Topical Review

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The social threats of COVID-19 for people with chronic pain

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1. Introduction

The COVID-19 (SARS-CoV-2) pandemic has changed the social environment in which people live and work, as well as the social systems they rely on.[39,88] To contain the spread of coronavirus and to prepare for a dramatic increase in demand for limited hospital/medical facilities and resources, societies have enforced physical distancing measures. Consequently, there have been limitations on the use of public transportation, public spaces, and work, education, and recreational facilities. Furthermore, access to vital, but nonurgent, healthcare services (including pain management services) has been restricted. These changes have affected the way people connect with each other, manage their health and wellbeing, and fulfil their social roles. For some, these changes may present opportunities (eg, increased time with family, normalisation of flexible working, and reduced demand for travel). For others, however, these social changes can also represent significant threats to health and wellbeing.

The negative impact of social changes prompted by the COVID-19 crisis may disproportionately affect individuals living with long-term painful conditions. Living with chronic pain can threaten an individuals' fundamental social needs for autonomy (agency or independence), belonging (social connection), and justice (fairness). In turn, for some, experiencing heightened social threat can maintain and exacerbate chronic pain.[48] In this review, we draw attention to the potential for social and systemic changes associated with attempts to contain the spread of COVID-19 to precipitate, maintain, and exacerbate pain by increasing the social threats faced by individuals with chronic pain (**Fig. 1**). We also suggest strategies for mitigating the social impact of COVID-19 on those living with chronic pain, for instance by learning from the resilience demonstrated by people in pain who have found ways to deal with social threat. Finally, we suggest several time-critical, high-impact research questions for further investigation (Fig. 1).

2. Social threats posed by the COVID-19 pandemic

1.1. Social disconnection and loneliness

One of the most immediate effects of the pandemic on our social lives is the introduction of physical distancing measures and restriction of travel. It is well known that spontaneous social interactions with others and participation in social roles can build and maintain a generalised sense of trust in others (social capital), promote feelings of wellbeing,[76] provide protection from the harmful effects of stress,[95] promote social connectedness, and reduce pain sensitivity.[91] Conversely, social isolation is associated with loneliness, higher levels of depression and anxiety, poorer health behaviours, poorer sleep, higher blood pressure, poorer immune function, and pain.[40,42]

Chronic pain conditions place individuals at an increased risk of social isolation, smaller social network size, and reduced social role functioning,[37,38,78] all of which have negative implications for pain interference and pain intensity over time.[7,31,47] Indeed, disruption to social roles and relationships is one of the most distressing aspects of living with chronic pain.[81] Physical distance from others and reduced participation in work and social activities can cause people to feel lonely or socially distanced from others,[73] and there are concerns that the COVID-19 pandemic will lead to a steep rise in the prevalence of loneliness.[5,22,35,39] People living with chronic pain, who may have entered the pandemic with fewer social resources than others, may be particularly vulnerable to feelings of loneliness and social disconnection at this time. Unless individuals have the ability and means to maintain meaningful connections with others despite physical distancing measures, being physically isolated from others threatens to exacerbate pain and associated disability.

1.2. Risk of increased social proximity

The paradox of COVID-19 is that being physically isolated from one's community can mean living in closer proximity to one's

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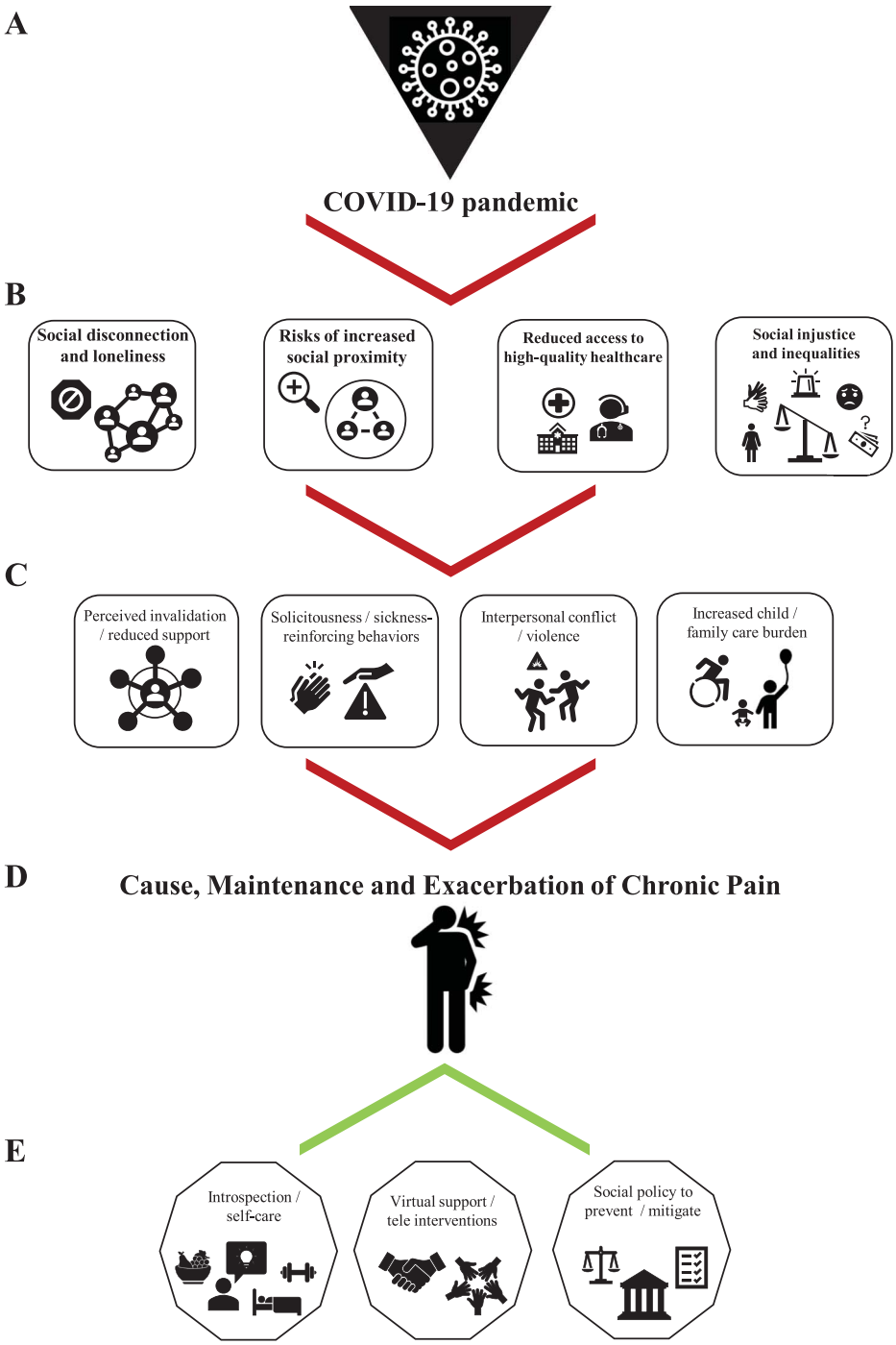

Figure 1. Schematic representation of how the COVID 19 pandemic (A) exacerbates existing levels of social threat (B), thereby inducing several social challenges (C) for people with chronic pain, and ultimately increasing the risk for the development, maintenance, and exacerbation of chronic pain complaints (D). Possible protecting processes and interventions countering the effects of the pandemic are portrayed as well (E).

household members. People living with chronic pain conditions may benefit from more frequent contact with family members because closer proximity offers more opportunity to improve social bonds. However, enforced close-proximity living could also bring challenges to autonomy and independence. Although social support can help buffer against pain,[14,15,18,56] an increase in solicitous behaviours in such close proximity might unintentionally contribute to the chronicity of pain.[34,43,72] For example, in households where a child is in pain, increased social proximity could lead to increased exposure to protective parental behaviours and reductions in child autonomy and activity. Conversely, family members could become desensitised to the pain of others, or even become avoidant, risking further isolation for individuals living with pain. Those living with pain may experience increased feelings of guilt in response to increased support, especially if they perceive themselves to be a burden.[50,75] Alternatively, fear of rejection could lead to masking pain from others in shared living spaces, preventing individuals with pain from asking for help to meet their needs.[13,65]

There is also a risk that for people living with chronic pain, living in close proximity and enclosed environments could increase exposure to interpersonal conflict,[63,69] which is known to amplify pain and disability.[11,26,36,61] For some, COVID-19 has brought about increased risks of conflict among household members, as they deal with the stresses associated with unexpected financial pressures, job insecurity, and unemployment.[21] Many people are struggling to juggle multiple social roles and responsibilities—supporting children with schoolwork, working from home, and parenting—leading to emotional exhaustion. Women, in particular, are likely to carry a greater social burden and greater responsibility for childcare during COVID-19.[1,92] Critically, domestic abuse has increased during the COVID-19 lockdown,[10] which has also been shown to contribute to chronic pain.[2,60]

1.3. Reduced access to high-quality pain management

COVID-19 potentially poses a significant challenge for patients seeking to access pain management. Although pain management is a fundamental right,[23] the health system responses to mitigate the impact of COVID-19 may significantly affect access for patients with complex medical conditions (eg, people with comorbid mental health conditions and addiction) and widen existing inequities in relation to pain management for socially disadvantaged populations.[90] For some people with chronic pain, the pandemic might bring life stressors that result in pain flare-ups, and increase the need for pain services.[77] Furthermore, individual pain experiences may not be considered as immediately important when compared to the need to treat life-threatening symptoms associated with COVID-19,[12] leading to less help-seeking and psychological distress.

Pain management during this pandemic for clinicians involves balancing access to care with minimising safety risk from exposure to COVID-19 for vulnerable patients and clinicians themselves.[79] Cancelled elective surgeries, closure of pain management services, and redeployment of clinicians to other areas of care all result in limited access to high-quality care. Consequently, the increased burden on healthcare workers may result in a greater focus on biomedical management (eg, opioid prescribing), rather than psychological and interdisciplinary treatment approaches. Although this may be deemed necessary in the context of the pandemic due to heightened needs from patients for pain relief, clinicians and patients may not agree on opioid prescription/deprescription.[66] In addition, the individual assessment required to address the risks and benefits of opioid use and the monitoring of its use[85] may be complicated by a lack of access to face-to-face pain services.

In the absence of the availability of face-to-face contact, telehealth is increasingly being recommended as a first line of care for patients,[19] including those with chronic pain.[29] The rapid transition to telehealth in response to physical distancing regulations allows people to access high-quality care without travelling, potentially increasing patient access to care. It also opens up new opportunities and enables us to think about new ways of delivering pain management. However, this mode of delivery may be particularly challenging for vulnerable groups due to poor health status and low technological literacy.[71] Even when services are delivered through telehealth, the fear of sharing confidential information from home and juggling multiple social responsibilities, particularly for women, pose further barriers to engaging in high-quality care.[64] In the context of delivery, practical challenges in conducting multidisciplinary treatment through telehealth[77] may lead to a prioritising of individual over multidisciplinary approaches. This is despite evidence that care delivered through telehealth can be as effective as face-to-face care for people experiencing pain conditions.[55]

1.4. Exacerbation of social injustice and social inequalities

COVID-19 is exacerbating existing social injustices and inequalities. Extreme events such as terrorist attacks and natural disasters[32,44,96] are known to undermine the fundamental belief that the world is just, stable, orderly, and predictable,[52] with ramifications for perceived life control, future prospects, and wellbeing.[67,86] This is particularly relevant to chronic pain because commitment to the belief in a just world can buffer against its adverse effects.[57] A pandemic-initiated violation of just-world beliefs could exacerbate perceived injustices associated with pain.[16] For example, physical distancing policies could further increase social isolation and potentially worsen perceived injustices,[80] while disrupting social networks that are sources of justice and support[74] may heighten perceptions of invalidation among those with pain, driven by the sense that one does not matter to others.[17]

Variation in the effect of COVID-19 illustrates social inequalities around pain, and health care more generally. There are known individual differences in pain associated with social identities, including sex, ethnicity, and age.[6,33] There are also social inequalities and biases, which can affect pain burden[25] and access to pain care.[24,82] Structural and individual biases towards minority and marginalized groups that are heightened by uncertainty, stress, and fear[49] are likely to be exacerbated by COVID-19. Discrimination experienced by marginalized groups can affect peripheral and central processes, including immune functioning,[20,28,83] thus compounding the negative effects associated with the stigmatization of chronic pain.[26]

Those living in poorer and/or more remote communities have higher rates of chronic pain and comorbidities[60,62] and limited access to health care, which can lead to greater unmanaged pain and disability.[3,4] Reduced access to health care, higher costs, and language might form additional barriers to pain management in these communities (eg, refugees). For example, disabling chronic pain can be more prevalent in Indigenous populations, who are also less likely to access support services.[3,4,8] Travel restrictions imposed to limit the spread of COVID-19 into remote communities are likely to disrupt the provision of nonessential services, further limiting access to pain care. Socioeconomic disadvantage also increases vulnerability to disease, including COVID-19, through many potential pathways including lower social support,[89] overcrowding, poorer sanitation, neighbourhood, and housing conditions, and poorer health behaviours (eg, smoking, diet, alcohol consumption, and reduced exercise).[9,70] Furthermore, although people from lower socioeconomic backgrounds are overrepresented in "essential" employment sectors, which have been largely spared from COVID-19-related redundancies, many of these employees are now facing longer working hours under more demanding conditions. All these factors could not only lead to increased risk of exposure to COVID-19, but also, if left untreated, exacerbate other conditions, including chronic pain. In short, COVID-19 has disproportionately affected socially disadvantaged groups, and the ensuing global economic fallout could magnify these inequalities in pain further.[90] The concern is that the most economically disadvantaged will be most likely to be exposed to the hazard, most susceptible to harm from it, and most likely to experience negative outcomes from it.[88]

3. Responding to social threats posed by COVID-19

The wide range of social threats that COVID-19 brings to those in pain means that no one response will address all these issues. However, by identifying such threats, we can start to think of more focused and targeted approaches. For example, just as some treatments have moved online, it may also be possible to mitigate some of the impacts of physical distancing and social isolation using technology. Social media platforms, due to their wide reach and penetration, can help disseminate key information about COVID-19, providing virtual support to enhance social connectedness.[58] People with pain already report using digital peer-support groups to connect with similar others and derive benefits from feeling validated and heard.[59] Online peer-support could potentially be used to help reduce felt social distance while maintaining physical distance. Increasing digital social connectedness might afford people with chronic pain more social contact and accessibility than is possible face-to-face because it does not require physical mobility. However, we also need to ensure that the use of social platforms is beneficial, and do not increase risk (eg, due to the exposure to poor-quality health information that reinforces disability or propagating unproven and potentially harmful approaches).[27] Even so, the pandemic has provided an opportunity to understand how social media might be better used as a tool to develop a sense of community and reduce isolation.

Online technology can be used to facilitate the delivery of healthcare interventions, under the guidance of healthcare professionals. For example, cognitive behavioural therapies for loneliness delivered online can decrease loneliness and improve mental wellbeing.[45,46] Online pain management programs seem to hold promise,[29] particularly when patients have contact with healthcare providers, albeit remotely.[54] Online resources can disseminate pain education, and online training programs on pain self-management can be developed for healthcare professionals, those with pain, and their close others.[30,41,84] However, these novel digital interventions might not be accessible for all and may even put up new barriers to those who require them the most (eg, socially disconnected individuals with limited digital literacy).

We also need to think beyond technology. The COVID-19 pandemic served to highlight the upstream social determinants of health, many of affect chronic pain directly. Historic social inequalities and unequal access to resources shape individual-level risk factors, which in turn produce and perpetuate health disparities.[53] These structural problems require structural solutions[51,93] with the aim to improve population health, for instance by bolstering social welfare systems, public health funding, and improved global cooperation.[68,87,94] At the local level, online technologies could mitigate the social threat of existing social inequalities and injustices, providing access to relatively inexpensive, location-independent treatment, and social connection. Coupled with systemic interventions such as increased government funding to telehealth services, reducing the costs and barriers to internet access, and making computers and mobile devices available to those who otherwise might not have access to them can further reduce these disparities.[97]

Table 1

Priorities for research on social factors resulting from the COVID-19 pandemic.

1. Demographic and longitudinal studies on the social consequences of the pandemic for people with chronic pain. a. Assess nature and cohesion of family and wider social support networks and emotional connectedness of people with chronic pain during physical distancing. b. Assess how minority and marginalised groups with chronic pain are accessing pain support during the pandemic, identifying possible facilitators and barriers. c. Assess different forms of social threat for people with chronic pain such as loneliness, experiences of injustice, victimization, and invalidation. d. Examine the effects of social distancing measures in the workplace, and on job prospects after the COVID-19 pandemic for employees with chronic pain.
2. Fundamental research on biological, psychological, and/or social working mechanisms on the bidirectional relationship between social factors and pain. a. Assess the immediate and long-term effects of physical distancing on relevant pain outcomes and pain management strategies. b. Investigate whether pain-related stigma, discrimination, social isolation, or perceptions of injustice increase vulnerability to COVID-19 infection or affect risk-related behaviour. c. Investigate the role of social learning in times of uncertainty and the effect on pain behaviour.
3. Clinical and fundamental research on digital social support for chronic pain. a. Study the potential limitations (eg, less physical activity, lower quality of social relationships) and strengths (eg, lower threshold for engagement) of digital social support compared to face-to-face social support on pain outcomes. b. Conduct theory-based studies on mediators that influence the effectiveness of online social support for chronic pain complaints.
4. Clinical research on the effectiveness of digital pain management interventions for chronic pain. a. Clinical trials comparing the effectiveness of digital vs face-to-face interventions. b. Research on the quality of social relationships, communication and trust between professionals delivering online interventions and chronic pain patients. c. Identify barriers and facilitators for access to online treatments, especially for marginalized populations with chronic pain.
5. Research into possible individual resilience mechanisms (eg, increased social cohesions, revaluation of values and priorities, increased uptake of online pain management) buffering against the effects of the pandemic on chronic pain.
6. Systemic research on the effects of multilevel social determinants of health on chronic pain and policies to address them (eg, labour relations, income inequality, neighbourhood deprivation, racism, sexism, ageism, access to health care, etc.), to strengthen population resilience to the impact of heightened social threats on chronic pain. a. Research into integrated methods of intervention or analysis (eg, dynamic systems modelling) across micro (ie, families, partnerships), meso (ie, community, city, organizations), and macro (ie, nations, civilizations) levels of the social system.

4. Conclusions and future directions

The current pandemic has exacerbated existing sources of social threat for people with chronic pain. To prevent a population-level increase in the severity and impact of chronic pain, it is critical to devote scientific attention to the assessment, mitigation, and prevention of sources of social threat for people with chronic pain. **Table 1** outlines several high-impact areas for research to this end. Crucially, COVID-19 should not only be regarded as a challenge but also as a unique opportunity for researchers and clinicians to develop new ways to deliver social support and pain management, as well as understand the impact of social adjustment among individuals with chronic pain.

Conflict of interest statement

The authors have no conflicts of interest to report.

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Supplemental video content

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