Response to Letter by Gaurav Sikri and Srinivasa AB

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We thank Gaurav Sikri and Srinivasa AB for their interest on our article. Our point-by-point replies to their comments are listed below.

First, we reported that 59% of the children developed acute mountain sickness (AMS) during a 3-day trek on Jade Mountain, Taiwan.1 Compared with previous studies about adult trekkers on Jade Mountain with a similar trekking itinerary, we observed a higher AMS incidence.2,3 Aside from the difference in the study populations, the most important difference between ours and the previous two studies was the data collection method. Kao et al.2 enrolled subjects at the Jade Mountain trailhead after they had finished their trek on Jade Mountain and asked them to complete questionnaires based on their recalled memories. They analysed 89 effective records and reported a 28% incidence of AMS for adult trekking on Jade Mountain.2 Trekkers are often ecstatic and ignore their discomforts after completing the trek. This might lead to some recall bias if the information is obtained from the trekkers’ recalled memories after finishing their trek. To reduce this recall bias, Wang et al.3 enrolled subjects at Paiyun Lodge, the mid-way point on the Jade Mountain trail, on two random days each month for 1 year and administered the Lake Louise AMS Symptom Score questionnaire. They analysed 1066 effective records and reported that 36% of adult trekkers developed AMS while trekking on Jade Mountain.3 In contrast, we recruited emergency physicians and specialist nurses to assess AMS symptoms in our subjects at seven locations throughout the trek.1 At each location, the subjects were allowed a rest of at least 15 min before completing the Lake Louise AMS Symptom Score questionnaire,1 with the assistance of the medical personnel. Any subject who met the Lake Louise AMS criteria at any one of the second to the seventh points was included in the AMS group.1 The mean of the scores for each symptom cannot represent the incidence of AMS, but may represent the severity of the symptoms, which reflected the actual suffering during the trek. We found that although difficulty sleeping is the third most common symptom reported, it may persist. Descent to low-altitude rapidly reverses AMS.”

Second, the diagnosis of AMS was based on a gain in altitude, the presence of headache with at least one other symptom and a total AMS score of at least 3.1 In our study, any subject who met the Lake Louise AMS criteria at any one of the second to the seventh locations was included in the AMS group.1 The mean of the scores for each symptom cannot represent the incidence of AMS, but may represent the severity of the symptoms, which reflected the actual suffering during the trek. We found that although difficulty sleeping is the third most common symptom reported, it was the most suffering symptom among our subjects after the overnight stay at Paiyun Lodge.1 Our findings are valuable for planning high-altitude treks for children; i.e. difficulty sleeping was most harmful to the trekkers’ well-being during the trek.1

Third, West4 wrote, “Typically, symptoms begin 2 or 3 h after ascent, but the condition is generally self-limiting and most of the symptoms disappear after 2 or 3 days. However, insomnia may persist. Descent to low-altitude rapidly reverses AMS.” West4 did not state that AMS is 100% self-limiting and that there are absolutely no subsequent symptoms. To our knowledge, no study has discussed the long-term effects of AMS in lowland children. The International Society for Mountain Medicine has suggested that the effects of longer term (weeks) exposure to altitude hypoxia on overall growth and brain and cardiopulmonary development are unknown.4 In this study, the duration of the trip was short and children’s response to long-term, high-altitude exposure remains unclear based on the current evidence of AMS in children.1

Conflict of interest: None declared.

References


