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COMMENTARY

Contextual wellness in the age of COVID-19: Managing disproportionate pandemic anxiety and stress in Australia, Singapore and other nations achieving disease control success

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As a digital wellness and population health company operating in Australia, Asia, Canada, and the United States, it has been surprising to observe very high levels of COVID-19 related anxiety and stress where the actual incidence and public health impact of SARS-CoV-2 is remarkably low.[1,2] Logic would suggest that COVID-19-related anxiety and stress would be proportional to actual local incidence, hospitalisation rates, mortality and individual disease risk. However, the unique cultural, economic and political dimensions of the era in which this pandemic is occurring have contributed much to inverting that expectation.

In the United States, which has high rates of infection, over 30% of the vaccine-eligible population has declined vaccination,[3] and anti-mask and anti-vaccine protestations are occurring in many local communities.[4] If Americans are anxious about COVID-19, some are equally anxious about a perceived threat to civil liberties and individual right to choose whether to accept preventive measures. In contrast, in our experience advancing wellness and stress reduction programs, Australians and Singaporeans express anxiety not only about disruptions in employment, personal finances and stress associated with recurring lockdowns and loss of life normalcy,[1,2] but experience very high levels of anxiety related to individual risk of infection.[5] This is despite the absence of a substantial or high threat of infection, hospitalisation and death from COVID-19 in these nations.[5]

1 | PUBLIC PERCEPTION OF SARS-COV-2 RISK OF INFECTION IN AUSTRALIA AND SINGAPORE

A foundational pillar of wellness programs is effective education to help individuals comprehend and develop motivation to actively shape their personal risk for preventable illness, stress and anxiety. We are adapting our COVID-19-related wellness efforts to more clearly and compellingly communicate that the personal sacrifices, lifestyle limitations and work/life disruptions commonly experienced in these 'COVID-19 successful' nations have in fact conveyed large reductions in national and individual COVID-19 risk. Few nations have been as successful in inhibiting community transmission of the virus as Australia and Singapore.[6,7] Despite recent outbreaks, their disease control performance and cumulative mortality remain enviable from the perspective of many nations. Comparative epidemiological observations illustrate this,[7,8] and may be useful in helping individuals and communities re-set their perspectives on the actual risk of personal COVID-19 infection, enabling reduced pandemic-related anxiety, stress and greater wellness in the years ahead until COVID-19 becomes endemic rather than epidemic.

The total cumulative number of Australian COVID-19 deaths is about 2200 within a population of 25 million,[8] contrasting the United States, 13 times larger with over 820,000 deaths so far. A closer comparable is Canada, with only 13 million people more than Australia, but 30,300 COVID-19 deaths.[8] If Canada's COVID-19 national disease control were as effective as Australia's, only about 3400 Canadians would have died thus far. If the US had been able to achieve the same level of disease control and rate of community viral transmission as Australia, only 29,000 Americans would have died. Australia is clearly one of the safest places to live in terms of COVID-19 risk.[8] Singapore has a cumulative total of 827 COVID-19 deaths in a population of 6 million,[8] and Singaporeans had a 9 times greater risk of being killed in a motor vehicle crash in 2020 than from COVID-19.[9]

A key question is the extent to which perceived risk correlates with actual risk. Patients with cardiovascular disease overestimate their 10-year actual risk,[10] but for communicable diseases like

sexually transmitted infections, perceived risk is lower than actual risk.[11] Risk perception during an Ebola outbreak was based primarily on how individuals were educated about infection.[12] Whilst risk perception sometimes does align with actual risk, there are situations where perceived and actual risk diverge, such as with COVID-19 in Australia and Singapore. Regardless, emphasis should be placed on providing the public with accurate and straightforward information so that individuals can assess their risk appropriately.

2 | FACTORS INFLUENCING COVID-19 ANXIETY

Pandemic anxiety is no doubt multifactorial in origin. Frequent lockdowns have contributed to COVID-19 anxiety in high-performing nations. Melbourne is the most locked-down city in the world, with 262 days across six different lockdowns.[13] A high frequency of lockdowns may contribute to public anxiety disproportionate to actual individual risk of infection.[14] To contain even small outbreaks, Australian health authorities engaged lockdowns which, whilst effective in interrupting spread, implicitly created alarm and generated anxiety. Public perception of infection risk has thus been influenced by factors unrelated to actual incidence and risk.

Also contributing to COVID-19-related anxiety is news media. The pandemic's impact in high incidence nations appeals to the media's financial interest and viewer volume-based advertisement revenue ("if it bleeds, it leads"). Pandemic media coverage has been consistently high in most nations, but varied in content. In Australia and Singapore, media focus aligns frequently with evidence-based science and preventive recommendations.[15] In contrast, in the US abundant misinformation (which lacks the intention to mislead), and disinformation (which knowingly conveys misleading information),[16] have reflected and magnified high existing political and cultural polarisation. Anti-masking and anti-vaccine advocates question (through unregulated social media) the basic factual integrity and trustworthiness of government medical science/public health agencies and the mainstream media. A consistent misalignment exists between misperceived low individual risk of infection and actual high risk. In Australia, the opposite has occurred, where perceived risk is high whilst actual epidemiological risk of infection is low.

Australia and the United States may represent polar ends of a spectrum of distorted perceived versus actual risk of infection, with other nations falling in between. Denmark, for example, has had 3247 deaths in a population of 5.8 million,[17] despite government restrictions to contain spread like mask mandates. Yet Danes experienced only minor increases in COVID-19 anxiety and mental anguish,[18] perhaps due to the high trust Danes have in Danish public health authorities' disease control recommendations and restrictions. Unlike the polarities of public risk perception in Australia and the United States, Danes' perceived risk and actual epidemiological risk were more aligned, enabling effective disease control without causing excessive public anxiety and distress.

3 | BALANCING APPROPRIATE ANXIETY WITH EFFECTIVE DISEASE CONTROL

Of course, high levels of COVID-19-related anxiety may have reinforced the favourable impact of aggressive governmental disease control policies and actions in high-performing nations like Australia. If people are anxious about contracting an infection, they are more likely to stay home and abide by public health rules such as masking in public and social distancing. Thus, the generation of a certain level of experienced fear and anxiety is always operative in public health efforts to promote personal risk reduction behaviours, whether for chronic non-communicable or acute infectious diseases. This may have significantly augmented the highly effective disease control performance in nations with sustained low incidence rates. If the generation of COVID-19 related public anxiety increases the adoption of personal protective measures, reducing community transmission and disease incidence, it is a more complex matter to recommend mitigation of such positively motivating, adaptive anxiety.

Consideration of the disease control effectiveness of inducing public anxiety must be weighed against the negative impact of generating excessive COVID-19-related anxiety and stress on individual/community mental health and wellness. Clearly, an effective balance must be struck. On the one hand, excessive public anxiety induction, intended or not, raises bioethical concerns and contributes to pandemic fatigue that could eventually produce non-compliance with protective measures, including masking and vaccination. Pandemic fatigue is on the rise in the United States and other nations where the debate about and resistance to preventive measures are substantial. On the other hand, inadequate articulation of risk can undermine the adoption of personal protective disease control measures. In this context it is important to recall what occured during the first year of the US pandemic, when 529,000 Americans died from COVID-19, during which then-president Donald Trump frequently articulated views dismissive of the disease control/risk reduction value of critical basic personal protective measures, such as masking and non-essential services lockdowns.[19]

If nations with high pandemic control performance such as Australia and Singapore continue to be successful, contributors to this success will be studied to discern future best practices on how to effectively protect a nation confronting a pandemic. COVID-19 outbreak management and mortality in these countries, compared to other nations with similar socio-economic development and public health infrastructure, have been remarkable—despite regular, serious disruptions of life normalcy in what the public may perceive as oppressive lockdowns.[8] This is not to minimise COVID-19-related stress, anxiety and depression prevalent in these nations, or the contribution of lockdowns to these; the widespread experience of mental health issues due to the COVID-19 pandemic is an epidemic of its own. However, a globally contextual understanding of the pandemic's impact and epidemiological dynamics can aid in educating individuals and help them accept and effectively manage these mental health challenges. COVID-19-related anxiety and stress may be heterogenous in source, including personal or familial fear of infection

risk, illness and death, anxieties about the secondary impact of the pandemic on social and/or financial instability, income and employment insecurity, and fears of potential interruption of essential services and supply chains, including health care services and needed medications.

In adapting and evolving health promotion and wellness programs in Australia and Singapore as the pandemic progresses, it will be essential to help individuals and communities recognise that COVID-19-related mental health challenges, while serious and warranting attention, are much less severe in actual individual morbidity/mortality risk than having COVID-19 itself, and are far preferable issues to manage than the alternative observed in many other nations. Those working in wellness and health promotion within nations achieving such success in containing COVID-19 should engage individuals and communities in a manner that clearly and compellingly conveys that COVID-19-related anxiety and stress, while appropriate and legitimate, must be viewed through a comparative global perspective as people are conveyed appropriate psychosocial support resources. And further, that these forms of pandemic induced anxiety and stress can be dealt with, in relative terms, more easily and effectively than substantial community transmission of the virus, when hospital ICUs operate beyond capacity, hospital personnel are burned out and exhausted, and freezer trucks serve as mobile morgues during surges. In nations achieving success in COVID-19 disease control, a good part of wellness promotion in coming years will necessarily and effectively advance such a globally contextual epidemiological perspective at an individual and community level to help reduce public fear, anxiety, stress and depression caused by the virus and the measures to control it.

Efforts to advance the public's psychological coping with COVID-19 anxiety, and the mental health and wellness challenges posed by aggressive pandemic control measures such as lockdowns, will demand that effective communication of contextual, actual risk of infection be balanced with not undermining the disease control adaptive value that fear of the virus motivates in sustaining individual adoption of personal prevention and protective measures that help disrupt community transmission. Moving forward, comparative analyses of the effectiveness of different nations' performance in pandemic disease control should include assessing how this balance between infection risk anxiety and adoption of protective behaviours can be—and has been—struck successfully in differing national settings. These analyses will help us manage high levels of fear, anxiety and stress through the remainder of the COVID-19 pandemic, and in future potential pandemics of newly emerging infectious diseases where, as was the case for COVID-19 as well as the last pandemic of HIV/AIDS, disease control efforts will focus centrally on driving the adoption of personal protective behaviours.

CONFLICTS OF INTEREST

The authors have no conflicts of interest related to this manuscript.

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