

SUB THEME 10

Industrialization, Global Warming and Climate Change

Climate Change Impacts on Mental Health and Well-Being: A Review

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Abstract

Climate change involves significant and lasting alterations in temperature and weather patterns. While these changes can occur naturally such as through variations in solar energy or major volcanic eruptions. Human activities have been the predominant cause since the 1800s. The primary factor driving this recent shift is the combustion of fossil fuels, including coal, oil, and gas. Mental health encompasses a state of well-being that allows individuals to manage life's stresses, recognize their potential, engage in effective learning and work, and actively participate in their communities. It is a vital aspect of overall health that supports our capacity to make decisions, foster relationships, and influence our environment. Furthermore, mental health is a fundamental human right and is essential for personal growth, community cohesion, and socioeconomic progress (WHO).

Climate change is not only an environmental crisis but also a significant public health challenge, particularly concerning mental health and well-being. As the frequency and intensity of climate-related disasters impact psychologically on affected populations. Individuals and communities face anxiety, depression, and post-traumatic stress disorder (PTSD) in the wake of such events. Moreover, the gradual changes in climate can lead to chronic stressors, including food and water insecurity, displacement, and loss of livelihood, further exacerbating mental health issues. Vulnerable groups, including the elderly, children and those with pre-existing mental health conditions, are particularly at high risk.

Objectives

This review aims to explore the multifaceted relationships between climate change and mental health, examining how environmental stressors can lead to psychological distress and identifying effective interventions to mitigate these impacts. By understanding these dynamics, we can better support individuals and communities in adapting to the realities of a changing climate while promoting resilience and mental well-being.

Literature View

This literature review synthesizes research from 2014 to 2024, focusing on how climate change-induced phenomena, such as extreme weather events, displacement, and environmental degradation, affect psychological well-being. Studies reveal a growing prevalence of mental health disorders directly linked to climate change, including anxiety, depression, and post-traumatic stress disorder (PTSD).

Mental Health Effects of Extreme Weather Events

One of the most documented impacts of climate change on mental health stems from extreme weather events, such as hurricanes, floods, and wildfires. Individuals exposed to extreme weather events are at a higher risk of developing trauma-related disorders, with many experiencing prolonged anxiety, depression, and PTSD (Clayton et al. 2017). In the aftermath of Hurricane, residents displayed significant symptoms of PTSD and other mental health conditions, emphasizing the long-term psychological toll of climate disasters (Trombley et al.2017).

Climate Anxiety and Eco-Anxiety

Climate change is not only affecting those directly impacted by disasters but also individuals who experience a growing sense of fear and concern over the future of the planet. This phenomenon, often referred to as climate anxiety or eco-anxiety, is particularly prevalent among younger populations (Hickman et al.2021). Eco-anxiety is a valid and growing mental health concern, requiring new therapeutic approaches and societal recognition (Pihkala 2018).

Displacement and Mental Health

Climate-induced displacement is another significant driver of mental health issues, particularly among vulnerable populations. Mental health impacts of climate-related displacement, such as those caused by rising sea levels, desertification, and extreme weather events. Displaced communities suffer from increased rates of depression, anxiety, and feelings of loss due to the disruption of their livelihoods and social networks (McMichael et al.2019). Loss of place and cultural identity experienced by displaced indigenous populations leads to profound psychological distress, compounding the challenges of physical relocation (Clayton et al 2018).

Mental Health Impacts on Vulnerable Populations

Marginalized groups, including low-income communities, indigenous peoples, and individuals in that indigenous populations, whose cultural practices and livelihoods are often closely tied to the environment, experience heightened levels of climate-related anxiety and depression the Global South, are disproportionately affected by the mental health impacts of climate change. (Kosanic et al. 2022).

Urban vs. Rural Mental Health Impacts

Differences in the mental health impacts of climate change between urban and rural populations have been noted in several studies. Carleton (2017) explored how rising temperatures and climate-induced economic instability, particularly in rural areas reliant on agriculture, contribute to higher rates of stress and suicide among farmers. Conversely, Helm et al. (2020) identified increased aggression, anxiety, and other mood disorders in urban populations exposed to heatwaves and air pollution. Both studies underscore the varied ways in which climate change can exacerbate mental health issues depending on the local context.

Long-Term Psychological Effects

In addition to immediate trauma, climate change has long-term psychological effects, particularly among children and adolescents. Children exposed to climate disasters or those living in regions with

significant environmental degradation often develop chronic stress and anxiety, which can persist into adulthood Ojala et al. (2021). Introduced the concept of "solastalgia," a form of distress caused by environmental change, to describe the deep-seated psychological impacts of climate change on individuals' sense of place and security (Cunsolo and Ellis 2018).

Recommendations for Mental Health Interventions

Given the growing evidence of climate change's mental health impacts, several researchers have called for the integration of mental health support into climate adaptation strategies. Mental health services must be included in disaster recovery plans and suggest psychological first aid as an essential component of resilience-building efforts (Palinkas et al 2020). Developing community-based support systems to enhance collective resilience, particularly in regions at high risk of climate-related disasters (Comtesse et al. 2021).

Methods and Methodology

Data were collected from authentic text books, books, peer reviewed indexed scientific journals and research papers etc. Literature searches followed up using the terms of 'Climate change', 'Mental health'. Data were collected using electric databases such as PubMed and Google scholar from 2014 to 2024. Inclusion criteria-research articles in English language, peer reviewed indexed journals, survey studies and clinical studies. Exclusion – Duplicate publication.

Results & Discussion

Studies show a significant rise in mental health conditions such as anxiety, depression, and PTSD related to climate change impacts. Communities affected by extreme weather events like hurricanes, wildfires, and floods have demonstrated higher incidences of trauma-related disorders. A rising number of people, particularly youth, report experiencing climate anxiety, where constant exposure to climate change information and fear for the future impacts their mental well-being. Climate change-related anxiety can significantly impact daily functioning and increase feelings of

hopelessness. People displaced by rising sea levels, droughts, or desertification increase stress, loss of identity, and emotional suffering. Mental health disorders among refugees, migrants, and indigenous populations are often compounded by the loss of cultural ties and traditional ways of life.

Specific populations such as indigenous groups, low-income communities, and children are disproportionately affected. Indigenous communities, for instance, report a loss of connection to their land, which is closely tied to their cultural identity, exacerbating feelings of despair and disconnection. In urban settings, heatwaves and air pollution have been linked to an increase in aggression and mood disorders, while in rural areas, farmers report high levels of stress and suicide due to crop failure and economic pressures caused by climate variability.

The mental health impacts of climate change are broad and deep, extending beyond immediate trauma from extreme weather events. The long-term and existential nature of climate change creates chronic stressors. The results indicate that this is not just an issue of isolated incidents but part of a global mental health crisis with multifaceted causes. While physical health impacts (e.g., heat stress, vector-borne diseases) are well-studied, mental health effects have often been underrepresented in policy discussions. The results of this study underscore the need for increased research and public health initiatives focusing on the mental health dimensions of climate change.

The uneven distribution of mental health impacts—where marginalized and low-income populations bear a greater burden raises ethical and climate justice concerns. Communities already vulnerable due to socio-economic factors are less equipped to deal with the mental strain of climate events, compounding pre-existing inequalities. This highlights the need for inclusive mental health services in climate adaptation strategies. Effective climate adaptation must incorporate mental health services, including psychological first aid, community support systems, and

proactive mental health planning. Results suggest that integrating mental health into broader climate change strategies can improve community resilience. It also points to the importance of early intervention in areas likely to experience climate-related disasters.

Policymakers need to recognize the psycho social impacts of climate change as part of public health planning. This discussion advocates for increased governmental investment in mental health infrastructure, particularly in climate-vulnerable regions.

Conclusion and Remarks

The literature from 2014 to 2024 consistently demonstrates the far-reaching mental health consequences of climate change. From eco-anxiety and PTSD to depression and displacement-related distress, the mental health impacts are diverse and significant, affecting individuals across the globe. Vulnerable populations, including indigenous communities, youth, and those in low-income regions, face disproportionate psychological burdens. As climate change accelerates, mental health must become a central component of both public health and climate adaptation strategies to build more resilient, mentally healthy communities

This study emphasizes that mental health considerations must be integral to climate adaptation and mitigation strategies. Integrating psychological support, community resilience programs, and inclusive mental health services into broader climate policies can enhance the overall effectiveness of these strategies. Additionally, the role of governments and health agencies is pivotal in recognizing and addressing the psychosocial dimensions of climate change through policy-making, funding, and the implementation of comprehensive mental health infrastructures.

There is a need for longitudinal studies to track the long-term mental health effects of climate change, especially among children and young adults. The integration of mental health indicators into climate impact models will be crucial for comprehensive planning. Additionally,

more cross-disciplinary research combining climate science, psychology, and public health is needed to develop holistic intervention frameworks.

Keywords: *Climate Change, Mental health, Anxiety, Depression, Post Traumatic Stress Disorder*

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