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Tackling the mental health burden of frontline healthcare staff in the COVID-19 pandemic: China's experiences

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The 2019 novel coronavirus disease (COVID-19) was first identified in Wuhan, China. To treat thousands of infected patients, over 42 600 healthcare staff volunteered to combat the outbreak in Hubei province (Xiang et al., 2020). Frontline healthcare staff are at high risk of mental health problems due to the overwhelming clinical workload, fear of contagion, and inadequate protective gears. One online survey in the early stage of the COVID-19 outbreak at the end of January 2020 found that the prevalence of depression, anxiety, insomnia, and distress symptoms was 50.4%, 44.6%, 34.0%, and 71.5%, respectively, among the frontline healthcare staff (Lai et al., 2020). In response, relevant national guidelines and measures, such as hotline services and crisis psychological interventions, have been adopted to address mental health issues in frontline health staff. As the impacts of these measures were unclear, we therefore examined the general mental health, psychological stress, and sleep quality among the frontline healthcare staff during the late stage of the COVID-19 outbreak in China.

An online survey was carried out from 21 February to 6 March 2020 with a smartphone-based questionnaire program. Frontline healthcare staff included doctors and nurses who were working in fever clinics and designated isolation hospitals or wards to care for confirmed and suspected cases of COVID-19. Both frontline healthcare staff in Liaoning province and healthcare staff sent from Liaoning province to Hubei province were included. Poor mental health status was defined as a Symptom Checklist-90 (SCL-90) total score of ≥ 160 . Poor sleep quality was defined as a Pittsburgh sleep quality index (PSQI) total score of >7 , while 'having significant stress' was defined as a Stress Scale (CPSS) total score of ≥ 26 .

Of 1001 frontline healthcare staff who participated in the survey, 397 (39.7%) worked in Hubei province. The mean age of the participants was 33.8 ± 6.6 years, and the vast majority of participants (88.9%) were females. The prevalence of poor mental health status was 11.2% (95% CI 9.2–13.2%) in the whole sample, with 10.8% (95% CI 7.6–13.9%) among the healthcare staff in Hubei province, and 11.5% (95% CI 8.8–14.2%) among the healthcare staff in Liaoning province ($p > 0.05$). In contrast, the prevalence of having significant stress among healthcare staff in the whole sample was 27.5% (95% CI 24.5–30.4%), with 23.2% (95% CI 18.7–27.6%) in Hubei and 30.4% (95% CI 26.4–34.4%) in Liaoning ($p > 0.05$), while the prevalence of poor sleep quality 16.8% (95% CI 14.3–19.2%) in the whole sample, and 18.9% (95% CI 14.9–23.0%) in Hubei and 15.3% (95% CI 12.3–18.4%) in Liaoning ($p > 0.05$).

This was the first study to investigate the mental health status, psychological stress, and sleep quality of frontline healthcare staff in the late stage of the COVID-19 outbreak. We found that although the reported prevalence estimates of depression, anxiety, insomnia, and distress symptoms in frontline healthcare staff were high in the early stage of the outbreak (Huang, Han, Luo, Ren, & Zhou, 2020; Lai et al., 2020; Liu et al., 2020), the overall mental health status, psychological stress and sleep problems appeared to improve substantially among frontline healthcare staff in the late stage of the outbreak. This could be attributed to a range of effective psychosocial measures that were adopted to address their mental health, although direct comparisons between these surveys should be made with caution due to different assessment instruments and survey methods.

To reduce the risk of mental health problems among frontline healthcare staff, on 11 February, the National Health Commission, the Ministry of Human Resources and Social Security, and the Ministry of Finance of China jointly issued a guideline titled 'Key Measures on Improving the Working Conditions of Frontline Healthcare Workers: Caring for the Physical and Mental Health of Healthcare Workers' (General Office of the State

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Council of China, 2020). The guidelines addressed the need to balance the work and rest hours for frontline healthcare staff, strengthen their occupational health and safety conditions, and improve crisis psychological intervention and counseling. The latter included assisting their families to deal with daily life requirements, creating a safe working environment, and securing their financial status. Other measures also included the establishment of timely telehealth psychological services and the provision of on-site mental health services for frontline healthcare staff in isolation hospitals.

To conclude, when frontline healthcare staff are responding to any epidemic of severe infectious disease, mental health problems are common. The development and implementation of timely and appropriate mental health interventions as well as social and financial supports could effectively address the mental health needs of frontline healthcare staff. The experiences from China in tackling the mental health challenges in frontline healthcare staff may benefit other countries who are fighting the COVID-19 pandemic.

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References

- General Office of the State Council of China (2020). *Key measures on improving the working conditions of frontline healthcare workers: Caring for the physical and mental health of healthcare workers (in Chinese)*. Beijing, China: General Office of the State Council of China. Available at http://www.gov.cn/zhengce/content/2020-02/11/content_5477399.htm.
- Huang, J. Z., Han, M. F., Luo, T. D., Ren, A. K., & Zhou, X. P. (2020). [Mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19]. *Chinese Journal of Industrial Hygiene and Occupational Diseases* 38, E001.
- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... Hu, S. (2020). Factors associated With mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open* 3, e203976.
- Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Hu, S., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *The Lancet. Psychiatry* 7, e17–e18.
- Xiang, Y.-T., Jin, Y., Wang, Y., Zhang, Q., Zhang, L., & Cheung, T. (2020). Tribute to health workers in China: A group of respectable population during the outbreak of the COVID-19. *International Journal of Biological Sciences* 16, 1739–1740.