province [6].

4. Prevention strategy

4.1. Policy support

The State Council of China stated in an announcement that governments must safeguard forefront medical personnel and their households. The notification stressed the significance of prompt psychological treatment for medical personnel in addition to essential products and supplies, security, and labor subsidies.

4.2. Social support

According to a Chinese study, strengthening medical staff members' social support, well-being, and compensation balances during significant public health crises can increase their resistance and reduce psychological disorders like anxiety, depression, stress, and insomnia [3].

4.3. Allocate work reasonably

We must distribute responsibilities fairly at the level of the organization to reduce the excessive workload of healthcare workers and establish appropriate and equitable performance evaluation requirements [10]. Attention must also be paid to the hours of operation and involvement of nurses and specially educated medical staff in such crises.

4.4. Emotional support measures

According to a Chinese study, we should focus on enhancing the mental coping skills of medical personnel under stress and offering superior emotional counseling and healthcare courses. An unofficial psychological supporting club can lower our risk of anxiety, depression, and associated psychological issues by regulating our perspective, encouraging optimism, and assisting us in handling crises. A study in Peru advocates for a thorough investigation of medical staff's past psychiatric histories and the implementation of emotional support measures for all medical personnel [11]. Medical personnel should have access to psychological therapies, particularly for individuals who are engaged, live by itself, have an average level of academic achievement, don't receive much attention from those closest to them, never communicate to others regarding their difficulties, and are regarded to be under greater stress [12].

Additionally, as prevention and recovery are considerably more crucial than cure, strive to employ innovative techniques and instruments to more quickly and precisely assess the psychological state of medical personnel [3].

DOI: 10.54254/2753-8818/82/2025.21007

4.5. Assist in balancing family and work life

It seemed crucial to take responsibility for healthcare team members' households and allow them to work comfortably. It is advised that supervisors improve communication, comprehend the challenges people face in both their personal and professional lives, and offer prompt assistance to lessen their stress [10].

4.6. Reduce the stigma

Some medical staff feel ashamed of their profession and are afraid that people around them will distance themselves because they are medical personnel. An efficient antistigma campaign that dispels misconceptions about COVID-19, raises broad public awareness of the virus, and disseminates encouraging and upbeat messages is required [11].

5. Conclusion

With the outbreak of the COVID-19 epidemic, the mental health problems of medical staff have become increasingly serious. In Shanghai, China, the prevalence of psychological issues among medical personnel was much higher than usual during the COVID-19 pandemic.

Higher rates of depression and anxiety have been reported around the world, such as in Africa, Egypt, Saudi Arabia and others. This study analyzed and summarized several reasons for the psychological problems of medical staff during the COVID-19 epidemic. Firstly, there are social factors. The society's attention to the mental health of medical personnel is insufficient, and the remuneration for their labor is also unsatisfactory. Then there are environmental factors, as medical personnel have to have close contact with confirmed or suspected positive cases. The psychological problems of medical staff working in the ICU are particularly serious, which is related to the overloaded workload. Inaccurate and untimely communication of information is also a contributing factor to psychological problems. The care and encouragement among colleagues are important for the mental health of medical staff. Finally, there are personal factors. We have found that women, those in higher positions, and those who are younger are all more susceptible to mental disease. Nurses and single individuals are more likely to have psychological problems. Having a history of mental illness is also one of the risk factors. This article also summarizes the diagnostic methods of psychological disorders and proposes prevention strategies from six aspects. They are policy support, social support, reasonable allocation of work and compensation, providing emotional support measures, and helping medical staff balance family and work, reducing shame.

This review summarizes the influencing factors, diagnosis and prevention of the mental health of medical personnel during the COVID-19 epidemic, appeals to the society to pay attention to this problem, and hopes that relevant departments can take measures against this problem. This study has significant implications for the psychological well-being of healthcare professionals when dealing with major public health emergencies.

However, this article also has some limitations, such as there are few literature reports on some remote areas, resulting in a lack of analysis of this type of area. Future research can further focus on data and clinical research related to psychological problems of medical staff in remote areas.

References

[1] *Julianto, V., Sumintono, B., Wilhelmina, T. M., et al. (2023). Mental health condition of vocational high school students during COVID-19 pandemic in Indonesia. Asian Journal of Psychiatry, 82, 103518.*

[2] *Olfson, M., McClellan, C., Zuvekas, S. H., et al. (2024). Trends in psychological distress and outpatient mental health care of adults during the COVID-19 era. Annals of Internal Medicine, 177(3), 353–362.*

DOI: 10.54254/2753-8818/82/2025.21007

[3] *Cheng, Z., Tao, Y., Liu, T., et al. (2023). Psychology, stress, insomnia, and resilience of medical staff in China during the COVID-19 policy opening: A cross-sectional survey. Frontiers in Public Health, 11, 1249255.*

[4] *El-Gammal, M. A., Elgendy, A., Heidler, P., et al. (2023). The psychological impact of COVID-19 on healthcare workforce in the Middle East region C-S study. Frontiers in Psychiatry, 14, 1112501.*

[5] *Ceri, V., & Cicek, I. (2021). Psychological well-being, depression, and stress during COVID-19 pandemic in Turkey: A comparative study of healthcare professionals and non-healthcare professionals. Psychology, Health & Medicine, 26(1), 85–97.*

[6] *Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic: A review. Asian Journal of Psychiatry, 51, 102119.*

[7] *Smallwood, N., & Willis, K. (2021). Mental health among healthcare workers during the COVID-19 pandemic. Respirology (Carlton, Vic), 26(11), 1016–1017.*

[8] *Chinvararak, C., Kerdcharoen, N., Pruttithavorn, W., et al. (2022). Mental health among healthcare workers during COVID-19 pandemic in Thailand. PLOS One, 17(5), e0268704.*

[9] *García-Fernández, L., Romero-Ferreiro, V., López-Roldán, P. D., et al. (2022). Mental health impact of COVID-19 pandemic on Spanish healthcare workers. Psychological Medicine, 52(1), 195–197.*

[10] *Xie, J., Liu, Q., Jiang, X., et al. (2021). Psychological health issues of medical staff during the COVID-19 outbreak. Frontiers in Psychiatry, 12, 611223.*

[11] *Huarcaya-Victoria, J., Podestá, A., & Rojas, W. (2022). Factors associated with distress among medical staff during the initial phase of the COVID-19 pandemic in Peru. International Journal of Mental Health and Addiction, 1–10.*

[12] *Liu, Y., Chen, H., Zhang, N., et al. (2021). Anxiety and depression symptoms of medical staff under COVID-19 epidemic in China. Journal of Affective Disorders, 278, 144–148.*