


General

Immediate shock and residual stress: Unmasking the dual dynamics of covid-19 on the mental health of health professionals in China

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Background

The pandemic of 2019 has created large scale disruption around the globe. It has posed extraordinary hurdles for Chinese health workers, affecting their mental health with respect to situations in the present as well as the future. Recognising the dynamic features of these mental health issues among health professionals is critical for developing effective support systems.

Objectives

This study aims to explore the dual impact of COVID-19 on the mental health of health professionals in China, both during and after the pandemic; to explore the probable underlying factors causing these mental health issues; to identify both adaptive and maladaptive coping behaviours employed by the health personnel; and to assess the organisational and social support to mitigate the effect of the pandemic on the mental health of the Chinese health professionals.

Method

To address these objectives an explorative qualitative research design has been adopted involving analysis of previous researches in the relevant field.

Results

The study confirms anxiety, depression, sleep disorders, PTSD, and burnout among medical personnel as immediate shock and residual stress, along with its demographic variations. Few maladaptive coping behaviours have been identified that can lead to delayed psychological effects even after a pandemic.

Conclusion

The key findings underscore the complicated interaction of immediate and delayed mental health challenges among health professionals, advocating for the deployment of tailored treatments and policy modifications to address the ever changing needs of this vital workforce.

INTRODUCTION

BACKGROUND

The COVID-19 pandemic, first discovered in Wuhan City, China, in December 2019, quickly spread worldwide and became a global public health emergency. The virus, SARS-CoV-2, caused an exponential increase in illnesses within weeks, peaking on February 5, 2020, with 3893 new cases recorded. China imposed a strict lockdown on Wuhan City and other places, and the World Health Organisation declared the outbreak a pandemic danger in March 2020.¹ In December 2020, China began its mass vaccination program. In August 2021, China discovered another more in-

fectious variant, Delta, followed by Omicron in December 2021. COVID-19 quickly crossed national boundaries and caused extensive disease and death. Although the current threat may have subsided, it is crucial to acknowledge the possibility of a resurgence or the emergence of new infectious variants, making future pandemics a potential concern.

Along with physical illness, the psychological well-being of people was also heavily affected by this far-reaching pandemic like COVID-19. WHO defines mental health as the combination of competence, independence, self-confidence, subjective well-being, dependency between generations, and cognitive or psychological potential. During mental health issues, subjective well-being drops, along

with a range of unfavourable feelings, namely nervousness, worry, loneliness, and melancholy, as well as signs of mental suffering, namely stress, anxiety, and depression.² As it is important to address mental health issues that are linked to substantial public health crises,³ the present study is focused on the mental well-being of the health professionals in China both pre- and post- pandemic.

In China, medical personnel were essential in combating the pandemic. They frequently worked at the forefront, treating patients, enforcing public health regulations, and handling the challenging obstacles caused by the deadly virus. Over 40 lakh community health workers in China were actively contributing to the management of COVID-19 and its prevention.⁴ During the COVID-19 pandemic, healthcare workers, including nurses, physicians, medical technicians, medical administrators, and other medical caregivers, faced an increased workload and stress that caused emotional difficulties and concerns regarding psychological health. Even though the Chinese government has strategically declared pertinent regulations and guiding concepts, the COVID-19 pandemic has presented a significant threat to mental health services in China.

PURPOSE OF THE STUDY

Widespread pandemics like COVID-19 have been linked to detrimental effects on mental health. The fear of getting sick or dying, powerlessness and shame, fear of contracting the virus, and business cessation were all unfavourable experiences that might have a detrimental effect on the psychological health of medical professionals. Moreover, healthcare professionals, especially those working on the frontlines, faced never-before-seen pressures due to the sudden onset of the pandemic, such as a high patient volume, insufficient personal protective equipment, and a persistent fear of infection. They also feel helpless when they are confronted with really sick patients, are distant from their own family, and are tired. It is crucial to comprehend the impact of the pandemic on psychological health during both the first shock and the residual stress stages for a number of reasons. The acute reaction to the initial epidemic (immediate phase) is marked by sudden and severe stresses. Conversely, the phase of residual stress documents the long-lasting impact on mental health as practitioners deal with ongoing difficulties, sometimes traumatic events, and the fallout from the acute phase. Although the immediate impacts of the COVID-19 pandemic on the mental health of healthcare professionals have been extensively studied, little is known about how these effects may evolve over time, particularly with regard to residual stress that may endure long after the acute crisis has passed. This information will be useful for future pandemic preparation initiatives, healthcare interventions, and legislation.

The current study is based on the guidelines released by the National Commission of Health, China, named 'Principles for Emergency Psychological Crisis Intervention for the COVID-19 Pneumonia Epidemic'.⁵ The three main components of psychological crisis interventions, as per the guidelines, are as follows: 1) determining the mental health condition of various populations affected by the pandemic;

2) identifying individuals who are highly vulnerable to aggression and suicide; and 3) offering suitable mental health services to those who require them.

OBJECTIVES OF THE STUDY

The present study is conducted based on the following objectives:

- To explore the mental health challenges among health professionals in China during COVID-19 and after the pandemic.
- To identify the probable causes leading to mental health challenges among health professionals in China during the COVID-19 and probable reason for its delayed effect.
- To understand the coping strategies of health professionals.

SIGNIFICANCE OF THE RESEARCH

A vital component of both the general wellbeing and the kind of treatment delivered by healthcare professionals is their mental health. Their psychological resilience is also correlated with their mental health and can help prevent psychological issues and burnout.⁶ The pandemic has highlighted the acute and delayed psychological health challenges faced by Chinese health personnel. To manage these issues and prevent stress-related diseases, support networks and interventions must be implemented promptly. However, the long-term consequences of pandemic-related events are highlighted by lingering psychological impacts and residual stress. This phase emphasizes the ongoing pressures, persistent worries, and potential burnouts that medical professionals may encounter, necessitating targeted strategies for long-term mental health support. The severity of these impacts and the variables leading to their worsening must be explored. The current research is multi-dimensional, focusing on understanding how emergency situations like pandemics impact healthcare professionals' mental health, probable causal factors, and coping behaviors. Although the pandemic has ended, the longer-lasting psychological effect on frontline health professionals remains.

METHODS

This is a qualitative, explorative, and review-based study exploring scholarly literature with the intent to unveil the mental health challenges of health care personnel. Relevant scholarly articles were searched in the Google Scholar, PubMed, Web of Science, and Scopus databases. Keywords used for retrieving related research articles were: 'COVID-19 pandemic', 'corona virus', 'coping strategies', 'health professionals', 'health care personnel of China', 'Chinese healthcare', 'mental health', 'doctors', 'medical staff', 'nurses', 'depression', 'anxiety', 'PTSD', 'psychological effect', or 'mental illness'. Different journals, survey reports, national records, and newspaper articles written in English were considered for review.

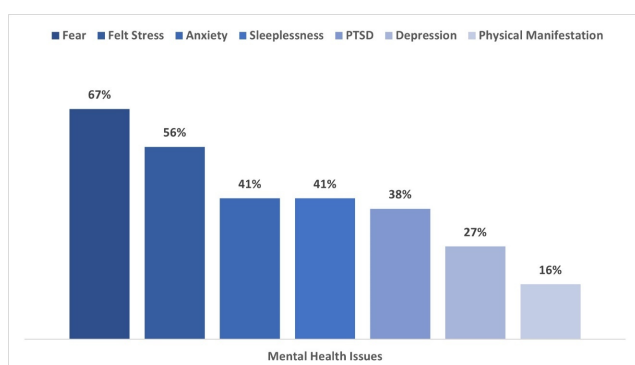


Figure 1. Percentage distribution of mental health issues of healthcare professionals during COVID-19 in China

MENTAL ISSUES OF HEALTH WORKERS IN CHINA DURING AND AFTER COVID-19

Healthcare workers have been greatly affected by the pandemic, as they are the ones in charge of aiding the afflicted. Their psychological burden is increased by the high risk of contact and death, being apart from their loved ones, seeing the upsetting state of patients, feeling hopeless because of the large number of people who pass away, working in surge conditions with limited supplies, handling corpses, workforce quarantine, experiencing the death of their colleagues, not having enough reinforcements or replacements, and personal exhaustion and burnout. Moreover, the emotional toll that patients and medical staff take on one another exacerbates these tragedies.⁷ This study looks into various aspects of mental health difficulties faced by health professionals, focusing on the development of stress, anxiety, sadness, and sleeping disorders as an immediate as well as after-effect of COVID-19. Overall, the focus on the residual or delayed impacts aims to reveal the long-term consequences that emerge over time.

Different studies reported various immediate psychological effects of COVID-19 on health professionals. A study showed that along with physical illness, health professionals reported several mental health issues; the most common of them were anxiety, emotional instability, fear, depression, and difficulty sleeping.^{8,9} A meta-analysis conducted during the COVID-19 pandemic found the following mental health issues depicted in [Figure 1](#).¹⁰

It is evident from [Figure 1](#) that fear played the most significant role among the healthcare professionals, which might have triggered the other associated mental health challenges.

Research shows that healthcare workers at Fujian Provincial Hospital, China, were more likely to experience depression, anxiety, fear, sleeplessness, and OCD.¹¹ In Hubei, health professionals have poor sleep quality, including short duration, poor efficiency, and over-consumption of sleep medications.¹² According to research by 1045 medical professionals, in Guangdong, China, the high-risk group had much greater rates of depression (43.6%) and anxiety (55.4%) than the low-risk group. Multiple studies

conducted in Jinan, Shandong Province¹³; Wuhan, Hubei Province^{8,14,15}; Guangdong Province¹⁶; or throughout China,^{17,18} all inferred that health professionals during COVID-19 suffered from significant levels of anxiety, depression, mental fatigue, sleep disorders, and stress.

During the COVID-19 pandemic, medical personnel, especially frontline staff, seemed to be more vulnerable to greater levels of psychological disorders and further reported greater levels of workplace stress and dangers, which were positively correlated with mental health symptoms.^{15, 17} It was observed that doctors were more prone to moderate-to-severe depression symptoms and experienced greater clinical sleeplessness.^{14,19} Additionally, a study reported that during regular epidemic prevention and control, doctors, and female medical staff aged 30- 50 had greater levels of exhaustion.²⁰ Moreover, job stressors related to the pandemic positively predicted depression, burnout, and anxiety among medical personnel in Beijing. These findings highlight the need for improved mental health support for medical professionals during this challenging time.

Nurses witnessed, managed, and experienced the pain of patients most closely during this time. Chinese nurses demonstrated much greater levels of anxiety than the pre-pandemic national average.²¹ The nurses in Wuhan showed the worst levels of depression and anxiety compared to other cities outside Hubei Province. Moreover, they reported getting minimum social and professional mental health support.²² Similarly, nurses, frontline medical personnel, and younger healthcare workers were more likely to experience depression and anxiety than doctors, non-frontline healthcare workers, and senior medical staff.²³

Even one year after the COVID outbreak, the psychological turmoil among the nurses has persisted. A study found a significant negative psychological effect on health professionals, wherein nurses were observed to have greater levels of depression and stress among them.²⁴ A study after one year of the pandemic showed that nurses in Wuhan were showing a considerable amount of sleeplessness, depression, PTSD, and anxiety.²⁵ Similarly, nurses in Guangdong Province, experienced a significant level of psychological stress, including an elevated level of symptoms of compulsion, anxiety, and somatisation.²⁶ In Chongqing, China, nurses reported high rates of sleep disorders and psychological fatigue even after the pandemic.²⁷

After a tragedy, people often develop post-traumatic stress disorder (PTSD) within three months. However, symptoms can arise later and last for months or even years. Among health professionals after the pandemic, PTSD, along with depression and anxiety,^{28,29} was prominently present along with and other mental ailments. The presence of these mental health challenges after 1-2 years of the COVID pandemic can be clearly visualised through [Figure 2](#).

As [Figure 2](#) shows, depression among healthcare professionals is dominant during the post-pandemic period. Studies also verified that depression and anxiety are common among Chinese healthcare professionals during post-pandemic.^{30,31}

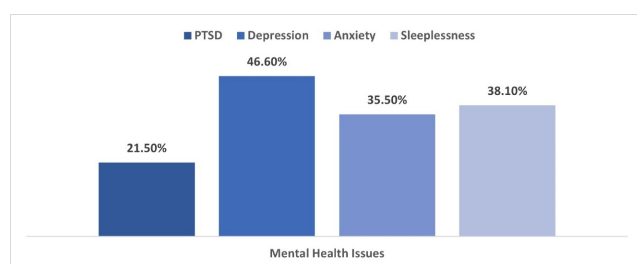


Figure 2. Percentage distribution of mental health issues of healthcare professionals after 1-2 years of COVID pandemic

Demographic variation was present in the immediate nature of mental health challenges among health workers during the COVID-19 outbreak. In Anhui province, health workers aged 31-40 were more susceptible to PTSD than those aged 51-60.³² Often serving as team leaders, older healthcare workers, especially those over 50, made choices without having direct contact with COVID patients. However, due to their direct patient interaction, middle-aged healthcare workers, especially those aged 31-40, were more vulnerable to PTSD. However, among Chinese military health workers, older age led to a higher level of mental health issues.³³ Therefore, age, related to their respective work experience, has a significant role in withstanding the psychological effects of the pandemic. A post-pandemic study in Beijing also revealed that health workers under 30 or with less than five years of work experience, had a significantly lower level of both anxiety and depression.³⁴

A cross-sectional study in 34 hospitals from various provinces of China showed that among Chinese healthcare professionals including those directly exposed to COVID-19, living in Wuhan, front-line workers, women, and nurses—were at a higher risk of experiencing negative mental health effects.¹⁷ Researchers identified a few more factors, like middle aged individuals, divorced or widowed, rarely or never lived with family, nurses working in high-risk departments, those who possess prior experience treating infectious diseases like COVID-19, those who have never treated infectious diseases, and individuals who were more likely to suffer from at least one mental health problem.³⁵

Gender-specific factors draw attention to the distinct difficulties that female and male healthcare professionals confront. Researchers found that females reported a higher incidence of mental issues like anxiety, depression, insomnia, and stress compared to males.³⁶ Women experienced significantly higher levels of PTSD in the categories of hyper-arousal, negative cognition or mood changes, and re-experiencing.³⁷ On the contrary, married males in the medical field with inferior physical health reported worse mental health.¹⁵ In addition, researchers demonstrated a higher anxiety level among female health workers than males but no difference in depression levels.³⁸ The study at Tongji Hospital, Wuhan found that health professionals, particularly women with chronic conditions, mental disorders, or family members with mental issues, were more susceptible to stress, sadness, and anxiety during the pan-

dem.³⁹ Even one year after the pandemic, study found females to have a higher level of anxiety and depression.²⁴ However, after two years of the pandemic, male health workers faced higher levels of depression and anxiety, whereas females encountered a higher level of insomnia.²⁹

It was also found that those who worked long hours without rotations during the COVID-19 pandemic experienced heightened work-related fatigue, which has been connected to mental health issues such as PTSD. They also had impaired cognitive function, behaviour, and psychomotor function, which further caused delayed reactions, low motivation, and poor judgement.³² Researchers illustrated that social support strengthened the link between stress and burnout while lessening the negative impacts of pandemic-related work stressors on depression and anxiety.²⁰ Perceived organisational and social support were negatively linked to reported symptoms of depression, burnout, and anxiety. Lastly, it was reported that organisational support lessened the negative impact of pandemic-related work stressors on depression. According to a study, medical staff in Xinjiang Province, China, which was a low-risk area, had relatively normal (79.75%) psychological health than the general people, possibly due to effective preventive measures initiated by the local government and self-protection awareness.⁴⁰

FACTORS CONTRIBUTING TO MENTAL ISSUES

Numerous studies have been reviewed on the reasons for the psychological issues that healthcare professionals experienced at the time of the COVID-19 pandemics. Healthcare professionals may have personal matters, sick family members, and childcare concerns pressuring on them from the outside world. This might cause them to feel torn between their obligations to their patients and their loved ones.

During COVID-19 outbreaks, because of a paucity of staffing and an increase in patient volume, healthcare personnel experienced tremendous strain.⁹ 85% medical professionals in a research reported a lot of pressure at work, while some reported it as unbearable.^{8,41,42} This increased workload led to exhaustion, anxiety, and stress, causing feelings of overwhelm and unsupportedness. Working overtime acted as a major predictor of burnout.⁴³ Work stress was identified as a cause of psychological health issues among frontline and non-frontline medical personnel in a regression study.¹⁵ Moreover, Chinese healthcare workers, particularly nurses, experienced discomfort when they saw their patients' conditions worsening, resulting the feelings of hopelessness, remorse, and helplessness. A lack of confidence in their ability and experience to contain the pandemic made them feel anxious and powerless.^{20,44} The condition was even worsened by the various rumours about the disease.⁴¹

Studies in Taiwan and the Chinese mainland revealed that healthcare workers, especially nurses during COVID-19 pandemics, experienced stress and pain due to wearing protective gear while fulfilling their responsibilities.^{42,44} Even their anxiety levels were raised by physical pain like over-

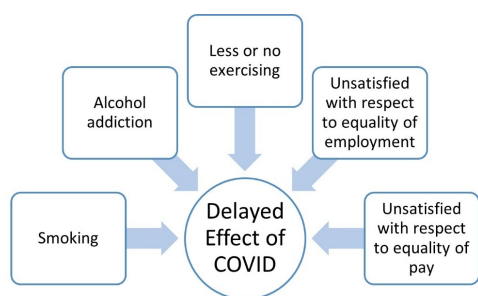


Figure 3. Probable Influencers of the Delayed Effect of COVID

heating of the PPE kits.⁴⁵ The scarcity of protective clothing during COVID-19 also led to psychological challenges among healthcare workers, including stress, anxiety, and sadness.¹¹

Because of their seclusion, medical workers in China who directly treated COVID-19 patients in isolation wards were more vulnerable to mental issues like indications of PTSD or acute stress disorder. Unable to vent out their unpleasant feelings, they were also prone to acquire depressive symptoms.^{21,23} Feelings of loneliness, boredom, and missing their family during quarantine, along with limited communication options, worsened these psychological problems.

Because of the lengthy incubation period of the virus strains that cause COVID-19, working in isolation units elevated worries among health personnel about catching the disease from their patients. The lack of symptoms initially caused overconfidence, which later increased the risk of infection. Research in China documented that anxiety and despair were brought on by the worry of infection and the concern that it might spread to others, especially their family members or dear ones, at the time of pandemics.^{11,46,47} Concerns about contracting the virus were greater among nurses who regularly interacted with patients rather than other physicians.⁴⁸ In several instances, family members, co-workers, and neighbours stigmatised them, who served in isolation units, by labelling them as possible carriers of COVID-19. The psychological health of medical professionals, mostly the frontliners, was harmed by all of these factors.¹³

Numerous factors can contribute to issues with mental health that arise as an aftereffect of COVID-19. Although sleeping disorders were interlinked with psychological challenges during and post-COVID-19 period, the study conducted in Guangdong and Guangxi Province of China, confirmed that sleep quality, along with changes in recreational times, acted as influencers of post-traumatic stress disorders among health professionals.⁴⁹ Researchers listed the probable influencers of the delayed effect of COVID which are displayed in [Figure 3](#).²⁹

The above figure suggests that these factors highlight the complex interaction of professional, personal, and systemic elements impacting the psychological well-being of medical professionals at the time of the COVID-19 pandemic.

The risk perceptions of health workers were also associated with PTSD.⁴⁹ Other factors, such as a poor doctor-patient connection, an unsafe workplace, poor health, job discontent, and inadequate family support, were also found to be the causing factors of PTSD, along with sadness among health professionals 2 years after the COVID pandemic.⁵⁰ A study reported that greater work-family conflict and longer working hours had a beneficial impact on anxiety symptoms, while junior or lower job titles and psychological resilience lessened depressed symptoms.³⁰ The co-occurrence of anxiety and depression symptoms is inversely correlated with psychological resilience. Post-pandemic research in Beijing found that one of the major predictors of burnout, depression, and anxiety among health workers is occupational stress.³⁴ Doctors and medical technicians showed higher occupational stress than nurses. However, its effect could be reduced by perceived social support and support from the organisation.

In the previous section, nurses were found to be most affected psychologically by the COVID-19 pandemic. The majority of nurses are women, which makes them more risk-averse and emotionally taxed at work.^{51,52} Compared to others, their intimate contact with patients, prolongs physical strain, and the cognitive exertion increased the risk of infection.⁵³ This might potentially have had a detrimental influence on their psychosomatic symptoms even after the pandemic. A study found that weekly long hours of working and experience of working were significantly correlated with high stress levels among nurses.²⁶

COPING STRATEGIES OF HEALTH WORKERS IN CHINA DURING COVID 19

Coping strategies are critical in assisting individuals while navigating the plethora of uncertainties, worries, and disruptions as a result of the COVID-19 outbreak. These adaptive mechanisms act as a buffer against the negative consequences for mental health. The transactional model developed by Lazarus and Folkman classifies coping strategies into emotion-based, problem-based, and avoidance-based strategies.⁵⁴ While avoidance-based individuals attempt to avoid unpleasant circumstances, emotion-based individuals attempt to control their emotional responses to stress. This model considers human and environmental aspects, highlighting the need for effective coping mechanisms.

Successful stress management, according to the 'stress and coping model' developed by Richard Lazarus, is predicated on coping skills and cognitive assessment.⁵⁵ As the present exploration indicated a high psychological stress and professional pressure among nurses, several studies reported that despite of that, nurses provide high-quality care with devotion and responsibility.^{44,56} This sense of duty is strengthened when healed patients appreciate the careful monitoring they received during their recovery, boosting their sense of responsibility as a means to give back to the society. Nurses reported that they adjusted their sleep patterns and food habits while working in unity to survive the stressful situation.⁴² Their professional and moral commit-



Figure 4. Positive Coping Strategies

ments, as well as their societal responsibilities, were what drove them to keep working.⁴⁶ Researchers found that several psychological strategies were effective in providing encouragement and are summarised in [Figure 4](#).⁴²

By actively employing adaptive coping strategies like those stated in the above figure, individuals can regain a sense of control, resilience, and emotional stability.

Maladaptive coping strategies during COVID-19 among health professionals are one of the main reasons for residual effects on mental health even after a pandemic situation. Maladaptive coping behaviour like rumination and worrying thoughts, which frequently occur during emergencies like COVID-19, have a favourable influence on PTSD, whereas adaptive coping like cognitive restructuring reduces the negative consequences of stressors.⁵⁷ Antisocial avoidant behaviours, such as self-criticism, self-pity, diversion, resignation, withdrawal thoughts, and accusing others, are also common.³² The probable negative coping strategies have been listed together in [Figure 5](#).

The COVID-19 pandemic significantly influenced the mental health of medical professionals in four Chinese provinces, Guangxi, Ningxia, Zhejiang, and Yunnan, even after six months.²⁸ These emotions were common due to the uncertainties and harms of the unknown virus. Family support during the post-pandemic period positively impacted health workers' adaptive coping behaviour and reduced post-traumatic stress.²⁸

Gender analysis showed that rumination and emotion-focused coping mechanisms (e.g., self-blame, self-pity, avoidance, denial, and sense of failure) were more common in women and were linked with greater levels of stress, anxiety, and depression symptoms during COVID-19. Furthermore, females were more likely than males to experience anxiety and stress symptoms, including insomnia, due to

their attentional bias towards threats. Further, they were also likely to experience behavioural inhibition temperament, which caused fast and inflexible stimulus-response associations in stressful situations, leading to lingering effects.³⁶

'Moral injury' occurred when frontline health workers faced high-stakes situations, making morally tough medical decisions. They had been forced to make morally tough medical judgments in challenging situations. Sometimes, this led to patients losing faith in them and negatively perceiving their abilities and their employment. A study found that a year after the COVID pandemic spike, the moral injury of health professionals was significantly correlated with an elevated level of suicidal behaviour and PTSD, highlighting the severe and lingering consequences on their mental health.⁵⁸

Organisational support, reflected via appropriate policies and resources, is crucial in reducing both acute shock and lingering stress, especially for healthcare workers with traumatic, psychological, or anxiety disorders. Mental health screening is advised because of their extreme proximity and recurrent exposure to severe circumstances. Since these health professionals are at a higher risk of exhibiting psychopathology after the pandemic, they ought to have access to medication therapies, personal and group psychotherapy, and psychiatric care. Mental health practitioners should be heavily involved in the early diagnosis and treatment of probable mental illnesses. Health workers should have access to protective gear, a safe working environment, fair labour distribution, and work schedules that provide adequate relaxation.³⁶ It is important to reassure them that the same assistance will be extended to their family.⁵⁹



Figure 5. Negative coping strategies

Guidelines for Emergency Psychological Crisis Interventions were published by the Chinese National Health Commission (NHC) on January 26, 2020. The government has designated Tongji Hospital, the largest tertiary hospital in Wuhan, as the designated hospital for treating the extreme COVID-19 cases. The hospital has established 2000 beds since the outbreak and has moved healthcare professionals from all departments from time to time. It provided a number of support initiatives, like setting up Balint (WeChat group), offering departmental and hospital-based care, fair work schedules, and logistical and housing support to healthcare professionals, guaranteeing that every department is fully covered. The NHC has issued 'Psychological Adjustment Guidelines for Coping with the New Coronavirus Pneumonia' for various groups, including elderly and young people, teenagers, pregnant women, and health personnel.⁶⁰

Regional and national mental health organisations have widely adopted psychological assistance services in response to the COVID-19 epidemic, including application-focused, internet-based, and telephone counselling and intervention. In 2020, the State Council of China launched nationwide hotlines for psychological support during the pandemic. Nonetheless, there were very few evidence-based evaluations and mental health treatments available to front-line medical staff members.^{17,61} Policies surrounding mental health services during the pandemic were temporary or interim, linked to specific events or local outbreaks, but then abruptly disappeared. Despite the fact that some researchers suggest that psychological issues peak after a year,⁶² the impact of social support networks on enhancing adaptive coping strategies is also critical. Peer support programmes, counselling services, and commu-

nity-building activities contribute considerably to the emotional resilience of healthcare professionals.

CONCLUSION

The study explores the mental health issues faced by Chinese health professionals during the COVID-19 pandemic and post-pandemic. In the immediate phase, fear dominated mental health issues like depression, insomnia, PTSD, and anxiety due to the unknown nature of the disease, high transmission rate, and high mortality. However, these issues persisted even in the post-pandemic period, with depression taking centre stage due to long-term fatigue and disturbing experiences. The study also found that 'moral injury' during emergency situations contributed to mental health issues. It is assumed that nurses and females are most affected psychologically during the pandemic. While adaptive coping strategies helped navigate the complexities, maladaptive coping behaviors resulted in long-lasting mental health challenges.

Healthcare personnel, particularly frontline workers, must be informed of any disease outbreaks promptly to minimize uncertainty. China's previous experience with SARS outbreaks before the COVID pandemic highlights the unique impact of unforeseen medical situations on their mental health. Therefore, focusing on screening the mental health of healthcare professionals should be a priority, including follow-up sessions to ensure no residual effects. Additionally, providing ample peer and social support is crucial for coping, as it is essential in ensuring the well-being of healthcare professionals during unforeseen medical situations.

IMPLICATION AND FURTHER SUGGESTION

As the title of the article suggests, the COVID-19 pandemic has had a significant impact on Chinese medical professionals, causing both immediate and delayed stress. To manage this situation, healthcare policies, practices, and social support networks must prioritize stress management programs, mental health resources, and a welcoming workplace. Levin's work suggests that mindfulness and relaxation practices can aid in developing positive coping strategies during stressful situations.⁵⁹ Regular mental health check-ups, including quantitative surveys and qualitative interviews, should be provided to healthcare professionals. Digital advancements, such as smart watches and real-time apps, can help monitor stress levels, blood-pressure, mood, and breathing patterns, enabling timely interventions. Health workers can also access articles, podcasts, and videos on stress management, coping strategies, and mental health awareness. Good habits like regular exercise, reducing alcohol consumption, and quitting smoking can help improve mental health.

This research suggests future research on the impact of age, gender, and job duties on psychological issues during the pandemic. Longitudinal studies could explore how pandemic-induced mental health issues change over time in different health professionals. Comparative research across different regions of China could clarify regional differences in the effects of dual dynamics and help develop regionally specific support systems. These studies will broaden knowledge about mental health issues faced by health professionals during the pandemic and help develop evidence-based interventions to help medical professionals cope with post-pandemic stress and acute shock.

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DECLARATION OF INTEREST

None.

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AUTHOR CONTRIBUTION

S.D was responsible for substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

S.D was responsible for drafting the work or reviewing it critically for important intellectual content; AND

S.D was responsible for final approval of the version to be published; AND

S.D was responsible for agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

TRANSPARENCY DECLARATION

The author affirms that the manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

DATA AVAILABILITY STATEMENT

Data availability is not applicable to this article as no new data were created or analyzed in this study.

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