

## Role of Podometry on Health-related Quality of Life of Patients with Non-specific Musculoskeletal Disorders

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**Introduction.** There are 46 different types of musculoskeletal disorders. 1% of all occupational diseases in Latvia are related to musculoskeletal disorders, which leads to serious socio-economic consequences. Thus, it is efficient to focus on early diagnostics and intervention in order to prevent the development of disability. It is known that pathogenesis of non-specific musculoskeletal diseases roots in foot biomechanics disorders. Podometry allows us to understand and correct foot biomechanics disorders long before pain, foot deformation, or any signs of osteoarthritis of feet or spine joints occur.

Our experience of podometry examination of eleven thousand people between 2002–2012 shows that it is exactly podometry that might become a good example of MSD early diagnostics, and it is necessary to start solving this problem from early childhood.

**Materials and methods.** The research involved 765 schoolchildren of Riga secondary schools, 354 schoolchildren of 8 Riga sport schools, 102 medical personnel of a multi-profile clinic – nurses, doctors, nurse assistants. Standardized questionnaire was used as an instrument of the research. This research includes the analysis of questions that provide information about gender, age group, post, BMI, physical activities, performed objective foot examination methods, awareness about the ways of foot deformation corrections. A computerized foot diagnostic system Pad Professional was used to assess objectively the condition of the feet. The data of the research work were processed with computer programs SPSS for Windows and Excel. Descriptive statistics have been used.

**Results.** The results of podometry of 765 schoolchildren aged 12–19 years in Riga secondary schools (429 girls and 366 boys) show signs of transverse arches having increased from 5<sup>th</sup> up to 12<sup>th</sup> form: from 11.24% to 18.50% of boys and from 14.81% to 43.3% of girls. Longitudinal arches of 3.2% of boys and 2.4% of girls. One in three of the examined schoolchildren has disorders of posture and signs of scoliosis.

In the course of examination of 354 schoolchildren in 8 Riga sport schools aged 10–16 years (236 boys and 118 girls) there were detected signs of transverse arches of 16.10% of boys and 20.33% of girls, as well as, signs of longitudinal arches of 6.35% of boys and 5.08% of girls.

102 medical personnel of a multi-profile clinic were diagnosed to have a totally healthy foot, 83.3% have transverse arch flattening, 10.3% – explicit transverse arch flattening and 6.4% – longitudinal arch flattening. The awareness of medical personnel about their feet problems is insufficient; 91.3% of the respondents have never used any of the objective feet examination methods. There is also not enough attention paid to prevention of feet problems – footwear with wrong height of heel is being worn at home and at work, orthopaedic footwear, instep-raisers are practically not used at work. Most medical workers 66.1% have some of the spinal or articular illnesses.

**Conclusion.** It is appropriate to apply podometry widely since the age of 9–10 for the detection of peculiar features of musculoskeletal system of a child, ensuring an early prevention of posture disorders, choice of an efficient kind of sport, suitable footwear and further occupational orientation. Podometry should become an obligatory diagnostic examination for those employees whose work is related to sustained burden on feet.