

## Abstract

**Title:** Evaluation plantogram and range of motion of the joints of the lower extremity with hallux valgus deformity.

**Objectives:** The aim of my thesis, "Evaluation plantogram and range of motion of the joints of the lower extremity with hallux valgus deformity" is a statistical comparison of the aspects of the lower limbs in healthy subjects and people affected by hallux valgus deformity. It will be a comparison of the measured values, such as the degree of hallux valgus angle, range of motion of the hip joint to spin, Q - angle of the lower limb, position of hocks and strained soles.

**Methods:** Plantographic evaluation of the strain on the soles on Podoscope, goniometry, photography, plantographic diagnostic method - Chippaux - a Šmírák and Sztriter – Godunov.

**Results:** During this research, I observed twenty seven individuals. Five individuals had hallux valgus deformity, fourteen individuals had valgus position of the thumb and seven individuals had no deformity. In the course of evaluating plantogram and range of motion of the joints of the lower limb with hallux valgus deformity I observed degree of flat. This statement was confirmed at a significant level of  $p = 0.01$  for both legs. Unfortunately in case of individuals with mild hallux valgus deformity, the proximo-distal, or disto-proximal deformity influence on the position of the lower limbs, was not proved. On the other hand, I evaluate positively the finding of statistically significant dependence of two measured parameters, toe angle and the axis of the ankle joint on the ipsilateral limb in case of individuals with hallux valgus and in case of individuals with valgus position of the thumb. In case of individuals with a hallux valgus deformity, this dependence was statistically significant at a significance level of  $p = 0.05$  in both legs, with values for right leg:  $r = -0.9$  and left leg:  $r = -0.9$ . In case of individuals with valgus position of the thumb, this dependence was statistically significant only on left leg with value  $r = -0.6$  and significance level of  $p = 0.01$ .

**Keywords:** Hallux valgus, foot, Q - angle, Podoscope, valgus position of the thumb.