

## Abstract

The age-associated decrease of musclemass (sarcopenia) accompanies with partly serious functional and physical impairments, which raise the risk of morbidity and mortality and lead to increase dependency and care poverty. In the present dissertation it was researched the effect of the new developed strength training program "PATRAS" (Paderborner Trainingsprogramm für Senioren) on functional as well as metabolic parameter of 46 frail nursing home residents and advised living seniors (mean: 85 years). The intervention continued 16 weeks (2x per week ca. 1 hour training); free weights and coordinative elements were used.

Data collections were made before the intervention, as well as after 4, 10 and 16 weeks according to the survey-design: a review was used to obtain state of health and functional mobility; measurement of blood parameters und aminoacid-plasma-concentrations; enforcing physical performance tests (2-minute-walk, max. walking velocity, 5-chair-stand, one repetition maximum tests, balance tests); body composition was assessed by bioelectric impedance analyse and the nutritional intake by food records was engaged. Overall it was succeeded, to improve the mobility for activities of daily life of the seniors. Furthermore the training activated metabolic processes, which decelerate respectivly stopped the progression of sarcopenia.