

## Brief Report

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# Experience of Living with COVID-19: Personal Preparedness and Coping Mechanism Among Deployed Healthcare Workers

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### Abstract

**Objective:** This study aimed to explore how deployed healthcare workers (HCWs) perceived personal preparedness for response, and their main avenues for coping to maintain resilience during the prolonged COVID-19 (SARS-CoV-2) pandemic.

**Methods:** Semi-structured interviews were conducted with 25 HCWs deployed to the frontline for an extended period to provide acute COVID-19 related care. Interviews were audio-recorded, transcribed verbatim, and analyzed thematically.

**Results:** HCWs demonstrated heightened self-confidence and readiness to deal with public health emergencies owing to the ramped-up efforts in infrastructure for outbreak management and pre-emptive infectious disease training. Despite overall confidence, deployed HCWs had to adopt various coping mechanisms to sustain resilience during the prolonged pandemic. Main themes on coping centred around the value of team leaders and support from family members as an effective buffer for work-induced stress while institution-based counseling services and welfare were viewed as important for fostering the internal locus of control and wellbeing.

**Conclusion:** Our findings suggest that strategies such as on-the-job training, continuous education and improved communication would be essential to maintain resilience of deployed HCWs. Considerations should be also given to the swift implementation of blended wellness support comprising digital and in-person counseling to sustain wellbeing and prepare for endemic COVID-19.

With more than 80% of its population fully vaccinated, Singapore is transitioning from a 0-COVID strategy to living with COVID-19. While this could be a sign for more rules to be further eased, it also signifies that the virus may circulate even more porously within the society, just like seasonal influenza and other respiratory infectious diseases. The health authorities have acknowledged that while the pathogen will still cause infections - even among the inoculated - infected cases will mostly remain mild and suitable for home recovery.<sup>1</sup> However, relaxed measures would possibly entail a higher caseload in the community and thus necessitate the need for healthcare workers (HCWs) to be deployed for an extended period to support the provision of acute care. This seemingly reasonable strategy may take a greater toll on the pandemic-weary healthcare workforce that has been in overdrive for nearly 2 years. Evidence also suggests that frontline workers experienced adverse mental health symptoms putatively associated with their professional activities during the acute phase of the pandemic response.<sup>2</sup> However, little is known about the experience of HCWs deployed to the frontline during the prolonged pandemic. This study explored how HCWs on extended deployment perceived personal preparedness for pandemic response and their main avenues for coping to maintain resilience and sustained wellbeing.

### Methods

This study took place in Singapore during the transition period of the COVID-19 pandemic where confirmed cases steadily fluctuated following the lockdown. Singapore is a multi-ethnic state in Southeast Asia comprising of 3 major ethnic groups: Chinese (75.9%), Malays (15.0%), and Indians (7.5%).<sup>3</sup> Amidst the COVID-19 pandemic in Singapore, the health authorities commissioned the establishment of the Community Care Facility, staffed by deployed hospital HCWs, to house COVID-19 patients who were clinically well and did not require extensive treatment and hospitalization. This would ensure that moderately ill patients could receive necessary care while conserving hospital beds for more severe cases. To ramp up hospital capacity to care for severely ill COVID-19 patients, HCWs from other clinical specialties were also deployed to the departments of emergency medicine and infectious disease in order to cope

with the surge of cases. Participants were purposively recruited from a large tertiary hospital through the study team's professional network and a publicly available institutional website. Eligible participants included doctors and nurses who were deployed for an extended period of at least 3 months and above to provide acute COVID-19 related care. Ethical approval was obtained from the National University of Singapore Institutional Review Board, No: S-20-115. A semi-structured interview guide was also developed based on the existing literature.<sup>4</sup> Major topics included perceived confidence and readiness when activated for deployment; and mechanisms for coping to sustain resilience amid a prolonged pandemic. In addition, self-reported demographic information was collected. Consented individuals took part in in-depth interviews (IDI) or focus group discussions (FGD) virtually over Zoom®, facilitated by 2 trained interviewers (SY and HG). Prior to these interviews, informed consent was sought, and the interviews ranged from 30 - 40 minutes. All interviews were audio-taped and transcribed verbatim. Each transcript was examined by 2 independent coders (SY and HG) using open and axial coding with NVivo 12® (QSR International, Burlington, MA, USA) to identify key themes. Upon completion of the coding iteration, the team held consensus meetings to resolve coding discrepancies until themes were saturated. To ensure comprehensive reporting of the qualitative study, we anchored our methodology according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.<sup>5</sup>

## Results

A total of 25 HCWs participated in 12 interviews (6 FGDs and 2 IDIs). The recruitment rate was 100% (25/25). Participants were deployed to the frontline from various clinical departments such as endocrinology, cardiology, paediatrics, and community nursing. The characteristics of participants were as follows. A total of 10 doctors (40%) and 15 nurses (60%) were recruited; 72% of the participants were female, and Chinese participants made up the largest ethnic group (52%). Mean age was measured at 27.6 (SD 3.5) years, with experience in healthcare ranging from 2 to 10 years.

The participants' readiness to cope with deployment was affected by 2 broad themes, identified as: prior experience with infectious disease outbreaks, and timely on-the-job training. Overall, participants expressed having sufficient confidence when activated to support the frontline. It is also worthy to note that, the majority attributed this to their prior experiences with infectious disease outbreaks, which reinforced mental readiness and strengthened resilience during deployment. The following participant's account was typical of many:

*'Just before COVID-19, we had Ebola. During that time, we went through courses on proper gowning and de-gowning, mask fitting, and infection control. Hence, at least we are familiar with the standard, yet crucial matters. I mean, the skills are pretty much the same for outbreaks anyway, only with slight variations.'* #23 Nurse, F

Intriguingly, junior participants who had never experienced an outbreak response before felt equally confident when deployed as the lack of prior experience was compensated with adequate training. In particular, pre-deployment training such as gowning of personal protective equipment and usage of Powered Air Positive Respirator (PAPR) increased HCWs' confidence in skill performance.

*'I think that what the hospital teaches is quite important, whether I did it before my deployment or during my first day of employment, such as hand hygiene and gowning up. I was sent for a course on PAPR too. Even though I was never deployed before, but I think I am adequately trained and confident to perform the duties safely.'* #40 Doctor, F

Many reported their experience of performing their tasks reasonably well despite being deployed to a seemingly unfamiliar setting for an extended period. Nevertheless, accounts from participants suggested that deployed HCWs had to grapple with the impact of long-term deployment through various routes. Participants described 4 main support mechanisms that helped them overcome the challenges following deployment and carry out their new roles: formal and instrumental support (counseling services, enhanced staff welfare), and informal and emotional support (support from family members and team leader support). Generally, participants perceived that timely counseling services mitigated the adverse effects of COVID related tasks on mental wellbeing and enhanced internal locus of control.

*'I have been working almost 24/7 since deployment. I think I am a bit burnt out. I [have] spoken to a social worker before when I was feeling overwhelmed by all the work demands. We [staff] have the opportunity to speak to a social worker during our work shift, and it has helped me alleviate some of my concerns and worries, gaining a different perspective on the issues for improved coping.'* #1 Doctor, F

Other participants expressed that institutional efforts to enhance welfare for deployed HCWs fostered work spirit and morale in a high-pressure environment.

*'Our department has organized a resting area for us to rest during the night shift with soft mattresses and snacks provided. This helps us to take better breaks and cope in this never-ending outbreak.'* #24 Nurse, M

Importantly, support from family members formed the bulk of the informal support from which participants derived solace and encouragement. It was perceived to act as an effective buffer against work-induced stress.

*'If I am feeling overwhelmed from work, I talk to my sisters, and they are very encouraging. I believe this has maintained my sanity thus far.'* #6 Nurse, F

Lastly, the value of newly implemented team-leader support was a common theme shared by junior participants. The presence of a team leader at work functioned as an outlet for junior members to share their concerns and resolve issues on the ground. The seniors also provided assurance and acted as a point of reference if any doubts arose.

*'My team leader has been very supportive. If there's anything that we don't know or feeling anxious about, there is always somebody that we can go to. I think each team has 1 person [in charge] of welfare as well. I feel that the seniors are quite open, and they always try to come and ask us about our wellbeing. It makes our work a lot more manageable.'* #11 Doctor, M

## Discussion

This study examined HCWs' readiness when deployed for an extended period to the frontline amid an unprecedented pandemic, and the avenues for coping with job demands and their impact on wellbeing during a prolonged pandemic. We noted that most of the participants expressed a high level of self-confidence and readiness when deployed to provide acute care that was beyond the scope of their clinical specialties. This can be attributed to the country's past encounter with the severe acute respiratory syndrome (SARS) outbreak in 2003.

Learning from that experience, facilities for outbreak management were significantly expanded to include more isolation facilities, and mandatory infectious disease courses were introduced. In addition, yearly scenario-based simulation exercises that mimic a public health emergency further enhanced HCWs' preparedness to swiftly respond to large scale health disasters. Accounts from our participants affirm that strategic foresight of augmenting healthcare infrastructure, rigorous training curriculum and outbreak simulations enabled HCWs to be well-equipped to anticipate and deal with a prolonged public health emergency.<sup>6</sup>

Amid the prolonged pandemic, an array of interventions was put in place to improve the wellbeing and resilience of frontline HCWs. A novel finding from this study is that the presence of a team leader was seen as pivotal to maintaining work performance and wellbeing particularly for our participants who had been deployed to the frontline for a protracted period of time. Team leaders helped foster a health-supportive working environment by assisting the inexperienced staff to be more aware of their own emotions and effectively providing appropriate guidance to help them remain efficient and focused. Our finding is in contrast with literature conducted during the acute phase of the pandemic which showed that HCWs principally resorted to personal resources to meet their coping needs.<sup>7</sup> Counseling support from healthcare institutions was also an essential factor that safeguarded the wellbeing of HCWs. This finding is similar to prior literature that shows hospital-based interventions, such as counseling helped promote the recovery of HCWs affected by personal or workplace-related stress.<sup>8</sup> In addition, we found that improved staff welfare, such as the provision of incentives, whether monetary or non-monetary, appeared to have a significantly positive contribution to staff motivation. Low morale could diminish productivity and cooperation among HCWs which then increases absenteeism and turnover.<sup>9</sup> Hence, it is vital that healthcare institutions develop appropriate strategies to boost the morale of HCWs, especially when their motivations are severely challenged. Lastly, we found that positive emotions were related to the support from family members and friends. Family and friends functioned as a buffer against stress and a channel for HCWs to vent out frustration.<sup>10</sup> Taken together, a multi-dimensional support comprising of healthcare institution, team leaders, and family would be critical for reducing distress and burnout associated with COVID-19 duties among deployed HCWs.

Unlike prior literature which tended to focus on the impact of COVID-19 among frontline workers during the acute phase of the pandemic, this study explored the experience and views of deployed HCWs, and how they can be better supported to cope with challenges amid the prolonged pandemic which is seemingly far-from-tamed. Importantly, our findings suggest that counseling support should be offered regularly to confer maximum benefits. As such, we recommend developing a more blended approach to support HCWs by providing a mixture of digital support via mobile applications complemented by in-person counseling. Its underpinning intention is to make the counseling service more accessible by delivering part of it online to help sustain the resilience and wellbeing of HCWs.<sup>11</sup> Therefore, increasing accessibility to the counseling service through a blended approach can offer a time-efficient way for HCWs to seek help when in-person sessions are not practical. In addition, our finding underscores the importance of institutional involvement, and the role of informal support that can be translated into the

development of a wellness framework for frontline HCWs to prepare for future pandemics.

### Limitations

In spite of our best efforts to recruit a balanced gender ratio, more than 50% of the participants were female. This could unintentionally introduce selection bias into the study. Moreover, this study only recruited deployed doctors and nurses; future work could include other healthcare workers.

### Conclusion

Our study highlights that despite overall readiness, deployed HCWs adopted various coping mechanisms to sustain resilience and wellbeing. Strategies such as on-the-job training, continuous education, and improved communication are essential to enhance HCWs' self-confidence. Swift implementation of blended wellness interventions may be crucial to protect the HCWs from the adverse impacts brought by a prolonged pandemic.

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**Conflict of interest.** None.

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