

Research - R163

Poster

Abstract Title:

Acclimatization Practices of High-Altitude Recreationalists

Authors:

Leslie H. Rozier, MSN, APRN, FNP-BC, University of Utah Doctor of Nursing Practice Candidate

Background & Purpose:

Acute mountain sickness (AMS) will occur if ascent to altitude is rapid. Any type of travel to altitude around 2,500 meters (8,000 feet) is associated with an increased risk of developing AMS. Forty percent of South Pole scientists and support staff chose to defer acclimatization medications prior to rapid ascent from McMurdo Station at sea level to the high-altitude polar plateau at 2,835 meters (9,300 feet), placing them at increased risk for developing AMS (Anderson et al., 2011). The rationale and reasons for deferment of acclimatization modalities is unknown.

Study/Project Design:

Cross-sectional, descriptive, field study questionnaire.

Setting:

High-altitude mountain trailhead at 9,300 feet, equivalent to the South Pole station.

Sample:

Convenience sample of 120 volunteer high-altitude recreationalists or backpackers, 18 years of age or older.

Procedures:

A questionnaire was completed by subjects that included demographic information such as age, gender, altitude of residence, means of transport to calculate the rate of ascent and the number of hours taken to acclimatize to the altitude at the trailhead. Acclimatization prophylaxis activities were documented including the use of medications (prescription medications, non-prescription medications, supplements) and home remedies (ingestion of protein, alcohol use, water ingestion). Baseline vital signs (pulse, blood pressure, respirations and resting pulse oximetry), height, weight and BMI were recorded for each subject. The instrument queried the volunteer about the existence of current AMS symptoms by completion of a Lake Louise Symptom Score Questionnaire.

Findings/Results:

Despite recent Wilderness Medical Society (WMS) recommendations (Luks et al., 2010) stressing gradual ascent and medication prophylaxis for the prevention of AMS, the majority (55%) of subjects (n=66) did not perceive the need for medications. Only three subjects (2.5%) were taking acetazolamide and just 4% had consulted a health professional prior to their high altitude sojourn. Forty percent (40%) of the respondents camped at the trailhead or above 6,800 feet the night before their departure and seven individuals (6%) took hikes to enhance acclimatization the day before their departure. Many subjects were veteran backpackers and reported their acclimatization symptoms could be controlled with hydration (12%), adequate rest and anti-inflammatories (40%) to control headaches, joint pain and AMS symptoms. The general consensus was to "suffer through" any symptoms. Twelve subjects (10%) were unaware that acclimatization was a recommendation for ascent to altitude.

Discussion/Conclusions/Implications:

The dissemination of accurate information regarding acclimatization to high altitude is paramount for the prevention of AMS, not just for the polar explorer but the high altitude recreationalist. Being aware of the subtleties and risks of AMS, as well as embracing acclimatization guidelines as a primary prevention strategy of AMS, will bode well for all high mountain travelers as well as the healthcare providers who inform them.