From rising temperature to eco-emotions: exploring the impact of climate change on suicidality

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Climate change is having a profound impact on the Western Pacific region, particularly on Pacific Islands, as highlighted by the United Nations Intergovernmental Panel on Climate Change.[1] Impacts include rising temperatures, sea-level rise, an increase in the frequency and intensity of extreme weather events (EWE), and a rise in air pollution, posing severe challenges to the region's ecosystems and the health and well-being of communities.[1,2] Climate change has direct and indirect impacts on physical and mental health, exacerbating existing health issues and creating new challenges for healthcare systems, including increased risk of heat-related illnesses, vector-borne diseases, and mental health conditions.[2] Climate change has been also linked to suicidal ideation and behaviour.[2] In this commentary, we briefly address our current knowledge on climate change and suicidality.

Emerging research suggests a link between ambient temperature and suicidality. Higher temperatures have been associated with an increased risk of suicidal behaviour, particularly in East Asia and Pacific region.[3] Since the evidence is largely derived from ecological studies, we have no evidence about causal mechanisms, although the association might be mediated by the physiological and psychological impacts of heat stress.

Studies have shown that prolonged exposure to high ambient temperatures can lead to increased irritability, aggression, and impulsivity,[4] which may contribute to suicidal ideation and attempts. Additionally, heat stress can exacerbate existing mental health conditions, including depression and anxiety,[2] further increasing suicide risk. Higher risk in the Western Pacific region has been attributed to the higher baseline temperature and humidity, and stronger impacts on living and working conditions (e.g., agriculture).[3]

Climate change is driving the increasing recurrence and intensity of EWE, such as cyclones/typhoons, floods, and droughts, which can have profound psychological impacts on affected communities.[1,2] Research has shown that individuals who have experienced natural disasters or EWE are at an increased risk of developing mental health conditions, including post-traumatic stress disorder, depression, and anxiety. Additionally, the aftermath of EWE can lead to economic hardship, loss of livelihood, disruption of essential services, but also to displacement, which is particularly impacting Asia and Pacific Islands.[1] All those factors contribute to a sense of hopelessness and despair, potentially increasing the risk of suicidality.

Systematic reviews about the impact of natural disasters (including EWE) on suicidal ideation and behaviour have shown inconsistent findings.[5,6] There is some evidence that suicide mortality increases after drought and heatwaves, while cyclones/typhoons and floods have shown no such impact. Nevertheless, droughts, floods, cyclones/typhoons and tsunamis appear to be leading to increased risk of suicidal ideation and self-harm[5,6] with some studies indicating an initial decline followed by an increase. Initial decline may reflect community coming together, getting support and attention (called also 'honeymoon' effect).[5] However, it is important to consider that most existing studies have major methodological flaws—no clear before and after measures nor control regions, different definitions and measures and a variety of confounding factors.

Climate change also leads to strong emotional responses. The term "eco-emotions" refers to the range of reactions experienced in the context of the climate change and can include feelings of grief, anxiety, anger, and hopelessness.[2,7] As rather new concepts their definitions are not fully agreed-upon. Nevertheless, "eco-anxiety", describing the chronic worry about the future of the planet and the potential consequences of climate change, is showing an increasing trend.[7] A cross-national study of young people suggested that eco-anxiety is more common in low-income countries and in the Global South, who have had stronger exposure to EWE.[8] Other commonly addressed emotional responses are ecological grief and solastalgia.[2] While they share some similarities, eco-grief is a broader concept associated with the loss of biodiversity or ecosystem health, and solastalgia is more closely tied to a sense of place and specific location. Solastalgia has been frequently reported in Indigenous and Pacific communities.[2]

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Our recent literature review[9] identified only two studies providing preliminary quantitative support to the association between environmental worry and suicidal ideation. However, it should be interpreted with caution considering several limitations including cross-sectional design, difference in definitions and measures of eco-emotions, but also suicidality. Nevertheless, there are also qualitative studies reflecting potential links. An Australian qualitative study identified 'hopelessness about the future' as a key theme reflecting young people's worry about the future of the planet, which in their own words may lead to depression and suicidality.[10] Furthermore, there is intersectionality as some groups (e.g., youth, indigenous) are at increased risk of both eco-emotions and suicidality.

It is crucial to acknowledge and address the psychological impacts of climate change. Most of the current evidence linking climate change to suicidality is based on ecological level analyses and therefore still hypothetical. There is urgent need for more robust research to address our knowledge gap and design prevention activities.

Contributors
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Declaration of interests
None.

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