

Climate Change and Health

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Abstract

Climate change is the single greatest threat to human health, and medical professionals around the world are already taking action to mitigate the health effects brought on by this developing crisis. In order to avoid catastrophic health effects and the millions of fatalities that would come from climate change, the Intergovernmental Panel on Climate Change (IPCC) thinks that the increase in global temperature must be kept below 1.5°C. Some global temperature increases and other climate effects are already unavoidable due to historical emissions. Every additional tenth of a degree of global warming will have a significant negative impact on people's lives and health. It is thought that even a rise of 1.5°C is unsafe.

Keywords: Climate, change, temperature, hazard, health.

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INTRODUCTION

Saudi Arabia is already suffering terrible consequences from climate change. This study compiles scientific predictions on how the effects of climate change will manifest between the years 2050 and 2100 for low, medium, and high emission pathways. According to the science, Saudi Arabia would suffer severe climate impacts if it continues on its current high-emissions course. By 2050, the frequency of agricultural droughts in Saudi Arabia will have increased by 88% if urgent action is not taken. Heatwaves will last more than 4,242% longer, and Saudi Arabia's economy, which stands to lose over 12.2% of GDP by 2050 due to sea level rise, coastal erosion, and fiercer weather, would be in disarray (G20 Atlas).

The less the climate impacts cascade and the easier they are to control; the faster Saudi Arabia adopts low-carbon policies. The cost of climate impacts in Saudi Arabia will decrease to just 4.8% of its GDP by 2050 and 0.78% by 2100 if global warming is kept to 2°C or below. People's lives and health are being impacted by climate change in several ways. All of

these things are in danger, including fresh air, clean water, an abundance of good food, and a safe place to live. Additionally, it has the potential to reverse decades of progress made in world health. (WHO,2023) Climate change has an effect on all of the social and environmental factors that affect health, including clean air, safe drinking water, an adequate food supply, and safe housing. Between 2030 and 2050, an additional 250 000 deaths per year are anticipated to be caused by malnutrition, malaria, diarrhea, and heat stress. Last but not least, it is anticipated that by 2030, the yearly cost of direct health harm will range from USD 2 to 4 billion (excluding spending in industries that have an impact on health, such as agriculture and water and sanitation). Not to mention, by making better dietary, transportation, and energy use decisions, lowering greenhouse gas emissions can improve health, notably through decreased air pollution. The places with little healthcare facilities, which are frequently found in underdeveloped countries, will be the least equipped to cope without assistance to plan and respond.

Less rain to water crops and replenish groundwater aquifers, creeping desertification and soil degradation, and increasing size and frequency of dust

storms are just a few of the effects of a warmer climate already having an impact on the Kingdom and the larger Middle East. Everyone faces these hazards, but those in low-income and underdeveloped nations and communities are those whose health is being impacted by the climate catastrophe first and worst. These people also make the smallest contributions to its causes and are least equipped to protect their family from it. The negative health effects of these disruptions include increases in respiratory and cardiovascular disease, injuries and early deaths from extreme weather events, changes in the prevalence and geographic distribution of food- and water-borne illnesses and other infectious diseases, as well as threats to mental health.

The current health disparities between and within communities could get significantly worse as a result of the climate issue, which threatens to reverse the last fifty years of progress in development, global health, and poverty reduction. It seriously jeopardizes the attainment of universal health coverage (UHC) in a number of ways, including by increasing the burden of sickness and exacerbated access hurdles, frequently at the most critical moments. At least 10% of the world's population, or 930 million people, spend their income for healthcare. Due to health shocks and stresses, about 100 million people already experience poverty each year; however, the effects of climate change are accelerating this trend because the uninsured population is already among the poorest.

Saudi Arabia unveiled the Vision 2030 strategy as a plan of action for long-term financial and environmental sustainability, with goals for cutting carbon emissions among them. Improvements are made to the environment, education, infrastructure, and gender equality, among other things. The Kingdom of Saudi Arabia is facing a serious threat from climate change as a result of its extreme aridity, acute water shortage, fast expanding population, and reliance on fossil fuels, which are widely acknowledged as a major contributor to global warming (GHGE). Except for the southwest of the country, which experiences a semi-arid climate, Saudi Arabia is known for its desert environment. The central region experiences extremely hot and dry summers, with temperatures averaging 27 to 43 degrees Celsius inland and 27 to 38 degrees Celsius by the shore.

Makkah, Riyadh, and Dammam are the subject of in-depth research by Aeon that reveal a relentless rise in temperatures since 1979, a steady decline in rainy days, and an increase in the number of "hazardous days" every year when high temperatures pose a major harm to people. In the region, where a large amount of water is already produced by desalination procedures, which itself present issues with regard to energy consumption and atmospheric pollution, higher temperatures are also putting strain on water resources.

Food security and crop productivity are also more vulnerable under rising temperatures. According to Alshalan, the Saudi Vision 2030 policy to diversify the economy away from dependence on oil as well as the Saudi and Middle East Green initiatives have highlighted the Kingdom's desire to address climate change challenges. (Arab news, 2023)

Based on historical data, a study showed the temperature and rainfall trends in Saudi Arabia's center, northern, and southwestern regions. Using information from the NCAR Community Climate System Model, changes in temperature and rainfall were forecast for the years 2025-2044, 2045-2064, and 2065-2084. (CCSM4). With the exception of the southwest and west, all regions were expected to have an increase in temperature between 2025 and 2084, with the central and northern regions experiencing the largest increases.

Significant geographical variation in rainfall and temperature increase suggests the necessity for area-specific action strategies to reduce the effects of climate change. Including such heterogeneity in water resource management planning is crucial. Furthermore, climate change is anticipated to have an impact on water use across several industries (such as home, industrial, and agricultural). Water quality at the sources, such as groundwater and seawater used for desalination, can have an impact on treatment costs. The degree of such effects on groundwater resources, groundwater and seawater quality, and the cost of water treatment and desalination must be explained in future research. More consideration should be given to the effects of climate change on water treatment, supply costs, and health issues. This study gives light on potential changes in temperature and rainfall in several Saudi Arabian locations and their effects on the management of water resources, despite a number of limitations. (Tarawneh QY, Chowdhury S, 2018).

Instability in the food system, an increase in zoonoses and other vector, food, and water borne diseases, as well as problems with mental health are just a few of the ways that climate change is already impacting health. Floods, storms, and other types of extreme weather are also growing more frequent. As a result of climate change, numerous socioeconomic elements that affect health, such as equity, access to healthcare, and livelihoods, are decreasing. These climate-sensitive health issues disproportionately affect the most vulnerable and disadvantaged groups, including women, children, ethnic minorities, poor communities, migrants or those who have been forcefully relocated, seniors, and those with underlying medical disorders.

CONCLUSION

The sensitivity of individuals, their resistance to the current rate of climate change, and the scope and speed of adaptation will all have a significant impact on

the short- to medium-term health implications of climate change. The long-term outcomes will have a bigger impact on how far-reaching action is made now to decrease emissions and stop the breaching of dangerous temperature thresholds and possibly irreversible tipping points.

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