

Burnout in nurses during the COVID-19 pandemic in China: New challenges for public health

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SUMMARY During the COVID-19 pandemic, frontline nurses have faced extraordinary personal and professional challenges. These challenges have had mental health consequences, and concerning reports of burnout have emerged globally. We conducted a cross-sectional survey at a designated COVID-19 hospital in Shanghai at the peak of the pandemic, *i.e.* about 2 months after the onset of the outbreak from February to April 2020. Findings revealed burnout in 6.85% of nurses. Of 336 respondents, 87 (25.89%) had a high level of emotional exhaustion, 61 (18.15%) had a high level of depersonalization, and 100 (29.76%) had a low level of personal accomplishment. Burnout can be prevented by offering more support from families and supervisors, paying attention to health monitoring and personal protection, and creating a rational human resource allocation and shift management system. Specific training on infection control and self-protection, mental health guidance, and stress coping techniques must be implemented. As the current health crisis ultimately abates, moving the focus from mental health issues to public health issues, more attention and support at the national and organizational levels are needed to reduce occupational discrimination, nurse autonomy and status need to be promoted, and public health emergency teams need to be created. A positive and fair working environment is essential to effective healthcare delivery.

Keywords COVID-19, Chinese nurses, burnout, workload, Shanghai

1. Introduction

The spread of the novel coronavirus SARS-CoV-2 and the disease it causes (COVID-19) has resulted in an unprecedented global health crisis. This unfolding healthcare emergency has placed nurses under increasing pressure (1), with broad repercussions for their mental health. In specific terms, burnout has emerged as a significant concern, affecting both quality of life and workplace performance (2,3). In China, nurses have played a critical role in the treatment of COVID-19 and they constitute the largest subset of healthcare workers (4). Unlike in Hubei Province where approximately 28,600 nurses were deployed to assist local healthcare teams in the fight against COVID-19, Shanghai depended on a combination of support nurses from the top three hospitals in Shanghai, together with nurses at a designated COVID-19 hospital. Moving the focus from patient care to caregiver health, the current authors conducted a cross-sectional survey at a designated COVID-19 hospital in Shanghai at the peak of the pandemic, *i.e.* about 2 months after the onset of the outbreak from February to April 2020. Findings revealed

burnout in 6.85% of nurses. Out of 336 respondents, 87 (25.89%) had a high level of emotional exhaustion, 61 (18.15%) had a high level of depersonalization, and 100 (29.76%) had a low level of personal accomplishment (Supplementary Table S1-3, <http://www.biosciencetrends.com/action/getSupplementalData.php?ID=72>). Accordingly, burnout poses not just a risk to Chinese nurses but also to the Chinese healthcare system. To highlight the issue of burnout, the current authors explored the factors influencing burnout in this cohort and suggested corresponding countermeasures to assist Chinese nurses in adjusting to public health emergencies. Future pandemics may occur more frequently, so public health officials and policymakers must act to protect the mental health of healthcare workers.

2. Tackling burnout among nurses: Efforts are underway

Burnout is an under-recognized and under-reported problem. Burnout is characterized by a state of emotional exhaustion (EE) and/or depersonalization (DP) and a low sense of personal accomplishment (PA). In the

current study, 92.56% of the nurses working in a front-line care setting were women and 46.43% had children; burnout in this cohort is likely related to marital status and age, so family responsibilities should be considered to reassure frontline nurses. The Department of Nursing has proposed family-based support programs, evaluated every nurse's level of family and social support and mental health before starting frontline work, arranged for visits home, provided necessary assistance to relieve nurses' concerns when entered frontline wards, and encouraged an hour-long video or voice call with family members every day.

A previous study found that younger and less experienced staff members had a higher level of DP than nurses over the age of 30 (5), which is consistent with the current findings. Continuous guidance and psychological assistance should be offered to this vulnerable group of nurses. The Department of Nursing established a series of training courses, including orientation to general emergency ward work and nursing responsibilities, infection control and self-protection, and mental health guidance to orient younger less experienced nurses during the pandemic response. In terms of nurses' own health and personal protection, daily self-health monitoring is promoted, and anti-viral sprays and thymus injections to enhance immunity are offered and vaccination is encouraged. To improve mental health care, the Department of Nursing engaged psychiatrists and psychologists to provide online counseling, advice hotlines, and online chat rooms for frontline nursing staff. Involvement of mental health care professionals may allow for earlier intervention and improved ability to cope with negative emotions.

As the pandemic continues, an important consideration is that frontline nurses work in a specific work environment, facing a heavy workload while combating a highly contagious disease (6,7). When nurses care for grievously suffering patients and patients with multiple requirements, they are more likely to experience burnout (8). This is typically how Chinese nurses work on the frontline, in addition to providing basic treatment and nursing, serving food to patients, preparing their daily necessities, and meeting the special needs of patients of different nationalities. They also disinfect items, transport specimens, and supervise infection control.

Interestingly, nurses who cared for mildly ill patients reported a higher level of EE, a higher level of DP, and a lower level of PA than those who cared for severely ill patients. This may be related to differences in human resource allocation where, relatively speaking, nurses caring for mildly ill patients cared for more patients. Other researchers have also reported that when nurses care for a higher number of patients, they are more likely to experience burnout (9). In this context, nurses' work cycles and shifts were adjusted based on the work experience of nursing administrators and the bed-to-

care ratio in general wards. A rational human resource allocation and shift management system should be created within the Department of Nursing. This system would adjust human resource allocation based on the number of patients admitted, their condition, and the overall workload intensity. At the authors' hospital, most of the support measures considered were implemented for frontline nurses. Comfortable living conditions, sufficient materials, and sufficient nutrients were considered the most necessary measures. In addition, benefits such as incentives and promotions should be provided to encourage frontline nurses.

3. Burnout: Moving the focus from mental health issues to public health issues

Paying attention to early burnout among nurses on the frontline can help to provide timely solutions to prevent further worsening of this problem. As the current health crisis ultimately abates, China has transitioned to the mitigation phase. Given the burnout seen among frontline nurses, has enough been done? Is it too little, too late? And how can China better prepared for future pandemics that may occur more frequently? The current study was conducted at a designated COVID-19 hospital in Shanghai and countermeasures for burnout were proposed. In-depth interviews may help to identify important issues and may be a topic of further study. Research has shown that nursing professionals nationwide were already experiencing burnout and subsequent turnover during the COVID-19 pandemic, indicating that the mental health of healthcare workers and insufficient human resources are serious issues that public health officials and policymakers need to address. In order to deal with the shortage of nurses with multiple specialties in the emergency response to public health emergencies, the current authors' hospital committed to creating "special nursing teams" to prepare and train for both peacetime and wartime while improving their overall clinical competence and efficiency. For the government, the urgent task is to create and prepare public health and epidemic prevention teams to respond to outbreaks of infectious diseases and deal with human turnover. Healthcare professionals may also face extra hardships during a pandemic due to the discrimination and lack of understanding faced by individuals and their families. A positive working environment should be created, nurse autonomy should be promoted, and the status of nurses should be improved. The government should actively promote positive news reports, improve the population's awareness of infectious disease control, and reduce "secondary psychological harms and panic" caused by discrimination against medical personnel combating infectious diseases.

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