Factors associated with heat stress and its health effects among people of Nepalgunj Submetropolitan, Nepal

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Global temperatures have been breaking records more often across the globe due to the ongoing climate change phenomenon. Consequently, there has been a simultaneous rise in the occurrence of heat-related medical conditions, leading to increased rates of both mortality and morbidity caused by heat stress. This study aimed to assess factors associated with heat stress and its health effects among the people of Nepalgunj Sub-metropolitan. A cross-sectional study was conducted among 366 research participants selected through a multi-stage random sampling technique in Nepalgunj Submetropolitan. Heat Index was assessed using a secondary analysis of meteorological data from Nepalgunj (Airport) station. Chi-square test was done to analyze the primary data. Out of 366 participants, 224 (61.2%) participants had Heat Related Symptoms (HRS) in the past 6 months (April to September) from the date of the interview. Sex, Education, Income, Roof construction, Cross-ventilation, working hour per day, presence of chronic disease, and medication use had a significant association with HRS among the participants ($p<0.05$). The most common coping strategies adopted to manage heat stress were the use of cooling methods, wearing light clothing, and bathing in cold water. The average monthly heat index was highest in August (42 °C) and lowest in April (29 °C). Despite the participants were adopting many strategies to cope with heat stress, more awareness-raising programs on the community level seem to be vital in reducing their vulnerability to heat stress.

Kusumsheela Bhatta, an early career researcher from Nepal with a master's degree in Public Health and prior experience as a Research Officer, demonstrates proficiency in research, analysis, and community engagement. With a keen focus on public health decision-making and improving healthcare delivery, she currently serves as a Health Systems Officer for USAID's Strengthening System for Better Health Health Activity. Recognised for her academic excellence, Kusumsheela has received research grants and achieved top positions in both undergraduate and graduate studies, earning the prestigious Presidential Gold Medal. Her drive lies in utilising research to achieve a meaningful impact, especially in underserved communities.