

**P606****THE IMPACT OF PHARMACOLOGICAL INTERVENTIONS FOR OLDER ADULTS WITH SARCOPIENIA: A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS**A. L. Lee<sup>1</sup>, C. McArthur<sup>2</sup>, H. A. A. Alrob<sup>1</sup>, G. I. Ioannidis<sup>1</sup>, J. D. A. Adachi<sup>1</sup>, L. T. Thabane<sup>1</sup>, J. L. Lee<sup>1</sup>, A. P. Papaioannou<sup>1</sup><sup>1</sup>McMaster University, Hamilton, <sup>2</sup>Dalhousie University, Halifax, Canada

**Objective:** Sarcopenia is a common clinical syndrome that can increase risk of adverse outcomes such as falls or fractures in older adults. Previous studies have shown that exercise or nutritional supplements can be an effective treatment for older adults with sarcopenia. However, the effect of pharmacological treatment on muscle mass, muscle strength, and physical function for older adults with sarcopenia is uncertain. The aim of this study is to investigate the effect of pharmacological interventions on muscle mass, muscle strength, and physical function for older adults with sarcopenia.

**Methods:** We systematically searched MEDLINE, EMBASE, and the Cochrane Central Registry of Controlled Trials from inception to February 2019 to identify randomized controlled studies (RCTs) examining the effects of pharmacological interventions on muscle mass, muscle strength, and physical function in older adults aged 65 years or older with sarcopenia.

**Results:** We screened a total of 2166 records and included six RCTs that investigated the effects of pharmacological interventions on muscle mass, muscle strength, and physical function in older adults with sarcopenia. Very low quality evidence suggests that vitamin D supplementation for 6 months may improve muscle mass as measured by Appendicular Skeletal Muscle mass in vitamin D deficient presarcopenic older patients (mean difference: 5.31 kg, 95%CI: 3.60 to 7.02). However, very low to low quality evidence suggests that there is no statistically significant change in muscle mass, muscle strength or quality of life with pharmacological treatment including testosterone, vitamin D, selective androgen receptor modulator, or angiotensin converting enzyme inhibitors at 5 and 6 months.

**Conclusions:** Our systematic review found pharmacological interventions might not improve muscle mass, muscle strength and physical function for older adults with sarcopenia, although the quality of the evidence is very low. Future high quality trials are required to establish the effects of pharmacological treatment for people with sarcopenia.

**P607****PERFORMANCE OF THREE SCREENING QUESTIONNAIRES TO ASSESS VITAMIN D STATUS IN THE GENERAL POPULATION**C. Shadoun<sup>1</sup>, O. Bruyère<sup>2</sup>, E. Cavalier<sup>3</sup><sup>1</sup>WHO Collaboration Center for Public Health Aspects of Musculoskeletal Health and Ageing, University of Liège, <sup>2</sup>University of Liège, Division of Public Health, Epidemiology and Health Economics, <sup>3</sup>Clinical Chemistry Dept., University Hospital of Liège, Liège, Belgium

**Objective:** Vitamin D deficiency is a major public health problem and should be detected. To date, the only reliable test to determine vitamin D status is a blood test for 25-hydroxyvitamin D determination, but this should not be used as a screening tool, especially in healthy subjects. Our objective is to evaluate the performance of several predictive simple, rapid, inexpensive questionnaires of vitamin D status and to determine whether they could be an effective alternative to blood testing in a general population.

**Methods:** This is a cross-sectional study involving a sample of 81 subjects recruited from the staff of the CHU and University of Liege, Belgium (50.6°N). All participants were asked to answer three questionnaires aimed to assess the vitamin D status. Blood sample was collected and serum 25(OH)D was measured by LCMS/MS and served as the

reference. ROC curve analysis as well as sensitivity, specificity, positive and negative predictive values were determined for each questionnaire. Sensitivity analysis was performed on a subsample of nonsupplemented subjects only.

**Results:** 38.3% of the total sample was vitamin D deficient with a serum 25(OH)D level below 20 ng/mL and 50.6% of subjects were taking vitamin D supplementation. The median age was 35.0 [28.0 - 43.0] years and the mean BMI was 24.4±3.54 kg/m<sup>2</sup>. Analyses on the whole sample showed that questionnaire 1, 2 and 3 had a sensitivity of 87.1%, 83.9%, 100%, a specificity of 78.0%, 20.0%, 4.00%, a positive predictive value of 71.1%, 39.4%, 39.2% and negative predictive value of 90.7%, 66.7%, 100%, respectively. Sensitivity analysis showed that questionnaire 1, 2 and 3 had a sensitivity of 96.4%, 82.1%, 100%, a specificity of 8.93%, 16.7%, 0.00%, a positive predictive value of 71.1%, 69.7%, 70.0% and negative predictive value of 50.0%, 28.6%, respectively.

**Conclusion:** This study could not demonstrate the effectiveness of questionnaires in predicting vitamin D status in a population of healthy adults.

**P608****THE ROLE OF LOW FREQUENCY EXTRACORPOREAL SHOCKWAVE THERAPY IN CALCANEAL EXOSTOSIS**I.-R. Marcu<sup>1</sup>, V. D. Caimac<sup>1</sup>, D. D. Dop<sup>1</sup>, C. O. Rogoveanu<sup>1</sup><sup>1</sup>University of Medicine & Pharmacy of Craiova, Craiova, Romania

**Objective:** Calcaneal exostosis is a spinal bone proliferation on the plantar surface of the calcaneus bone. The present study aimed to determine the efficacy and safety of shockwave therapy (SWT) in patients with calcaneal exostosis.

**Methods:** We performed a prospective observational study on a group of 60 patients with the diagnosis of calcaneal exostosis established following the radiological examination, who performed the outpatient physical treatment. All patients included in the study received 2000 shocks 2 or 3 times a week, a total of 5 sessions, at a pressure of 3-4 bar and at a frequency of 10-15 Hz. We used the following evaluation models: morning pain on the first step and pressure on the heel were evaluated using a visually analogous scale (VAS), the comfortable walking time was also recorded, the score Roles and Maudsley, the evaluation of the quality of life were also recorded. The assessment of patients was performed at the inclusion in the study and after 14 d of treatment.

**Results:** VAS mean scores were statistically significantly reduced after rehabilitation treatment from 7.8±0.4 at baseline to 2.1±0.8 at 14 d. Regarding the evaluation of the comfortable walking duration, the patients started from an average comfortable walking duration of 2 h for 51 patients (85%) and 1 h for 9 patients (15%), which shows a statistically significant decrease compared to the initial values (p<0.001). For the Roles and Maudsley score, the starting value was 4 for both women and men; after 15 d of treatment 85% of patients reached a score of 1 or 2. The quality of life questionnaire shows that the end of the therapy sessions with low energy shockwaves, weather sensitivity, pain, muscle fatigue and sleep disorders decreased in almost all patients.

**Conclusion:** Extracorporeal SWT in patients with calcaneal exostosis has the advantage of efficacy, safety and noninvasiveness. This therapy has been shown to be effective in relieving pain and increasing patients' quality of life.

**P609****ASSOCIATION BETWEEN GAIT DEVICES AND REHABILITATION PROGRAM IN HIP OSTEOARTHRITIS**I.-R. Marcu<sup>1</sup>, V. D. Caimac<sup>1</sup>, D. D. Dop<sup>1</sup>, C. O. Rogoveanu<sup>1</sup><sup>1</sup>University of Medicine & Pharmacy of Craiova, Craiova, Romania

**Objective:** To determine the role of association between daily use of cane and rehabilitation program in patients with hip osteoarthritis, using a randomized, controlled trial.