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Ageing in a Changing Climate: Unpacking the Layers of Health Vulnerability

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Extended abstract

The impact of climate change on the health and well-being of older adults is multifaceted and demands a nuanced understanding. As global temperatures continue to rise, older individuals' vulnerability to heat-related illnesses intensify, creating a pressing health concern. Moreover, the increasing frequency and intensity of extreme weather events pose additional risks, from flooding to extreme temperatures, affecting the health and quality of life of the older population.

In the urban context, transformations driven by climate change adaptation efforts contribute to the complexity of these challenges. Rising air pollution levels, the emergence of heat islands in densely populated areas, and inadequate infrastructure increase the health risks for older populations.

The consequences of climate change on the urban environment also have social implications. Evolving community structures may lead to social isolation among older individuals as traditional support systems shift, underscoring the need for solutions that address not only environmental factors but also the social aspect of urban life. Understanding this intersection of climate change, ageing, and urbanization is essential to protect the health and overall well-being of older adults.

To deepen the knowledge of how climate change affects the health and quality of life of older adults, a systematic review was conducted. Employing the PICO strategy and adhering to Cochrane guidelines, the review searched three databases (PubMed, Scopus, and Greenfile) for relevant articles published between 2015 and 2022. Nineteen studies were included in this comprehensive analysis.

The findings of these studies reveal a compelling association between various climate change phenomena and heightened risks of mortality and morbidity among older adults. Cardiovascular, respiratory, renal, and mental health issues, alongside physical injuries, emerged as significant outcomes. Importantly, vulnerability factors such as gender, socioeconomic status, education level, and age were identified as key influencers shaping the impact of climate change on older adults' health.

Direct health impacts were linked to ambient temperature variability, extreme temperature events, strong winds, sea temperature fluctuations, extreme El Niño-southern Oscillation (ENSO) conditions, and droughts. Indirect effects manifested through air pollution resulting from wildfires, further exacerbating health challenges among older populations.

This systematic review emphasizes the urgent need for prompt and efficient strategies to address and alleviate the repercussions of climate change on the older population. As climate change events become more severe and frequent, it is imperative to facilitate population adaptation for survival.

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However, there are inherent limitations to human adaptation and temperature tolerance, particularly within more vulnerable groups. Therefore, prioritizing the implementation of public health initiatives aimed at the dissemination of bioclimatic design guidelines aimed at reducing exposure to the impacts of climate change is crucial, namely high temperatures, which includes the development of resilient urban environments that specifically cater to the needs of vulnerable populations.

Keywords: *climate change; ageing; bioclimatic urban design; health and quality of life*