

The Implementation of Traditional Herbal Medicine on High-altitude Illness: A Cross-Sectional Study and Meta-Analysis

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Introduction

High-altitude illness (HAI), including acute mountain sickness (AMS), high-altitude cerebral edema (HACE), and high-altitude pulmonary edema (HAPE), occurs above 2500m sea level, which is caused by rapid exposure to lower oxygen levels and air pressure at high altitudes. Rhodiola has a long history of clinical application for the prevention and treatment of acute mountain sickness (AMS). Similarly, some studies also stated that Traditional Herbal Medicine (THM), such as Ginseng, can also be applied to HAI.

Objective

To determine the relationship between THM and HAI and examine the implementation of THM on HAI symptoms.

Method

A cross-sectional quantitative research study is conducted from October 10, 2022 to October 18, 2022, as a means to investigate the use of THM on HAI symptoms among Taiwanese mountaineers. After excluding invalid responses, a total of n=292 effective responses were obtained through snowball sampling. Meta-analysis was also used to determine the implementation of THM. Electronic databases were searched from 2002 to 2022. PRISMA flowchart and statement were used in the screening process. After screening with selection bias, 9 studies were included in this review.

Result

This study has shown the use of THM or the combined use of western medicine and THM among mountain trekkers in Taiwan to prevent HAI. The results of the reviewed article broaden our understanding of the implementation of THM on HAI. Taken together, these findings suggest that THM has a significant impact on decreasing the incidence rate of AMS and increasing the recovery rate of this disease, respectively.

Conclusion

This study stated the application of THM on HAI symptoms. Our findings also suggested that future research can focus on: taking THM as a daily supplement may be an alternative method to lower the incidence rate of HAI.

Key Words:

Traditional herbal medicine; High-altitude illness; Acute mountain sickness; Rhodiola; Ginseng