

VIEWPOINT

Climate Change and Mental Health—Time to Act Now

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There is no doubt that human activities have caused the earth's global warming, resulting in extensive and swift changes in the atmosphere, ocean, cryosphere, and biosphere, including rising sea levels, extreme weather events, deforestation, and stress to different ecosystems.¹ These alterations are unparalleled in magnitude over numerous centuries or even thousands of years¹ and may have serious implications for human health, such as kidney function loss, dermatological malignant neoplasms, pregnancy complications, allergies, and cardiovascular and pulmonary morbidity and mortality.²

These climate changes also have considerable impact on mental health through several different pathways.³ First, natural disasters, such as floods, hurricanes, and earthquakes, may directly result in increases in posttraumatic stress disorder, depression, and suicide.³ Second, gradual changes, such as rising sea levels and temperatures, may slowly disrupt societies and can be associated with more aggression and higher suicide rates. Pollution and greenhouse gases from burning fossil fuels may further exacerbate this effect. Third, climate change may indirectly affect mental health by disrupting physical and social systems, leading to economic uncertainties and migration. Finally, the rapid progression of climate change events may also affect mental health, causing climate anxiety and *solostalgia*.³

Limited Research on Climate Events and Mental Health

Unfortunately, there is little high-quality research connecting climate change with mental health. We recently conducted an umbrella review including 13 meta-analyses examining the association of climate events with mental health.⁴ We found low-quality evidence for an increased prevalence of symptoms of posttraumatic stress, depression, and anxiety associated with the exposure to climate events. However, the effect sizes differed considerably across studies and not all were significant. Furthermore, it is difficult to indicate whether one specific climate event is caused by climate change or if it is a natural fluctuation. It is also difficult to examine the impact of a climate event on mental health because this requires at least a measurement before the event and one after, and even then the causality is not certain. Only a few studies with measurement before and after the event have been conducted. Also, most studies use self-report measures to examine the impact on mental health, and hardly any study has used clinical interviews to establish the presence of mental disorders, to our knowledge. Longitudinal studies on mental health outcomes associated with climate change are unavailable.

Because of the devastating impact of many climate events, it is certain that climate change results in

increasing mental health problems in affected populations. Undoubtedly, such traumatic events result in increased levels of posttraumatic stress, depression, and other mental disorders. However, the serious methodological limitations of the research we reviewed make it impossible to get a good overview of the scope of actual and future mental health impact, a sense of who is especially at risk, and which factors may be targeted and prioritized for interventions. Any plan on climate change and mental health should therefore stress the necessity of more high-quality research to address the effects of climate events on mental health. Robust, high-quality research on the incidence of diagnosed mental disorders related to climate events is crucial for any action plan. To examine the incidence of mental disorders, it would be best to have longitudinal monitoring systems for mental disorders at the national level. Such systems make it possible to examine changes in the prevalence of mental disorders after climate events and also allow examination of the potential effects of such events on vulnerable populations. Such high-quality research is the only way to assess the personal and economic costs related to climate events and to plan for the prevention and treatment of these disorders.

Climate Change and Inequalities

The impact of climate change on mental health cannot be considered without taking inequalities into account.⁵ First, there are inequalities on a national level. More than 80% of the 1 billion people experiencing mental disorders worldwide live in low- and middle-income countries (LMICs).⁶ Many debilitating climate events occur in LMICs, which have the lowest resources to prevent and treat mental disorders, whether or not they are related to climate events. Research on scalable interventions to build up an infrastructure for mental health care in LMICs is essential for reducing the worldwide burden of mental disorders and reducing the psychosocial impact of climate events.⁷ Climate events may add to this already high disease burden. If the infrastructure for regular mental health care is not optimal, it will be challenging to handle the additional problems caused by the extreme climate events that present as humanitarian crises. Therefore, research and development on building national infrastructures for mental health care are necessary for implementing mental health-informed humanitarian relief and emergency services after climate events.

But climate change is also related to inequalities in different ways. There is a growing body of research showing that vulnerable populations experience the consequences of climate change and that includes the individuals who have low income, are older and have disabled children, those who are incarcerated, migrants, and those who misuse substances.⁸ However, much of this research also has methodological problems. There-

fore, research on climate events and mental health should include a specific focus on such vulnerable groups, and any emergency plan after climate events should include strategies to identify and support them because much of the disease burden of mental disorders is concentrated in these groups. Because the prevalence of mental disorders is already increased in these populations at risk, it is even more important to collect high-quality data on the prevalence of mental disorders before the occurrence of climate events to be able to make better estimates of the impact on mental health of these events. This will allow development of better emergency preparedness.

Climate Events and Emergency Preparedness

There is already much experience with supporting communities that are struck by adverse events, including floods, hurricanes, and earthquakes. However, there is also already quite some experience with other adversities, like those experienced by refugees and asylum seekers related to war, conflict, environmental displacement, or disease outbreaks. Also, the recent COVID-19 pandemic has made many countries and leaders worldwide aware of the need to develop plans for emergency preparedness and mental health. The World Health

Organization has developed several brief and scalable interventions for mental health problems and ongoing and severe adversities that can be used in any crisis, including those caused by climate events, and many other interventions have been tested in a growing number of randomized clinical trials.⁹ Action plans for emergency preparedness in countries and communities at risk for climate events can build on this growing body of knowledge and experience. However, much of this knowledge can only be used when regional, national, and cross-national plans for emergency preparedness will be developed and localized needs of populations including their mental health profiles are well understood. Very little can be expected when such plans are not strongly supported by policy-informed action plans.

Time to Act Now

There is no doubt that climate change will have a major impact on mental health in the coming decades. We cannot wait to start up high-quality research to examine the effects of climate events on mental health, identify vulnerable groups and communities, and develop emergency plans, building on existing knowledge. Nobody can say that we did not see the disaster coming.

ARTICLE INFORMATION

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