Heath care workers lacking personal protective equipment suffer from more anxiety and depression

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While all workers across Canada and around the world are being affected by COVID-19, health-care workers as a group are most heavily feeling its impact. This is because of their pivotal role in the treatment of people infected with the virus and their high COVID-19 exposure as part of their job. As such, maximizing efforts to enable the health-care workforce to remain free of COVID-19 infection, and stay in good physical and mental health, is essential to the response and management of COVID-19.

Including mental health in these efforts is important. Consider the situation of many health-care workers during the pandemic: their increased workload, the moral dilemmas they may face when providing patient care, their heightened personal exposure to COVID-19 infection, and their associated worries about infecting family and household members. It's no surprise that previous studies have shown increases in mental health symptoms among health-care workers during disease outbreaks and pandemics.

It is also important to identify workplace factors linked to mental health that can be changed. While personal protective equipment (PPE) and infection control procedures are often discussed as measures to reduce virus transmission, we also need to understand their importance in the context of mental health, especially since the mental health impacts of COVID-19 may linger beyond the pandemic.

Our team of work and health researchers recently examined the association between the perceived adequacy of PPE and infection control procedures, and symptoms of anxiety and depression among health-care workers. As reported in our paper in the *Canadian Journal of Psychiatry*, we found greater levels of mental health symptoms among workers who indicated their needs for PPE and infection control procedures were not met.

Assessing mental health and protection measures

About 6,000 health-care workers in hospitals, long-term care homes and other community care settings were recruited across Canada through the networks of an ad-hoc pandemic survey group. Responses were collected by the Occupational Health Clinics for Ontario Workers and then analyzed at the Institute for Work & Health. Surveys were conducted between April 7 and May 13, 2020, during the height of the first wave of COVID-19 infections in Canada.

To assess symptoms of anxiety and depression among health-care workers, we asked questions from two validated screening instruments: the General Anxiety Questionnaire (GAD-2) and the Patient Health Questionnaire (PHQ-2).

We also asked about eight different types of PPE that might be needed such as gloves, hand sanitizer, face shields, procedural masks and N95 masks. For each type of PPE, respondents indicated if these were needed and adequately supplied (both in terms of appropriate type and adequate amounts), needed but not adequately supplied, or not needed.

We further asked about 10 different types of infection control procedures such as screening patients, isolating symptomatic patients from other patients and staff, frequent cleaning, and using engineering controls such as ventilation systems. Again, respondents told us whether these were appropriate and adequately implemented, required but inadequately implemented or not required.

We then grouped respondents based on the proportion of their needs for PPE or infection control procedures that were met, and ran statistical models to estimate the proportion of respondents in each of these groups with symptoms of anxiety and depression. Our models took into account a variety of factors about each respondent (age, gender and visible minority status), where they lived (province and urban/suburban/rural setting), the type of health-care facility they worked in, the hours of work per week and how long they had worked there, their level of exposure to COVID-19 patients, level of infections in their workplace, if they had experienced COVID-19 symptoms and training on PPE.

We found that, among respondents with 100 percent of their PPE needs met, 42.9 percent reported symptoms consistent with anxiety; this increased to 60.4 percent among respondents with none of their needs met. This was after taking into account the factors listed above which might also be related to anxiety symptoms. Similar differences were observed in anxiety symptoms between workers with none or all of their needs for infection control procedures met (43.4 percent of workers with all their infection control needs met had anxiety symptoms compared to 60.6 percent of workers with none of these needs met). We also observed differences in the prevalence of depression symptoms among these same groups (differences of 11 percentage points for PPE needs, and 19 percentage points for infection control procedures).

Implications for health-care workers

While no silver bullet will adequately address the increased mental health needs of health-care workers during COVID-19, our study demonstrates that the perceived adequacy of PPE and infection control procedures in health-care workplaces is associated with important differences in anxiety and depression symptoms. As such, it is important that health-care workplaces provide adequate and appropriate PPE and institute effective infection control procedures—not just to reduce COVID-19 infection, but to help reduce the mental health strain faced by health-care workers.