

소아재활

게시일시 및 장소 : 10 월 19 일(토) 08:30-12:30 Room G(3F)

질의응답 일시 및 장소 : 10 월 19 일(토) 11:00-11:30 Room G(3F)

## **P 3-14**

### **Effect of Equine-Assisted Activities on autonomic nervous function in children with cerebral palsy**

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#### **Purpose**

There were several studies describing about an impaired autonomic nervous system among children with cerebral palsy (CP). Generally, attenuated heart rate recovery which is valuable prognostic tool for autonomic nervous system, is known to be associated with increased risk of cardiovascular events and all-cause mortality. but only few studies observed the effects of exercise on the autonomic nervous system in children with CP. Therefore, the aim of this study was to determine the effects of Equine-Assisted Activities program on the body composition and autonomic nervous function in children with CP.

#### **Subjects and Method**

Twenty-six children with CP (Gross Motor Function Classification System, GMFCS Level I-II) participated in this study. The children (age ranged from 6 to 13 years old) were randomly assigned to the EAA group(n=13) and the control group(n=13). EAA program for the EAA group was 40 minutes lesson, twice a week, and the period of the program was 16 weeks (total 32 lessons). Body composition test was used for evaluation of skeletal muscle mass and body fat percentage, and cardiopulmonary exercise test was performed to measure resting heart rate (RHR), heart rate recovery (HRR), and VO<sub>2</sub>peak on both groups before and after 16 weeks of period.

#### **Results**

Skeletal muscle mass was increased in both groups, but there was no significant difference between both groups ( $p < .238$ ). Autonomic nervous function measured by the response of HRR was improved at 1min ( $p < .015$ ), 3min ( $p < .004$ ), and 5min ( $p < .008$ ) only in the EAA group. Also, RHR had a significant improvement in the EAA group ( $p < .004$ ). Though, VO<sub>2</sub>peak had no significant difference between two groups ( $p < .106$ ).

#### **Conclusion**

This study showed an improvement on the HRR and RHR after the 16 weeks of EAA program. The results demonstrated that the program had a positive effect on the improvement of autonomic nervous function in children with CP.

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