Editorial

How health anxiety influences responses to viral outbreaks like COVID-19: What all decision-makers, health authorities, and health care professionals need to know

Heath anxiety occurs when perceived bodily sensations or changes, including but not limited to those related to infectious diseases (e.g., fever, coughing, aching muscles), are interpreted as symptoms of being ill (Asmundson, Abramowitz, Richter, & Whedon, 2010; Taylor & Asmundson, 2004). Almost everyone experiences health anxiety to some degree, and the associated vigilance to potential health-related threat can be protective, helping identify early signs of health issues that prompt health-promoting behavior. But, when excessive, health anxiety can be detrimental. As illustrated by Kosic, Lindholm, Jarvholm, Hedman-Lagerlof, and Axelsson (2020) in this volume, high levels of health anxiety are becoming increasingly common and, given that high health anxiety is known to manifest following exposure to disease-related popular media (Asmundson et al., 2010), of which there is no current shortage with COVID-19, levels around the world and particularly in areas reporting confirmed cases are likely to be on the rise.

Psychological factors are known to play a vital role in the success of public health strategies used to manage epidemics and pandemics; that is, risk communication, vaccination and antiviral therapy, hygiene practices, and social distancing. Health anxiety is important in influencing the success or failure of each of these strategies (Taylor, 2019). Accordingly, it is critical that public health decision-makers, health authorities, and health care providers across disciplines understand how health anxiety will influence responses to viral outbreaks, including current responses to COVID-19.

Contemporary cognitive-behavioral models (e.g., Asmundson et al., 2010; Taylor & Asmundson, 2004) posit that health anxiety occurs along a continuum; that is, it varies in degree, from very low levels to very high levels, as opposed to varying in quality. These models also suggest that high levels of health anxiety are characterized primarily by catastrophic misinterpretations of bodily sensations and changes, dysfunctional beliefs about health and illness, and maladaptive coping behaviours.

People with high health anxiety tend to misinterpret benign bodily sensations and changes as dangerous. In the case of viral outbreaks, depending on prior experiences with influenza and available information about the current outbreak, a person with high health anxiety may misinterpret benign muscle aches or coughing as a tell-tale signs that they are infected (Taylor & Asmundson, 2004; Wheaton, Abramowitz, Berman, Fabricant, & Olatunji, 2012). This, in turn, increases their anxiety. Misinterpretations of bodily sensations and changes are influenced by one's beliefs about health and disease, which in those with high health anxiety often include beliefs that all bodily sensations and changes are signs of illness and that one is especially weak or vulnerable to becoming ill. In short, in the context of a viral outbreak or pandemic, individuals with high health anxiety are prone to misinterpreting harmless bodily sensations and changes as evidence that they are infected. This will, in turn, increase their anxiety, influence their ability to make rational decisions, and impact their behaviour.

There are several ways in which high health anxiety may influence behavioural responses to the belief of being infected. On the one hand, some people with high health anxiety may regard hospitals and doctor's offices as a source of contagion and, therefore, avoid seeking medical assistance. On the other hand, other people with high health anxiety tend to seek out health-related information and reassurance, often from doctors. As such, they may visit multiple doctors or even attend hospital emergency rooms in their pursuit of reassurance that their bodily sensations and changes are not due to infection. This behaviour, if it occurs, would add undue burden to health care resources. This was evident during the 2009 H1N1 influenza pandemic, where the surge of patients on hospitals occurred even when the outbreak was only a rumor. At the time in the state of Utah, for example, there was heightened public concern about influenza but little actual disease prevalence; however, emergency room departments experienced substantial surges in patient volumes, with the volumes comparable to the increases experienced when the disease actually reached the state (McDonnell, Nelson, & Schunk, 2012). Most of the surge was due to pediatric visits. Young children frequently contract diseases with flu-like features (e.g., fever, cough, congestion), which were likely misinterpreted by their parents as possible signs of pandemic influenza. A recent article in the *Journal of the American Medical Association* highlights the need for hospital and medical clinic preparedness so that that concerns regarding COVID-19 do negatively impact normal medical care or compound its direct morbidity and mortality (Adalja, Toner, & Inglesby, 2020).

People with high health anxiety also tend to engage in a variety of other maladaptive safety behaviours. In the context of viral outbreaks, this may include excessive hand washing, social withdrawal, and panic purchasing. It is noteworthy that all of these behaviours are consistent with public health recommendations for managing epidemics and pandemics; however, in the case of those with high health anxiety, they are taken to an extreme that can have negative consequences to the individual and their community. For example, the false sense of urgency for various products needed for self-quarantine may lead the health anxious person to over-spend on stockpiling unneeded resources (e.g., hand sanitizer, medications, protective masks). This can have a rippling detrimental impact on a community in need of these resources for other purposes, including normal medical care.

Low levels of health anxiety can also have negative impacts on health behaviour (Asmundson, Taylor, Carleton, Weeks, &

Hadjistavropoulos, 2012), including public health strategies for managing epidemics and pandemics. To illustrate, during the 2009 H1N1 influenza pandemic, people who viewed themselves as having a low risk of infection were less likely to wash their hands (Gilles et al., 2011) and less likely to seek vaccination (Taha, Matheson, & Anisman, 2013). People who view themselves as being at low risk of infection will also be unlikely to change their social behaviour and disregard recommendations for social distancing. Failure to adhere to even the simplest recommendations, such as washing one's hands and social distancing, can have significant negative impacts on any efforts to mitigate viral spread.

Given that some people are now changing travel plans, organizers are cancelling conferences and other large public events, and hand sanitizer and other health "safety" and "survival" products are flying off the shelves, it is apparent that concern for personal safety is mounting as the number of COVID-19 cases continues to rise around the world. Health anxiety is one of the several psychological factors that will influence the way any given person responds to a viral outbreak (Taylor, 2019), including COVID-19. As per our recent recommendations (Asmundson & Taylor, 2020), more research is needed to understand how individual difference factors, including health anxiety, specifically impact behaviour in response to COVID-19. This will take some time. In the meantime, basic knowledge of how high and low levels of health anxiety will impact behaviour as it relates to strategies for containing and mitigating viral spread is important for all decision-makers, health authorities, and health care professional and needs to be communicated to the public in an effort to curb maladaptive or irresponsible decisions that may negatively impact these efforts.

References

Adalja, A. A., Toner, E., & Inglesby, T. V. (2020). Priorities for the US health community responding to COVID-19. *JAMA*. https://doi.org/10.1001/jama.2020.3413.

Asmundson, G. J. G., & Taylor, S. (2020). Coronaphobia: Fear and the 2019-nCoV outbreak. *Journal of Anxiety Disorders, 70,* 102196.

Asmundson, G. J. G., Abramowitz, J., Richter, A. A., & Whedon, M. (2010). Health anxiety: Current perspectives and future directions. *Current Psychiatry Reports, 12,* 306–312.

Asmundson, G. J. G., Taylor, S., Carleton, R. N., Weeks, J. W., & Hadjistavropoulos, H. D. (2012). Should health anxiety be carved at the joint? A look at the health anxiety construct using factor mixture modelling in a non-clinical sample. *Journal of Anxiety Disorders, 26,* 246–251.

Gilles, I., Bangerter, A., Clémence, A., Green, E. G. T., Krings, F., Staerklé, C., et al. (2011). Trust in medical organizations predicts pandemic (H1N1) 2009 vaccination behavior and perceived efficacy of protection measures in the Swiss public. *European Journal of Epidemiology, 26,* 203–210.

Kosic, A., Lindholm, P., Jarvholm, K., Hedman-Lagerlof, E., & Axelsson, E. (2020). Three decades of increase in health anxiety: Systematic review and meta-analysis of birth cohort changes in university student samples from 1985 to 2017. *Journal of Anxiety Disorders.* https://doi.org/10.1016/j.janxdis.2020.102208.

McDonnell, W. M., Nelson, D. S., & Schunk, J. E. (2012). Should we fear "flu fear" itself? Effects of H1N1 influenza fear on ED use. *The American Journal of Emergency Medicine, 30,* 275–282.

Taha, S., Matheson, K., & Anisman, H. (2013). The 2009 H1N1 influenza pandemic: The role of threat, coping, and media trust on vaccination intentions in Canada. *Journal of Health Communication, 18,* 278–290.

Taylor, S. (2019). *The psychology of pandemics: Preparing for the next global outbreak of infectious disease.* Newcastle upon Tyne: Cambridge Scholars Publishing.

Taylor, S., & Asmundson, G. J. G. (2004). *Treating health anxiety: A cognitive-behavioral approach.* New York: Guilford.

Wheaton, M. G., Abramowitz, J. S., Berman, N. C., Fabricant, L. E., & Olatunji, B. O. (2012). Psychological predictors of anxiety in response to the H1N1 (swine flu) pandemic. *Cognitive Therapy and Research, 36,* 210–218.

Gordon J.G. Asmundson*
Department of Psychology, University of Regina, Canada
E-mail address: gordon.asmundson@uregina.ca.

Steven Taylor
Department of Psychiatry, University of British Columbia, Canada

* Corresponding author.