

The Effects of Post Coronavirus Disease 2019 Conditions on High Altitude Illness

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Introduction

High altitude illness (HAI) refers to cerebral and pulmonary syndromes related to hypoxemia during mountain trekking. Beyond symptoms and complications, people with long coronavirus disease 2019 (COVID-19) are resuming mountain trekking activities. Pooled prevalence data has shown that fatigue, breath shortness, and headache are common symptoms for both HAI and post-COVID-19.

Objective

This quantitative study design investigates the prevalence of HAI and post-COVID symptoms, identifying the body reactions of different group subjects.

Method

The targeted participants climbed Mount Xue or Mount Hehuan from May 1, 2022, to October 17, 2022. Upon receiving 236 effective responses, a chi-squared test and 2-sample t-Test were run through SAS Enterprise Guide (SAS EG) and Excel. Participants were then controlled under similar backgrounds, like normal BMI range, residency altitude, cardiopulmonary medical history, non-smokers, and no drug usage before climbing. The remaining 125 participants meeting our study criteria were grouped under four identical conditions.

Result

Significantly, more participants in Group Post COVID-19 experienced HAI symptoms during mountain trekking compared with participants in Group Normal, by 14.13% more in Mount Xue and 4.23% more in Mount Hehuan.

An increase is observed in females developing HAI symptoms after being diagnosed with COVID-19, an average of 13.96% higher than the prevalence in infected men. Besides, participating in mountain trekking one month after diagnosis of COVID-19 could reduce developing HAI symptoms by at least 44.44%.

Conclusion

The HAI incidence among post-COVID-19 participants was 8.95% statistically higher than normal participants, on average, during trekking in MountXue and MountHehuan. Symptoms were mostly mild, with “Tiredness or Fatigue” being the most common symptom. Our study analysis provided a direction for future studies of the relationship between post-COVID-19 conditions and HAI, such as the pathological mechanisms and prevention research.

Keywords:

High altitude illness, Post-COVID symptoms, Mountain trekking, Coronavirus-disease 2019