

## Self-reported data and its relation to the standard and validated measures to predict falls

### Authors

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### Background

According to National Institute for Health and Care Excellence quality standards, the assessment of fall risk and preventing falls should be multifactorial and include self-reported questions like falls history, fear of falling (FoF), self-perception of functional ability, environment hazards, gait pattern, balance, mobility and muscle strength<sup>1</sup>. Concerning the self-reported data, some studies described subjectivity and difficulty in extracting reliable information when using such methods. History and number of previous falls are often used as golden standard in fall risk assessment studies<sup>2</sup>; however, these questions are source of misjudgement, in part, due to difficulty for an older person remember exactly how many times he/she had fallen in a past period of time.

### Objective

The study aimed to compare self-reported questions and standard and validated measures for screening risk of fall to verify the confidence of the self-reported data.

**Methods** 506 community-dwelling adults aged 50+ years old (mean age 69,56± 10,285 years old; 71,7% female) were surveyed regarding demographics, history of fall, FoF, sedentary lifestyle, use of upper-extremities to stand up from a chair, by self-reported questionnaire; and analysis of gait, balance and muscle strength, by standard and validated measures for screening risk of fall - 10 meters walking speed test<sup>3</sup>, Timed up & Go test<sup>4</sup> and 30 second sit to stand test<sup>4</sup>, respectively. Independent samples *t* tests were performed to compare groups.

### Results

33,2% of the sample reported at least one fall in the last year (fallers), 50% reported FoF, 46,4% sedentary lifestyle, 31,8% needed their upper extremities assistance to stand from a chair. Fallers demonstrated lower scores of gait velocity ( $p<0,001$ ), lower extremities strength ( $p<0,001$ ) and balance ( $p=0,034$ ) compared with non-fallers; who reported sedentary lifestyle also showed lower scores of gait velocity ( $p<0,001$ ), lower extremities strength ( $p=0,001$ ) and balance ( $p<0,001$ ) compared with non-sedentary. Simultaneously, who assumed FoF showed lower scores of gait velocity ( $p<0,001$ ), lower extremities strength ( $p<0,001$ ) and balance ( $p<0,001$ ) compared with who had no FoF. Finally, those who use the upper-extremities to stand up from a chair showed lower scores of gait velocity ( $p<0,001$ ), lower extremities strength ( $p<0,001$ ) and balance ( $p<0,001$ ) compared with those who do not.

### Conclusions

The findings suggest that self-reported data like history of falls, sedentary lifestyle, FoF and use of upper extremities to stand up from a chair, obtained by simple questions, have emerged as reliable information on risk factors for falling and can be used to complete the fall risk screening.

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## **Keywords**

Self-reported data, Fall Risk Assessment, Community dwelling adults