597. Frail elderly activities of daily life functions as well as motor function to be improved this about Redcord Exercisetherapy

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Purpose We are currently implementing group exercise therapy using Redcord. Because Redcord minimizes weight loads caused by gravity, this type of exercise can be safely introduced to frail elderly due to difficulty standing. However, few reports exist on its effectiveness. This study investigated exercise therapy utilizing Redcord that was aimed at improving motor function and ADL (activities of daily living) capabilities in frail elderly. Method This study targeted frail elderly (Average age 76.3) starting new exercise under the exercise-based rehabilitation day services offered by Osaka Prefecture. Participants took guided Redcord exercise sessions twice a week for 60 minutes per session over the course of 6 months. Result Improvements in motor function were observed in frail elderly and those requiring support after exercise intervention using Redcord. Improvements in degree of independence were also observed in both elderly citizens requiring care and those requiring support in the assessment of their ability to perform ADLs, which was carried out using the TMIG (Tokyo Metropolitan Institute of Gerontology) Index of Competence. Conclusions Exercise therapy using Redcord is effective in improving ADL abilities and motor function among frail elderly. This suggests that a Redcord program could be used as an exercise therapy for preventative care.

Keywords: Exercisetherapy, motor function, Activities of Daily Life

598. Effects of a single leg-cycling exercise on the vascular endothelial function

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[Aims] Whole-body exercises such as walking, running, and cycling improve the arterial function. However, for subjects suffering from hemiplegia or orthopedic disease, one-sided exercise might instead be required as exercise therapy. The purpose of this study was to investigate the effect of single-leg cycling on the vascular endothelial function in the active and inactive limbs. [Methods] Eight adult males performed 10-min single-leg cycling at 30. Watts. To evaluate the vascular endothelial function, the flow-mediated dilation (FMD) of the popliteal artery was measured using an ultrasound device before and after exercise. In addition, the systolic/diastolic blood pressure and heart rate were also measured before and after exercise. [Results] Compared with the inactive limb, the active limb showed substantial elevation of the FMD after single-leg cycling (4.8±0.9% before and 7.1±1.7% at 15 min after exercise). However, there were no significant differences in any measured parameters between the two limbs. [Conclusion] These results indicate that single-leg cycling may produce greater vascular endothelial function in the active limb than in the inactive limb, albeit not to a significant degree.

Keywords: endothelial vascular function, single-leg cycling, popliteal artery

599. Understanding the risk of a positive doping test by taking OTC drugs including kampo or natural medicines

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[Aims] The global DRO provides information to athletes regarding proscribed substances found in common medications. However, the names of kampo and other natural medicines cannot be easily researched in this system. There are many over the counter drugs (OTC), including kampo and natural medicines, in Japan that contain plant or animal components that are not listed in the global DRO, making judgment difficult as to whether these medicines contain proscribed substances. Thus, our purpose was to identify which OTC include proscribed substances so that athletes might avoid taking them. We examined a host of OTC, including Ephedra Herb (E. Herb, Mao in Japanese), popular in natural medicine. [Methods] The 2014-15 Drug Medicine Lexicon (14th) was used to find proscribed substances associated with OTC, including E. Herb. [Results] We found 1,204 drugs classified as kampo or natural medicines out of 2,659 drugs. Out of the 1,204 drugs, 66 drugs had E. Herb, and out of 66 drugs, 54 drugs could not be found out including E. Herb. [Conclusions] Many athletes have proposed that their positive doping tests resulted from taking kampo or natural medicines. There are these medications available as OTC; therefore, there is a risk of a positive doping test result if these medications are taken without knowing whether they contain proscribed substances. Thus, it remains important that athletes be provided this vital information by knowledgeable pharmacists to avoid antidoping violations due to taking OTC.

Keywords: doping, kampo medicines, OTC drug

600. Influence of psychological changes on competition scores of naginata players representing Japan: A POMS analysis

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Aim: The Profile of Mood States (POMS) has recently been used to investigate mood swings in sports players using changes in the competition score and T-SCORE, mainly in individual sports. The goal of this study was to perform a similar analysis in a team sport. Mood swing was investigated using the POMS in the Japanese national naginata team during a training camp for the 6th World Naginata Championships. The relationship between mood swings and competition scores at the World Championships was investigated. Methods: The subjects were 8 naginata players (4 male, 4 female; 28.3±3.9 years old). Psychological items were evaluated twice using the POMS during the training camp. Statistical analysis was performed using a Student t-test. Results: The fatigue score decreased from 46±7.81 to 40.87±6.24 (P=0.08), the confusion score decreased from 51.75±8.15 to 47.75±8.92 (P=0.19), and the total mood disturbance (TMD) score decreased from 130.13±19.46 to 119.63±21.5 (P=0.13). The Japanese team won the overall title in the competition and won medals in all events in which they participated. Conclusions: Tendencies for negative factors, fatigue and confusion were not significant, but marked changes were observed. An iceberg-type POMS profile with high “activity” is generally ideal, but our results suggest that just the lively atmosphere of an entire team can cause mood swings of individual players to move rapidly in a favorable direction.

Keywords: POMS, Naginata, Competition score