

## DISSERTATION DEFENSE: ANNA XÊNYA PATRÍCIO DE ARAÚJO

DATE: APRIL 15, 2021

TIME: 2:00 pm

PLACE: MEETING GOOGLE

TITLE: INFLUENCE OF AN EXERCISE PROTOCOL WITH WHOLE BODY VIBRATION OF DIFFERENT AMPLITUDES ON POSTURAL BALANCE, GAIT SPEED, MUSCLE STRENGTH AND FUNCTIONAL MOBILITY IN ELDERLY: CROSSOVER RANDOMIZED CLINICAL TRIAL

Key words: Vibration. Aging. Physical functional performance. Health services for the elderly.

WORDS: 224

ABSTRACT:

The protocols used for WBV differ regarding the choice of amplitude, frequency and duration, impossibilitating to reach a consensus on which is the best training protocol for the elderly. Therefore, this dissertation aimed to evaluate the acute effects of WBV with a frequency of 35Hz and amplitudes of 2mm and 4mm on static postural balance, gait speed, muscle strength and functional mobility of sedentary elderly women, through a randomized clinical trial crossover (REBEC - RBR-2HPJJK). Article 1: The study consisted of two WBV protocols (PA = 2mm and PB = 4mm) where 14 sedentary elderly women were submitted to a single WBV session for each protocol in a randomized manner, with a washout period of one week between session. The protocol using a 4mm amplitude improved muscle strength (13.28 x 12.29 repetitions,  $z = -2.379$ ,  $p = 0.017$ ) and functional mobility (9.24 x 10.06 seconds,  $z = -2.166$ ,  $p = 0.030$ ), with moderate effect size (0.45 and 0.41). Article 2: The overview aimed to evaluate systematic reviews that studied the effectiveness of WBV on muscle strength and risk of falls in the elderly (PROSPERO-CRD42020140374). Three systematic reviews met the eligibility criteria. Two were classified as low methodological quality and low risk of bias and one classified as critically low methodological quality and risk of uncertain bias according to AMSTAR 2 and ROBIS, respectively.

EXAMINATION BOARD:

Internal Examiner: Daniella Araújo de Oliveira (UFPE)

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