

Abstract

This master thesis concerns gait in patients with idiopathic scoliosis. Idiopathic scoliosis constitutes about 80 % of all scoliosis cases and its adolescent type is the most common form of spine deformity in the child population. The theoretical part outlines existing knowledge on this medical condition and its treatment, focusing on conservative therapy by corrective spinal orthoses. It further describes the physiological stereotype of gait and differences observed in patients with idiopathic scoliosis. It also discusses the effect exerted on bipedal locomotion by corrective spinal orthoses. The aim of the practical part is to examine whether there is a relationship between the severity of the main spinal curvature in subjects with scoliosis and the degree of asymmetry between their lower limbs for selected parameters of gait. Since this part concerns gait both without and with bracing, it can also analyse the impact of corrective spinal orthoses on the degree of the given asymmetries. The selected parameters of gait are ascertained by the method of dynamic plantography using a Zebris FDM-T System device. The research sample consists of 14 subjects (12 girls and 2 boys) between the age of 9 and 17 years with idiopathic scoliosis who receive conservative treatment including bracing. The results show that, at the significance level $p=0.05$, there is a relationship between the severity of the main spinal scoliotic curvature and the degree of asymmetry in the parameters Foot Rotation and Length of gait line for gait without corrective spinal orthoses, and in the parameter Maximum force 1 for gait with corrective spinal orthoses. The degree of asymmetry in the selected parameters does not differ detectably between not wearing and wearing corrective spinal orthoses.