

Climate Change Impacts on Health: Addressing Temperature Variations with Homeopathic Solutions

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Abstract

The present study was focussed on the impacts of climate change on health, specifically focusing on temperature variations and proposing homeopathic solutions. Climate change, recognized as a critical issue of the 21st century, has wide-ranging effects on human health, including direct impacts such as heat-related illnesses and deaths, as well as indirect effects such as increased prevalence of vector-borne diseases and food shortages. Vulnerable groups, including the elderly, are especially at risk. The present review article highlighted regional impacts in countries such as Australia and India, where heat waves and temperature variability have led to significant mortality and morbidity. The present study also examined the connections between environmental degradation, greenhouse gas emissions, and climate change. In homeopathy, the source of healing is the nature itself. Numerous pieces of evidence demonstrate the impact of homeopathy on animals and plants, indicating its potential for large-scale ecological healing beyond just human applications. A healthy community relies on efforts to protect the environment and ensure patient safety, contributing to the conservation of water and energy and the prevention of air, water, and land pollution. Homeopathy offers a profound framework for understanding the relationship between human illnesses and healing through natural substances. The present study introduced homeopathic remedies such as Bryonia, Dulcamara, and others, suggesting their potential efficacy in mitigating health impacts associated with climate variations.

Keywords: climate change, impacts on health, homeopathic remedies

INTRODUCTION

Climate variation is one of major concerns of 21st century and an intensely debated topic. Climate change has affected almost all facets of human life. Its effect on health, though not clearly visible, is of particular concern. It is only in last few decades that it is receiving attention, even if it is sporadic and

non-uniform throughout the world. Climate change is linked to health in several ways, and its effects are multidimensional. Some of the effects are direct, such as temperature-related sickness and deaths, as well as impacts of life-threatening weather events. The indirect effects are seen in several ways, like those that spring rise to food and water-borne illnesses; vector-borne sicknesses; or water and food shortages. Climate change can also have broader effects on well-being and health. Better public health demands focus on harmless drinking water, adequate food, safe shelter, and conducive social conditions. Developing countries are more adversely impacted by climate change and, therefore, need to focus more on these issues [1].

Though direct association between temperature and mortality differs by geographical area and

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climatic zone, high temperatures cause deaths from heat strokes and other diseases such as cardiovascular disease, where normal functioning of the heart is affected by high temperature. The utmost susceptible are individuals over the age of 65 years.

As per the Australian Bureau of Meteorology (ABM) and Commonwealth Government (2009), heat waves reported far more diseases in Australia as compared to any additional natural hazard. Previous studies on the associations between health and weather change [2] showed that heat waves are theoretically one of most harmful side effects of global warming, particularly in a 'hot' country such as Australia, where disease rate from heat waves may tripartite by 2100 in almost all Australian towns [3].

In India, there is understanding that the phenomenon of weather change can no longer be ignored. Several studies show the impact of fluctuations in rainfall and on outbreaks of malaria in the country. Another observation is the upsurge in heat wave death in India over space and in time—a strong indicator of changing environmental conditions in India. Global warming is also seen in recurring severe droughts in many parts of the country, such as in the Marathwada region of Maharashtra, Bundelkhand in Uttar Pradesh, etc. Droughts have severe effects on agriculture and life in plateaus, forests, and coastal regions. Projections indicate that climate change will lead to greater fluctuations in rainfall and temperatures throughout the 21st century. Preliminary analysis has shown contrasting effects on the intensity of floods and the severity of droughts in various regions of India [4]. Besides affecting livelihoods, working and living conditions, and daily life, climate change also directly affects the physiology of the body. Physiological changes in the body not only affect health due to illnesses such as diarrhoea, but they also create comorbid conditions because of which other diseases can have severe consequences. The human skin temperature is muscularly delimited to remain at 35°C or less under normal circumstances [5]. The skin temperature must be inferior than the essential body temperature (37°C) for metabolic temperature to be conveyed to the skin. Sustained skin temperatures of over 35°C due to heat waves elevate the core body temperature, nausea, body ache, causing fatigue, etc., reducing individual's efficiency at work.

ENVIRONMENTAL DEGRADATION AND CLIMATE CHANGE

With rising pollution, there is also a growing absorption of greenhouse gases (GHGs) in the atmosphere, which improved the troposphere's heat-trapping volume—a progression recognized as radioactive forcing. The result is an improved greenhouse effect, usually recognized as global climate change or global warming.

Changes in climatic situations are typically named as climate inconsistency, month-to-month or year-to-year. The inconsistency of temperature in India over a period of 100 years has been described to be 0.5°C [6]. Since 1990, global temperatures have shown a sharp rise, which clarifies the heightened awareness about the potential influence of climate variation on unlike sectors of human health [7].

The melting of glaciers is probable to outcome in cyclones, floods and disasters. Thus, at a fundamental level, climate change is climate variability. The process has sped up over the past 20 years. After the magazine of the IPCC report, a Non-Governmental International Panel on Climate Change (NIPCC) was established in the USA. The panel published its report titled 'Climate Change Reconsidered', a compilation of studies on the projected effects of climate variation. The report raised doubts regarding the preparedness of the public health systems to address the probable threats of climate variation to health. Considering recent developments, governments' economic policies, and political actions, it may be relevant to review the newest projections of climate variation and human health scenarios in the Indian situation [8].

IMPACT OF HEAT

Every year, several lives are lost in India due to excessive heat. A recent review of death due to heat waves in India by Akhtar reported the origin of those heat waves in the month of March to June.

Maximum diseases (1658) were recorded in the year 1998 [4]. Andhra Pradesh, Punjab, Odisha, Rajasthan, Uttar Pradesh, Madhya Pradesh, and Bihar were the furthestmost affected regions. With the predictable upsurge in temperatures, the mortality figures are predictable to increase. The National Physical Laboratory of New Delhi is employed on a model to assess the effects of heat stress resulting from climate change on human health. Using the PRECIS model for an A1B scenario, it displayed high probability of occurrence of maximum temperatures (45–50°C) for three consecutive days in April to June months of the years 2030, 2050, and 2080 in few districts of Bihar, Gujarat, Andhra Pradesh, Rajasthan, Odisha, West Bengal, and Uttar Pradesh. Amplified temperatures are also probable to cause a rise in incidences of eye illnesses such as dry eyes, cataract, vernal keratoconjunctivitis, and pterygium, as well as skin illnesses [9].

In India, the number of deaths and occurrences related to heat waves has been increasing annually. In 1981, there has been seven heat wave days with 63 deaths. According to the World Health Organization (WHO) more than 4,000 farmers expired due to heat waves since 2000 (including 1,200 in year 2002; 2,400 in year 2003; 200 in year 2005; and 50 in year 2006) [10]. In 1998, Orissa alone noted 2,000 diseases due to dehydration and heat strokes during heat waves [11]. At global level, the years, 1990, 1991, 1995, 1997, 1998, and 1999, were among the hottest years in earlier 140 years from the same decade. The detected upsurge in frequency of heat waves and severe heat waves in the decade 1990–2000 is likely to have caused from the upsurge in decadal scale of global warming [12].

Temperature has direct relationship with mortality which varies with climatic zone and geographical area [13]. Morbidities and mortalities due to temperature cannot stop completely but can be reduced significantly with better planning and an understanding of climatic variations. There have been few studies of climate variations in the selected regions. Furthermore, statistical models to study trends in temperature in these regions have not been used before. It is only recently that long-term climate changes, and their possible impacts, have begun to receive serious attention.

The COVID-19 pandemic-related lockdown had a direct effect on improving ambient air quality in Indian cities, as indicated by the significant reductions in most air pollutants, especially PM_{2.5}, PM₁₀, NO₂ and SO₂. The reduced levels of air quality index (AQI) are within the permissible limits set by the India's Pollution Control Agency, Central Pollution Control Board regulations [14].

In West Bengal, due to the sharp increase in COVID infections, the state government enforced a near-complete lockdown throughout the state, allowing only emergency movement of persons and vehicles. As an outcome of the decrease in impurities, the values of AQI mean (predicted and observed) were the same. Thus, the lockdown enforced during the COVID-19 pandemic should make governments around the world aware of the importance of restoring environmental quality and the stability of natural ecosystems. Predicting air quality is a useful strategy to air pollution management that the local governments and municipalities might employ in the future. It is beneficial to respond quickly before the situation worsens with time.

HOMEOPATHIC REMEDIES

Homeopathy transcends the limits of medical technology, functioning as a methodology integrated within a global context. The role of homeopathy must be considered in any discussion about ecological healing and environmental health. As environmental degradation continues to speed up, homeopathy and its principles provide deep insights into both individual and global healing.

Bryonia

Affects all serous membranes and the organs they enclose, causing aching in every muscle. The pain typically experienced is sharp and tearing, worsening with movement and improving with rest. These distinctive sharp pains, which intensify with movement and are particularly severe in the chest, are

widespread but most notable in that area. They worsen with pressure, and the mucous membranes are notably dry. It tends to be most noticeable on the right side, in the evening, and in open air, as well as in warm weather following cold days.

Dulcamara

Hot days and cold nights at the end of summer particularly enhance the effects of Dulcamara. It is one of the remedies that align with symptoms caused by damp weather, colds from exposure to wet conditions, and especially diarrhoea. Dulcamara also specifically affects the skin, glands, and digestive organs, leading to increased secretion from mucous membranes while the skin remains inactive.

Hepar Sulphur

This remedy is particularly suited for scrofulous and lymphatic individuals prone to eruptions and glandular swellings, with unhealthy skin and heightened sensitivity to stimuli. It is indicated for patients who sweat excessively and seek warmth by pulling the blanket around them. Locally, it has a special affinity for the respiratory mucous membranes, causing croupous catarrhal inflammation and abundant secretion, as well as easy perspiration. Symptoms worsen with dry cold winds, cool air, slight drafts, contact with Mercury, touch, and when lying on the painful side.

Mercurius Solubilis

All symptoms related to Mercury worsen at night, with warmth from the bed, and in damp, cold, or rainy weather, and are exacerbated by perspiration. Complaints intensify with sweating and rest, accompanied by significant weariness, prostration, and trembling. It acts like a "human thermometer," showing sensitivity to both heat and cold. Affected areas are highly swollen and feel raw and sore; the abundant, oily sweat does not provide relief. There is a foul smell from breath, excretions, and body odour, with a tendency for pus formation that is thin, greenish, putrid, and streaked with thin blood.

Phosphorus

Phosphorus causes irritation, inflammation, and degeneration of mucous membranes, as well as serous membranes. It can inflame the spinal cord and nerves, leading to paralysis, and damages bones, particularly the lower jaw and tibia. It disrupts blood composition, causing fatty degeneration in blood vessels and various tissues and organs. There is a pronounced sensitivity to external stimuli, including light, sound, odours, touch, electrical changes, and thunderstorms.

Psorinum

Psorinum is a remedy for cold conditions; it requires the head to be kept warm and prefers warm clothing even during summer. It exhibits extreme sensitivity to cold and is characterized by weakness, regardless of any underlying organic disease, particularly the lingering weakness after an acute illness.

Rhododendron

Rhododendron is noted for its pronounced rheumatic and gouty symptoms, especially during hot weather. A key guiding symptom is that symptoms worsen before a storm. All symptoms tend to recur in rough weather, at night, and toward morning, but improve after the storm subsides, with warmth, and after eating.

Rhus Tox

This remedy is often indicated due to its effects on the skin, rheumatic pains, mucous membrane issues, and a typhoid-like fever. Rhus has a significant impact on fibrous tissues—such as joints, tendons, and sheaths—causing pain and stiffness. Symptoms worsen during sleep, in cold, wet, or rainy weather, and after rain. They are more intense at night, during rest, and when lying on the back or right side. Relief is found in warm, dry weather, with movement, walking, changing positions, rubbing, warm applications, and stretching out the limbs.

Silica

Silica promotes the maturation of abscesses by encouraging suppuration. A person needing Silica is often cold and chilly, tends to stay close to the fire, prefers ample warm clothing, dislikes drafts, and has cold hands and feet, with symptoms worsening in winter, and lack of vital heat [15].

Sulphur

This is great Hahnemannian antipsoric agent. Its action is centrifugal, working from inside out, with particular effect on the skin where it causes heat, burning, and itching, aggravated by the warmth of the bed. Symptoms include inertia and relaxation of fibers, leading to a general weakness. Key indicators for Sulphur homeopathically are sensations of heat, aversion to water, dry and brittle hair and skin, red orifices, a sinking feeling in the stomach around 11 a.m., and a tendency for brief, cat-nap-like sleep.

Tuberculinum

The patient is always tired, experiences intense fatigue from any motion, has a strong aversion to work, and desires constant changes. Symptoms frequently shift, and well-chosen remedies fail to bring improvement, with colds resulting from even minimal exposure.

CONCLUSION

Climate change poses significant health risks, particularly through temperature variations which exacerbate heat-related illnesses and mortality, especially affecting vulnerable populations like the elderly. Countries such as Australia and India illustrate severe impacts of heat waves and variable weather patterns on public health, including increased mortality and morbidity. Addressing these challenges requires comprehensive strategies integrating environmental management and health policies. While homeopathic remedies such as Bryonia and Dulcamara are proposed as potential solutions, their efficacy amidst broader climate impacts necessitates further research and integrated approaches to mitigate health risks effectively.

REFERENCES

1. Watkiss P, Horrocks L, Pye S, Searl A, Hunt A. Impacts of climate change in human health in Europe. PESETA-Human health study. Luxembourg (Luxembourg): European Commission, Institute for Prospective Technological Studies; 2009.
2. Hennessy K, Fitzharris B, Bates N, Harvey S, Howden L, Hughes J, et al. Chapter 11. Australia and New Zealand. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment. Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland: IPCC; 2007. 507– 540p.
3. Barlow G. Nurses feel impact of climate change. Australian Nursing Review. 2008; 15 (10): 24– 27p.
4. Akhtar R. Climate change and health and heat wave mortality in India. Global Environmental Research-English Edition. 2007; 11(1): 51p.
5. Sherwood SC, Huber M. An adaptability limit to climate change due to heat stress. Proceedings of the National Academy of Sciences. 2010; 107(21): 9552–9555p.
6. Ministry of Environment and Forests. India's Initial National Communication to the United Nations Framework Convention on Climate Change. New Delhi: MoEF, Government of India; 2004.
7. Dash SK, Hunt JCR. Variability of climate change in India. Current Science. 2007; 93(6): 00113891.
8. Dutta P, Chorsiya V. Scenario of climate change and human health in India. Int J Innov Res Dev. 2013;2(8):157–60.
9. Singh PK, Dhiman RC. Climate change and human health: Indian context. Journal of Vector Borne Diseases. 2012; 49(2): 55p.
10. World Health Organization. El Niño and Health, Protection of the Human Environment. Geneva: WHO; 1999.

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11. Heat is on: India wants WHO to help it cope with heat wave. *Economic Times* [Internet]; 2007 February 7.
 12. Pai DS, Thapliyal V, Kokate PD. Decadal variation in the heat and cold waves over India during 1971-2000. *Mausam*. 2004; 55(2): 281–292p.
 13. European Environment Agency. *Impacts of Europe's Changing Climate: An Indicator-based Assessment* (No. 2). Copenhagen: European Communities; 2004.
 14. Corona virus India lockdown Day 49 updates. *The Hindu* [Internet]; 2020 May 12. Available from: <https://www.thehindu.com/news/national/india-coronaviruslockdown-may-12-2020-live-updates/article31563054.ec> (Retrieved on 2021 September 9).
 15. Pai DS, Srivastava AK, Nair SA. Heat and cold waves over India. In: Rajeevan M, Nayak S, editors. *Observed climate variability and change over the Indian region*. Singapore: Springer; 2017. p. 51–71. doi: 10.1007/978-981-10-2531-0_4.