**The Genetics and Physiology of Altitude Illness (2012)**

**Background**

The purpose of this study was to look for potential genetic and physiological risk factors for acute mountain sickness.

**Methods**

During the 2012 Janai Purnima festival, 538 subjects were recruited in Dhunche (1950 m) before ascending to Gosainkunda. Through interviews, subjects provided demographic information, ratings of AMS symptoms (Lake Louise Scores; LLS), ascent profiles, and strategies for prophylaxis.

**Results**

In total, 491 subjects (91% follow-up rate) who were assessed upon arrival at Gosainkunda, the incidence of AMS was 34.0%. AMS was more common in females than in males (RR = 1.57; 95% CI = 1.23, 2.00), and the AMS incidence was greater in subjects .35 years compared to subjects #35 years (RR = 1.63; 95% CI = 1.36, 1.95). There was a greater incidence of AMS in subjects who chose to use garlic as a prophylactic compared to those who did not (RR=1.69; 95% CI=1.26, 2.28). Although the LLS of brothers had a moderate correlation (intraclass correlation = 0.40, p = 0.023), sibling AMS status was a weak predictor of AMS.

**Conclusions**

There were no adverse events reported in any of the research participants.

**Keywords:** acute mountain sickness; genetic and physiological risk factors; incidence; predictor.