Influences of Different Intermittent Hypoxic Training Programs on Body Compositions and Lipids Metabolism

Chih Min Wu (National Taiwan Sport University), Yung Cheng Chang (National Taiwan Sport University), Jung Charng Lin (Chinese Culture University, Taiwan)

Purpose: to investigate the influences of different intermittent hypoxic training (IHT) between treadmill training and full resting programs on body compositions and lipid metabolism of elite distance runners. Methods: twenty college level elite distance runners (age: 20.6±1.9 years old, height: 165.8±8.4 cm, weight: 56.9±6.4 kg) were recruited to participate this study, the environment oxygen concentration was set to 14% (about 3000m above sea level). All participants were randomly divided into two groups which completed a sequence of 4 week hypoxic running training and 4 week hypoxic resting programs respectively. 90 mins for each, 3 times a week for 8 weeks. Body composition and blood lipid (total cholesterol, CHO; high-density lipoproteins, HDL, low-density lipoproteins, LDL; triglycerides, TG) were analyzed for 4 times at pre-training (pre), end of 4th week (ht4), end of 8th week (ht8), and 12th week post training (post). Subsequently, one-way analysis of variance (ANOVA) was used for statistics. Results: after 8 week hypoxic training program, body weights, muscle mass and fat % did not show significant differences (F: 1.41, 2.16, 0.33, p>.05). Also, CHO, HDL and LDL did not show significant changes (F: 1.41, 2.16, 0.33, p>.05). Even more, TG changes between hypoxic running and resting programs also showed no significant differences (p>.05), however, the post TG was significantly lower than ht4 and ht8 (F: 4.97, p<.05). Conclusions: IHT resting program had positive effect on triglycerides metabolism, also for the athletes’ body composition. We suggest IHT resting program could be used on health promotion exercise program, to reduce high blood lipids of cardiovascular risk factors.

A Study of Applying Self-Directed Learning in Teaching Physical Education of Medical College Students in Taiwan

Wen Yi Wang (Hsin Sheng College of Medical Care and Management, Taiwan), Chih Chung Chen (Hsin Sheng College of Medical Care and Management, Taiwan)

Purpose: to investigate the application of self-directed learning in PE course teaching process. Methods: this study conducted in the physical fitness class in Hsin Sheng College during the first semester of the year 2010 by utilizing the action research model (a four months project from February to May). Forty-six students were volunteered to participate this study. In order to understand the students’ learning context of applying SDL in physical fitness class, data collection was from multiple sources, which involved Guglielmino’s Self-Directed Learning Readiness Scale (SDLRS) in pre- and post-test, interview and assisted with the PE class assignment from the students, and the daily records from the teachers. Paired-sampling t-test was used to analyze SDLRS data, and qualitative comparative analysis was used through the others. Results: (1) ‘independent learning factors of SDLRS’ significantly improved in the post-test (t(45)= -2.356, p<.05). (2) There were significant correlations among cognitive, affective and also psychomotor domains after self-directed learning intervention at the course. In conclusion, from these results, we suggest that self-directed learning is an essential ability for higher education students, which could be equipped them with independent learning and critical thinking abilities.