

screening tool that, when abnormal, should be followed by the MRC to specifically identify the typical distribution of muscle weakness. Information on muscle strength from hospital admission to discharge can provide specific starting points for personalized interventions to combat sarcopenia and prevent functional decline in the hospital setting and after acute hospitalization.

**Keywords:** Aged, Hospitalization, Muscle Strength

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### RISK OF SARCOPENIA AND ASSOCIATED FACTORS IN HOSPITALIZED OLDER ADULTS WITH CARDIOVASCULAR DISEASE

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**Background:** Low muscle strength and mass with possible impaired physical performance characterizes the muscle disease known as sarcopenia. When not diagnosed or treated, the risk of falls, fractures, hospitalization, hospital costs, longer hospital stays, and negative outcomes increases. In the presence of comorbidities, such as cardiovascular diseases, sarcopenia can be significant and serious. In these patients, muscle weakness has attracted considerable attention in recent years since it is deemed an independent risk factor for disability and a strong predictor of premature death. The SARC-F (simple questionnaire to rapidly diagnose sarcopenia), a valid and consistent instrument to detect people at risk of adverse outcomes associated with sarcopenia, including functional decline, can be used as a screening tool. It consists of 5 items self-reported by patients based on their perceptions regarding strength limitations, the ability to walk, rise from a chair, climb stairs and a number of falls.

**Objectives:** Analyze the risk of sarcopenia and identify associated factors in hospitalized older adults with cardiovascular disease.

**Methods:** This is a cross-sectional study conducted with 23 hospitalized older adults with cardiovascular disease in a tertiary hospital of the Federal District, Brazil, classified into two groups: with or without risk of sarcopenia according to the SARC-F. Demographic (age and sex), clinical (number of medications and body mass index –BMI) and physical data (muscle strength and mass) were collected. Muscle strength was assessed using hand-grip dynamometry and the Medical Research Council (MRC) scale, and mass by means of electrical bioimpedance. These data were compared between the groups using the students t and Mann-Whitney U tests.

**Results:** There was a risk of sarcopenia in 39.1% (n=9) of the sample. In comparison analyses, the group of older adults at risk of sarcopenia were older (mean difference: 14.39 years [95%CI 8.23 – 20.55]; p=0.001), exhibited lower handgrip strength (mean difference: 9.36 KgF [95%CI 0.874 – 17.854]; p=0.032), more frequent muscle weakness on the MRC scale ( $X^2(1)=5.367$ , p=0.047) and lower appendicular muscle mass (mean difference: 0.763 [95%CI 0.113 –

1.414]; p=0.024). The groups showed no differences for sex, BMI and number of continuous use drugs (p>0.05).

**Conclusion:** This study found that older adults at risk of sarcopenia are older and obtain worse physical results when compared to their risk-free counterparts. The SARC-F was able to identify hospitalized patients with lower strength and muscle mass.

**Implications:** The findings show the need to identify hospitalized older adults at risk of sarcopenia using a simple, fast, low-cost, non-invasive assessment, which may contribute to the establishment of early identification strategies in a hospital setting, aimed at developing more assertive measures.

**Keywords:** Aged, Sarcopenia, Risk Factors

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### RELATIONSHIP BETWEEN CARDIORESPIRATORY FITNESS AND INHIBITORY CONTROL IN CHILDREN AFTER AN ACUTE HIIT SESSION: A CROSS-RANDOMIZED TRIAL

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**Background:** Studies suggest that acute exercise may be beneficial for executive control (Hillman et al, 2003). This result appears especially in the incongruent condition of the flanker test, where inhibitory control is more necessary. In addition, evidence suggests that complementary cardiorespiratory activity is positively related to executive functions in childhood.

**Objectives:** To analyze the relationship between cardiorespiratory fitness and inhibitory control and compare the acute effects of two HIIT protocols on the inhibitory control of schoolchildren

**Methods:** This trial included 21 children in the 4th year of a municipal school in the city of Belém. Cardiorespiratory fitness was assessed using the 20-meter shuttle test. The volunteers ran at a pace set by a cell phone application that emitted beeps at specific intervals for each stage. The duration of the test depends on each person's cardiorespiratory fitness. Then, based on the level of cardiorespiratory fitness, the participants were divided into two groups (Good, n=10; Regular, n=11) The method used was the randomized crossover clinical trial, in which all participants performed two separate visits each other for a period of 72 hours. In each visit, the subjects were submitted to a different HIIT protocol: The Tabata protocol lasted 4 minutes with 8 series of 20 seconds of maximum effort and 10 seconds of rest. The Progressive protocol lasted 5 minutes, with 5 series of 20 seconds of maximum effort followed by 30,40,50,60 and 20 seconds of passive rest respectively, the exercises used body weight and consisted of squats, jumps and races. And to evaluate the inhibitory control, the computerized Flanker test was used. The test was applied at rest, before HIIT, and repeated 11 minutes after performing the exercises. Results were analyzed by estimation statistics and results expressed as significance (p), confidence interval (95%) and effect size (g). Congruent and incongruent response time (RT) were analyzed.

**Results:** The group with higher cardiorespiratory conditioning showed better performance in the reaction time of the incongruent condition after performing the HIIT Tabata protocol ( $p=0.0458$ ,  $g=-0.451$ , 95.0%CI -0.822, -0.0689). However, the same effect was not observed in the group of children with lower cardiorespiratory fitness ( $p=0.339$  -0.213 [95.0%CI -0.57, 0.357]). No significant differences were found in the congruent condition of the inhibitory control test. The progressive HIIT protocol did not change the RT.

**Conclusion:** Our findings corroborate some previous findings that suggest that children with greater cardiorespiratory fitness respond more efficiently to an acute HIIT session by showing better inhibitory control

**Implications:** This study shows that HIIT Tabata can help improve inhibitory control in children with good cardiorespiratory fitness, being an easily accessible and short-term strategy that can be included in the routine of schools.

**Keywords:** Inhibitory Control, Children, Cardiorespiratory fitness

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## MEASUREMENT PROPERTY TEST OF THE INSTRUMENT OCCUPATIONAL COGNITIVE FAILURES QUESTIONNAIRE (OCFQ)

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**Background:** Cognitive failure can be understood as mental lapses that occur during the execution of a simple task. These failures can occur in different contexts, such as, for example, in occupational activities, in university students, in everyday life or in any other non-occupational context. The Occupational Cognitive Failures Questionnaire (OCFQ) is a measurement instrument that helps to understand cognitive failures in workers. However, the OCFQ was originally developed in English, requiring cross-cultural adaptation and testing of measurement properties to assess whether the adapted questionnaire can be used with the same confidence as the original questionnaire.

**Objectives:** This study aims to test the measurement properties of the Occupational Cognitive Failures Questionnaire, translated, and adapted into Brazilian Portuguese. This is an observational, cross-sectional study.

**Methods:** The study population consisted of workers of both sexes, aged between 18 and 60 years.; and minimum working time on the task of three months. Workers with self-reported cognitive impairment (due to neurological diseases, mental disorders, dependence on alcohol and other drugs, depression) were excluded from the study. Participants were recruited by sharing the questionnaire through the UFSB e-mail, and digital media platforms such as Facebook and Instagram. For data collection, the following questionnaires were used: Sociodemographic Questionnaire; Prospective and Retrospective Memory Questionnaire – PRMQ; Occupational Cognitive Failures Questionnaire - OCFQ, were made available online through the Google Forms platform. The measurement

properties were sociodemographic data; reproducibility; internal consistency; and ceiling and floor effect.

**Results:** The sample consisted of 113 workers, of whom 13 were excluded for not meeting the requested criteria, mostly female workers with an average age of 29.4 years who perform office activities. Internal consistency was calculated using Cronbach's alpha index, with an adequate value of 0.84. The construct validity of the OCFQ and PRMQ instruments obtained Pearson's Correlation Coefficient value  $r=0.5$ . The reproducibility evaluates the reliability tested with an intraclass correlation coefficient (ICC), consistency coefficient (ICCConsistency) with a value of 0.84, and agreement coefficient (ICCAgreement) of 0.1, showing a substantial reliability, and the agreement analyzed through the standard error of measurement (EPM) by the measurement (S.E. mean), with a value of 1.3%. No ceiling and floor effect was found.

**Conclusion:** We concluded that when testing the measurement properties of the Occupational Cognitive Failures Questionnaire instrument, in the translated and adapted version for Brazilian-Portuguese, it showed good results in terms of content validity, internal consistency, reproducibility, and construct validity.

**Implications:** Testing the measurement properties of the OCFQ questionnaire and its results makes it possible for professionals who work in occupational environments to use it, with the aim of detecting cognitive deficits in the workplace, to enable preventive actions for the worker, as well as greater safety in the work environment.

**Keywords:** Cognitive failures, Measurement Property Test, Workplace

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**Ethics committee approval:** This research project was submitted to the Ethics Committee and Research Involving Human Beings of the Federal University of Southern Bahia (UFSB), whose approval number is 40398820.4.0000.8467.

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## PREVALENCE OF FALLS IN OLDER ADULTS: INTRINSIC, EXTRINSIC AND BEHAVIORAL ASPECTS

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**Background:** Falls in older adults are the result of a complex interaction between intrinsic, extrinsic, and behavioral factors. Although it is difficult to separate these factors, some studies indicate that environmental risk factors are present in approximately 40% of falls, but there is still a gap in these real factors.

**Objectives:** To verify the association between environmental risk factors for falls in older adult Brazilians.

**Methods:** Prospective cohort study, being one of the arms of a larger study "Prevalence of falls in the older adults: Intrinsic, extrinsic and behavioral factors". The study aimed to follow up with 400 patients, both sexes, aged over 60 years and from different regions of Brazil, who had access to the online questionnaire through a link and agreed to participate in the research. The questionnaire had items related to environmental factors in older adults falls. The environmental assessment was carried out using the Home