ASSOCIATION BETWEEN GRIP STRENGTH, ANTHROPOMETRIC DATA AND FUNCTIONAL CAPACITY

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INTRODUCTION

The hand is one of the most important instruments of the human body, mainly due to the possibility of grip movements. [1, 2] Grip strength has been described as an important predictor of functional capacity. There are several factors that may influence it, such as gender, age and anthropometric characteristics.

Functional capacity refers to the ability to perform daily activities which allow the individual to self-care and to live with autonomy. [3, 4]

Composite Physical Function (CPF) scale is an evaluation tool for functional capacity that includes daily activities, self-care, sports activities, upper limb function and gait capacity. [5,6]

In 2011, Portugal had 15% of young population (0-14 years) and 19% of elderly population (over 65 years). [7] Considering the double-ageing phenomen, it is important to understand the effect of the grip strength in elderly individuals, considering their characteristics, as the need to maintain independency as long as possible.

PURPOSE

To establish association between grip strength and functional capacity evaluated by CPF scale, as well as association between grip strength and BMI in individuals aged 65 years or over.

METHODOLOGY

Participants of "Healthy Senior" project.

Inclusion criteria:
Resident in Loures; Aged 65 years or over; verbal language comprehension.
Exclusion criteria:
Institutionalized elderly.

Assessment 15M;15F

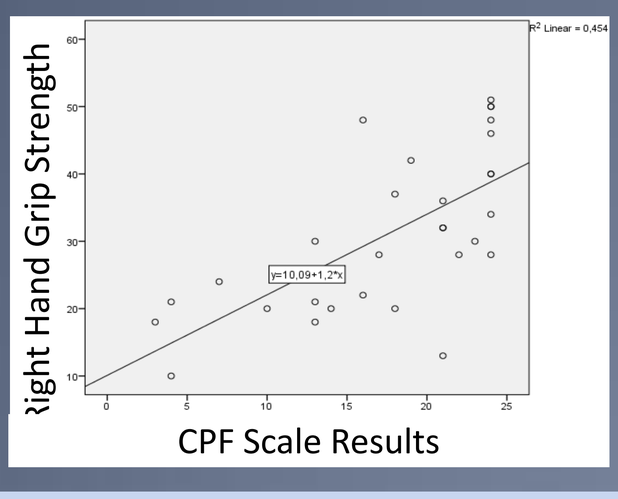
This study was a descriptive-correlational.

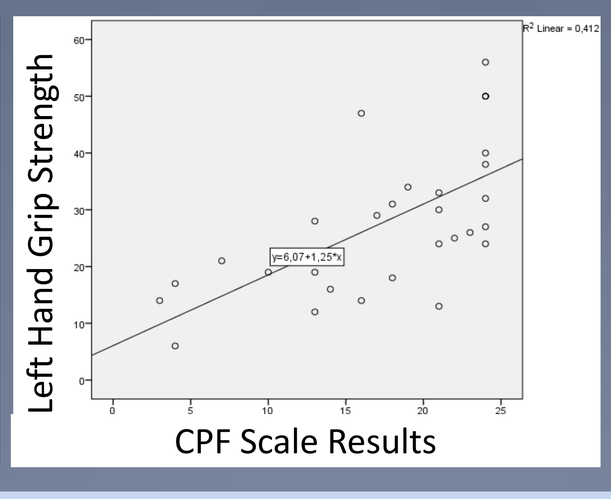
Assessment:

- Weight(kg)
- Height (m)
- BMI (Weight (m)/ Height (m) ^{2})
- Grip strength (was evaluated with JAMAR®)
- Functional capacity through CPF scale.

RESULTS

Mean	Age (years)	Weight (Kg)	Height (m)	BMI (Kg/m^2)	Grip Strength		CPF
					Right	Left	
	73.2±8.2	73.5±15.4	1.60±0.1	28.5±4.6	31.2±11.9	28.1±13.0	17.7±6.7





Associations found:

-**Moderate** between grip strength and CPF score (right: r=0.674; p=0.000; left: r=0.642; p=0.000);
-**Moderate** between grip strength and weight (right: r=0.493; p=0.006; left: r=0.515; p=0.004);
-**High** between height and grip strength (right: r=0.758; p=0.000; left: r=0.8; p=0.000);
-No association was found between grip strength and BMI (right: = - 0.050; p=0.793; left: r=- 0.055; p=0.771).

CONCLUSIONS

There are significant associations between grip strength and anthropometric characteristics. Also, there is a significant association between grip strength and functional capacity.

Considering the changes in world population, with the raising tendency of higher life expectancy that leads to older individuals, it is essential to find strategies to prevent disability and to maintain autonomy for as long as possible.

Our study shows that grip strength can be an important predictor of functional capacity in elderly population, which is helpful as the test is simple to perform and doesn't require complex tools or a special environment. Through grip strength evaluation, it is possible to promote strategies in order to prevent further disabilities, to promote independency and, consequently, improve individuals' quality of life.

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