

Letter to the Editor

Anxiety and Morale in Front-Line Healthcare Workers During the Coronavirus Disease 2019 (COVID-19) Outbreak at the National Screening Centre in Singapore

Dear Editor,

Singapore faced the threat of the novel coronavirus disease 2019 (COVID-19) when it announced her first imported case on 23 January 2020. All inbound flights from Wuhan, China have ceased that day. On 30 January 2020, the World Health Organization (WHO) declared the COVID-19 outbreak as a Public Health Emergency of International Concern.¹ The following day, Singapore recorded her first locally transmitted COVID-19 case. Within a week, on 7 February 2020, Singapore raised the “Disease Outbreak Response System Condition” (DORSCON) level from Yellow to Orange as more new cases surfaced to suggest spread within the local community.² Since the escalation of the DORSCON level, attendance to Singapore’s National Centre for Infectious Diseases (NCID) has been on a rise. Consequently, in addition to existing manpower from the emergency department in Tan Tock Seng Hospital, doctors from surgical specialties have been deployed to aid in the screening efforts at NCID.

We had learnt from the severe acute respiratory syndrome (SARS) outbreak in 2003 that anxiety, isolation and depression are not uncommon amongst healthcare workers (HCWs),³ highlighting the importance of support for HCWs. Similarly, in this COVID-19 outbreak, front-line HCW face a plethora of challenges. These include isolation due to reduced interaction with families and friends for fear of transmitting disease and adjustment issues while managing illnesses that are beyond their usual job scope. Furthermore, it is not uncommon for HCWs or their colleagues to be quarantined after exposure, succumb to illness or infectious diseases. Discomfort from long hours of donning personal protective equipment (PPE) and strict infection control measures may also result in fatigue. The sudden disruption in usual work commitments, training requirements or projected leave schedules may also result in disgruntlement and significant changes in personal life plans. Besides risk exposure at work, there are practical concerns regarding disease transmission between family members living in the same household. Experiences with the public’s shunning of healthcare workers and increasing difficulty in booking public

transport for trips that originate and end at hospitals are just some of the examples that further burden the daily lives of HCWs. Fear-mongering by individuals and spread of falsehoods exaggerating the current COVID-19 outbreak may inevitably result in panic amongst some front-line workers as well.⁴

As the saying by Napoleon Bonaparte goes, “[i]n war, the moral is to the physical as three is to one”. Similarly, in this outbreak, the morale amongst HCWs should be boosted. To date, front-line HCWs have received support in various forms. These morale boosters span from gifts of goodwill such as foods and beverages, receiving positive news coverage on their work and sacrifice, certain hospital subsidies on medical care/alternative accommodation, to the introduction of GrabCare.⁵ GrabCare is a dedicated ride service developed for HCWs to travel to and from hospitals. The common message in all of these was to acknowledge and appreciate HCWs. The authors felt it would be interesting to survey the perspectives of HCWs on what has impacted their morale and to assess their anxiety levels before and after screening duties in NCID.

An anonymous online survey was conducted. The first 2 batches of front-line healthcare workers who have completed their 10-day work cycle in the NCID screening centre (between 31 January–18 February 2020) were included. Front-line HCWs included were doctors, nurses and allied health professionals. The survey consisted of 3 questions. The first question distinguished the type of profession the respondent belongs to. The second question was “What boosted your morale during the screening period?” The respondents were allowed to choose one or more options and were given a choice of “others” for further description. The third question measures the anxiety level of the respondents before and after starting working in NCID. The response options included “low, medium or high”.

There were a total of 80 respondents, of which 44 were doctors, 20 were nurses and 16 were allied health professionals. They were aged between 25–35 years old. The favourite morale booster across all front-line HCWs was the donated food and drinks (53.8%) (Fig. 1). Some examples were popular comfort food like

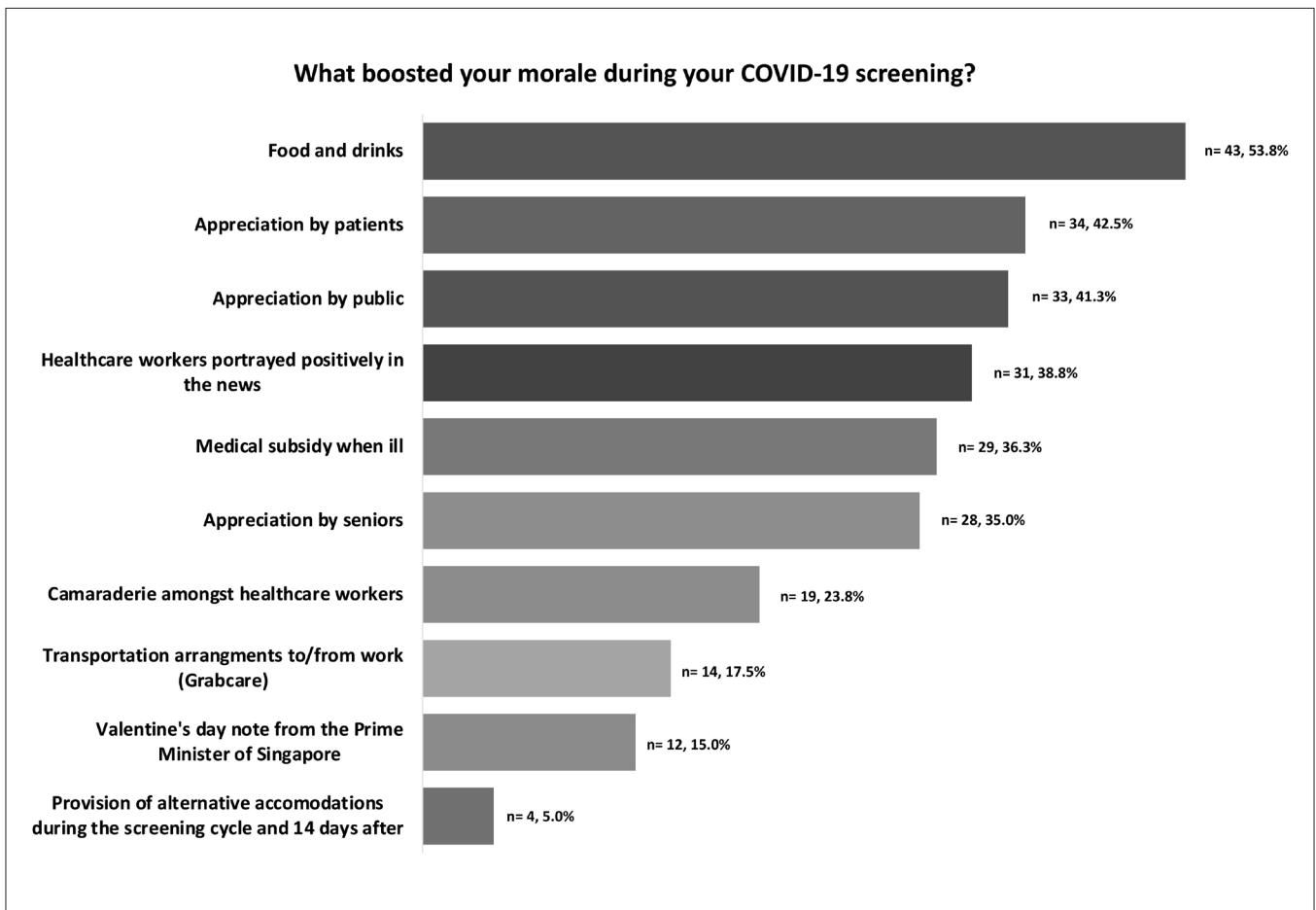


Figure 1: Morale boosters during COVID-19 screening

Old Chang Kee's curry puffs, chicken rice, sweet beverages from Gong-Cha and fresh-brewed coffee from The Coffee Bean. This is followed closely by appreciation by patients (42.5%) and the public (41.3%). In addition, more than a third were boosted by positive news on HCWs (38.8%) and presence of medical subsidies for HCWs who had fallen ill (36.3%). HCWs enjoyed the camaraderie amongst one another (23.8%), with one special mention that working alongside senior staff who volunteered to help out in the screening centre was an inspiring experience. Up to 17.5% of HCWs felt that initiatives such as GrabCare were helpful. On 14 February 2020, the Prime Minister of Singapore penned a Valentine's Day note addressed to all HCWs tackling COVID-19 to encourage and affirm HCWs during this outbreak.⁶ About 15% of front-line HCWs felt that this gesture had a positive impact on their morale. Provision of alternative accommodation during the screening cycle and 14 days thereafter have encouraged 5% of HCWs.

Two respondents highlighted that comfortable PPE and 1 respondent mentioned an air-conditioned environment as important factors for morale building. One other respondent enjoyed the day-offs during their screening period (i.e., the 2 day-offs that are given in every 10-day cycle).

Nurses and allied health workers ($n = 22$) were more likely to feel uplifted when receiving appreciation by the public as compared to doctors ($n = 11$), (odds ratio [OR] 10.7, $I = 0.001$). A higher proportion of nurses chose "Medical subsidy when they fall ill" ($n = 11$) as compared to doctors ($n = 12$), (OR 4.59, $P = 0.032$). On the other hand, doctors ($n = 19$) were more likely to be encouraged by the camaraderie they had observed and experienced as compared to nurses and allied health workers ($n = 4$), (OR 11.6, $P = 0.0007$).

Prior to commencing screening duties in NCID, all HCWs had comparable anxiety levels, $P = 0.814$.

After completion of screening duties in NCID, 43.1% ($n = 19$) of doctors reported reduction in anxiety levels while 6.8% ($n = 3$) reported the opposite. For allied health staff, 25% ($n = 4$) had increased anxiety levels whilst 43.8% ($n = 7$) were less anxious after screening duties. For nurses, 15% ($n = 3$) were less anxious but majority 60% ($n = 12$) reported increased anxiety levels after screening duties (Fig. 2). The changes in anxiety levels pre and post screening differed significantly amongst the three groups, $P = 0.001$.

Our survey, PPE found that the morale boosters were generally well appreciated as they were practical and appropriate to their needs at that point in time. Interestingly, nurses felt that being appreciated by the public was important to their morale. This is not surprising in our local context in light of repeated incidents where HCWs, especially nurses, were being shunned by the public in fear of transmission of infectious diseases.⁷ On the other hand, more doctors were more likely to be encouraged by the camaraderie amongst HCWs. As the manpower for COVID-19 screening is pooled from different departments, PPE doctors were new to the job scope, environment and

may not be accustomed to prolonged wear of PPE. Hence development of good working relationships between HCWs may result in a form of peer support which naturally becomes a morale booster.

Camaraderie may play a part in alleviating anxiety as well. Out of 44 doctors, 41 reported similar or reduction in anxiety levels at the completion of their 10-day cycle. Furthermore, front-line doctors received timely updates regarding new hotspots, clusters or change in screening protocols. Receiving credible up-to-date news from the institute may play a part to help doctors discern false news from social media that may unnecessarily result in panic among HCWs.

On the other hand, up to 60% of nurses reported increased anxiety levels after screening duties. A few postulated hypotheses have been suggested. Firstly, nurses were in charge of obtaining nasopharyngeal swabs for suspected cases in the screening centre. The process of the swabs tend to trigger coughing or gagging which may heighten the fear of disease transmission. Although strict infection control measures are in place during the swabbing process, the anxiety related to this process is understandable. Furthermore, nurses may not always receive first-hand or timely updates on protocol change. This may result in uncertainty and anticipation, which are components of anxiety.⁸ Their level of understanding of the disease on the ground may also differ from that of doctors. On the same note, significantly more nurses than doctors were encouraged by the provision of medical subsidy if they were to fall ill. These findings suggest that the nature of morale boosters and level of support for the different types of healthcare professionals are unique. Therefore, there may be a role in tailoring strategies towards morale building based on job scopes.

Although our survey focused mainly on the practical morale boosters available during the early period of the COVID-19 outbreak in Singapore, we acknowledge the importance of other forms of morale boosters which include trust in healthcare systems, quality of leadership, perception of preparedness during the outbreak and monetary benefits etc.⁹ An important factor to some would be past experiences through previous infectious disease outbreaks such as SARS in 2003 and the H1N1, swine-flu pandemic in 2011. Although our study included HCWs who have never been involved in any of the infectious disease outbreaks in the past, news on the nation's efforts in health innovation, advances in epidemiology and improved preparedness since

(□ Grey: No change, ■: Increase, ▨: Decrease in anxiety levels respectively)

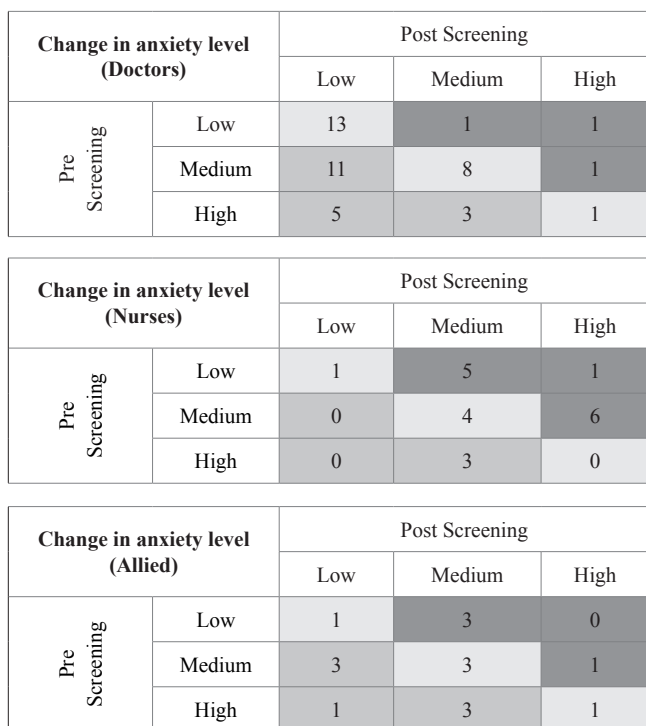


Fig. 2. Comparison of changes in anxiety level of healthcare workers before and after screening duties in the National Centre for Infectious Diseases.

2003 may instil confidence in these HCWs. Lastly, front-line HCWs extend beyond those included in our survey. There is a large group of HCWs who play a critical role in managing patients in outpatient services who are likely to benefit from good morale during this outbreak as well.

Each and every infectious disease outbreak draws a unique healthcare response. The morale of front-line HCWs inevitably reflects the culture and effectiveness of the health care system. Understanding the factors that affect their morale can help improve and tailor the support provided by the public, institutions and the government. The authors hope that this article will inspire more healthcare systems to adopt measures to enhance the morale of their HCWs during this outbreak.

REFERENCES

1. World Health Organization Regional Office for Europe. Coronavirus disease (COVID-19) outbreak. Available at: <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19>. Accessed on 22 February 2020.
2. Ministry of Health Singapore. Updates on COVID-19 (Coronavirus Disease 2019) Local Situation. Available at: <https://www.moh.gov.sg/covid-19>. Accessed on 22 February 2020.
3. Maunder R. The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: lessons learned. *Philos Trans R Soc Lond B Biol Sci* 2004;359:1117–25.
4. Tham Y. MOH uses fake news law to counter falsehoods. *The Straits Times*, 15 February 2020. Available at: <https://www.straitstimes.com/politics/moh-uses-fake-news-law-to-counter-falsehoods>. Accessed on 22 February 2020.
5. Grab Singapore. Grab to pilot GrabCare transport service for frontline healthcare workers. Available at: <https://www.grab.com/sg/press/others/grab-to-pilot-grabcare-transport-service-for-frontline-healthcare-workers>. Accessed on 22 February 2020.
6. Lai L. PM Lee pens Valentine's Day note to healthcare workers at front line of coronavirus. *The Straits Times*, 14 February 2020. Available at: <https://www.straitstimes.com/singapore/pm-lee-pens-valentines-day-note-to-healthcare-workers-at-front-line-of-coronavirus>. Accessed on 22 February 2020.
7. Tan A. Support healthcare workers, don't shun them: Gan Kim Yong. *The New Paper*, 13 February 2020. Available at: <https://www.np.sg/news/singapore/support-healthcare-workers-not-shun-them-gan-kim-yong>. Accessed on 22 February 2020.
8. Grupe DW, Nitschke JB. Uncertainty and anticipation in anxiety: an integrated neurobiological and psychological perspective. *Nat Rev Neurosci* 2013;14:488–501.
9. Lim GH, Lim BL, Vasu A. Survey of factors affecting health care workers' perception towards institutional and individual disaster preparedness. *Prehosp Disaster Med* 2013;28:353–8.

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