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Review Article

Mental health and well-being of healthcare professionals amid the COVID-19 pandemic in Canada

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ABSTRACT

Introduction: The COVID-19 pandemic posed unique challenges to healthcare professionals (HCPs) with increased risk of mental health and well-being globally. However, the psychological impact of the pandemic on the mental health and well-being of HCPs in Canada is not fully understood. This paper critically reviews broadly available literature on the mental health and psychosocial status of HCPs amid the COVID-19 pandemic in Canada.

Methods: A comprehensive online search was conducted using the guidelines outlined by the Centre for Reviews and Dissemination for combining the findings of diverse primary studies within a single review. Online search was conducted through databases such as AMED (Allied and Complementary Medicine), Embase, Global Health, Ovid Healthstar, Mental Measurements Yearbook, EBM Reviews - ACP Journal Club, EBM Reviews - Cochrane Database of Systematic Reviews, Ovid MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review, and Google Scholar for the period between March 2020 and May 2023. Twenty-two studies met the inclusion criteria and were analyzed using a thematic analysis approach to identify the main themes across studies.

Results: The analysis uncovers three key themes: 1) HCPs face diverse mental health impacts during the pandemic; 2) HCPs are dissatisfied with organizational approaches to COVID-19; and 3) HCPs express concerns about personal well-being and the safety of others during the pandemic.

Conclusion: These findings emphasize the need for HCPs to cope effectively with stressors for their own, their patients, and their families' well-being. Therefore, future research should prioritize how HCPs can maintain their emotional, mental, and psychological well-being.

Keywords: COVID-19, Psychological well-being, Mental health, Healthcare professionals

Introduction

In March 2020, the World Health Organization (WHO) announced the worldwide transmission of the novel coronavirus (COVID-19) as a global pandemic.[1] By June 2021, Canada had reported 1.4 million COVID-19 cases and 26,200 deaths.[2] In response, the Canadian government allocated $60.3 billion to support public health responses, including vaccine development, mitigation efforts, and support to Indigenous communities. Healthcare professionals (HCPs), such as nurses, dieticians, physicians, and respiratory therapists, providing care to COVID-19 patients, have faced considerable strain throughout the pandemic. They encountered challenges in adapting to new scientific knowledge and managing the risk of infection, leading to a significant impact on their mental, emotional, and psychological well-being. The WHO defines mental health as "a state of

well-being in which an individual realizes his or her abilities, can cope with the normal stresses of life, can work productively and can make a contribution to his or her community."[3] However, to assess mental health, the absence of mental health disorders is commonly employed as a standard criterion in mainstream healthcare.

This article aims to critically review the existing literature on the impact of the COVID-19 pandemic on the mental health and well-being of HCPs in Canada. The overarching question guiding this paper is: *What are the main themes concerning the mental health impacts on HCPs in Canada amidst the COVID-19 pandemic?* Given the limited understanding of the mental health implications encountered by HCPs in Canada amidst the pandemic, this study fills a significant gap in the existing scholarship. The findings from this study will contribute to the development of mental health promotion policies and interventions aimed at addressing the specific needs of HCPs during the pandemic, such as COVID-19.

Methods

A protocol using a standardized approach for conducting a literature review was devised to avoid unplanned duplication of literature in the study. The databases included: AMED (Allied and Complementary Medicine), Embase, Global Health, Ovid Healthstar, Mental Measurements Yearbook, EBM Reviews - ACP Journal Club, EBM Reviews - Cochrane Database of Systematic Reviews, Ovid MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review, and Google Scholar from March 11, 2020 to May 05, 2023. Our review has been informed by best practices outlined by the Centre for Reviews and Dissemination guidelines for combining the findings of diverse primary studies within a single review.[4] In effect, it has been reported through a rigorous process of transparency, increasing replication and reliability of the search strategy.

The search strategy employed the following keywords: "Healthcare professional" OR "front line workers" OR "nurses" OR "doctor" OR "physicians" AND "mental health" OR "mental well-being" OR "psychology*" AND "COVID-19" OR "pandemic" OR "coronavirus disease," explicitly focusing on studies conducted in Canada. Following the database's search (see Figure 1), 2185 studies were identified; however, after incorporating the Canadian context, only 34 studies were retrieved. Among those 34 articles, 11 were deemed irrelevant, and seven were duplicates, leaving 16 relevant studies for analysis. Medline, PubMed, APA PsycINFO, and Google Scholar were also searched using similar keywords, and six studies were identified using the predetermined eligibility criteria. In total, 22 studies met the inclusion criteria. Of the 22 studies, 11 were qualitative, nine quantitative, and two mixed methods. The inclusion criteria included: (a) studies about HCPs who were employed in healthcare settings throughout the COVID-19 pandemic; (b) studies that provided an account of mental health or mental well-being affected by COVID-19; (c) studies that involved Canadian HCPs and (d) studies that were written in English and were published after March 11, 2020 (following WHO's declaration of COVID-19 as a pandemic). Figure 1 demonstrates the flowchart used for search strategies.

Two co-authors independently screened the titles and abstracts of the selected studies. Full texts of articles that successfully passed the initial screening were subsequently evaluated. In the event of any disparities encountered during the screening process, the reviewers engaged in thorough discussions to reach a consensus and resolve the discrepancies. Twenty-two studies met the inclusion criteria and were analyzed using a thematic analysis approach.[5] In this process, each co-author independently reviewed the full text and developed their own themes and sub-themes across the studies. The co-authors met virtually (on Zoom) to compare and contrast their themes and sub-themes. This process involved several meetings on Zoom to critically engage in discussion of their findings, leading to the development of common themes and sub-themes.

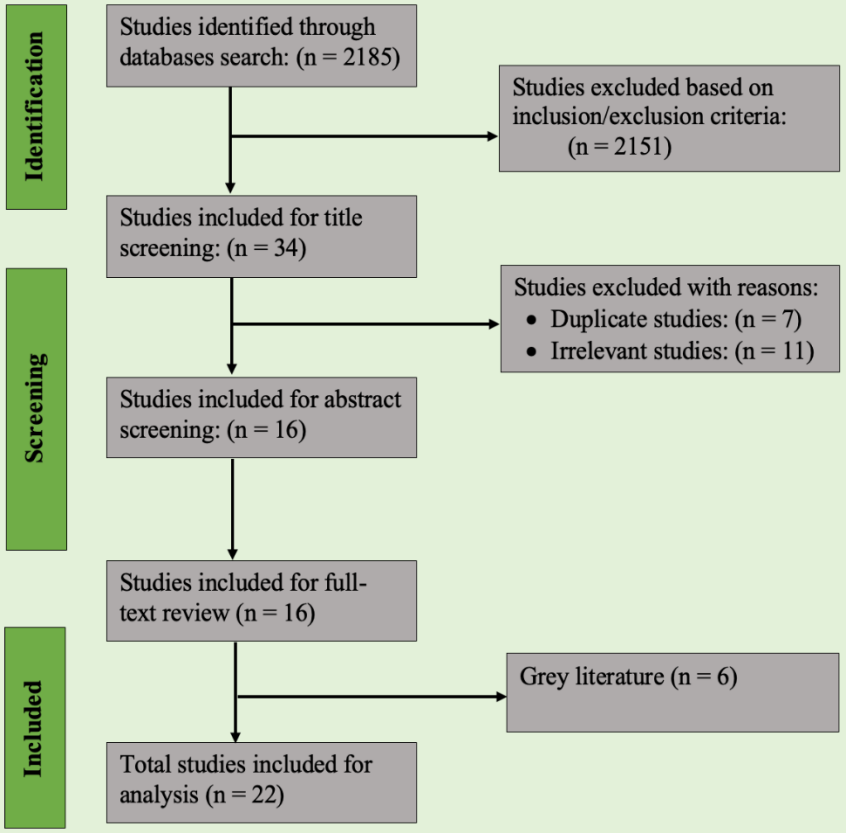

Figure 1. Flowchart

Results and major findings

Our analysis generated three major themes and six sub-themes, which we present and discuss in subsequent sections.

1. Assessing mental health impacts among HCPs

According to the WHO, mental health is "a state of well-being in which an individual realizes his or her abilities, can cope with the normal stressors of life, can work productively and can make a contribution to his or her community."[3] The mental health implications of COVID-19 among HCPs emerged as one of the main themes across the studies. Before the onset of the COVID-19 pandemic, HCPs were already recognized to experience a greater occurrence of mental health challenges in comparison to individuals who are not in the healthcare profession.[6] The main theme incorporated two sub-themes. The first sub-theme focuses on *adverse psychological outcomes*, whereas the second sub-theme highlights *job burnout and its impact on the quality of life* for HCPs. Both themes contribute to the negative mental health effects and psychological distress experienced by HCPs.

1.1 Negative psychological outcomes:

Most studies included in this review have examined the implications of the COVID-19 pandemic on the mental health and well-being of HCPs in Canada. For example, a study found that, of the 3,676 nurses, 38% of the nurses met the diagnostic threshold for anxiety, 47% for post-traumatic stress disorder (PTSD), 60% for emotional exhaustion, and 41% for depression.[6] Another study conducted on 109 critical care registered nurses in Western Canada during the beginning of the COVID-19 pandemic found that the prevalence of PTSD symptoms among the respondents was 73.3%, significantly higher than pre-COVID-19 rates ranging from 8.5% to 20.8%.[7] The study also revealed high rates of anxiety, stress, and depression: 67%, 54% and 57%, respectively.[7] Additionally, the effect of the COVID-19 pandemic on mental health was examined among 159 Canadian medical oncologists, which revealed that 54% of oncologists experienced anxiety, 52% experienced depression, and 57% identified personal wellness as the greatest challenge during the pandemic.[8]

An online survey conducted in Canada involving 5,998 HCPs to investigate their mental health during the COVID-19 pandemic, revealed that over 55% of participants experienced anxiety, while 42% experienced depression.[9] The authors used the Generalized Anxiety Disorder (GAD-2) screener to assess anxiety systems and the Patient Health Questionnaire (PHQ-2) for depression symptoms. These outcomes were associated with the perceived inadequacy of personal protective equipment (PPE) and workplace policies. A study involving 218 Canadian respiratory therapists revealed concerning rates of mental health symptoms, indicating that more than 52% of the participants scored outside the normal range for depression, 51% for anxiety, and 54% for stress.[10] Additionally, 33% of respiratory therapists displayed indicators of PTSD, and 18% scored above cut-offs for depression, anxiety, stress, and PTSD collectively. A study examining the prevalence of PTSD and psychological distress amongst intensive care unit workers found similar results.[11] Their findings indicated that 37% of respondents reported 'PTSD symptoms,' and 18% experienced 'psychological distress.' Additionally, women and nurses were identified as high-risk groups for adverse mental health outcomes.[11] Furthermore, 10 HCPs in long-term care homes and hospitals expressed anxiety, stress, anger and fear during the COVID-19 pandemic.[12] One of the participants in the study mentioned above talked about how stressed she was while working during the pandemic and how such stress had affected her overall well-being:

> "I've come home and cried many times. I'm stressed out. I can't sleep at night. There's a lot of us having trouble sleeping. I try to talk about it to my husband and he says, "You need to decompress, and you need to stop talking about work." But I say, "Work is such a big thing for me right now; I need people to know" (p. 270).[12]

Furthermore, a study involving 86 HCPs (including nurses, pharmacists, and physicians) in New Brunswick found that about 50% of HCPs reported experiencing depression, and 10% indicated having suicidal thoughts.[13] New Brunswick had low COVID-19 case counts at the time of the study, and the results highlight the significance of evaluating the mental health of HCPs, even in regions with low infection rates. At the same time, the findings also raise concerns about the mental health status of HCPs in provinces with higher caseloads, as the distress observed in a relatively unaffected province is already significant.[13] To discern the difference in health outcomes before and after the COVID-19 pandemic, a study conducted in collaboration with the Canadian Federation of Nurses Union investigated the experiences of occupational stress among nurses.[14] The research aimed to establish a baseline, enabling a comparison of mental health outcomes for nurses during the pandemic. This unique approach of establishing a pre-pandemic baseline allows for valuable comparison in understanding the specific impact of the COVID-19 crisis on the mental health of nurses. Such comparative data is not commonly found in published research studies, making this study a valuable contribution to the field.

1.2 Job burnout and quality of life:

The COVID-19 pandemic has globally exerted pressure on healthcare facilities, significantly impacting the HCPs' quality of life. [10,12,15,16] In 2021, HCPs' average overtime hours reached the highest level in over a decade.[16] Approximately 236,000 healthcare employees worked overtime, with an average of 8.2 hours per week of compensated overtime and 5.8 hours per week of unpaid overtime. This practice of continuously exceeding one's capacity can contribute to job burnout. A study conducted in 2022 examined the resilience and psychosocial functioning of psychiatric and general hospital HCPs to identify predictors of stress resilience and quality of life in demanding work environments.[15] The study found that among 240 participants, 26.4% of respondents scored in the clinical range for Coronavirus anxiety score (CAS), indicating significant levels of anxiety associated with the pandemic.[10] The nursing profession was identified as a protective factor that predicted higher

resilience scores. Moreover, HCPs in both settings (i.e., psychiatric and general hospital) demonstrated comparable levels of psychological symptoms.[12,15]

Furthermore, a study examining the functional impairment experienced by 178 respiratory therapists revealed that HCPS reported difficulties in carrying out their work due to health conditions associated with their roles.[10] On average, participants indicated 4.1 days where they had to lessen their workload due to health conditions. These findings suggest an indication of burnout, where HCPs are unable to effectively perform their tasks amidst the stressful conditions of the COVID-19 pandemic. The study applied the World Health Organization Disability Assessment Schedule (WHODAS) scores, which assesses functional impairment. The WHODAS scores were positively correlated with scores for depression (52%), anxiety (51%), and PTSD (33%).[10] As such, increased levels of adverse psychological symptoms were linked to a heightened degree of functional impairment among the participants.

While many studies have extensively examined the occurrence of associated risk factors linked with mental health among HCPs, biological variables have been virtually neglected.[7,9,11,13,15] For example, a study analyzed the correlation between hair cortisol levels and burnout in 467 HCPs (nutritional therapists, occupational therapists, respiratory therapists, nurses, and physicians) from Quebec, indicating that 50% of the participants displayed symptoms of burnout.[17] Burnout revealed symptoms of emotional depersonalization or exhaustion at least once a week. Notably, hair cortisol levels significantly increased by a median increase of 29% after the onset of the pandemic, indicating a physiological influence of increased stress and demands on HCPs. This increase in cortisol was also statistically associated with burnout, further supporting the link between stress and physiological response. Additionally, perceived organizational support and resilience were negatively correlated with burnout experienced by HCPs.[7,12,17,18] These factors played a protective role against burnout among the participants. As such, the study holds great importance in understanding the impact of the pandemic on healthcare workers.[17] Furthermore, exploring the changes in HCPs' stress hormone levels can provide valuable insights. By identifying individuals who may be at higher risk based on their biomarker levels, healthcare organizations can design targeted interventions and support systems to address their specific needs. This personalized approach can significantly contribute to promoting HCPs' mental health and well-being during the pandemic.

In an effort to grasp the pandemic's influence on the quality of life among healthcare professionals, including but not limited to physicians, nurses, dentists, and psychologists, the Canadian government conducted an extensive survey involving 12,246 HCPs. The results indicated that 95% reported the pandemic's impact on their jobs, with 85% experiencing heightened work-related stress during this period.[19] Among HCPs not intending to retire, 17.9% indicated their intention to leave their job or switch to a different job within the next three years. Specifically, a higher proportion of women, 18.5%, were considering a job change compared to men, 15.5%. Notably, job stress or burnout was cited by 63.2% of respondents as the most common reason for leaving their job, followed by concerns about mental health at 53% and job dissatisfaction at 48.8%, which is comparable with other studies mentioned above.[11,15,19] During the pandemic, 67% of HCPs (such as nurses, physicians, ICU pharmacists, occupational therapists, physiotherapists, and personal support workers) reported feeling increased levels of stress at their workplace, and 37% had considered leaving their jobs, and more than 50% of HCPs indicated an increased workload, from working overtime to being assigned tasks they don't typically handle.[11] These findings underline the strain experienced by HCPs during the pandemic, with heightened stress levels and an overwhelming workload contributing to burnout and job dissatisfaction. The desire to leave a job can be attributed to the

challenging working conditions, having a negative impact on the quality of life and mental health of HCPs.[10,11,15,17,19]

2. Dissatisfaction of HCPs with organizational approaches to COVID-19

The response to the COVID-19 pandemic could have been improved if governments, public health agencies, and institutions had adhered to preventive measures. Consequently, the second theme identified in this review pertains to HCPs' discontentment with organizational conditions throughout the pandemic. Within this theme, two sub-themes emerged: *organizational change* and *inadequate access to PPE*. These recurring sub-themes have jeopardized HCPs' safety and have been recognized as contributing factors to the adverse impact on their mental health.

2.1 Organizational change:

Numerous Canadian studies have investigated the connection between HCPs' distress and organizational change.[6,7,10,12,18,20,21] Canadian nurses have reported experiencing anxiety, worry, distress, or fear attributed to various organizational factors, such as frequent policy changes, ambiguous communication, and difficulty reconciling conflicting messages from different departments.[7] In addition, various HCPs working in long-term care homes and hospitals have identified inconsistencies in organizational policies and barriers to implementing necessary changes amidst the COVID-19 pandemic.[12] The awareness of being at a higher risk of infection due to inadequate protection led to fear, anger, a sense of violation and frustration. 91% of respondents expressed feeling abandoned by the provincial government.[12] Insufficient staffing levels were recognized as factors contributing not only to the burnout experienced by HCPs but also compromised patient safety.

Furthermore, the mental health scores of HCPs were reported to be higher when they rated organizational support or preparedness negatively.[6] This included factors such as confidence in how the organization handled the pandemic, frequency of policy changes, transparency in policy decisions, and availability of resources, all of which indicated a need for improved workplace policies and practices to provide better support for HCPs during the COVID-19 pandemic. Additionally, the vaccination rollout has emerged as an important factor concerning organizational support during the pandemic, particularly among Canadian physicians. In a survey conducted by the Canadian Medical Association (CMA) with 1,648 practicing physicians, the majority reported heightened anxiety and fatigue related to COVID-19.[18] When HCPs were asked about factors that negatively impacted their mental well-being, 62% reported concerns about the vaccine rollout, 64% mentioned social restrictions, and 63% expressed uncertainty about the future. Among the physicians surveyed, 20% expressed that Canada should prioritize coordinating an effective vaccine distribution strategy to improve its response to the pandemic. However, 60% felt that the 'federal government's ability to secure vaccine supplies was poor,' while over 50% gave equally low ratings to their territorial or provincial government's handling of the vaccine rollout.[18] Numerous family physicians expressed their willingness to assist with vaccine distribution but reported not being informed about how to do so. This has resulted in frustration with the organizations overseeing the management of the pandemic, echoing findings from prior studies.[6,12,18]

Interviews conducted with respiratory therapists reveal a range of opinions during the pandemic, including disagreements among staff, increased workloads, burnout, conflicts with management, the initial fear of contamination, anxiety about obtaining vaccines for their families, and frustration with the vaccine rollout and prioritization of certain worker groups over others.[10] A study of 18 clinicians in Canadian Pediatric Eating Disorder programs during the COVID-19 pandemic revealed significant challenges in managing increased patient volumes without adequate resources.[20] Consequently, the workload for these professionals substantially increased during the pandemic, which is consistent with other studies.[10,12] Additionally,

HCPs such as physicians, nurses, occupational therapists, and respiratory therapists were reported to face potentially morally injurious events when the community transmission of COVID-19 significantly escalated, resulting in a drastic increase in their workload and limited ability to provide quality care.[22] Alongside the increased workload, many healthcare settings also experienced decreased staffing levels.[19,22,23,24] Policies mandated that staff members with COVID-19 symptoms or close contact with infected individuals could not work, further exacerbating the staffing shortage. Thus, HCPs were left responsible for caring for a larger number of patients than they could safely manage.

2.2 Inadequate access to PPE:

Several studies highlighted the insufficient availability of Personal Protective Equipment (PPE) for HCPs.[6-9,12,21,22] A study conducted in Ontario investigated the connection between the perceived sufficiency of PPE and the mental well-being of 5,988 HCPs.[9] The study found that there were high unmet needs for PPE: only 42.9% of the needed face shields and 29.1% of the needed N95 masks were met. Overall, less than 20% of the participants had their PPE and infection control requirements fulfilled. Furthermore, there was also a high prevalence of general anxiety disorder symptoms among HCPs who did not have their PPE and infection control requirements met.[9] These findings reflect the distress experienced by HCPs who are risking their lives to provide care while lacking adequate support and protection from their organizations.

In a study of 159 Canadian medical oncologists, it was discovered that 33% did not have any routinely used PPE, while 13% reported sporadic usage, often because their institutions discouraged using protective measures beyond handwashing and physical distancing.[8] Only 4% of respondents reported regular use of N95 respirator masks. The study also highlighted concerns about PPE access, with 69% of medical oncologists expressing uncertainty about having adequate PPE at their workplace during the pandemic. Moreover, 61% of participants lacked confidence in their institutions' support during this challenging time.[8] These findings align with a survey conducted by the Canadian Medical Association, which revealed that 75% of physicians expressed uncertainty about PPE availability.[8,9] As such, it is essential to advocate for increased efforts to procure PPE and ensure HCPs are adequately informed about the availability of essential protective equipment. Another study examined the perception of PPE amongst 10 HCPs working in long-term care homes and hospitals and found similar findings that the HCPs expressed dissatisfaction with the level of protection they were provided.[12] Specifically, the HCPs had requested N95 respirators when encountering suspected or confirmed cases, but their requests were mostly denied. They felt that decisions regarding the distribution of PPE were unfair and that their workplace did not prioritize their safety. The absence of clear guidance following the declaration of the pandemic, insufficient protective guidelines, and a lack of preparedness intensified feelings of abandonment and frustration among HCPs. The respondents also expressed being left to fend for themselves not only against COVID-19 infection but also against mental distress and burnout.[11,16,17] Several HCPs pointed out that the policies implementing PPE practices to minimize the risk of exposure to COVID-19 had unintended consequences, making it challenging or even impossible to respond promptly to emergencies.[21] Moreover, organizational decisions aimed at conserving the limited quantity of PPE were perceived by HCPs as unjust, as they seemed to prioritize certain HCPs over others, placing some individuals at a higher risk of infection. For instance, one participant mentioned that their organization withheld PPE supplies for nurses on the mental health team, opting instead to reserve it exclusively for emergency room nurses.[21]

Another study aimed to qualitatively explore the stressors experienced by 74 HCPs (including nurses, physicians, counselors, and therapists) during the COVID-19 pandemic.[22] One significant concern raised by HCPs was the unavailability of

safe PPE, particularly due to instances of receiving defective PPE in the past. This experience of inadequate protection can be traumatic, especially during a pandemic where stringent safety measures are crucial for the well-being of both HCPs and patients. In addition to their attempts to ensure safe patient care requirements, Canadian nurses reported experiencing psychological distress.[7] Higher mental health scores were also observed for negative ratings of access to supplies and PPE.[6] As such, these studies demonstrate an association between HCPs' organizational conditions and the adverse impact on their mental health.[6,7,10,12,18,20,21] Thus, implementing organizational support measures can effectively enhance the mental well-being of HCPs.

3. HCPs' concerns for themselves and loved ones

HCPs have demonstrated unwavering dedication in carrying out their clinical and compassionate duties, often in hazardous working conditions. Throughout this process, they have expressed concerns about their safety, struggled with uncertainty regarding the transmission of the virus to others, experienced isolation from their friends and families, and grieved the loss of loved ones.[22] Consequently, the final theme that emerged is the infection risk faced by HCPs during the pandemic and the subsequent impact on themselves and others. Within this theme, two sub-themes were identified: *Professional stressors* faced by HCPs and *Personal stressors* as they strive to fulfill their roles beyond the confines of their workplaces.

3.1 Professional stressors:

Research studies conducted in Canada have highlighted the genuine apprehension regarding infection among HCPs. Amongst 159 Canadian medical oncologists surveyed, over 70% were worried about 'contracting or transmitting the viruses' to their friends and family.[6,8] Significant connections between adverse mental health impacts and unsafe work environments among nurses have also been established during the COVID-19 pandemic.[6] These impacts encompassed the fear of exposure to COVID-19, the likelihood of transmitting the virus, and the possibility of infecting loved ones within the household. Similarly, nurses expressed worries about falling ill with COVID-19 or inadvertently bringing the virus to their families.[7] These findings collectively underscore the genuine worries experienced by HCPs regarding infection risks and their potential consequences. Another study found that HCPs, including nurses, physicians, counselors, and therapists, expressed significant fear of COVID-19, which hindered their interactions with patients.[22] For some HCPs, fear extended beyond personal safety and encompassed the uncertainty and demands of ensuring the well-being of their patients. Moral distress was also identified among HCPs when their efforts to provide care to vulnerable patients were undermined by uncertainty within workplace policies. Some HCPs prioritized the needs of others, often resulting in the neglect of their well-being.

Additionally, the experiences of 21 HCPs (including nurses, physicians, psychologists, pharmacists, and physical therapists, among others) as they witnessed and encountered their own grief and loss during the pandemic were investigated through journal entries.[25] These HCPs shared accounts of their patients' deaths due to COVID-19. However, they also expressed experiencing their losses at an intensified level, without having the time to emotionally process these losses due to the demands of the pandemic. Additionally, HCPs faced losses in the form of missed opportunities and disruptions.[25] Other HCPs shared how encounters with patients in palliative care resulted in fear of infecting others, leading to self-imposed isolation. Fearing the transmission of the virus, HCPs found themselves suppressing their frustrations, affecting their emotional well-being and exacerbating feelings of loneliness and grief without a supportive community. These findings highlight the emotional toll faced by HCPs as they struggle with grief and loss both personally and professionally throughout the pandemic.

During the COVID-19 pandemic, moral injury also emerged as a significant challenge faced by 32 frontline long-term care staff.[26] It encompassed

various distressing experiences, such as feeling unsupported by management, witnessing residents passing away alone, confronting a lack of preparedness, enduring personal loss or trauma, and dealing with inadequate support following morally injurious events. Each HCP recounted at least one instance of moral injury they had encountered. In these narratives, a prevailing sense of helplessness was identified as a significant component of their experiences, highlighting the profound impact of moral injury on the well-being and professional lives of HCPs during the pandemic.[26]

Additionally, the potential association between personal and work-related concerns and the resultant psychological distress was assessed amongst 455 intensive care unit workers during the COVID-19 pandemic.[11] Among the respondents, 76% of the HCPs had direct contact with confirmed or suspected cases of COVID-19 patients, and 36% reported frequent exposure to the virus. 60% of respondents indicated that their job put them at a higher risk of exposure to COVID-19, and 58% expressed fear of contracting the virus. However, 56% accepted the risk of contracting the virus as part of their job. The study also found that 76% of the respondents expressed concern about the risk of transmitting the virus to their family, 52% to their close friends, 50% to their work colleagues, and 35% to their patients.[11] These findings highlight the significant concerns and fears experienced by HCPs during the pandemic as they continue to provide care while risking infection.

HCPs in critical care units had also recounted experiences where ventilator support was initiated for patients, even when it went against the patients' expected survival outcomes.[21] This contradicts the principles of patient-centered care, which prioritize addressing individual needs and empowering them to actively participate in their healthcare decisions.[27] This resulted in HCPs feeling a sense of failure when their patients were ventilated against their expressed wishes, and they experienced a burden of responsibility for not advocating more strongly on behalf of the patients. Such actions contradicted the moral obligation of HCPs to provide patient-centered care with dignity. Participants in the study reported instances where their professional judgments were disregarded, particularly when patients experienced harm or death. Furthermore, HCPs felt that their employers acted unsupportive toward their well-being. A participant shared an example, stating, "I asked for support from my manager to help deal with burnout and was called over-the-top and mentally ill by senior management."[21] This perception led HCPs to believe that the management placed less emphasis on their well-being and prioritized cost-saving measures, aggravating their frustrations. It underlines the need for supportive leadership, ethical decision-making, and a culture that prioritizes both patient and employee well-being within healthcare organizations.

3.2 Personal stressors:

In the study with 455 intensive care unit workers, social stigma emerged as a concerning issue, where 54% of respondents have experienced avoidance from others due to their job, while 62% of the respondents felt appreciated and acknowledged by society and 45% by their hospital.[11] Only 36% expressed confidence in their employer's ability to provide adequate medical support if they contracted COVID-19, and 21% of HCPs reported resorting to alcohol, marijuana, or other recreational drugs as coping mechanisms. This indicates a problematic situation where HCPs had to rely on substance use rather than receiving the necessary social support.

It was also evident that HCPs (such as nurses, physicians, counselors, and therapists, among others) played multiple roles beyond their professional responsibilities.[22] Participants highlighted the challenges they faced in juggling various roles and responsibilities, and they had to utilize available resources to alleviate some of these struggles. For instance, some participants resided in intergenerational households that included young children and vulnerable elderly adults, adding further complexities to their lives. Additionally, HCPs who had family members residing abroad experienced prolonged

separation and disconnection due to pandemic-related travel restrictions.[22] These accounts shared by participants emphasized that, alongside their frontline HCP roles, they also encountered multiple demands akin to those experienced by the broader general population. However, their personal stressors often remained hidden by the predominant discourse surrounding their professional demands.

The demands of providing care in their own home have created a complex dilemma for HCPs.[22] On the one hand, they are unpaid workers in their personal lives while having to maintain their challenging roles as HCPs at work. The cumulative impact of these intersecting stressors has had significant consequences on the mental and physical health of HCPs. They have experienced bodily pain, sleep disturbances, anger, anxiety, burnout, emotional exhaustion, suicidal ideation, and burnout. The Work and Wellness Survey from Ontario nurses revealed that 60% of respondents indicated high levels of stress.[28] Another study also highlights the immense toll that stressors have taken on HCPs, underscoring the urgent need for support and interventions to address their mental health and well-being.[29]

The experiences of discrimination and racial microaggressions among Asian healthcare workers in the United States and Canada were also prevalent amidst the COVID-19 pandemic.[30] Racial discrimination refers to any form of discrimination directed at individuals based on their skin color, race, or ethnic group.[31] Microaggressions, on the other hand, are subtle and unintentional interactions or behaviors that convey a bias towards historically marginalized groups.[32] Asian HCPs, including nurses, physical therapists, physicians, midwives, pharmacists, and paramedics, have reported elevated levels of racial discrimination alongside the stress of working in healthcare facilities during the pandemic.[30] The primary perpetrators of the microaggressions were members of the public, but participants also reported instances of microaggressions from patients and colleagues. Many participants reported experiencing overt microaggressions relating to COVID-19 that resembled traditional forms of racism.[30] These microaggressions encompassed cases of direct avoidance, such as demands to be attended by a non-Asian doctor, along with derogatory racial stereotypes. As such, the participants reported feelings of anger, fear, and despair, as well as engaging in rumination over the incidents. Additionally, participants expressed hypervigilance and worrying about their safety. All participants reported feeling discontent in regard to how the pandemic was managed by their workplace and the leadership of their countries. Moreover, participants voiced disappointment over the ignorance and lack of attention given to Asian issues and the systemic failure of North American leadership during the pandemic.[30,33,34,35,36]

Discussion and recommendations

This paper provides a critical review of the mental health of HCPs during the COVID-19 pandemic. However, the studies published to date are homogenous, resulting in a limited understanding of the challenges to mental well-being HCPs endured throughout the pandemic. The limited research methods do not uncover some of the nuanced experiences HCPs encounter. Future research needs to address the following knowledge gaps.

The research methods employed in many studies are largely homogenous, primarily relying on online self-report surveys and descriptive statistics to categorize participants into mental health disorders.[6,8,11] This might have limited participants' ability to express concerns beyond the scope of the questionnaires used. Thus, research findings are interpreted through the researcher's lens, limiting the representation and contextualization of participant experiences.[37] Alternatively, the qualitative research designs included in this review revealed unique findings not captured by other methods. For example, one study conducted semi-structured interviews, revealing the anxiety, fear, worry or distress of frontline long-term care and hospital staff with regard to managing their commitments to self and

family.[12] Thus, this design enables a broader understanding of the impacts affecting the mental health of HCPs. For example, as stated in one of the studies, a nurse working in a large urban hospital talked about how the stress of working during the pandemic is affecting her overall well-being and even family relationships: "I've come home and cried many times. I'm stressed out. I can't sleep at night. There's a lot of us having trouble sleeping" (p 270).[12] Thus, studies utilizing structural approaches (e.g., feminist approach) can bring a unique viewpoint in contrast to conventional research approaches on issues such as the mental health and well-being of HCPs, a profession that is heavily female-dominant.[11]

Similarly, various studies collected limited demographic information, missing the opportunities to determine demographic differences.[8,9,11,17] For instance, a study examining the impacts of the pandemic on medical oncologists in Canada only collected minimal demographic information such as practice setting, years in practice and province of practice.[8] This limited information hinders the exploration of mental health concerns across gender and racial backgrounds. Considering that racialized individuals experience poorer mental health outcomes related to COVID-19, demographic information should be included to understand the similarities between HCPs. To gain a deeper understanding of HCPs' experiences, it is crucial to apply a feminist perspective.[11] Majority of participants in the Canadian studies identified as female, reflecting the gender composition of HCPs.[12] These HCPs, especially nurses, are often hailed as "heroes" during the COVID-19 pandemic; however, no improvements have been implemented regarding their well-being and pay equity.[22] Since 2019, HCPs in Ontario have been advocating for the repeal of Bill 124, a policy that imposes wage restrictions of a maximum of 1% on predominantly female HCPs, while frontline professionals which are predominantly male, such as, firefighters and police officers are not subjected to the same limitations.[38] This gender disparity in Canadian healthcare calls for a feminist political economy approach to address both structural inequities and the mental well-being of HCPs.

Our analysis revealed that most studies were based on a medical model to identify mental health symptoms.[6,8,9,15,16] Such a model primarily focuses on physical causes but largely ignores environmental or psychological causes. In other words, these studies have prioritized symptom identification and treatment rather than investigating underlying factors of psychological distress. Various studies assessed anxiety, depression, PTSD, burnout, and stress symptoms using psychometric instruments or indicators among Canadian HCPs during the pandemic.[10,15] Although these studies offer valuable insights into the mental health effects of COVID-19 on HCPs, their focus on symptoms and treatment overlooks the wide range of factors that may contribute to HCPs' psychological distress.

Furthermore, several studies acknowledged that insufficient information impeded their ability to compare mental health status between pre-pandemic and mid-pandemic levels.[6,8,12,15,17] For example, Havaei et al. (2021) found a high prevalence among nurses for PTSD, anxiety, depression, and increased emotional exhaustion.[6] However, the authors are unable to make a causal relationship due to the absence of pre-pandemic workplace conditions and mental health impacts. Stelnicki et al. (2020) is the only article encountered that references a survey sent to nurses pre-pandemic, which could serve as a baseline for comparing pre-pandemic and mid-pandemic occupational stress levels among nurses in Canada.[14] As such, future research should involve tracking HCPs' mental health over more extended periods (i.e., longitudinal study) during the pandemic. These suggestions provide a glimpse of numerous directions for future research on this novel topic.

Overall, the insights provided in this review emphasize the importance of considering the research findings and recommendations in developing and implementing health policies and practices to support HCPs and prioritize their mental health. By acknowledging the mental health impacts, addressing systemic and structural inequities, and embracing a feminist

political economy approach, we can create an environment that promotes the well-being and resilience of HCPs, leading to improved healthcare outcomes for both HCPs and patients in Canada.

Conclusions

The global impact of COVID-19 has affected healthcare systems worldwide, with HCPs experiencing mental health implications. This paper endeavoured to explore the mental health and well-being impacts of the pandemic on HCPs in Canada. Most of the studies reviewed in this paper primarily followed a medical model approach, which tends to emphasize authority and medical perspectives. However, it is important to note that alternative research methods, including those from social work perspectives, have the potential to contribute valuable insights to the existing knowledge base on this topic. Approaches such as critical social justice research can help unveil the role of systemic oppression and its intersections in influencing the adverse mental well-being impacts experienced by HCPs throughout the COVID-19 pandemic. By incorporating these perspectives, our understanding of the topic can be broadened, and we can gain valuable insights into how to effectively support HCPs during these challenging times.

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