

Research Summary

Physical symptoms, psychological distress and trauma in response to climate disasters

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Background

The fire in the Morwell open cut brown coal mine adjacent to the Hazelwood Power Station blanketed the town of Morwell and the surrounding area in smoke and ash for six weeks in February and March 2014. The smoke event was recognised as one of the most significant air quality incidents in Victoria's history. It caused considerable community concern within Morwell and the broader community. In response to these concerns, and following extensive community consultation, the Hazelwood Health Study (HHS) was established to examine the impacts of the mine fire. The HHS involves multiple research streams targeting different health outcomes and different vulnerable groups.



Analysis aims

The aim of this analysis was to explore the role of Hazelwood mine fire-related posttraumatic stress, and general psychological distress, in the presentation of physical symptoms such as pain, fatigue, shortness of breath and gastrointestinal problems experienced during the 2019-2020 Black Summer bushfires.

Considerations

Evaluation of the mental and physical health of a community that has been impacted by a previous traumatic event, at the time of experiencing a new and similar event, is somewhat novel in disaster research. This study contributes to a better understanding of the mental health implications of repeated exposures to disasters, which is particularly important given extreme weather events, including bushfires, are likely to become more common due to climate change.

There were some limitations to this research, including the use of self-reported health information which is not always accurate. Specifically, the somatic symptoms that were more commonly reported by survey respondents are largely non-specific, and can be experienced by the wider population. Also, the experiences of the 709 participants may not reflect the experiences of the rest of the community, and without a control group the strength of the link between the prevalence of self-reported symptoms and the subsequent event may not be an accurate representation.



What we did

Between December 2019 and early March 2020, 709 Morwell residents, who had previously participated in the 2016-2017 Adult Survey, completed a Mental Health and Wellbeing Follow-up Survey.

The follow-up survey coincided with the Black Summer bushfires which impacted south-eastern Australia. In both survey rounds, we measured posttraumatic stress currently experienced specifically in relation to the 2014 Hazelwood mine fire, and psychological distress experienced more generally. Then we looked at the association between posttraumatic stress, general distress, and self-reported physical symptoms (also known as somatic symptoms in the clinical literature) measured during the follow-up survey.



What we found

Just over one third (36%) of survey respondents reported a medium or high level of physical symptoms. The most frequently reported symptoms included fatigue, limb pain, trouble sleeping, back pain, headaches and shortness of breath. We found that higher levels of posttraumatic stress and general distress were each associated with the presence of most of the measured physical symptoms. That is, people who reported higher levels of mine fire-related posttraumatic stress, or higher levels of general distress, also reported more physical symptoms, or more severe physical symptoms, than people reporting lower levels of stress. These associations were independent of other risk factors that could also have influenced physical symptoms, such as age, smoking history and diagnosed medical conditions.

Healthcare providers and public health authorities should be aware of this high prevalence of physical symptoms observed in a climate disaster-exposed community during a later event, which is suggestive of a possible link between physical symptoms, trauma-related stress and general distress. The findings of this study highlight the importance of screening and monitoring for posttraumatic stress symptoms in communities impacted by climate disasters to ensure unmet care needs are identified and addressed. As pain was among the most frequently reported symptoms, this study has also highlighted the need for better funding and referral pathways to multidisciplinary pain management and care in fire impacted communities.

A detailed paper describing the findings from this analysis can be found at www.hazelwoodhealthstudy.org.au/study-findings/publications



Meet the team

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Where to from here

The Hazelwood Health Study will conduct a future follow-up with the cohort to understand whether physical symptoms and posttraumatic stress persist. In addition, a collaboration between the HHS Psychological Impacts and Early Life Follow-up streams will explore parental mental health and family functioning following the mine fire.

The HHS is led by Monash University with collaborators from Menzies, Federation University, The University of Adelaide and CSIRO. The research was funded by the Victorian Department of Health.

Website: www.hazelwoodhealthstudy.org.au

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