

ABSTRACT

Title: The effect of physical intervention on static weight bearing in individuals undergoing transfemoral amputation

Objectives: The aim of this thesis was to investigate the effect of physical intervention on static weight bearing in individuals undergoing transfemoral amputation.

Methods: Four men aged 40-60 years (mean = 54,5 years, SD = 5,92) who have undergone unilateral transfemoral amputation and are long-time users of mobility grade 3 (MG 3) prostheses participated in the study. The study uses a quasi-experimental design, specifically a simple pretest-posttest design. A physical intervention was used to influence the weight bearing of the lower limbs, which included a four-week online fitness program aimed at strengthening muscles, improving balance and coordination. The 3D L.A.S.A.R Posture device was used to measure lower limb weight distribution. Based on the results of the student t-test, hypothesis H₀ was rejected and hypothesis H₁ was accepted. Power analysis showed that the research results could not be applied to the population of transfemoral amputees. Subsequently, substantive significance was used to identify practically significant differences in the probands studied.

Results: Substantial significance identified a practical improvement in the weight distribution between the amputated and non-amputated lower limb, with the involvement of the amputated lower limb increasing by an average of 2,68 % in all probands.

Conclusion: Standardized online fitness program for prosthesis users after transfemoral amputation can improve the symmetry of lower limb weight-bearing.

Keywords: amputated lower limb; intact lower limb; weight bearing symmetry; static measurement; lower limb loading; balance