

Global climate change and mental health

In the past decade, several empirical studies and systematic reviews of the literature have documented the mental health impacts of global climate change. However, the range of impacts and their relationship to specific forms of climate change have not been well understood. Although there is a robust literature documenting the mental health impacts of natural disasters such as hurricanes and wildfires, to understand the significance of these impacts, this literature must be placed in the broader context of global climate change, including long-term changes in the physical and social environment.

In this paper, we summarize recent developments in understanding the mental health impacts of three specific forms of climate change to mental health impacts: 1) extreme weather events (EWE) and natural disasters lasting for days, such as hurricanes, floods, wildfires, and short-duration heat waves; 2) sub-acute weather events lasting for months or years such as droughts and long-duration heat waves; and 3) environmental changes lasting to the end of this century and beyond such as higher temperatures, sea level rise, and a permanently altered and potentially uninhabitable physical environment.

Extreme weather events and natural disasters have been associated with elevated rates of anxiety and mood disorders, acute stress reactions and post-traumatic stress disorders, sleep disruption, suicide and suicidal ideation, as well as a decreased sense of self and identity from loss of place and grief reactions. These outcomes can linger for months or even years. Risk factors for developing mental illness in the aftermath of such disasters include the magnitude of the traumatic event, exposure to the injury or death of a loved one, female gender, younger age, lower socioeconomic status, less education, minority or ethnic status, psychiatric history, family instability, and inadequate social support. Residents of low and middle-income countries are especially vulnerable to these outcomes due to their increased exposure to extreme weather events, high levels of poverty, and lack of access to services. Between 25% and 50% of those exposed to extreme weather events will experience negative mental health outcomes; these outcomes will diminish over time for most but not all individuals.

Sub-acute forms of climate change have been linked to increased rates of hospitalization among people with pre-existing psychiatric disorders, increased rates of physical assaults and homicides, and an increase in suicide rates, especially among men and older adults during heat waves. Increased rates of suicides among farmers and people living in rural areas have been reported during periods of prolonged drought.

The greatest mental health outcome associated with long-lasting events is the existential threat associated with climate change. Psychological distress and anxiety about the future, especially among youth and young adults, has resulted from acknowledging climate change as a global environmental threat. This awareness contributes to 'psychoterrific' syndromes such as 'ecoanxiety', 'ecoparalysis', and 'solastalgia', the distress and isolation caused by the gradual

removal of solace from the present state of one's home environment.

Each form of climate change can also result in economic losses associated with property damage, loss of income and employment opportunities, and reduced economic productivity, especially in agriculture and fisheries; threats to health and well-being associated with injuries and deaths, spread of vector-borne and respiratory illnesses, and heat-related stress; population displacement; loss of attachment to the natural environment; and social conflict and inter-group violence, each of which significantly impact mental health. Doth the timing and nature of these events as well as the manifestation of specific associations between an event and its psychological consequences have important implications for development and implementation of policies and practices to prevent and treat climate-related mental health problems.

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