

Climate Change's Impact on Mental Health

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Abstract

Climate change is one of our generation's most important concerns. Climate change's effects on vulnerable biological subjects and societies are a source of concern for the entire scientific community. Rising temperatures, heat waves, floods, tornadoes, hurricanes, droughts, fires, forest loss, and glacier melting, as well as the disappearance of rivers and desertification, can all induce physical and mental disorders in humans. Psychiatric studies on mental problems linked to climate change, on the other hand, are clearly lacking. Climate change can have direct or indirect effects, as well as short-term and long-term consequences. Acute events can trigger traumatic stress-like mechanisms, resulting in well-understood psychopathological patterns. Furthermore, the effects of extreme or prolonged weather-related events might be delayed, resulting in diseases such as posttraumatic stress disorder, or even passed on to future generations.

Keywords: Weather • Temperature • Desertification • Behaviour

Introduction

Since the 1970s, scientists have been attempting to comprehend the processes that contribute to climate change due to environmental causes. Our climate is changing, with unmistakable regional consequences including heat waves, floods, and droughts. Human activities have changed the composition of the atmosphere, resulting in a greenhouse effect and global warming. These activities result in a flux of complex variance, as well as setbacks in mental health [1]. Scientists argue that more research is needed to determine what kinds of changes can be expected as temperatures rise, how widespread these changes will be in different environments, when and where points of no return can be identified, what short and long-term consequences can be predicted, and who are the most vulnerable biological subjects and societies. In the future, global warming is projected to create widespread disasters. When extreme climatic occurrences have an influence on local territory, these emergencies are real [2]. Extreme heat (higher global mean surface temperatures, heat waves); Climate Change-Related Water Disasters (CCRWDs) (flooding, hurricanes, and coastal storms); droughts; wildfires; winter storms, extreme snow, and severe CAPE (convective available potential energy) thunderstorms are among these events (super cells, drenches, and tornados).

Climate change has an impact on all-weather events. In recent years, higher global temperatures and humidity disparities have been seen compared to prior ages [3]. Climate change is fraught with uncertainty, and scientists have yet to establish a definitive link between climate change and the rise in extreme weather occurrences. Many authors, on the other hand, feel that extreme climatic occurrences have a significant impact on ecosystems and society. Increases in hurricanes, droughts, heat waves, and heavy precipitation have all been linked to shifts and trends in mean temperatures and precipitation [4]. Scholars believe that anthropogenic influence has contributed to an increase in extreme events with catastrophic global consequences [5]. The Katowice

Climate Change Meeting, held in Poland at the end of 2018, was the most recent conference on global warming, with the goal of committing each country to reduce emissions and limit global warming below 1.5°C. A global rise in the frequency and intensity of extreme weather events has been connected to an increase in average global temperature of over 1.5°C. In addition, the greenhouse effect has already had an impact on global climate dynamics. Models of how global climate has changed through time might be useful in putting current extreme events into context. Over the last few decades [6], the number of such research has risen. Historical models and readings of earth's surface temperature reveal a clear link between human warming and the increased persistence of extreme weather. These methods enable us to estimate the impact of historical global warming on the likelihood and intensity of specific catastrophes. All extreme weather occurrences are linked to large-scale changes in thermodynamic settings. Increases in mean temperature, for example, cause heat waves; lower ground humidity and greater evaporation trends cause more frequent and severe droughts or changes in soil moisture; and high sea surface temperature and humidity anomalies cause storms and the melting of Arctic ice fields [7].

Environmental factors are becoming more relevant in psychiatry since they can cause prenatal malformations, impede neurodevelopment, activate endogenous mental diseases, and elicit psychosomatic and neurological problems [8]. Climate change has the potential to unleash powerful phenomena that have terrible consequences for human societies. Natural disasters, such as tornadoes, floods, and droughts, cause a distinct type of psychological and psychopathological discomfort than usual seasonal weather fluctuations. Other climatic events, such as ocean acidification, acid rain, super fog, glacier melting, and biomass extinction, that are often overlooked in studies on the mental health of exposed populations (e.g., ocean acidification, acid rain, super fog, glacier melting, and biomass extinction), could also have a broader impact on mental health [9].

Discussion

Natural disasters and mental illness have a close connection. Extreme weather will become more common as a result of climate change in the future. We know that seasonal affective disorders, weather sensitivity, and meteoropathic illnesses can all be caused by variations in the weather. Temperature, humidity, rain, barometric pressure, brightness, rate of air flow, air ionization, thunderstorms, and abrupt fluctuations in some of these elements can all cause specific symptom patterns below the dangerous threshold [10]. Meteor sensitivity is a behavioural feature that is also considered as a personality attribute. Biologically, living beings may be more vulnerable to the effects of atmospheric events on the mind and body. Meteoropathic subjects, on the other hand, are people who develop a specific ailment or have an existing sickness worsen as a result of climatic changes. Mood swings, irritation, anxiety, mental and physical weakness, hypertension, headache, hyper Algeria and aches, and autonomic symptoms are some of the psycho-physical symptoms. Furthermore, air pollution has been linked to brain instability [11]. Psychiatric visits to emergency rooms have been linked to a lack of rain and a cold average temperature. Extreme weather, such as big storms, flooding, droughts, and heat waves, is a result of climate change, and it has consequences not only for physical health (e.g., decreased air quality) but also for mental health through the spread of diseases and the re-emergence of existing ailments. Natural catastrophes can cause a wide variety of mental health problems [12].

The link between climate change and its effects on mental health is far from evident. This difficulty is highlighted by the intricacy of recent investigations. This challenge stems largely from the disparity in what to quantify and how to measure climate change's impact. Finding the underlying mechanisms of adaptation, defining deviations from normality in extreme climate events, and eventually attempting to demonstrate direct cause-effect correlations are all difficult problems [13]. In peritraumatic experience, socio-behavioural factors, culture, information, and preparedness all play a role in determining collective resilience or psychological disturbance and weariness. There are currently studies in the literature that have empirically proven links between climate change and mental health problems. Climate change can have an immediate impact on mental health (hot waves), or it can have an indirect impact in the near term (floods, tornadoes, hurricanes), or it can have an indirect impact in the long term (floods, tornadoes, hurricanes) (changes in the territory such as prolonged droughts, increase in the sea levels, deforestation, forced migration) [14]. All of these events have an impact on

a population's mental health, resulting in the emergence of psychiatric diseases such as post-traumatic stress disorder (PTSD), mood disorders such as sadness and anxiety, higher suicide rates and substance use, and increased violent behaviour.

Women, the elderly, children, those with previous psychiatric diseases who may exacerbate their mental condition as a result of climate change, and people with low money or a poor social network, as well as indigenous and native societies, will be the most vulnerable to psychopathologies. Extreme weather occurrences appear to have the ability to sever social bonds as well [15]. Communities in exposed areas are considered vulnerable (e.g. coastal regions, where windstorm or extreme heat can occur). Climate change will result in significant changes to the environment and lifestyles, as well as environmentally induced migration (random asylum seekers and climatic refugees). These groups of people who have been forced to move already have psychological issues. Even identifying the right emotional control for certain climate changes may be challenging for them. Furthermore, intense events cause a variety of psychopathological reactions over time, with acute, sub-acute, and long-term mental health consequences. Following the sequence of events, mental adaption and certain behavioural patterns will emerge: during the pre-alert phase, during the disaster, and after the occurrence. Long-term effects are difficult to quantify. Climate change's consequences, such as economic and social hardship, contribute to an increase in the incidence of mental diseases not only in the affected population, but also in future generations [16].

Limitations

The research into the effects of climate change on mental health is still in its early stages. Further research into the link between psychiatric illnesses and extreme occurrences would be beneficial in the future. We couldn't discover any research on how people react to landscape changes such as glaciation, river loss, desertification, fires, and water scarcity. A better understanding of the characteristics of acute, sub-acute, and long-term repercussions is also a goal worth pursuing. In addition, we predict that future climate change and mental health research will incorporate multidisciplinary studies. Scholars should focus on how natural catastrophes and climate change affect different vulnerable groups, as well as how to use available protective measures and healthcare. The lack of a meta-analysis as a methodological conclusion to the systematic review is a drawback of the current descriptive review. This information could be beneficial in future studies aimed at establishing precise causal relationships between climate change and mental health problems (symptoms and disorders).

Conclusion

The effects of global climate change on the general population, as well as at-risk groups and vulnerable communities, were investigated in this study. We choose to concentrate on extreme events caused by climate change, such as heat waves, floods, drought, tornadoes, hurricanes, and wildfires. Distress symptoms, suicide rates, and clinical illnesses have all been mentioned as consequences (depression, anxiety, sleep disturbances, PTSD, etc.). Even though some of these occurrences are more gradual and less severe (e.g., temperature rises or droughts), the majority of them occur quickly and present themselves as disasters, with PTSD serving as a paradigmatic model for how people react. People who are more sensitive to weather and atmospheric phenomena, on the other hand, may be more affected by gradual global climate changes and their repercussions, such as global warming, rising sea levels, terrain changes, and the loss of familiar natural landmarks. Furthermore, the extinction of animal and plant species can lead to feelings of despair and sorrow. When one considers a person's feelings about their surroundings, it's evident that we're moving toward a cultural and contextual component. In trauma related to extreme weather events and loss of familiar landscape, the wound inflicted on this symbolic domain causes more complex psychopathological consequences, such as identity disorders or long-term personality changes, or dissociative

syndromes, as seen in trauma related to extreme weather events and loss of familiar landscape.

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