1D03-3 Influence of lifestyle on seasonal sweat function change in male college students.

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**Purpose:** Generally, in a perspiration function, a summer rise and a winter decline are expected. However, modern lifestyles have acted to modify this change, and the sweat function may not necessarily increase in the summer, either. In this study, we focused on daily exercise customs and the palatability of air conditioning, and we investigated the relationship between lifestyle and sweat function change. **Methods:** We used healthy male college students and measured their sweat volume with summer heat stress in succession once a month for 12 months. The heat stress, which involved soaking the lower limbs in a bath (41°C water temperature) at 35°C room temperature, and was administered to each subject for 30 minutes. Sweat volume was calculated from weight change. **Results & Discussion:** The exercise custom group showed a higher quantity of sweat in comparison with the non-exercise custom group over the year. The change of sweat volume in the summer season more significantly increased in the exercise custom group than in the non-exercise custom group. Furthermore, in the non-exercise custom group, the possibility that the palatableness of air conditioning influenced the increase of the sweat quantity during the summer months was shown. It was suggested that having an exercising custom and the regular use of air conditioning influenced strongly the seasonal variation of sweat.

**Key words:** heat acclimatization, sweat, seasonal change

1D03-4 The effects of wet bulb globe temperature on fluid intake and dehydration during training for trail running

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**Purpose:** This study aimed to clarify the effects of wet bulb globe temperature (WBGT) on fluid intake and dehydration during training for trail running. **Methods:** A total of 35 recreational runners participated in this study (13 in August, 12 in September, and 10 in October). We investigated the ratio of fluid intake to sweating and the dehydration rate during training for trail running in August, September, and October 2013, with each month having different WBGT conditions. **Results:** WBGTs before (9:30) and after (13:00) training were 27.2°C and 30.2°C, respectively, in August; 24.0°C and 26.1°C, respectively, in September; and 16.3°C and 17.3°C, respectively, in October. There was no significant difference in the dehydration rate between conditions (August, 3.1 ± 1.4%; September, 2.5 ± 0.9%; October, 2.5 ± 0.5%). The ratio of fluid intake to sweating was significantly higher \((p < 0.05)\) in August \((49.8 ± 15.0\%)\) than in October \((22.5 ± 10.0\%)\). However, the ratio in September \((36.5 ± 17.2\%)\) was not significantly different that in August and October. In addition, a significant correlation was observed between the ratio of fluid intake to sweating and WBGT (before training, \(r = 0.599\); after training, \(r = 0.605\); and change ratio, \(r = 0.618\); \(p < 0.05\)). **Conclusions:** Our data suggested that fluid intake was affected more by the environment conditions than by sweat loss, and that a high dehydration rate in a cool environment was associated with a decreased fluid intake.

**Key words:** environment condition, sweat loss, fluid replacement