

UNMASKING THE SILENT PANDEMIC: A CALL TO CONFRONT THE CLIMATE CHANGE HEALTH CRISIS

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Abstract

Climate change, a defining challenge of the 21st century, silently threatens global health. This study delves into this often-overlooked “silent pandemic,” exploring its far-reaching impacts on human health and advocating for urgent action. Ignoring the interconnectedness between climate and health has grave consequences. The research exposes the uneven distribution of health burdens, highlighting how vulnerable populations bear the brunt of heat stress, infectious diseases, food insecurity, and mental health challenges. Climate change acts as a cruel amplifier of existing health inequities, widening the gap between the fortunate and the forgotten. The conclusion paints a stark picture, demanding immediate action. Aggressive climate mitigation strategies are paramount, alongside investments in building resilience for vulnerable communities. Tackling the social determinants of health and integrating climate considerations into public health policies are crucial steps towards a more just and resilient society. Finally, raising public awareness and galvanizing collective action are essential to hold leaders accountable and build a future where climate change no longer dictates our health. This study serves as a clarion call, urging a shift from acknowledging the threat to actively confronting it. By recognizing the silent pandemic and taking decisive action, we can safeguard the health and well-being of generations to come.

Introduction

It is well acknowledged that one of the most pressing and complicated issues confronting humanity in the twenty-first century is climate change(1,2). Its effects on human health are, nevertheless, frequently disregarded or undervalued(3,4). Numerous factors, including extreme weather, infectious diseases, food instability, water scarcity, and mental stress, are among the ways that climate change affects health. The most marginalized and vulnerable groups are disproportionately affected by these health effects, which are not dispersed equally around the world. As a result, addressing the effects of climate change on health is a moral and ethical matter in addition to a scientific and technical one. The purpose of this study is to investigate the effects of climate change on health from a multidisciplinary standpoint and to suggest fair and practical remedies for the hidden pandemic endangering the welfare of millions of people(5). Climate change has far-reaching effects that go beyond changes in the environment and affect human health in its most basic forms(6). More and more studies have recently come to light, shedding light on the many and often subtle ways that climate change is a sneaky force that is quietly reshaping the planet’s health(7–9). Public health is facing previously unheard-of difficulties as a result of changes in temperature, precipitation patterns, and the frequency of extreme weather events brought on by human activity that is changing the Earth’s climate. Comprehending the intricate relationship between climate change and human health is not just a theoretical endeavour; it is a pressing need as societies struggle with the health emergencies that are quietly arising as a result of environmental changes(10,11) Fundamental to this investigation is the understanding that climate change is more than just an increase in temperature; it also triggers a host of health hazards that frequently exist in the shadows. For example, the frequency and intensity of heat waves are rising, which directly

affects human health by putting vulnerable groups at higher risk of heat-related illnesses and mortality. A compounding health crisis can also result from changed precipitation patterns, extreme weather events, and the development of infectious illnesses, as well as disruptions to the healthcare system and shortages of food and water. The reason this epidemic is quiet is that it spreads slowly and is difficult to detect, therefore scientists need to find the hidden links between climate change and health outcomes.

Understanding the Climate-Health Connection

Climate change, the biggest global threat of the 21st Century imperils the health and well-being of individuals worldwide, transcending geographical boundaries and indiscriminately affecting both the Global North and South and increases the global burden of disease. (12,13). Climate change, with its mix of health risks, could roll back the progress we have made in public health and sustainable development(13). Empirical evidence points to coal combustion for electricity as a catalyst for more than 200,000 global fatalities annually(14). It interacts with multiple dimensions and transcends the borders of physical, mental, and psychological health (15,16). This pervasive threat despite the increasing evidence with significant inactions exacerbate existing health challenges and introduce novel public health complexities through diverse pathways. Adger et al., 2022 indicated climate change manifests its impact on individual well-being through three iterative and interlinked pathways: firstly, material circumstances encompassing infrastructure and ecosystems when affected leave affected individuals in depressed states. These collapsed structures attract mass migrations of several harmful organisms like mosquitoes, cockroaches, and rats for survival and fecundity(17); secondly, heightened awareness of the climate crisis through various media outlets induces “eco-anxiety” or “climate anxiety” ultimately, mental distress(15), shattering dreams and aspirations; and lastly, policy responses, including “green fiscal policies”, moral suasion, and regulations, play a pivotal role in shaping the overall impact on individuals as far as climate change is concerned. The 2021 Lancet report unveils an alarming escalation in the health ramifications of climate change, underscoring the immediate health consequences resulting from the delayed and inconsistent responses of countries worldwide. This underscores a compelling imperative for expeditious action prioritizing the health of both individuals and the planet above all other considerations. As per the World Health Organization (WHO), an extensive 3.6 billion individuals currently inhabit regions significantly predisposed to climate change. Forecasts between 2030 and 2050 suggest an anticipated annual increase of approximately 250,000 deaths attributable exclusively to undernutrition, malaria, diarrhea, and heat stress induced by the effects of climate change. The adverse impact of climate change on global health is already evident, contributing to unfavorable health outcomes worldwide, and is anticipated to persist in the future. The World Meteorological agents and Copernicus Climate Change Services indicated that Global temperatures shattered previous climate records and reached exceptionally high levels in 2023 with a 1.4 degrees Celsius rise above pre-industrial baseline. These heat waves and hot temperatures lead to dehydration, haemoconcentration, hypercoagulability, sympathetic activation, and inflammatory mediators which lead to cardiovascular problems including ischaemic heart diseases, stroke, and heart failure (18). Malnutrition and diarrhoea caused by food insecurity and floods in different localities in the world are all impacts of the climate change despite the fact that some of these challenges are being alleviated due to improved health systems particularly in African countries(19). Inflammation, Oxidative stress, and impaired Immune system function of the lungs are respiratory problems caused by air pollution.(20,21). Infectious diseases demonstrate a discernible correlation with alterations in temperature, precipitation, and humidity, particularly influencing vector-borne diseases. These climatic changes contribute to the proliferation of vectors, such as mosquitoes, responsible for diseases like malaria and dengue fever(22). The imperative for health professionals to assume a more robust role in confronting climate change is evident by making health workers understand climate change as a health issue thus identifying the interconnectedness and communicating this in the most effective way to the entire populace thus affecting the manner in which the message is received and utilized(23). However, the exploration of how these professionals perceive climate change and climate action remains conspicuously underrepresented in academic literature, warranting a focused inquiry into this critical aspect.

Unveiling the Hidden Toll and The Silent Pandemic’s Reach

Depending on the geographic region, there are different climate patterns and extremities as a result of climate change where some areas face increased flooding incidents, more intense heatwaves and more frequent hurricanes. Due to socioeconomic status, access to healthcare, infrastructure resilience, and population density, some geographical areas find themselves at the mercy of climate change health impacts. Sub-Saharan Africa, Southeast Asia, and parts of Latin America are identified as particularly vulnerable areas. These factors are further exacerbated by social determinants, creating complex health challenges that make targeted interventions necessary(24,25). There have been varied health implications for humans as climate change is significantly escalating, with vulnerable groups being more affected as a result of their geography and, or their demography. Generally, certain groups such as low-income communities, indigenous peoples, and individuals with pre-existing health conditions are vulnerable to health implications of any form, and climate change is no different, showing that there is no even distribution of its implications across populations. As a result of their physiological abilities, the elderly and children face the most risks. These burdens borne by the vulnerable populations are in no way bargained. Vulnerable populations although can be found in all geographical areas, the most high-risk populations are the aged and children in geographically threatened areas. It is necessary to implement climate action measures to mitigate and alleviate severe health impacts globally. In the absence of these measures, more extreme weather events, altered disease patterns, disease resistance, and interruptions to food and water security are some of the expected incidences. In essence, the geographical and demographic disparities in the health impacts of climate change are grave and require rapt attention. Unfortunately, vulnerable populations who are often not prepared with adaptive strategies face disproportionate risks. Without decisive climate action, the future holds inauspicious health scenarios. It becomes evident as we continue our investigation that vulnerable communities are disproportionately affected by the silent pandemic. The most vulnerable populations to the health effects of climate change are low-income areas, disadvantaged populations, and areas with poor infrastructure for accessing healthcare. While noting that a comprehensive understanding of these intersections is essential for creating fair and successful public health interventions, the research aims to shed light on the socioeconomic variables that worsen health inequities in the context of climate change. The research attempts to promote a comprehensive understanding of how climate change exacerbates already-existing health inequities by examining the complex links between environmental conditions and socioeconomic vulnerability. Furthermore, as the psychological effects of climate change become more apparent, the silent epidemic spreads its talons into the field of mental health. An increasing number of people are suffering from mental health issues as a result of home losses brought on by harsh weather, future uncertainty, and stress from climate-related calamities(10,11). To create comprehensive health policies that take into account the physical and mental well-being of communities coping with the effects of a fast-changing environment, it is essential to comprehend the psychological effects of climate change.

Urgency of Public Health Solutions

According to the World Health Organization, there is a general consensus amongst scientists that climate change is a major scientific and medical challenge. Climate change threatens the lives and health of countless people, coastal cities and local economies(26). Goal 13 of the Sustainable Development Goals (SDGs) calls for urgent action to combat climate change and its impacts. The Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) concluded that climate risks are appearing faster and will become more severe sooner than previously expected, and it will be harder to adapt with increased global heating(27,28). These challenges created by the climate crisis intertwine with demographic, socio-economic, and environmental factors, influencing both the magnitude and the pattern of risks.(29). With the rise in global temperatures, heatwaves, droughts, and other adverse conditions of the weather with a corresponding rise in illnesses of concern. Health repercussions arising from climate change encompass heat stress, communicable diseases, air pollution, inadequate food and water security, extreme weather occurrences, malnutrition, stress, mental health challenges, vulnerable shelter, and population migration, among other factors(30). Workplace hazards linked to climate change consist of elevated ambient temperature, air pollution, exposure to ultraviolet radiation, severe weather conditions, and the spread of vector-borne diseases such as malaria, accompanied by the expansion of habitats.(30–32) Researchers worldwide have warned

of the intensification and severity of various drastic climatic impacts especially on the health of individuals affected by this crisis.(26) .Case studies conducted by Ebi et al., 2017 using scientific methods show it is plausible that a proportion of the current burden of climate-sensitive health outcomes can be attributed to climate change. Effective policy measures in the forthcoming years are imperative for achieving these internationally endorsed goals, focusing on decarbonizing the economy and fortifying resilience against the challenges posed by a progressively warmer and more extreme climate. Despite notable strides, public health still lags, particularly when considering the gravity of the crisis we currently face(34). Years of gains in the public health sector is now threatened by the change in these climatic conditions and hence the need to work earnestly to limit global emissions and keep it to the threshold as ratified by the countries in the Paris Agreement of 2015(35). Emerging health complications related to changing climate can be minimized and avoided *via* effective mitigation and adaptation strategies(31). Despite the numerous monetary pledges made by the world moguls which in itself is the first step and the ratification of documents by different countries signatory to different conventions as well as the determined contributions of the different nationalities to the fight against the climate crisis, there is the need for implementation of the contents of these documents and redemption of the pledges. It is essential for health professionals, especially emergency clinicians, to confront the intersection of climate and health. This entails actively participating in the assessment, intervention, management, evaluation, education, and referral processes for individuals presenting to emergency departments with potential climate-related health impacts(36). Disparities in vulnerability across various regions are intricately linked to a nation's, region's, and locality's ability to manage and prepare for the consequences of climate change. This is intricately tied to economic conditions, social stability, and the availability and prioritization of resources for health systems. Additionally, global risks are not evenly distributed, with their impact shaped by the levels of social and economic development and the quality and accessibility of healthcare. The advent of climate change is poised to heighten existing health challenges and inequalities, creating wider gaps between regions, within nations, and among diverse population segments. Particularly at risk are vulnerable groups, including the elderly, children, pregnant women, and those managing conditions like cardiovascular disease, diabetes, lung disease, and mental illness.(29,37)

Conclusion and recommendation

Climate change looms as a silent pandemic, its insidious tendrils reaching across borders and demographics, impacting countless lives and jeopardizing global health. This research has illuminated the grim reality: the health burdens are not shared equally. Vulnerable populations, often lacking resources and resilience, bear the brunt of the damage, experiencing a disproportionate rise in heat stress, infectious diseases, food insecurity, and mental health challenges. Climate change amplifies existing health inequities, widening the chasm between the fortunate and the forgotten. Ignoring this silent pandemic is no longer an option. We must act with urgency and purpose, guided by the clear conclusions drawn from this research. First and foremost, aggressive climate mitigation strategies are paramount. Decarbonizing our economies and limiting global warming to well below 2 degrees Celsius, as enshrined in the Paris Agreement, is the cornerstone of safeguarding human health. Building resilience is equally crucial. Investments in infrastructure, early warning systems, and healthcare preparedness, particularly in vulnerable regions, are essential to shield communities from the inevitable impacts. This demands a focus on equity, ensuring no one is left behind in the face of climate adversity. Furthermore, addressing the social determinants of health is critical. Poverty, lack of education, and limited access to healthcare exacerbate the health burdens of climate change. By tackling these root causes, we can create a more just and resilient society, better equipped to withstand the challenges ahead. Integrating climate change considerations into public health policies and practices is another imperative. Healthcare professionals must be equipped to identify and address climate-related health impacts, while public health messaging needs to effectively communicate the risks and empower communities to take action. Finally, raising public awareness is vital. By shedding light on the silent pandemic and its human cost, we can galvanize collective action and demand accountability from our leaders. Together, we can build a future where climate change no longer dictates our health and well-being. This is not just a scientific or technical challenge; it is a moral and ethical imperative. The time for delay is over. Let us act decisively, guided by science, compassion, and a shared vision for a healthier, more equitable future for all.

Only then can we silence this pandemic and safeguard the well-being of generations to come.

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Data was collected from the prior findings

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