

Presenter's name: Kateřina Maříková

Degree, affiliation: Master of Physiotherapy

Curriculum vitae:

I attended Charles University in Prague, Czechia, Faculty of Physical Education and Sport, and specialised in Health Care - Physiotherapy between 2006 - 2012, and I graduated with a bachelor's and master's degree. As early as 2008, I started to gather my first experiences with equine assisted therapy (EAT), and in 2012 I founded a non-profit organization *Centrum hiporehabilitace Mirákl, o.p.s.*, dedicated to intensive EAT for children with disabilities. I drafted the methodology of my work in EAT in 2016 and our organization received accreditation by the Ministry of Health. This officially made EAT an official treatment method in Czechia. I am currently the director and chief physiotherapist of the largest EAT center in Czechia, and I am currently taking a postgraduate course at the Third Faculty of Medicine, Charles University, field of preventive medicine. The main subject of my research is intensive hippotherapy in children with neuromuscular disease.

Category: Oral presentation abstract

Topic: Diseases of Central Nervous System (traumatic injuries, inflammatory disease, degenerative diseases)

Authors:

Kamila Řasová Assoc. prof. PhD., Ph.D. Department of Rehabilitation, Third Faculty of Medicine, Charles University and University Hospital of Královské Vinohrady, Prague, Czech Republic

Miloslav Vilímek Ing., Ph.D. Polytechnic College Jihlava

Jindra Reissigová RNDr., Ph.D. The Czech Academy of Sciences, Institute of Computer Science, Prague, Czech Republic

Title: THE EFFECT OF EQUINE ASSISTED THERAPY USING THE PRINCIPLES OF NEUROPROPRIOCEPTIVE „FACILITATUIN, INHIBITATION” N SPIROMETER PARAMETERS IN CHILDREN WITH SPINAL MUSCULAR ATROPHY: RANDOMISED CONTROLLED TRIAL

Keyword 1: childhood spinal muscular atrophies

Keyword 2: physical therapy specialty

Keyword 3: equine assisted therapy

Abstract:

Objective: Spinal muscular atrophy (SMA) is a rare progressive neuromuscular disease caused by a mutation in the SMN1 gene, where the effect of physiotherapy in children with SMA has not yet been clearly demonstrated. The aim of this study is to demonstrate the effect of physiotherapy in general and hippotherapy in particular using a unique facilitation approach in children with SMA. With its quadrupedal locomotion, the horse offers the child the initiation of movement from the pelvic area, which is reflected in the whole body in assisted movement and differentiation and has a positive effect on the diaphragm area.

Design: In a two-arm randomised controlled trial blinded by an observer, two physiotherapy concepts will be compared in children with SMA, type I., II., III, 2-9 years of age, able to sit independently. Both groups will undergo a six-day therapeutic programme of the same duration and intensity (2 x daily 15 min. individual therapy + 1 x daily 20 min. therapeutic horse grooming) with the same therapeutic goal. One therapeutic concept will be physiotherapy according to the standardized procedure of Standard of care ("SMA-SOC"), the other concept will be equine assisted therapy (EAT). Spirometric parameters FEV1 and PEF will be determined using a spirometer. The change in value at the beginning and end of the therapeutic programme will be evaluated.

Result: Study participants were 19 children with SMA, 9 boys and 10 girls - 13 of them treated with disease-modifying treatment before. The results show that EAT has a positive effect on respiratory functions. The positive effect is significantly higher than standardised physiotherapy, regardless of the type of previous treatment or the age of the children.

Conclusion: This research presents the possibilities of physiotherapy in respect to respiratory functions. It shows that EAT can be one of the most effective methods to improve the motor condition of children with SMA.