Abstract: **P459**

Muscle power in upright row movement: predictor of all-cause mortality in individuals between 41 and 85 years of age - Preliminary results

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Background: muscle power is relevant to the performance of many daily and sporting actions and tends to progressively decrease after 40 years of age.

Purpose: to investigate the relationship between muscle power and all-cause mortality in subjects aged 41 to 85 years old.

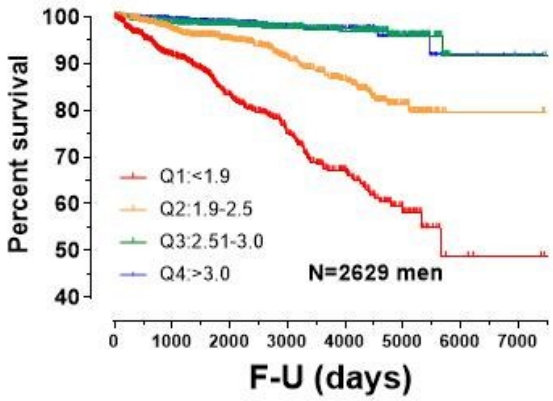
Methods: a retrospective analysis of data from 3878 non-athlete adults aged 41 to 85 years old (67.8% men) who underwent a maximal muscle power test in an upright row exercise between February 2001 and December 2016. Mean age was 59 years, and 5% of the subjects were aged over 80 years old. The highest value achieved after two or three attempts with increasing loads was considered the maximal muscle power (MMP) and expressed in watts/kg of body weight. MMP values were analyzed separately for sex and divided into quartiles for survival analysis.

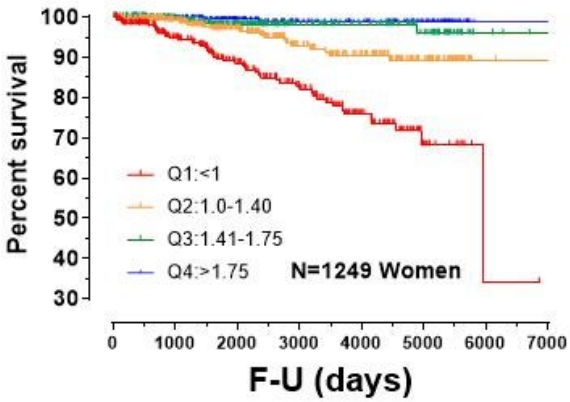
Results: During a median follow-up of 6.5 years, 247 men (10.4%) and 75 women (6.4%) died. Survival curves differed between quartiles of MMP for men and for women ($p < .001$). Men and women with a MMP value above the median (Q3-Q4) had a death rate of 2.1% and 1.3% per year, respectively, for Q3 and Q4, with a risk of dying 4 to 5x higher when compared to Q2, and 10 to 13x higher when compared to those with results in the lower quartile.

Conclusion: MMP results in a daily movement can be used as a predictor of all-cause mortality in men and women between 41 and 85 years of age. Interestingly, considering the value of MMP, in order to have a low likelihood of premature death in the following six years, all you need is to be above the median for your sex.

Sex	Variable	Q1	Q2	Q3	Q4
Men	w/kg	<1.9	1.9-2.5	2.51-3.0	>3
	% deaths	23.5	9.4	2.5	1.8
Women	w/kg	<1	1-1.4	1.41-1.75	>1.75
	% deaths	16.3	5.7	2.0	0.7

Table. Men and women MMP quartiles: range values and % of deaths


Percent survival
100
90
80
70
60
50
40
Q1:<1.9
Q2:1.9-2.5
Q3:2.51-3.0
Q4:>3.0
N=2629 men
0
1000
2000
3000
4000
5000
6000
7000
F-U (days)


Percent survival
100
90
80
70
60
50
40
30
Q1:<1
Q2:1.0-1.40
Q3:1.41-1.75
Q4:>1.75
N=1249 Women
0
1000
2000
3000
4000
5000
6000
7000
F-U (days)