

P680**RELATIONSHIPS BETWEEN MUSCULAR POWER AND BONE VARIABLES IN A GROUP OF YOUNG LEBANESE ADULTS**P. Sabbagh¹, B. Finianos¹, R. El Hage¹¹Department of Physical Education, Division of Education, Faculty of Arts and Sciences, University of Balamand, Kelhat, El-Koura, Lebanon

Objective: To explore the relationships between lower limb muscular power and bone variables (bone mineral content (BMC), BMD, hip geometry indices and trabecular bone score (TBS)) in a group of young Lebanese adults.

Methods: 29 young Lebanese men and 31 young Lebanese women whose ages range between 18–32 y participated in this study. Body weight and height were measured, and BMI was calculated. Body composition and bone variables were measured by DXA. DXA measurements were completed for the whole body (WB), lumbar spine (L2–L4), total hip (TH) and femoral neck (FN). Hip geometry parameters including cross-sectional area (CSA), cross-sectional moment of inertia (CSMI), section modulus (Z), strength index (SI) and buckling ratio (BR) were derived by DXA. Trabecular bone score was also derived by DXA. Horizontal jump (HJ), vertical jump, vertical jump maximum power, force-velocity maximum power and 20-m sprint performance were measured or calculated by using validated fitness tests.

Results: In men, fat mass percentage was negatively correlated to TH BMD, FN BMD, CSA, CSMI, Z and SI. In women, weight, BMI, lean mass and fat mass were positively correlated to WB BMC, CSMI and Z. Regarding physical performance variables, horizontal jump performance and force-velocity maximal power were positively correlated to TH BMD, FN BMD, CSA and Z in men. Vertical jump maximal power was positively correlated to WB BMC in women. 20-m sprint performance was negatively correlated to FN BMD, CSA, Z and SI in men.

Conclusion: The current study suggests that force-velocity maximum power is a positive determinant of BMD and hip geometry indices in men but not in women.

P681**PATIENT REFERRALS AUDIT: SCOPE FOR QUALITY IMPROVEMENT AT LOCAL MINERAL METABOLISM CLINIC**A. H. Boal¹, M. Panarelli²¹Clinical Biochemistry, Royal Alexandra Hospital, ²Clinical Biochemistry, Glasgow Royal Infirmary, Glasgow, UK

Objective: To audit the reason for referral and the clinic outcome of the NHS Greater Glasgow and Clyde, North Glasgow mineral metabolism clinic. A subgroup analysis was performed to evaluate the number of patients who had parenteral treatment recommended at clinic who had this as their main reason for referral.

Methods: New patient appointments between October 2018 to October 2019 were evaluated. The exclusion criteria included

people who had been inappropriately programmed as a new patient for a return appointment or no referral letter was found. Referrals were from direct access dual-energy x-ray absorptiometry service (DADS) – a primary care referral method for osteoporosis and fracture risk assessment, fracture liaison service (FLS), primary care and secondary care.

Results: 181 new patient referrals were included with 86 primary care, 48 DADS, 34 FLS and 13 secondary care. The average age of patient was 70 years old and 81% were female. The mean wait time to clinic appointment was 75 days. The most common reasons for referrals were an underlying gastrointestinal condition (19%), intolerant or unsuitable for oral bisphosphonates (17%) and new or multiple vertebral fracture(s) (15%). The most common management outcome of appointment was intravenous bisphosphonates (29%), oral bisphosphonates (18%) and denosumab (11%). 8% of patients were discharged. On subgroup analysis 98 patients were referred for consideration of parenteral treatment. Of these referrals, 69% were recommended parenteral therapy: 71% intravenous bisphosphonates, 28% denosumab and 1% teriparatide. Overall, 74 patients were recommended parenteral treatment and 150 required routine follow-up appointments.

Conclusion: With a growing demand on the mineral metabolism clinic, this audit moved the focus on future clinic organisation and how to continue to improve this to provide optimum patient care. First, implement protocols for parenteral treatment prescription for osteoporosis nurse specialists at the DADS/FLS clinic which could shorten waiting time for treatment initiation. Second, as the number of return appointments to both medical and nurse-led clinic increase, consideration is required to what additional measures can be put in place such as an increase in staffing, number of clinics or other option.

P682**EVALUATION OF FACTORS ASSOCIATED WITH QUALITY OF LIFE IN OLDER PEOPLE**R. Matijevic¹, C. Beaudart², O. Bruyère², A. Djurdjevic³, O. Hrnjakovic⁴, V. Harhaji¹, A. Savic⁵, A. Geerinck²¹Faculty of Medicine, University of Novi Sad, Novi Sad, Serbia, ²Division of Public Health, Epidemiology and Health Economics, University of Liège, WHO Collaborating Center for Public Health aspects of musculoskeletal health and ageing, Liège, Belgium, ³The Faculty of Science-University of Novi Sad, Novi Sad, Serbia, ⁴The Faculty of Technical Sciences - University of Novi Sad, Novi Sad, Serbia, ⁵Specialized hospital for rheumatic diseases Novi Sad, Novi Sad, Serbia

Objective: Sarcopenia is likely to be associated with lower quality of life (QoL), but more data is needed to confirm this relationship. Therefore, we set out to evaluate the associations between QoL and different sarcopenia and clinical factors, in a cohort of older people in Serbia.

Methods: Participants were recruited through pensioner organizations around Novi Sad, Serbia. QoL was measured with the SarQoL[®] questionnaire, the physical functioning subscale of the SF-36v2, the EQ-5D-3L and the EQ-VAS. Sarcopenia was

diagnosed according to EWGSOP and EWGSOP2 criteria, with muscle mass measured by DXA, muscle strength measured by Jamar hand-dynamometer and physical performance measured by gait speed. Other information included sarcopenia screening (SARC-F), depression, level of activity, cognitive functioning, nutritional status and smoking status. Binary logistic regressions were used to evaluate the associations. QoL, the dependent variable, was dichotomized into ≤ 25 th percentile and > 25 th percentile. The base model consisted of age, BMI, gender, comorbidities and drugs, to which the independent variables were introduced individually.

Results: In total, 700 participants were evaluated, of which 508 (73%) were women. They had a median age of 70 (67–74) y, a median BMI of 29.4 (26.2–32.4) kg/m², had a median of 2 (1–2) comorbidities and took 2 (1–4) drugs. Thirty subject were diagnosed as sarcopenic with the EWGSOP criteria, and 8 with the EWGSOP2. We did not find significant associations between sarcopenia definitions and QoL in our sample, but we did find a significant association with the SARC-F (odds ratio between 2.9 and 12.8, depending on the QoL instrument). We also found a consistent and significant association between low grip strength according to the EWGSOP2 cut-offs and all 4 measures of QoL (ORs between 3.5–7.0). This same consistent and significant relation was also found for depression (ORs between 3.1–4.5) and low vs. high activity (ORs between 1.9–4.5).

Conclusion: Contrary to our hypothesis, low QoL was not significantly associated with sarcopenia in this sample. Grip strength seems to be a strong factor associated to QoL, as well as depression and low activity levels.

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PERFORMANCE OF THE SARC-F SCREENING TOOL IN A SERBIAN COHORT

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Objective: The SARC-F questionnaire is a simple and easy tool to screen for sarcopenia. Previous studies have found it to have low sensitivity but high specificity, meaning that it can correctly identify subjects who do not have sarcopenia. To allow the use of the SARC-F in Serbian populations, we set out to assess its performance in conjunction with different sarcopenia definitions and components.

Methods: Participants were recruited via pensioner organizations in the region of Novi Sad, Serbia. Muscle mass was measured by BXA, muscle strength by Jamar hand-dynamometer and physical performance by 4-m gait speed. Sarcopenia was diagnosed with 5 definitions: EWGSOP, EWGSOP2, FNIH, IWGS and SCWD. The performance of the SARC-F was determined by calculating its sensitivity, specificity, positive and negative predictive value (PPV & NPV) in SAS 9.4.

Results: A total of 700 participants were included, of which 200 (29%) were identified as being at high risk of sarcopenia by the

SARC-F. The median age was 70 (67–74) y, and 72.6% were women. The number of participants at risk of sarcopenia was much higher than the number of subjects identified as sarcopenic with the EWGSOP criteria (n=30; 4.3%), EWGSOP2 (n=8; 1.1%), FNIH (n=19; 2.7%), IWGS (n=43; 6.1%) and SCWD (16; 2.3%). Consequently, the SARC-F showed low sensitivity (between 6.25–57.89%) and moderate specificity (between 70.63–72.82%) for the above mentioned diagnostic criteria. This translates into a PPV between 0.52–5.82%, indicating that among those identified as being at risk of sarcopenia, between 0.52–5.82% were actually diagnosed as sarcopenic according to the 5 definitions used. The NPV was between 92.90–98.56%, indicating that for those identified as not being at risk for sarcopenia, the probability of being non-sarcopenic was between 92.90–98.56%.

Conclusion: In this cohort of older Serbian people, the SARC-F showed very low to moderate sensitivity and moderate specificity. Previous studies have also demonstrated low sensitivity, but usually show higher specificity than what was found in this study.

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EWGSOP 2010 AND 2019 CRITERIA FOR SARCOPENIA IN ECUADORIAN PATIENTS

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Objective: According to the diagnostic criteria of 2010 of the EWGSOP there are four diagnostic tools, each tool has a preset cut-off value, however, for the grip test and DXA scan the values were updated in 2019. The purpose of this study was to determine the prevalence of sarcopenia using both criteria and made a comparison.

Methods: Cross-sectional study of patients who went to a rheumatology center, to whom anthropometric and densitometric measurements were made. We determined sarcopenia using the EWGSOP 2010 and 2019 criteria. Data was analyzed using the statistical program SPSS v22. The chi-square and McNemar tests were used to compare both criteria.

Results: The study included 202 patients, 89% women and 10% men. The mean age was 63.9±11.0 y. The mean BMI was 27.2±5.2. The average of the 4-m walk test was 1.00±0.94 m/s; using these criteria, 56.4% had sarcopenia. The mean SARC-F questionnaire was 2.4±2.1 with a prevalence of sarcopenia of 16.3%. The mean for the grip test measured by dynamometer was 19.7±8.1 mmHg. According to the 2010 criteria (<30 mmHg for men, <20 mmHg for women), 63% of the population presented sarcopenia, while according to 2019 criteria (27 mmHg for men, <16 mmHg for women) only 29% met criteria for sarcopenia (p=0.000). The mean appendicular skeletal muscle mass (ASMM) by DXA was 16.5±2.5 kg/m², appendicular skeletal muscle mass index (ASMMI) mean 6.9±1.19 and the mean total skeletal muscle mass 22.0±4.7. Using the 2010 criteria (men <7.26, women <5.45) for ASMMI, 11% of the population meets criteria for sarcopenia, while with the 2019 criteria (<7.0 men, <5.5 women) 13% had sarcopenia (p=0.000).

Conclusion: It was evident that the update of the EWSOP 2019 criteria allows the inclusion of more patients with sarcopenia. The changes in the grip test allowed the exclusion of patients since