

PP-122 **POSSIBILITY OF USING THE C-MILL THERAPY GUIDELINE IN PEDIATRIC REHABILITATION**

Uliya Ashrafova, Ayaz Mamedyarov, Elena Karmazina, George Karkashadze*. *Pediatrics and Child Health Research Institute of Petrovsky National Research Center of Surgery, Moscow, Russia*

10.1136/bmjpo-2024-EPAC.266

Aim Aim of the study is to analyse the influence of the C-Mill hardware and software system on the motor activity of children with cerebral palsy (CP).

Material and Method Materials and methods. Prospective study was carried out. It included 40 children with CP, 55% - boys, 45% - girls, aged from 5 to 17 years 10 months (mean age - 10 years 5 months). Motor development level was classified according to the GMFCS system: 18 children had level II, 22 children had level III. The rehabilitation program included physical therapy, massage, mechanical treatment with the C-Mill program (figure 1), magnetic therapy of hip joints for 2 weeks long. Statistical analysis was performed via MS Excel 2010'

Results 88% (n = 35) of children have shown decrease in the axis ratio from the deviation point during walking when evaluating the kinematical graph of the total center of pressure in the frontal plane. It represents increase in vertical axis stability of the patient and walking pattern improvement, so the space perception is improving too. 87% of children have shown decrease in the double step period by an average of 4%. Moreover, all children (100%, n = 40) have demonstrated improvement in the psycho-emotional sphere: increased motivation, increased concentration, better mood. It was associated with longer playing time, increased endurance, and the number of deviations from monsters in the game 'Monster'.



Abstract PP-122 Picture 1 Rehabilitation session using the system C-Mill: the moment of stepping over the monster in the game 'Monster'

Conclusions CP is one of the leading causes of childhood disability. Rehabilitation of such children is continuous and dynamic process. Nowadays, the use of software and hardware systems with biofeedback become more and more relevant in children's rehabilitation via computer games. The use of the C-Mill hardware and software system is a promising method for quantitative evaluation of gait disorders in children with CP, and it has shown its efficacy in rehabilitation.

PP-123 **COMORBIDITY OF AVOIDANT-RESTRICTIVE FOOD INTAKE DISORDER WITH AUTISM SPECTRUM DISORDER: IDENTIFICATION AND MANAGEMENT**

¹Natalia Ustinova, ²Anna Basova, ³Leyla Namazova-Baranova, ⁴Elena Gorbunova, ⁴Maria Slipka*. ¹*Pediatrics and Child Health Research Institute of Petrovsky National Research Center of Surgery, Moscow, Russia, Scientific and Practical Center for Mental Health of Children and Adolescents named after G.E. Sukhareva, Moscow, Russia;* ²*Scientific and Practical Center for Mental Health of Children and Adolescents named after G.E. Sukhareva, Moscow, Pirogov Russian National Research Medical University, Moscow, Russia;* ³*Pediatrics and Child Health Research Institute of Petrovsky National Research Center of Surgery, Moscow, Russia, Pirogov Russian National Research Medical University, Moscow, Russia;* ⁴*Pediatrics and Child Health Research Institute of Petrovsky National Research Center of Surgery, Moscow, Russia*

10.1136/bmjpo-2024-EPAC.267

Aim Proper nutrition is one of the most important factors for the optimal development of the child. For children with autism, food selectivity is typical. Leo Kanner, in his first publications about children with autism, mentioned that they are characterized by a limited diet (Kanner, 1943). It is important to optimize identification and management of ARFID (avoidant-restrictive food intake disorder) in vulnerable children – children with ASD.

Material and Method Single-stage non-comparative study. All patients were examined by multidisciplinary medical team (psychiatrist, pediatrician, allergist-immunologist, gastroenterologist, endocrinologist, geneticist, dietician), appropriate laboratory and instrumental tests were done.

Results The research included 109 children with ASD (diagnosis verified with ADI-R – Autism Diagnostic Interview, Revised, C.Lord, 1994), 76 males/33 females (69,7%/30,3%). The age ranged from 2 years to 17 years 11 months, (94 (26; 177) months). The diagnostic clusters of ARFID are: 1) selective/restrictive food intake behavioral, 2)negatively affected the physical health, 3)social dysfunction. The guideline for diagnosing ARFID has been developed and piloted in children with ASD. A multidisciplinary team is required for the diagnosis and management of ARFID, also for diagnosing medical conditions that can mimic ARFID (allergies, GERD and others), consultation with a geneticist is necessary to exclude inherited metabolic disorders. In 93 out of 109 children with autism (85,3%), signs of selective/restrictive food intake were revealed, of which 89 children (81,7%) had additional signs - diagnostic criteria (negatively affected the physical health and/or social dysfunction), allowing to diagnose ARFID as a co-occurring disorder. Negative impact on health was manifested in abnormal weight and height indicators (65%), low levels of micronutrients, vitamins (68%), metabolic disorders (24%).

Conclusions ARFID is highly prevalent among children with autism. It is necessary to follow the guideline which include multidisciplinary examinations for the timely identification and management of ARFID in children with autism, to prevent negative consequences for their development and health.