

## Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic

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The coronavirus disease 2019 (COVID-19) outbreak was declared a public health emergency of international concern by the World Health Organization (WHO) on 30 January 2020 when all 34 regions of China had cases of infection, and the total case count surpassed that for the severe acute respiratory syndrome (SARS) of 2003. Believed to have originated from a seafood wholesale market in the city of Wuhan of Hubei Province in late December 2019, the number of cases increased exponentially within and beyond Wuhan, spreading widely across the world.

Singapore is a densely populated city-state of 5.7 million located 3432 km from Wuhan and has a monthly average of 1,592,612 international visitors, of which 380,933 were from mainland China in 2019.<sup>1</sup> With a tourist from Wuhan confirmed as its first COVID-19 patient on 23 January 2020, Singapore decisively initiated a series of public health measures to limit the outbreak. The measures included travel advisories and the restriction of entry to individuals who had travelled to China in the preceding two weeks, mandatory quarantine for contact cases, and rigorous contact tracing.

On 7 February, when there was evidence of community transmission including several cases without any connections to previous cases or travel histories to China, Singapore raised its pandemic preparedness alert level from yellow to orange. Under the Disease Outbreak Response System Condition (DORSCON), the orange alert indicates that the outbreak has moderate to high public health impact. This was the same alert applied during the H1N1 flu pandemic in 2009, and would also have been the case for SARS in 2003 had the current alert system been in place. It triggered off, on the same day, widespread panic buying of food and toilet paper across the nation, leading to many stores running out of supplies. This was possibly due to citizens' intention to stock up on grocery supplies given the heightened viral transmission. The magnitude of public uncertainty and fear was so extensive that the Singapore Prime Minister had to give a speech to reassure the nation that Singapore had ample supplies. This was in addition to the co-chair of the Ministerial Task Force for

COVID's earlier advice, suggesting that the nation should be psychologically prepared for the outbreak to be worse than SARS. At this moment of heightened tension, the nation's response to the epidemic has called into question the mental health and resilience of its people.

As of 22 February, more than a month into this epidemic, 77,816 people worldwide have been infected, of which 21,147 have recovered from the illness and 2,360 have died.<sup>2</sup> Outside China, 32 countries and territories around the world are affected, with Singapore having the third-highest case burden after South Korea and Japan. In Singapore, 86 cases have been determined to be positive by a real-time reverse transcriptase-polymerase chain reaction (RT-PCR), among which 47 cases have been discharged.<sup>3</sup>

The proliferation of fear resulting in erratic behaviour among people amidst infectious outbreaks is an understandably not-uncommon phenomenon since anyone of any gender, and sociodemographic status can be infected. This is especially true for COVID-19 when there is much speculation surrounding the mode and rate of transmission, with the disease spreading at such an unparalleled magnitude, and there is currently still no definitive treatment. A survey was conducted in China during the initial outbreak of COVID-19. This study found that 53.8% of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% reported moderate to severe depressive symptoms; 28.8% reported moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels.<sup>4</sup> The psychological fear is perhaps more intensified now compared to 17 years ago during the SARS period, with increased air travel and enhanced global connectedness that make the spread of a pandemic much more effortless. Extensive media coverage of the epidemic can now influence the public's physical and psychological response to the infectious disease threat, which may inevitably amplify apprehension while serving as a pivotal tool to encourage precautionary and preventive measures.<sup>5,6</sup>

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Previous research has revealed a profound and broad spectrum of psychological impact that outbreaks can inflict on people. Among the general public at the individual level, it can precipitate new psychiatric symptoms in people without mental illness, aggravate the condition of those with pre-existing mental illness and cause distress to the caregivers of affected individuals. Regardless of exposure, people may experience fear and anxiety of falling sick or dying, helplessness, or blame of other people who are ill, potentially triggering off a mental breakdown.<sup>7</sup> Significant psychiatric morbidities have been found to vary from depression, anxiety, panic attacks, somatic symptoms, and posttraumatic stress disorder symptoms, to delirium, psychosis and even suicidality,<sup>7-9</sup> which have been associated with a younger age and increased self-blame.<sup>10</sup>

For those grieving from the traumatic and sudden loss of loved ones from the outbreak, the inability to gain closure can result in anger and resentment.<sup>11</sup> As for those who are sick or quarantined, they may experience shame, guilt, or stigma. Studies have reported a high prevalence of psychological distress with longer duration of quarantine associated with an increased prevalence of posttraumatic stress disorder symptoms that were correlated with depressive symptoms.<sup>12</sup> At the community level, there could be distrust towards other individuals in terms of disease spread and the government and healthcare services in terms of their capability to contain the outbreak. With the closure of community services and the collapse of industries negatively impacting the economy, many people end up in financial losses and risk unemployment, further intensifying the negative emotions experienced by individuals.<sup>13</sup>

Internationally, stigma and blame targeted at communities affected by the outbreak by other countries due to a fear of infection impedes cross-national trade, fuelling further unrest. All these emotions can be amplified by pre-existing depressive and anxiety disorders, contributing to the increased rumination of contracting the disease, and this can profoundly remodel people's behaviour and social interaction with others. Psychological responses have also been found to be associated with particular health-seeking behaviour. This was illustrated in a Hong Kong community survey of non-infected people during the SARS period, whereby those with higher risk perceptions of SARS and moderate anxiety level were more likely to take comprehensive precautionary measures against the infection.<sup>14</sup> Nevertheless, feelings of helplessness and anxiety can often motivate people to use unproven methods and remedies that may be detrimental.

Medical responders, such as first responders, including paramedics and ambulance personnel, and healthcare workers (HCWs), have also been found to display heightened stress, become emotionally affected and traumatized, and

have higher levels of depression and anxiety.<sup>15</sup> This is expected as the anxiety and fear of getting infected is much higher with the risk of exposure. There may also be a fear of transmission to their loved ones and children. The balance between professional duty, altruism and personal fear for oneself and others can often cause conflict and dissonance in many HCWs.<sup>16</sup>

The literature has revealed that HCWs who work in emergency departments, intensive care units, and isolation wards have a greater risk of developing adverse psychiatric outcomes than those of other departments, possibly because they are directly exposed to the infected patients, and their work is highly demanding.<sup>17</sup> A study in Singapore reported that doctors and those who were single were at a higher risk of psychiatric symptoms than nurses and those who were married.<sup>18</sup> Based on a recent systematic review of the impact of the disaster on the mental health of HCWs, the identified common risk factors for developing psychological morbidities include a lack of social support and communication, maladaptive coping, and a lack of training.<sup>17</sup>

The most crucial focus of public health authorities and media during epidemics usually revolves around the biological and physical repercussions of the outbreak, with much-lowered attention on mental health issues. However, with the increasing mental health burden during the COVID-19 outbreak, there have been increasing calls for enhanced mental health support. In China, on 27 January, the National Health Commission issued its first comprehensive guidelines for emergency psychological crisis intervention for people affected by COVID-19,<sup>19</sup> which emphasized the need for multi-disciplinary mental health teams to deliver mental health support to patients and HCWs.

The psychological defence is deemed one of the five pillars in Singapore's Total Defence strategy crucial to maintaining trust and faith between the population and the government to ensure resilience amid a crisis. During this public health emergency, the Singapore government and Ministry of Health have kept the public abreast with the progress of the outbreak, with regular news broadcasts and social media releases, updating on the outbreak status (number of infections, in critical condition, discharged) and preventive measures. Official social media channels have also been used to counter the spread of disinformation and "fake news". Regular public engagement of Ministers and infectious disease experts has been employed to alleviate doubts.

Furthermore, Singapore already had a structured organization of mental health resources ranging from psychiatric clinics in all hospitals and some polyclinics, to private psychiatric and psychotherapy clinics and family service counselling centres in the community, in place

before the outbreak. Nevertheless, there are currently no national guidelines to specifically support the mental health of the nation during the COVID-19 outbreak. Six critical areas have thus been identified to strengthen the mental health strategy of Singapore in a concerted, coordinated effort and psychiatrists have specific roles to play in this. These discussions are also applicable to other countries to help governments, hospitals and communities to address the likely paranoia and hysteria that could take place when an outbreak is first announced and when community transmission occurs.

### Identification of High-risk Groups

Health authorities must identify community and healthcare groups at a high risk of psychological morbidities for targeted early psychological interventions. In addition, foreigners under quarantine or in isolation in hospitals are at increased risk of psychiatric issues, as they are deprived of their social supports and risk uncertainty for repatriation, thereby necessitating practical and emotional support for them. Although there has been a rapid accumulation of studies on the medical aspects of COVID-19, there has been minimal research examining the psychological impact of this disease.

According to a study on 1210 Chinese citizens in China in the first two weeks following the outbreak conducted by Wang et al, females were reported to experience a higher degree of the psychological impact of the outbreak, stress, anxiety, and depression.<sup>4</sup> This finding concurred with previous epidemiological studies that found women to be at an elevated risk of depression,<sup>20</sup> which could possibly be due to their unique biological and socioeconomic factors.<sup>21</sup> Although the study also highlighted students as suffering from higher psychological distress, this could be due to China's shutting down of schools across all levels indefinitely, and this might not be generalizable to the Singapore population.

Nevertheless, should the Singapore situation escalate to necessitate school closures, the mental well-being of students would certainly need to be examined. Therefore, it is vital to for psychiatrists and public health specialists to conduct local epidemiological research to provide the underlying basis for appropriate targeted intervention to be implemented.

### Improved Screening of Psychiatric Morbidities

Due to the limited number of mental health staff, it is essential for all physicians, particularly general practitioners (GP) and Emergency Department doctors, to proactively screen for psychological issues in patients who come in for consultations. Findings from the same study by Wang et al revealed that those who presented with specific

physical symptoms, such as chills, coryza, cough, dizziness, myalgia, and sore throat, as well as those with a poor self-rating of health status and with a history of chronic illnesses, correlated with higher levels of psychological impact of the outbreak, stress, anxiety, and depression.<sup>4</sup> This is understandable, considering that the symptoms of COVID-19 are non-specific and difficult to differentiate from other viral illness.<sup>22</sup>

In the early stages of the outbreak, not much is known about the characteristics of the virus in terms of its mode of transmission, virulence and transmissibility, leading to further anxiety and uncertainty. Furthermore, screening for personal psychiatric history and whether there are any young children at home whom patients are afraid of infecting would be necessary, as they could also be risk factors for worsening psychological health.

Healthcare professionals can consider using standard instruments such as the Impact of Event Scale-Revised (IES-R) which was used in Singapore during public health crises.<sup>10,23</sup> Furthermore, they can utilize smartphone technology to assess the mental state of people who are under quarantine.<sup>24</sup> All in all, doctors may consider taking the opportunity to provide these patients with resources for psychological support, and if needed, refer to the psychiatrists for further evaluation and management.

### Mode and Content of Psychological Intervention

In this technological era and amidst an outbreak, many hospitals have moved to providing online psychotherapy to psychiatric patients through video conferencing platforms such as Zoom, to minimize virus transmission from face-to-face therapy. However, to further meet the demands of the nation in this epidemic, it would be worthwhile to provide online or smartphone-based psychoeducation about the virus outbreak, promote mental wellness and initiate psychological intervention (e.g. cognitive behaviour therapy [CBT] and mindfulness-based therapy [MBT]).

In patients who exaggerate the risk of contracting and dying from the virus, cognitive therapy may challenge their cognitive bias. In contrast, behavioural therapy may teach relaxation techniques to combat anxiety and the scheduling of activities to prevent depression. CBT, through enhancing stress management, can also mitigate maladaptive coping, such as avoidance, antagonistic confrontation and self-blame. Maladaptive coping styles have been associated with worse psychological outcomes.<sup>10,25</sup>

MBT, which focuses on various mindfulness meditation practices to cultivate nonjudgmental awareness in the present moment, have been found to be particularly helpful in alleviating stress in people with physical conditions.<sup>26</sup> Such virtual platforms would be especially beneficial for patients who are infected and nursed in the isolation rooms



and those who are quarantined at home, where there is no access to mental health professionals. The online platform could also provide a peer-support network for people to share their challenges and resolutions during the outbreak, in turn, fostering comradeship and resilience.

### **More Support for Frontline Health Workers**

It is important to safeguard the morale and mental health of HCWs as this can influence the success of healthcare delivery.<sup>27</sup> The organization may consider shorter working hours, regular rest periods, and rotating shifts for those working in high-risk areas if possible. It has been found that support from colleagues/supervisors and the clear communication of directives/precautionary measures can help reduce psychiatric symptoms.<sup>18</sup> Confidence in infection-control measures may mitigate and facilitate an adaptive stress response.<sup>28</sup> Therefore, it is imperative to have adequate training on infection control for staff, with clear protocols to follow, and the hospital directives for COVID-19 should be precise and disseminated to all staff.

Preventive measures also need to be in place to ensure that HCWs themselves do not fall ill due to the virus during work exposure. However, in the event that HCWs get infected while at work, it ought to be regarded as having work-related injuries. Superiors could make a conscious effort to support staff in times of need, and a peer support system could also be set up. It is vital to identify those who are burnout or have psychological distress so that timely intervention can be provided, and staff should be encouraged to step forward without fear of being blamed.

### **Accurate Dissemination of Health and Related Information to Public**

The government and health authorities must timely relay accurate, evidence-based health information about the epidemic to the public via traditional and new media platforms, to minimize the detrimental impact of “fake news” that is rampant across social media. Practical tips on how the public should react during the epidemic (e.g. hand hygiene and mask wearing) and emotionally cope with the fear and uncertainty of the virus (e.g. positive reframing of mindset, stress management and relaxation techniques) can be disseminated to the public through video clips and cartoons that are easily understood. Higher satisfaction of the health information received has been found to correlate with lower psychological distress.

Up-to-date and accurate health information, especially on the number of recovered cases, information on treatment (e.g. medicine or vaccine), and mode of transmission, as well as updates on the number of infected cases and location (e.g. real-time, online tracking map), are associated with lower stress and anxiety, respectively.<sup>4</sup> Furthermore, if

people receive sufficient information and place trust in the government and health authorities to manage COVID-19, this could potentially reduce anxiety and perceived vulnerability to the virus.<sup>29</sup> With increased confidence in the measures taken by the government, this might translate to better adherence of the precautionary and preventive measures, encouraging the community to work together to combat the outbreak.

The government, community leaders and health institutions also have a vital role to maintain racial harmony that is integral in preventing discrimination and stigma, which often accompanies an outbreak.<sup>30</sup> In the COVID-19 epidemic, there have been multiple illustrations of xenophobic attacks against people of Asian descent, ranging from refusing to sit next to them on buses/trains, entry refusal into restaurants, verbally attacking them on social media, to physically assaulting them. Since then, the WHO and the Centers for Disease Control (CDC) have put up information pamphlets and issued statements to fight the stigma against Asians. It is hoped that with continued public education about COVID-19 to help reduce fear of the unknown, and reiteration of the fact that viruses do not respect borders, the magnitude of discrimination can be reduced.

### **Integration of Hospital and Community Resources**

During this outbreak, community psychiatric partners in Singapore such as the Social Service Agencies (SSA) form an important first line to provide counselling in the heartland. This serves to strengthen the community's mental health resilience and reduce the possibility of developing psychiatric morbidities. For instance, Silver Ribbon (Singapore) and Fei Yue Community Services provide online emotional counselling support for COVID-related issues. A group of psychologists from the Singapore Psychological Society is also providing their services pro bono or at reduced rates for those distressed by the outbreak.

In hospitals, individual psychiatric departments provide additional clinic sessions and render psychiatric support to patients with emotional issues coming through the Emergency Departments. Nevertheless, to further enhance the psychological preparedness for the nation, there is a need to integrate and combine resources to provide a more concerted and comprehensive psychological service for all people.

### **Conclusion**

Currently, there is no authoritative organization that plans and coordinates psychological intervention in Singapore during this outbreak. It would be worthwhile to have psychiatrists and mental health professionals sit in the Task Force for COVID-19, to advise the government on

mental health policies and psychological intervention. At this point, hospitals, polyclinics, and the SSA work in silos to conduct their psychological intervention with limited communication with one other, thus wasting resources and reducing the effectiveness of the intervention. It is therefore important for hospitals and SSA to engage one another through training and case discussions to align their goals and efforts. Training for community health personnel can help facilitate their better identification and management of patients' psychological distress. With the case discussions, this can promote a seamless transfer of patient care across hospitals and community services. Patients with severe psychiatric morbidities may be better managed in the hospitals, but mild to moderate cases or those who have gotten better from treatment can be transferred to community services for follow-up.

Past pandemics have provided invaluable lessons in terms of global responses, and Singapore, as is the case for many other countries, is more medically prepared to deal with this COVID-19 outbreak, having better medical technology, workforce allocation, and infrastructure. It is pivotal, however, that we do not ignore the psychological impact that the outbreak has on individuals and the society, which is often the limiting factor for the nation to overcome the crisis. Psychological ramifications can be long-lasting even after the epidemic has ended.

This outbreak has highlighted the fragility of mental resilience and the need for the provision of coordinated psychological intervention to the nation. We have suggested strategies that the government of Singapore and other countries could adopt to improve their current intervention system. Only by strengthening the psychological defence can nations continue to fight this long-drawn battle and secure success for the future.

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