

Characteristics and Trends of Heatstroke-Related Emergency Department Visits: A Multicentre Retrospective Study

Xiongyuan Xie(1), Satoshi Yoshida(1), Zita Man Wai Ng(1), Tin Jik Chris Zhou(2), Hiu Yin Rossetti Lam(2), Richard Ku(2), Che Young Lee(2), Ting Yan Karina Chung(2)

1- Medical Student, The University of Hong Kong, Pok Fu Lam, Hong Kong Island, Hong Kong SAR

2- Medical Student, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong SAR

Introduction

With the rise in ambient temperature as a result of global climate change, multiple health concerns have been raised about the increased risk of developing heat-related illnesses. Heatstroke remains one of the most common and severe forms of thermal injury and is of particular significance in the field of mountain and wilderness medicine.

Objective

To examine the epidemiological pattern and trend of heatstroke patients.

Method

This is a retrospective analysis of heatstroke-related emergency department (ED) visits using data extracted from the Clinical Data Analysis and Reporting System (CDARS) database. Visits were stratified by sex, age group, and residential districts, and the total and demographic-specific incidence were computed with respect to population data from the Census and Statistics Department.

Result

Between 2016 and 2021, 1980 ED visits for heatstroke were recorded, resulting in an incidence of 4.44 visits per 100,000 per year (95% Confidence Interval [CI] = 4.25-4.64). 16 deaths were reported, yielding an overall mortality of 0.81%. While the annual incidence remained relatively constant from 2016 to 2020 (changes <10%), it increased considerably (+27.6%) in 2021. Rates of heatstroke-related visits also varied by sex, age, and residential area.

There were significantly higher incidences in males (7.33 per 100,000; 95% CI = 6.97-7.71), adults aged 65-69 years (6.93 per 100,000; 95% CI = 5.99-8.02), and residents living in the following districts: Southern (7.84 per 100,000; 95% CI = 6.46-9.51), North (7.18 per 100,000; 95% CI = 5.96-8.64), and Islands (10.3 per 100,000; CI = 8.36-12.7).

Conclusion

This study offered valuable insights into the local epidemiological pattern of heatstroke, revealing the recent rise in incidence and population at heightened risk (men, elderly, and residents of Southern, North, and Islands districts).

Key Words:

Heatstroke, Exertional heat illness, Emergency medicine, A&E, Epidemiology