

## **Use of Acetazolamide for the Prevention of High-Altitude Illness: A Mixed Methods Social Media Sentiment Analysis**

Cillian McGarry<sup>1</sup>, Dhanvin Raj Puppala<sup>1</sup>, Gerard Flaherty<sup>1,2</sup>

<sup>1</sup> School of Medicine, College of Medicine, Nursing and Health Sciences, University of Galway, Ireland, <sup>2</sup> National Institute for Prevention and Cardiovascular Health, Galway, Ireland

**Background:** Acetazolamide remains the drug of choice for prophylaxis of acute mountain sickness (AMS). This study aimed to assess the scope and quality of information relating to the use of acetazolamide for high-altitude illness prevention on the popular social media platform Reddit.

**Materials and Methods:** A modified data extraction script was employed to interact with the Reddit application programming interface, allowing collection of publicly available posts from its database. The search strategy used multiple related terms to identify relevant posts. Duplicate posts were removed. The Braun and Clarke (2006) model of thematic analysis was applied. Posts were coded manually until data saturation was reached. Emergent themes and subthemes were defined by grouping related codes. Themes were independently reviewed by two researchers.

**Results:** A total of 93 posts and 594 comments were scraped from Reddit for thematic sentiment analysis. Common gaps in users' understanding of acetazolamide at high altitude were revealed, with potentially harmful misinformation being shared. Information provided by Reddit users was unverifiable, and commercial influence was apparent. Consensus varied widely regarding indications, contraindications, efficacy, and drug interactions. Reddit users expressed distrust in medical practitioners regarding acetazolamide, highlighting potential gaps in clinician knowledge and shifting public trust dynamics.

**Conclusion:** To address the confusion and misinformation surrounding use of acetazolamide at high altitude, we recommend the development of free online evidence-based resources and improvements in social media fact-checking. Further study on the influence of social media on trekker behaviour at high altitude and study of clinicians' acetazolamide prescribing patterns is warranted.