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DEPENDENCE OF FRAILTY ON NUMBER OF FALLS AND GAIT SPEED AMONG ELDERLY

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INTRODUCTION

The highest frequency of falls among elderly is observed among those who are less active and have a slow walking speed [1]. Walking speed is a reliable and sensitive measure of functional abilities, closely associated with the well-being, healthy aging, frailty, and mortality of older adults [2]. The frailty in older individuals, depletes the body's reserves and reduces resistance to stress factors in various physiological systems, such as physical, psychological and social [3]. Patients with frailty present difficulties in walking and higher fall risk [4].

The aim of the study was to determine the dependency between falls and walking speed in relation to the frailty among elderly.

METHODS

The study included 55 community dwelling older adults (mean age 77.98±7.62 years): 12 (21.42%) men and 43 (78.58%) women.

Measures included self-reported history of falls during one-year period, socio-demographic characteristics (age, sex) . Frailty was defined according to five Fried's criteria: weakness, low gait speed, low physical activity, weight loss, and exhaustion. Participants were categorized as robust, pre-frail, and frail if they scored 0, 1–2, and 3 or more points, respectively.

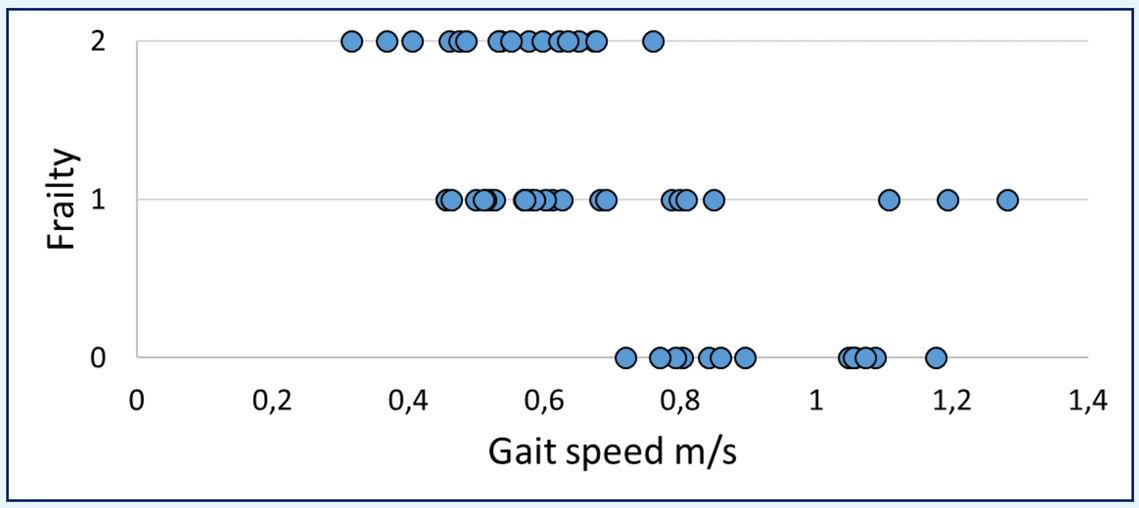

Fig 1: *Frailty (robust-0; pre-frail0 -1; frail – 2) dependence with gait speed (m/s)*

RESULTS

According to frailty status 13 (23.6%) participants were evaluated as being robust, 25 (45.5%) having pre-frailty and 17 (30.9%) were frail. Falls were reported in 34 (61.8%) participants. Frailty and falls were found in 16 (29.1%) participants: 5 (31.25%) men and 11 (68.75%) women. Low gait speed were reported in 35 (63.6%) participants, frailty and low gait speed were found in 17 (30.9%) participants 5 (29.4%) men and 12 (70.6%) women. Among elderly individuals, the median of walking speed is 0.625 m/s, the results significantly ($p < 0.001$) differ from the median norms of older adults living in the community, as assessed by the Irish longitudinal study on aging (TILDA) to be 1.17–1.27 m/s [5].

Correlation analysis showed a significant negative relationship between frailty and gait speed (m/s) ($r = -0.541$; $p < 0.001$) and significant pozitive correlation between frailty and falls ($r = 0.58$; $p < 0.001$).

Logistic regression revealed that an increased risk of frailty was associated with falls and increased gait speed (OR: 1.21 (38.36-0.04) and OR: 0.24 (7.49-0.01)).

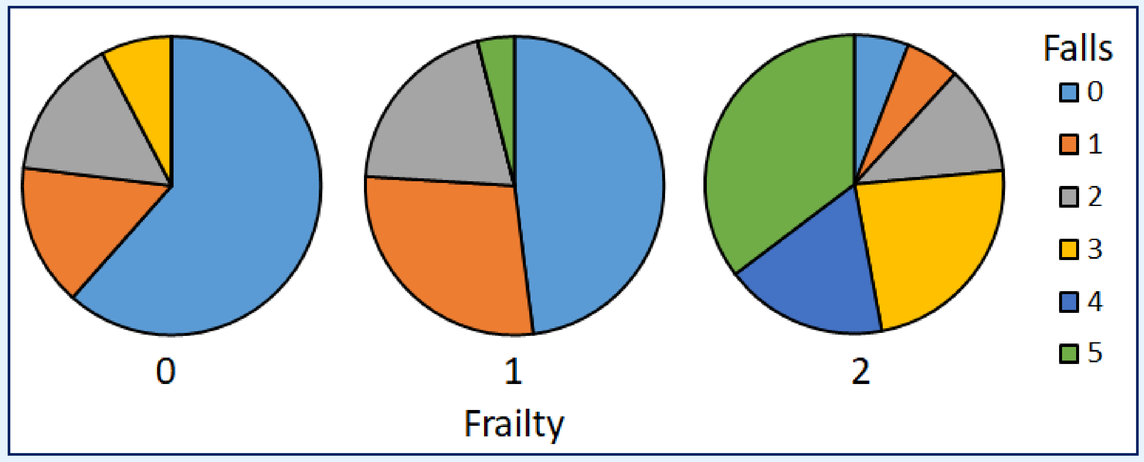

Fig 2: *Frailty (robust-0; pre-frail0 -1; frail – 2) dependence with falls experienced per year*

CONCLUSION

Our study showed that frailty depends on the number of falls experienced per year and the average walking speed. The highest incidence rates of falls were seen in low-active frailty persons with slow walking speed. Recognizing signs of frailty will enable timely interventions, thereby preventing complications and reducing healthcare expenses.

References

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DISCLOSURE

All authors state that they have no conflicts of interests.

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