

PROGRESS IN STUDYING WEIGHT LOSS AT HIGH ALTITUDE AND ITS POTENTIAL APPLICATION IN PATIENTS WITH OBESITY

Ge Rili, Xiujuan Wang, Huihuang Yang and Yineng Liu

Center for High Altitude Medicine
Qinghai, Xining

Obesity is becoming one of the major diseases in developed countries. It is well known that exposure to high altitude can cause weight loss, which might be used as an alternative way to treat patients with obesity. The objective of this study was to explore the relationship of body weight loss induced by exposure to high altitude (4600M) and the original altitude that the subjects ascended from, and its potential application in treating patients with obesity. Methods: 115 construction workers who worked in the construction field of Golmud-Lhasa Railway were enrolled in the study. Half of them are residents from sea level and the other half from eastern Qinghai province with an average altitude of 2000 meter. Their body weight and Body Mass Index (BMI) were measured before they ascended to the construction field at 4600 M and measured again after one month in the field. Results: Average body weight loss for subjects from sea level was 10.2%, with the highest one of 29%, and 2.3% for those from 2000 m. Percentage of body weight loss in sea level subjects was positively related to their BMI ($r = 0.678$) ($P = 0.001$) but was not related to BMI in subjects from 2000 m ($r = 0.092$). BMI in middle altitude residents is lower than that in sea level residents. Conclusion: For people going to high altitude from sea level, the percentage of body weight loss at high altitude is positively related with their BMI. The results also suggest that it might be beneficial to people's well being to establish some fitness or exercise centers at high altitude to accommodate those people with obesity.