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Mental health and climate change in Africa

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Abstract

It is now widely acknowledged that low- and middle-income countries in Africa are among global hotspots for high vulnerability to climate change, despite making comparatively low contributions to this phenomenon. Climate change has been shown to affect mental health as a result of disruption of social and economic structures that populations depend on for good health, including mental health. After decades of neglect, recent efforts by governments such as in Kenya to address the twin issues of climate change and mental health demonstrate the growing importance of these issues. Here we briefly review the evidence of climate change impacts on mental health in Africa and demonstrate that there is need for more contextual awareness and research in this area in Africa to mitigate or forestall potential mental health crises in the near future. We recommend systematic efforts to support funding for research and interventions at the nexus between climate change and mental health in Africa, and urge institutions and governments in Africa to begin paying attention to this emerging threat to the health of African populations.

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THEMATIC PAPER

Mental health and climate change in Africa

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It is now widely acknowledged that low- and middle-income countries in Africa are among global hotspots for high vulnerability to climate change, despite making comparatively low contributions to this phenomenon. Climate change has been shown to affect mental health as a result of disruption of social and economic structures that populations depend on for good health, including mental health. After decades of neglect, recent efforts by governments such as in Kenya to address the twin issues of climate change and mental health demonstrate the growing importance of these issues. Here we briefly review the evidence of climate change impacts on mental health in Africa and demonstrate that there is need for more contextual awareness and research in this area in Africa to mitigate or forestall potential mental health crises in the near future. We recommend systematic efforts to support funding for research and interventions at the nexus between climate change and mental health in Africa, and urge institutions and governments in Africa to begin paying attention to this emerging threat to the health of African populations.

On 1 June 2019, the President of Kenya declared mental ill health a national priority, and later formed a National Taskforce on Mental Health in Kenya. This was a first in Africa, and the resultant taskforce report[1] identified many issues as being associated with the mental health crisis, including social and environmental factors that could be linked to climate change. The mental health impact of the COVID-19 pandemic further exposed weaknesses in the health system and the potential role climate change plays in the emergence of new diseases and exacerbation of existing ones.

This Kenyan experience foregrounds the twin emergence, in African discourse, of issues related to mental health and climate change on the one hand and the intersection between the two on the other. It is widely acknowledged that despite little contribution to climate change compared

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with higher-income regions, Africa is projected to be among the most vulnerable to climate change, owing to low capacity to adapt and the presence of multiple stress factors.[2] The 2022 report of the Intergovernmental Panel on Climate Change (IPCC) indicates that vulnerability to climate hazards is higher in locations with considerable constraints on development, such as poverty, governance challenges and limited access to basic services and resources, violent conflict and high levels of climate-sensitive livelihoods. West, Central and East Africa, South Asia, and Central and South America are among the global hotspots of high vulnerability.[3] It is estimated that the burden due to climate change constitutes 34% of disability-adjusted life-years in sub-Saharan Africa.[4]

Unpredictable rainfall and drier climate conditions have resulted in shorter seasons of food growing in large swathes of the continent, leading to adaptation of new mechanisms for survival, including switching crops, tree planting and diversification of livelihoods.[2] Across the continent, the 2015 climate change projections differ regionally, with growing evidence-based accuracy of the projections. In Southern Africa for instance, a high reduction in precipitation is predicted, with resultant droughts, while the rise in sea level is expected to have a significant impact on coastal cities, resulting in migration and changes in population density.[5]

In West Africa, projections predict increased food insecurity due to decreased marine productivity and interruption of food production, with an expected 18.6% reduction in agricultural produce, resulting in negative impact on the work and health of the population.[5] In Ghana, where livestock diseases were the greatest sources of loss for farmers, significant negative effects on mental health have been reported.[6]

In East Africa there is a higher flooding risk, which is expected to negatively affect infrastructure and health.[5] Furthermore, the region is equally vulnerable to increased heat and drought, leading to migration in search of stability and safety.[2]

Mental health impacts of climate change

There have been rising concerns over the impact of climate change on mental health worldwide. It is argued that psychological impacts of any form of disaster exceed physical injuries by 40 to 1.[7] Globally, climate change has had effects of varying duration on mental health, both directly and indirectly.

Some direct impacts of climate change on mental health include trauma suffered due to climate events such as wildfires, hurricanes, earthquakes and droughts. Many perceived environmental stressors resulting from changes in climate directly affect brain function and mental well-being, as seen in studies showing that people living in flooded areas reported poor mental health as well as the more commonly reported physical ailments.[8]

Common outcomes of intense or persistent stressors include anxiety disorders, post-traumatic stress disorder, suicidal ideation and depression.[9] There is evidence supporting the correlation of extreme heat with violent behaviour towards themselves and others, increased rates of suicide and hospital admissions for self-harm, and tripled risk of mortality for those with pre-existing mental health conditions.[9] For example, in India, global warming was associated with suicides of up to 60 000 farmers in three decades.[10] Floods and droughts have also been associated with heightened levels of anxiety and depression as well as post-traumatic stress disorder from loss of land, work and disruption of community connections.[11]

The different impacts of climate change that impair mental health are summarised in Fig. 1.

The dread of environmental disaster has also resulted in eco-anxiety, and the anguish from or in anticipation of ecological losses has been shown to lead to ecological grief.[13] Related to this dread, there is emergence of new terminology such as 'solastalgia', coined by Glenn Albrecht to describe the feeling of homesickness when one is still at home but, because of environmental change, that home no longer looks familiar, leading to disintegration of cultural ties between the people and their land.[14] This change may be caused naturally by droughts, floods and fires, or artificially through war, terrorism and economic activities such as mining.

Vulnerability to climate change-related mental health problems is higher among certain marginalised groups, including children, women, the elderly, the economically disadvantaged, emergency workers, first responders, the homeless and persons with pre-existing mental conditions.[11] Additionally, refugees, indigenous communities, members of the armed services, farmers and persons with disabilities have an increased risk of adverse mental health outcomes in these settings.[11] The impact of climate change is often compounded by other factors, such as poverty and lack of access to social services, further exacerbating negative outcomes.

Evidence from Africa on the impact of climate change on mental health

Mental health perceptions in many African countries are often coloured by stigma, myths and superstition, lack of adequate human resource, and unavailable or inaccessible mental health facilities.[15] Nonetheless, as demonstrated in Kenya, there is a growing positive response to mental health, with increased awareness and recognition by governments and calls for investment in mental health.

There is less systematic work on climate change and mental health in Africa, although recent funding initiatives may increase research output in the near future. Although the concepts of climate change and global warming may be unfamiliar to many in the general population, a cross-sectional study on mental health in six African countries representing different regions

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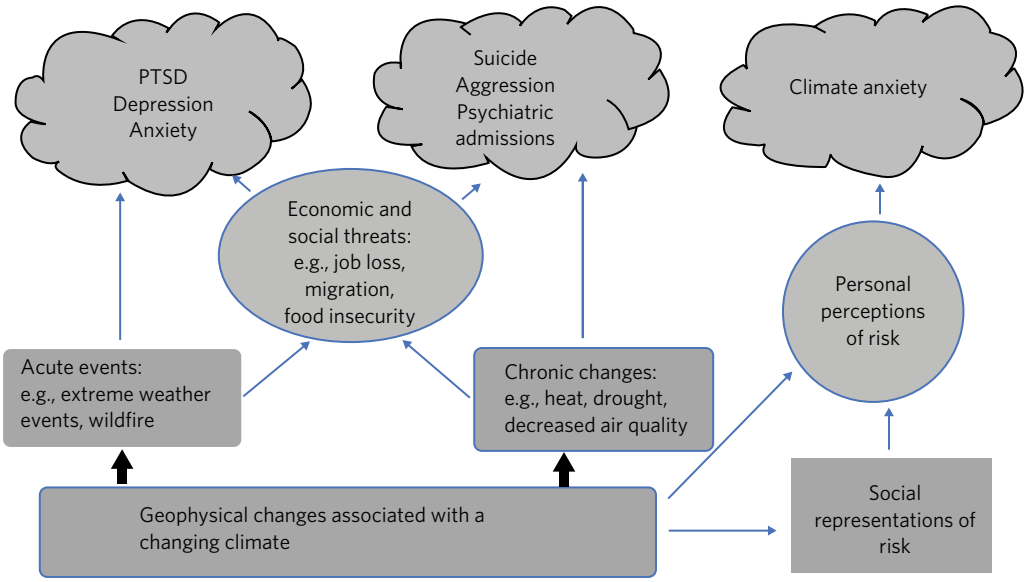


Fig. 1
Impacts of climate change on mental health.[12]

revealed that more than half of the population acknowledged the occurrence of climate change and reported experiencing some form of impact.[4]

Climate change has had impacts on African cultural heritage markers such as historic buildings, archaeological sites and museum collections, seasonal festivals, sacred sites, traditional fishing practices, traditional crops and foodways. For example, in East Africa, extreme heat and rainfall lead to vulnerability of low-lying coastal heritage sites built on coral, and low rainfall has an impact on traditional fishing practices relying on freshwater fish. In Benin, coastal inundation affects boatbuilding and fishing practices and rise in sea level forces relocation of people.[16]

As a result of changing climate patterns, pastoralists in Kenya, Somalia and Tanzania have been forced to leave their land and livelihoods and to move from rural to urban areas or end up as internally displaced persons or immigrants.[17] In the process, they often lose their flock, property and their community. This evokes feelings of hopelessness, helplessness and homesickness, often correlated with mental ill health. Many of those affected turn to consumption of alcohol or other substances as a coping mechanism to deal with the stressors. Higher rates of substance misuse have been reported among people displaced and exposed to extreme climate stressors in South Africa.[18] In addition, the stigma of substance use and mental illness often hinders populations affected by climate change from accessing mental health services.[17]

In many instances, such climate-driven displacements affect children physically, mentally and emotionally. Forced migration due to adverse climatic conditions has been seen for instance from Somalia into Kenyan refugee camps, where many experience water and food shortages as well as disruption of schooling.[19] These children are reported to have been placed at high risk of developing trauma-related disorders, malnutrition, disease and premature death. Many displaced children are often left unsupervised, negatively affecting their emotional development and potentially contributing to school absenteeism.[20] Unfortunately for many of those adversely affected on the continent, mental health services are still largely unavailable.[17]

Coping and adaptation

Many African communities have derived coping mechanisms from indigenous and local knowledge to withstand negative impacts of climate change and adapt to the effects of environmental stresses.[21] These include weather-forecasting systems based on changes in animal behaviour, livestock and crop diversification, cattle stress-management techniques and division of labour, thus allowing acclimatisation to drought challenges.

Additionally, climate-smart agroecological production systems such as the cultivation of drought-tolerant cereals, tubers and vegetables have led to enhanced food security, sustainable land management and minimised water use. However, the development of most of these coping and adaptive mechanisms has been small-scale and largely unsupported by sustained research. It is therefore imperative that research institutions and governments incorporate and acknowledge indigenous and local knowledge in climate action to complement scientific research, as indigenous knowledge is under threat of being sidelined, marginalised or lost.[21]

There is a dire need for more research and surveillance data on mental health effects of climate change in Africa. In view of its urgent nature and the global estimated effect, there needs to be a call for action to increase the resources to deal with climate change on the continent as well as in other

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low- and middle-income regions. Healthcare professionals in Africa have expressed concern for the lack of preparedness to deal with the health (including mental health) impacts of climate change, with little or no funding allocation and an inadequate human resource mix for research and interventions to mitigate the impact of climate change on health.[4]

Conclusions

Africa faces multiple crises as a result of climate change, and the impacts on mental health are yet to be fully studied or acknowledged. Although associations have been shown globally between climate change and mental ill health elsewhere, there is need for more contextual awareness and research in this area in Africa. With low overall mental health funding across the continent, it is possible that this threat will be neglected, resulting in potential mental health crises in the near future.

We recommend systematic efforts to support funding for research and interventions at the nexus between climate change and mental health in Africa, and urge African governments to begin paying attention to this emerging threat to the health of African populations. Importantly, this call for action is not only for governments in Africa, but also for institutions, philanthropists and governments in wealthier countries that have contributed disproportionately to the climate crisis the world faces today.

Data availability

Data availability is not applicable to this article as no new data were created or analysed in this study.

Author contributions

L.A. conceptualised the article, reviewed the literature, developed the first draft, and participated in all submissions and revisions. He approved and submitted the final draft of the manuscript. J.M. participated in manuscript development, reviewed the literature, participated in all revisions, and approved the final draft for submission. Z.M. participated in manuscript development and revisions, and approved the final draft for submission.

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Declaration of interest

None.

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