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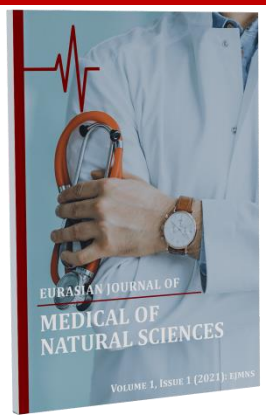

INFLUENCE OF CLIMATE ON THE SPREAD OF NON-COMMUNICABLE DISEASES

Rasulova N.F.
Shomuradova Sh.Sh.
Nazarov Sh.B.
Tashkent Pediatric Medical Institute
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ABSTRACT

The influence of climate on the spread of no communicable diseases (NCDs) is a growing concern in public health research. Climatic factors such as temperature, precipitation and humidity can directly or indirectly influence the incidence and prevalence of various NCDs, including cardiovascular diseases, respiratory diseases and some types of cancer. Understanding the complex relationship between climate dynamics and the nature of NCDs is essential for developing effective prevention strategies and mitigating the global health burden of these diseases. This article reviews current evidence on the influence of climate on the prevalence of NCDs and discusses potential mechanisms underlying these associations, highlighting the importance of climate change adaptation and resilience in public health policy and practice.

ВЛИЯНИЕ КЛИМАТА НА РАСПРОСТРАНЕНИЕ НЕИНФЕКЦИОННЫХ БОЛЕЗНЕЙ

Расулова Н.Ф.
Шомурадова Ш.Ш.
Назаров Ш.Б.
Ташкентский педиатрический медицинский институт
https://doi.org/

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ABSTRACT

Влияние климата на распространение неинфекционных заболеваний (НИЗ) вызывает растущую озабоченность в исследованиях общественного здравоохранения. Климатические факторы, такие как температура, осадки и влажность, могут прямо или косвенно влиять на заболеваемость и распространенность различных НИЗ, включая сердечно-сосудистые заболевания,

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здравоохранение, профилактика, адаптация к климату, глобальное здравоохранение.

респираторные заболевания и некоторые виды рака. Понимание сложной взаимосвязи между динамикой климата и природой НИЗ имеет важное значение для разработки эффективных стратегий профилактики и смягчения глобального бремени этих заболеваний для здоровья. В этой статье рассматриваются текущие данные о влиянии климата на распространенность НИЗ и обсуждаются потенциальные механизмы, лежащие в основе этих связей, подчеркивая важность адаптации к изменению климата и устойчивости в политике и практике общественного здравоохранения.

IQLIMNING YUQUMLI BO'LMAGAN KASALLIKLARNING TARQISHIGA TA'SIRI

Rasulova N.F.
Shomurodova Sh.Sh.
Nazarov Sh.B.
Toshkent pediatriya tibbiyot instituti
https://doi.org/

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Iqlim, yuqumli bo'lmagan kasalliklar, yurak-qon tomir kasalliklari, respirator kasalliklar, saraton, sog'liqni saqlash, oldini olish, iqlimga moslashish, global salomatlik.

ABSTRACT

Iqlimning yuqumli bo'lmagan kasalliklar (YUBK) tarqalishiga ta'siri sog'liqni saqlash sohasidagi tadqiqotlarda tobora ortib borayotgan tashvish uyg'otmoqda. Harorat, yog'ingarchilik va namlik kabi iqlim omillari yurak-qon tomir kasalliklari, nafas olish tizimi kasalliklari va saratonning ayrim turlarini o'z ichiga olgan turli NCDlarning tarqalishi va tarqalishiga bevosita yoki bilvosita ta'sir qilishi mumkin. Iqlim dinamikasi va YUBK tabiati o'rtasidagi murakkab munosabatlarni tushunish ushbu kasalliklarning global salomatlik yukini oldini olish va yumshatish bo'yicha samarali strategiyalarni ishlab chiqish uchun juda muhimdir.

Relevance. Noncommunicable diseases (NCDs) are a major global health problem, causing a significant proportion of morbidity and mortality worldwide. Although lifestyle factors such as diet, physical activity and smoking are well-established determinants of NCD risk, emerging evidence suggests that climate variability and change also play a critical role in shaping the distribution and burden of these diseases [1]. Climatic factors, including temperature, precipitation, humidity and extreme weather events, can directly or indirectly influence the incidence, severity and distribution of NCDs, creating complex challenges for

public health systems and policymakers. The relationship between climate and NCDs is multifaceted, and different mechanisms underlie their association. Changes in temperature and humidity levels can affect cardiovascular health by altering blood pressure, heart rate, and the risk of myocardial infarction and stroke [2]. In addition, climate variability can exacerbate respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD) by increasing levels of air pollution and exposure to allergens [3]. Moreover, changes in rainfall patterns and temperature can affect food availability, water quality and the transmission of vector-borne diseases, contributing to an increase in the burden of NCDs such as malnutrition, water-borne diseases and vector-borne diseases such as dengue fever and malaria [4]. Understanding the impact of climate on NCDs is important for developing effective prevention and intervention strategies. Climate change projections indicate that extreme weather events, as well as changes in temperature and precipitation patterns, will become more frequent and intense in the coming decades, posing additional challenges to NCD prevention and control efforts [5]. There is therefore an urgent need to integrate climate considerations into public health planning and policy development to improve resilience and adaptation to climate-related NCD risks.

Temperature and cardiovascular diseases:

Extreme temperatures, including heat waves and cold spells, are associated with an increased risk of cardiovascular events such as myocardial infarction and stroke. Extreme heat can lead to dehydration, electrolyte imbalance and heat stress, which can aggravate underlying cardiovascular diseases and trigger acute events. Conversely, cold temperatures can constrict blood vessels, increase blood pressure and increase the risk of thrombosis, especially in susceptible populations [6].

Temperature changes can also influence the spread of vector-borne diseases such as Lyme disease, which can affect cardiovascular health through complications such as myocarditis.

Air pollution and respiratory diseases:

Climate change may increase levels of air pollution, which is a known risk factor for respiratory diseases such as asthma, COPD and respiratory tract infections. Higher temperatures and increased humidity can increase the formation of ground-level ozone and particulate matter, which can irritate the respiratory tract and worsen respiratory symptoms [7]. Additionally, changes in precipitation patterns can affect indoor air quality and mold growth, leading to respiratory health problems. Climate-related events such as wildfires can also release harmful pollutants into the air, further impairing respiratory health.

Nutrition and food security:

Climate variability can disrupt food production and availability, leading to changes in dietary patterns and nutrient intakes. Extreme weather events such as droughts, floods and hurricanes can damage crops, disrupt supply chains and threaten food security, especially among vulnerable populations. Changes in temperature and precipitation can also influence the spread of pathogens and foodborne contaminants, creating risks to food safety and public health. Changes in agricultural practices and food production systems are necessary to adapt to climate change and ensure adequate nutrition for the entire population [8].

Vector-borne diseases and zoonoses:

Climate change may alter the distribution and abundance of vectors such as mosquitoes, ticks and rodents, influencing the transmission dynamics of vector-borne diseases and zoonotic infections. Warmer temperatures and changes in precipitation patterns can expand the geographic range of vectors and pathogens, increasing the risk of diseases such as malaria, dengue fever, Zika virus and Lyme disease. Environmental changes such as deforestation and urbanization may further exacerbate these risks by creating favorable breeding habitats for vectors and increasing human-vector contact.

Mental Health and Wellbeing:

Climate change can also impact mental health and well-being, exacerbating stress, anxiety and depression in response to extreme weather events, population displacement and loss of livelihoods. Vulnerable populations, including children, older adults and people with pre-existing mental disorders, are particularly susceptible to the psychological effects of climate change. Addressing mental health needs and building community resilience are important components of climate change adaptation and mitigation strategies.

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Conclusion. In conclusion, the impact of climate on the spread of noncommunicable diseases is a complex and multifaceted issue with significant implications for global health. Extreme temperatures, air pollution, changes in food security, vector-borne diseases and mental health are some of the key factors through which climate variability and change influence the burden of NCDs. Addressing the health impacts of climate change requires a comprehensive and comprehensive approach that includes public health surveillance, risk assessment, policy development, and community engagement. By taking proactive steps to mitigate climate-related health risks and build resilience, we can minimize the burden of NCDs and promote health and well-being in a changing climate.

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