

# The Impact of Global Climate Change on Mental Health Issues

**Dr. Jyoti Sachan**

Associate Professor in Food and Nutrition, Department of Home Science, SMM Govt. Girls College, Bhilwara, Rajasthan.

## Abstract

Climate change refers to gradual changes in meteorological parameters like temperature, humidity, atmospheric composition etc. The effects of these phenomena may not be visible evidently on a day-to-day basis as the cause and effect are distinct in terms of space and time. Climate changes have been attributed to extreme weather conditions/events across the globe, leading to many health-related problems. Frequent extreme weather events also have direct and indirect consequences on mental health. Increasing ambient temperatures is likely to increase rates of aggression and violent suicides, while prolonged droughts due to climate change can lead to more number of farmer suicides. Droughts otherwise can lead to impaired mental health and stress. Increased frequency of disasters with climate change can lead to posttraumatic stress disorder, adjustment disorder, and depression. Changes in climate and global warming may require population to migrate, which can lead to acculturation stress. It can also lead to increased rates of physical illnesses, which secondarily would be associated with psychological distress. The possible effects of mitigation measures on mental health are also discussed. The paper concludes with a discussion of what can and should be done to tackle the expected mental health issues consequent to climate change.

**Keywords:** Climate changes, Depression, Mental Health, Psychological Distress, Global Warming

## INTRODUCTION

Climate change refers to relatively stable changes in the meteorological parameters like precipitation and temperature over a period of time in a given region. Such a climate change has been described as a critical global challenge, especially due to the fact that human activities have been contributory to changes in global climate. It has been observed that over least few decades the average global temperature has risen by 0.5°C due to anthropogenic emissions, and projections for 2100 AD suggest that average global temperatures will rise by 2.4–5.8°C.[1,2] Such gradual increase in temperatures is likely to be associated with melting of ice caps, submergence of coastal areas, adverse precipitation events, and floods and droughts in different regions. Such change in climate on a global scale is likely to affect the mankind in many different ways. The effect of global climate change is likely to be more severe in developing countries.[3]

Attention has been drawn to the variety of health impact of climate change. Global climate change is likely to be associated with spread of vector borne diseases, injuries and deaths due to extreme weather conditions such as floods, storms, and cyclones, thermal injury due to exposure to heat, risk of spread of water-borne infections due to floods and coastal water warming, and reduction in regional crop yields

leading to malnutrition.[1,6,7,8,] The impact of global climate change on health is likely to be substantial. Mental health comprises an important component of health and is also likely to be affected by global climate change. The present narrative review discusses the mental health impact of global climate change from the point of view of a developing country.

### **Air pollution and mental health**

It has been demonstrated that rising temperatures and climate change raise the concentrations of allergens and other pollutants in the air, which deteriorates air quality. There is growing evidence that poor air quality can have a detrimental effect on mental health, specifically anxiety and sadness. According to a comprehensive study that included all US Medicare enrollees over 65, short-term exposure to pollutants (PM<sub>2.5</sub> and NO<sub>2</sub>) was linked to an increased risk of acute hospitalisation for mental health conditions. It has been demonstrated that rising temperatures and climate change raise the concentrations of allergens and other pollutants in the air, which deteriorates air quality [9].

In the UK, people with mood or psychotic illnesses have also been found to seek mental health services more frequently when air pollution levels are higher. It has also been demonstrated that childhood and adolescent exposure to air pollution is linked to the emergence of mental health issues in young adults. This is thought to be because air pollution disrupts the central nervous system's natural development.

### **Heat and mental health**

Temperature increases brought on by climate change can have a number of negative effects on mental health. For instance, during heat waves, emergency psychiatric consultations and hospitalizations for mental illnesses typically rise. Although there is conflicting research regarding the relationship between heat and suicide, rates of suicide have also been demonstrated to be greater during heat waves and are predicted to rise as temperatures rise.

Our knowledge of the relationship between heat and bad mental health is still lacking. According to one theory, persons who experience higher temperatures may become more irritable, anxious, and have worsening symptoms of mental health issues. It has been demonstrated that heat waves are associated with higher levels of negative sentiment expressed online worldwide [10].

Heat can also destroy sleep and poor sleep can worsen mental health problems. A very great study, in which ten billion sleep observations have been analyzed, has shown that warming nights destroys human sleep in the world and is unevenly, and this effect is three times more for residents of countries at low income level. Finally, some medications used to treat mental health disorders can interfere with the body's ability to regulate its temperature, meaning people taking these medications may be particularly vulnerable to high fevers.

### **Extreme weather events and mental health**

Storms and floods are becoming increasingly common and severe weather phenomena due to climate change. Those who experience these may be exposed to potentially traumatic situations, such seeing someone seriously hurt or killed. Many will suffer from increased psychological anguish as a result, and a small percentage may experience more severe mental health issues like depression, substance use disorders, or post-traumatic stress disorder (PTSD).

Because they might result in food and water insecurity, homelessness, or unemployment, extreme weather events can also affect some of the social and economic determinants of mental health.[4]. In co-

nsequence, this may have a negative impact on mental health.

In the face of severe weather catastrophes, people, families, and communities frequently exhibit remarkable levels of resilience.

### **climate anxiety in children and young people**

Nearly 60% of 10,000 young people (16–25 years old) in ten different countries (Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, the United Kingdom, and the United States of America) who participated in a recent groundbreaking study said they feel "very worried" or "extremely worried." Many people also linked climate change to unpleasant emotions like sadness, fear, anxiety, anger, and helplessness. According to the report, many young people around the world believe that governments are not doing enough to address or take immediate, coordinated action to address the climate catastrophe. They express feelings of betrayal and abandonment, both personally and on behalf of future generations.

According to another poll, 97% of young people said they were worried about the future wellbeing of their children, indicating that they are taking climate anxiety into consideration when deciding whether or not to have children.

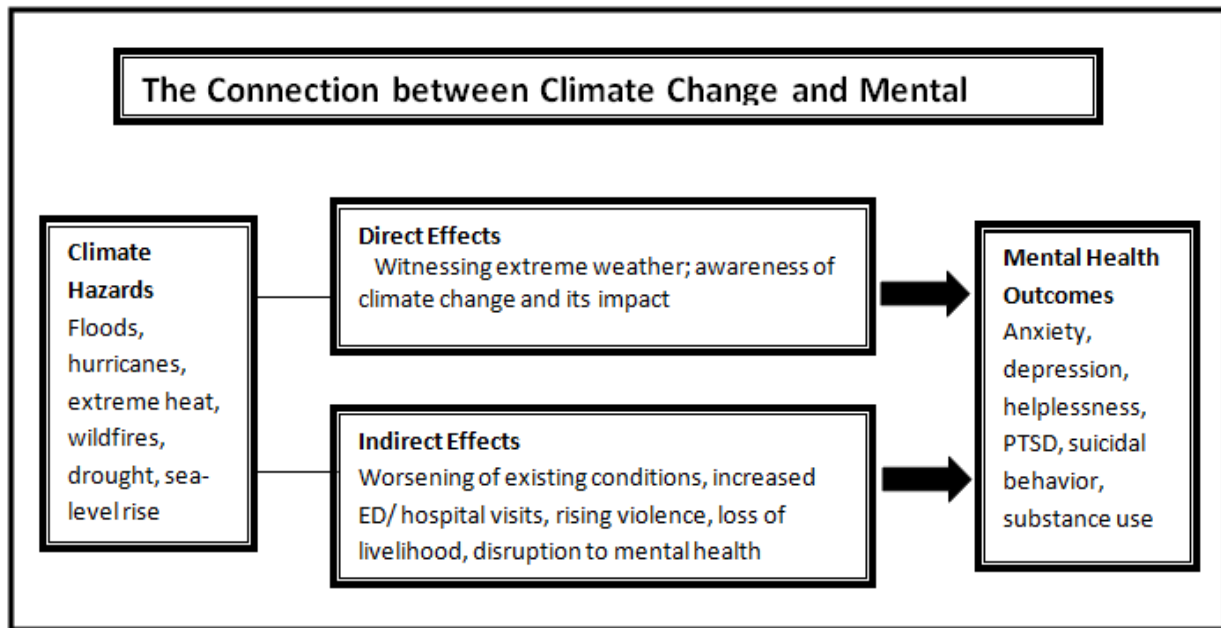
The effects of climate hazards on children's mental health have received very little attention, despite the fact that climate change is now acknowledged to be a catastrophic threat to children's health, accounting for over 88% of the present burden of disease in children. Approximately 85% of the world's children, or 2.2 billion, reside in low- and middle-income nations, which are also the most at risk from climate change[11,12].

### **Climate change is a growing global crisis**

Its scope is already enormous, and it will only increase if nothing is done. It causes both immediate risks, like natural disasters like hurricanes, floods, and wildfires, as well as more gradual dangers like ecological shifts, food and water scarcity, and cultural and geographic loss.

Among the many hazards to the global environment is climate change. Water and food instability, air pollution, and contamination of land, rivers, and oceans are all consequences of unsustainable human activities like deforestation, ecosystem degradation, biodiversity loss, and economies dependent on fossil fuels. These are all contributing to the worsening of the climate crisis and having quantifiable negative effects on human health, mental health, and well-being.

Nature is not only necessary for human survival, but numerous Studying the impact of these changes on individuals and communities, researchers and public health officials have largely focused on physical health.



source: World Health Organization, **Mental Health and Climate Change: Policy Brief (WHO, June 3, 2022)**

But climate change also makes a lot of Environmental and societal risk factors for mental health bodily and mental health issues, which can result in emotional anguish, the emergence of new mental health issues and a deteriorating state of affairs for those who already have them. Thus, there is a growing demand for mental health and psychosocial support (MHPSS) in order to prepare for and respond to this expanding catastrophe. It can be traumatic to experience catastrophic weather events like hurricanes, wildfires, floods, or droughts. Anxiety, helplessness, sadness, post-traumatic stress disorder (PTSD), and suicidal thoughts are just a few of the mental health issues that can occasionally result from the devastation, loss, and displacement that people go through. The most affected are those who live closest to the epicenter of these occurrences. Compared to 14% of those who were indirectly exposed, 67% of those who were directly exposed to the 2018 California Camp Fire reported experiencing trauma akin to PTSD. Those who experienced Hurricane Katrina have noted that these impacts can persist for years [13].

More than two-thirds of American adults (68%) have reported feeling at least some anxiety about climate change, indicating that the phenomenon is also having an effect on the mental health of those who have not personally encountered climate-related calamities.

The effects on mental health will probably only get worse as climate change causes more severe temperatures and increased air pollution. It has already been discovered that rising ambient temperatures raise the number of ER visits linked to mental health. As temperatures rise, there is also an increase in violent occurrences and suicide attempts[14,15]. Likewise, chronic exposure to air pollution has been linked to higher anxiety and even a rise in suicides. When farmers are unable to grow their crops due to changing weather patterns that have caused recurrent drought or flooding, climate change can also increase their stress and anxiety levels. Additionally, enterprises can be destroyed, economic activity can be significantly hindered, and both immediate and long-term financial difficulties might result from extreme weather occurrences.

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