

ABSTRACT

Title: Comparison of Bioimpedance Methods for Measuring Body Composition in Individuals with Spinal Cord Injury

Objectives: The aim of the thesis was to analyze and compare the differences in the diagnosis of total body water, fat-free mass, and body fat between the multifrequency bioimpedance devices InBody S10 and Bodystat Quadscan 4000 in a group of people with spinal cord injury.

Methods: A total of 17 people (8 women and 9 men) aged 28 to 64 years with a diagnosis of complete and incomplete spinal cord injury participated in the research. The body composition of the subjects was measured using the multifrequency bioimpedance devices Bodystat Quadscan 4000 and InBody S10 in this order, with a few minutes interval. The measurements were always carried out at the same workplace under the same conditions.

Results: Significant differences were found in the complete set between the resulting values of total body water, fat-free mass, and body fat from the InBody S10 and Bodystat Quadscan 4000 devices. By comparing the results of body composition depending on gender, significant differences were demonstrated in the determination of selected body composition parameters between the InBody S10 and Bodystat Quadscan 4000 devices only in the male subgroup, but not in the female subgroup.

KEYWORDS

Body composition; spinal cord injury; body composition components; body composition parameters; fat free mass; body fat; total body water