

Effects of physical activity on postural balance in children with juvenile idiopathic arthritis: results from a pilot study

Antonino Patti¹, Antonino Bianco¹, Jessica Brusa^{1,3}, Giuseppe Battaglia¹, Marianna Bellafore¹, Maria Cristina Maggio², Giovanni Corsello², Giuseppe Messina^{1,3}, Angelo Iovane¹, Antonio Palma^{1,4}

¹ Department of Psychological, Pedagogical and Educational Sciences, University of Palermo, Palermo, Italy

² Department Pro.Sa.M.I. "G. D'Alessandro", University of Palermo, Palermo, Italy

³ Posturalab Italy, Palermo, Italy

⁴ Regional Sport School of Sicily CONI (Olympic National Italian Committee), Palermo, Italy

Background: The juvenile idiopathic arthritis (JIA) is the main rheumatic disease in pediatric age. The rheumatic diseases are main causes of physical disability and have high economic costs for society. The aim of this study was to evaluate if the physical activity can prevent the decline in balance related diseases in children with previous diagnosis of JIA.

Materials and Methods: Fifty-six subjects were enrolled in this study. Thirty-nine healthy subjects were included in the control group (CG) and seventeen in juvenile idiopathic arthritis group (JIAG). Subsequently, the JIAG was stratified in two ones, respectively: JIAG active (JIAG-ACT) and JIAG sedentary (JIAG-SED). The analysis was measured through the FreeMed posturography system (by Sensor Medica). STATISTICA software was adopted to perform an unpaired t test. A P value lower than 0.05 was considered to be statistically relevant.

Results: Significant differences were identified in JIAG-SED vs CG in many parameters considered (Length of sway path of the CoP, $P < 0,0001$; Ellipse surface, $p < 0,05$; Y mean, $p < 0,05$). Against, except Length of sway path ($p < 0,05$), the JIAG-ACT showed a similar trend respect to CG.

Conclusion: This pilot confirms the benefits for children with JIA to perform a training program due to prevent future diseases and increase the balance levels. Clearly, the sample is not adequate to make conclusions. More data coming from larger sample size studies are necessary to confirm these results.

References

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