

Abstract

Title: Individual training of a girl with Down syndrome in the fitness center **Background:** Down syndrome is a genetic disease caused by trisomy of 21 chromosome, associated with cardiovascular and metabolic disorders, mental retardation and specific essential characters. Due to common obesity and cardiovascular risks it is important to seek the optimal form of physical exercise as well as possible nutrition options.

Objective: The aim of this work is to evaluate the influence of long-term exercise intervention in a girl with Down syndrome.

Methods: Qualitative research was undertaken as a case study on compensation of muscle imbalance of a 23-year-old girl with Down syndrome. In this work, we used the observation, functional tests on postural and phasic muscles with photo documentation. Through the conversation we got feedback on the motion training from the perspective of a mother.

Results: On the basis of the initial examination there was established the individual training plan in a series of regular motion lessons in Contours fitness center. Lessons were focused on an improvement of all muscle imbalances, increase of physical ability, mental well-being, and last but not least to support integration. The involvement of the girl with Down syndrome into individual training was possible and cooperation led to results in posture (especially in the thoracic spine, better stabilization of the trunk and the involvement of the deep stabilization system).

Conclusion: From the results we can say that despite the innate decreased muscle tone in people with Down syndrome can the long-term and individually oriented training process improve posture in the thoracic and lumbar spine, learn correct posture and improve physical and mental condition. Important is also overseeing the correct implementation and subsequent customary for a healthy lifestyle.

Key words: Down syndrome, motion unit, motion process, intervention muscle imbalance