cycling exercise in human. However, there have been few assessments on the η during running exercise with the changes of slope. Therefore, the purpose of present study was to investigate the effect of slope changes on the η during treadmill running. Six healthy male students (23–25 yr of age) performed three slopes (2, 5 and 8%) of treadmill running at a constant speed (140 m/min) for 4 min after 2 min of running at 0% slope on a separate day in random order. The calculated η in three slopes of running exercise were 31.7±7.5% (2% slope), 31.9±2.9% (5% slope) and 42.6±4.0% (8% slope), respectively. The η of 8% slope showed a tendency to be higher η compared with 2 and 5% slopes. This would be accounted for by overestimation of the η in 8% slope due to greater contribution of unmeasured anaerobic energy to total energy output in exercising muscle.

P-8 Anticipatory Muscle Activation of the Low Extremities during Lateral Step Initiation

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The objective of this study was to investigate the muscle activation of the low extremities of the lateral step process. Five healthy young adults were examined using force platforms and electromyography. Each subject was instructed to do volitional lateral steps at a comfortable speed while looking straight ahead. The center of pressure (COP) shifted towards the foot of the swing leg anterior to unloading it in all the trials. In the gastrocnemius of the swing leg and the peroneus longus of the stance leg, the mean values of the root mean square electromyography were significantly larger than during the postural standing ($p<0.01$). These values were calculated during the time from the initial shift of COP to the peak of the displacement of COP towards the swing leg. Therefore, we suggest that the ankle joint plantal flexion of the swing leg and the eversion of the foot of the stance leg, may assist the shifting of the COP towards the swing leg during lateral step initiation.

P-9 Effects of Ingestion of Soy Bean-derived Peptides in the Evening on EEG and Subjective Fatigue

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The purpose of this study is to examine the effects of ingestion of soy bean-derived peptides in the evening on EEG and subjective fatigue. Nine male adults (age: 32.3±10.9 years) volunteered to participate in this study. The peptides (4 g and 8 g) and placebo were given orally at 18:00 in double-blind and randomized crossover designs. The EEG and subjective fatigue (VAS) were measured before ingestion and 30 min after ingestion. The EEGs were recorded with the subject's eyes closed from 13 electrodes for 2 min and were analyzed using a Fast Fourier Transformation. Alpha 1 (8–10 Hz) power significantly increased after ingestion of the placebo. Alpha 2 (10–13 Hz) power of EEG significantly increased after ingestion of 8 g peptides. Significant changes in alpha 1 and alpha 2 powers were found after ingestion of 4 g peptides. Subjective fatigue tended to decrease after ingestion of 8 g peptides. These results suggest that the ingestion of 8 g peptides in the evening increases brain activity level and tends to decrease fatigue.

P-10 Surveys on Amenity of Apparel Shops in the Urban District of Fukuoka City

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We surveyed how in apparel shops trends of gathering visitors are influenced by outside of a shop environments such as location, shop space, and inside of a shop environment such as lighting, cleanliness, number of employees, reception attitude in the urban district of Fukuoka city.

As a result, the number of the visitors is strongly correlated with six factors such as the out of a shop environment of shop space and entrance opening and inside of a shop environment such as number of woman employee and employee.

P-11 Effect of Vinegar Ingestion on Digestive Function and Cerebral Blood Flow Change

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In this study, we examined the effect of vinegar ingestion on the gastrointestinal activity using the cutaneous electrogastrogram (EGG) and the Breath Gas Analysis as indicators of gastric myoelectric activity and carbohydrate malabsorption, respectively. In addition, we recorded the cerebral blood flow change using a near-infrared spectroscopy in order to know the effect of a cup of cool vinegar drinking on it. As results, the orocecal transit time after vinegar ingestion was shorter than that after ingestion of drink free from vinegar, while the type of drink did not affect the digestion and absorption of carbohydrate as well as the gastric myoelectric activity. This result indicates that vinegar ingestion may have an enhancement effect on small intestinal peristalsis. About the effect on the cerebral blood flow change, we could not find the particular effect of vinegar ingestion on it.

P-12 Effects of Eating Warmed Chamomile Jelly on Their Sleep Consciousness

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