

as osteoporotic, osteopenic or healthy. The degree of correlation between DXA and REMS BMD values was quantified by calculating Pearson's correlation coefficient ( $r$ ). The diagnostic concordance between both exams was assessed by Cohen's  $K$  considering the diagnostic classification based on T-score values [2].

**Results:** 3608 patients were included in the analyses: 97 (2.7%) corresponded to UW patients, 1905 (52.8%) NW patients, 1606 (44.5%) OW patients. The correlation between REMS and DXA BMD values was high, with  $r=0.93$ ,  $0.94$  and  $0.91$  for UW, NW and OW patients, respectively. Sensitivity and specificity of REMS against a DXA gold standard were 98.0% and 88.0% for UW patients, 93.6% and 92.7% for NW patients, 88.2% and 98.6% for OW patients, respectively. Cohen's  $K$  was 0.86, 0.81 and 0.87 for UW, NW and OW patients, respectively.

**Conclusion:** Strong diagnostic agreement between REMS and DXA was observed for each BMI category at the femoral neck.

#### References:

1. Brandi ML, et al. POS1111, EULAR Congress 2021.
2. Di Paola M, et al. Osteoporos Int 2019;30:391.

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### DIFFERENTIAL EFFECTS OF TERIPARATIDE, ZOLEDRONATE AND DENOSUMAB ON HIP STRUCTURAL AND MECHANICAL PARAMETERS IN OSTEOPOROSIS (OP): A REAL-LIFE STUDY

N. Jaarah<sup>1</sup>, C. Lam<sup>1</sup>, N. Lodhia<sup>1</sup>, D. Dulnoan<sup>1</sup>, G. Hampson<sup>2</sup>

<sup>1</sup>Osteoporosis Unit, Guy's Hospital, <sup>2</sup>Osteoporosis Unit and Metabolic Bone Clinic, Guy's Hospital, London, UK

**Objective:** To evaluate and compare changes in hip geometry following treatment with different OP medications in a metabolic bone clinic.

**Methods:** We studied 244 patients with OP with mean [SD] age of 71.4[11.1] y. They were divided into 3 groups; Group A received teriparatide; n=50, F: 50, age: 72.9[7.9] y, Group B were on denosumab; n=116, F: 105, M: 11, age 72.7[10.8] y, and Group C were on intravenous zoledronate; n=78, F: 67, M: 11, age 68.5[12.8] y. BMD was measured by DXA at the lumbar spine (LS), total hip (TH) and femoral neck (FN) prior to treatment and after 2 y (Group A), after a mean treatment duration of 3.3[1.3] y (Group B) and after 3 y (Group C). Hip structural analysis (HSA) was carried out retrospectively from DXA-acquired femur images at the narrow neck (NN), the intertrochanter (IT) and femoral shaft (FS).

**Results:** BMD increased significantly at the LS (% change from baseline: mean [SEM] Group A: 9.9[1.14]%, Group B: 5.7 [0.62]%, Group C: 5.2[0.8]%,  $p<0.001$ ). Increases in hip BMD were seen in Group B only (TH: 1.9[0.61]%,  $p=0.002$ ). We saw a significant increase in cross-sectional area (CSA) at the NN: 3.5[1.4]%,  $p=0.016$  in Group A and in several HSA parameters at the NN in Group C (subperiosteal width or outer diameter (OD); 2.8[0.88]%,  $p=0.005$ , the cortical width (CW); 3.0[1.0]%,  $p=0.01$ , CSA: 3.7[1.1]%,  $p=0.003$ , cross-sectional moment of inertia (CSMI); 6.1[2.3]%,  $p=0.021$ ). In contrast, improvement in the HSA parameters at the IT were seen in group B (IT CSA: 3.3[0.67]%, CSMI: 5.9[1.3]%, section modulus (Z): 6.2[1.1]%, cortical thickness (Co Th): 2.6[0.78]%, buckling ratio (BR):-3.0[0.86]%,  $p<0.001$ ) with small changes at the FS (CSA: 1.2[0.4]%,  $p=0.005$ , B:1.6 [0.76]%,  $p=0.04$ ).

**Conclusion:** Analysis of the effect of OP therapies on hip geometry is useful in understanding the mechanisms of their anti-fracture effect and may provide additional information on their efficacy.

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### MEASUREMENT PROPERTIES OF THE SHORT FORM SARCOPENIA QUALITY OF LIFE (SF-SARQOL<sup>®</sup>) QUESTIONNAIRE IN AN INTERNATIONAL DATASET

A. Geerinck<sup>1</sup>, C. Beaudart<sup>1</sup>, J.-Y. Reginster<sup>1</sup>, Z. B. Wojszel<sup>2</sup>, F. De Souza Orlandi<sup>3</sup>, G. Bahat<sup>4</sup>, T. Erdoğan<sup>4</sup>, B. Montero-Erassquin<sup>5</sup>, V. Alekna<sup>6</sup>, O. Bruyère<sup>1</sup>

<sup>1</sup>Division of Public Health, Epidemiology and Health Economics, University of Liège, World Health Organization Collaborating Center for Public Health Aspects of Musculo-skeletal Health and Ageing, Liège, Belgium, <sup>2</sup>Dept. of Geriatrics, Medical University of Białystok, Białystok, Poland, <sup>3</sup>Dept. of Gerontology, Federal University of São Carlos, São Carlos, Brazil, <sup>4</sup>Division of Geriatrics, Dept. of Internal Medicine, Istanbul Medical School, Istanbul University, Istanbul, Turkey, <sup>5</sup>Dept. of Geriatrics, University Hospital Ramón y Cajal, IRYCIS, Madrid, Spain, <sup>6</sup>Faculty of Medicine, Vilnius University, Vilnius, Lithuania

**Objective:** A shorter, 14-item, version of the SarQoL<sup>®</sup> questionnaire was recently developed, and has demonstrated good clinimetric properties in a sample of 214 older people from Belgium. This study aimed to further investigate the measurement properties of the SF-SarQoL<sup>®</sup> in an international sample.

**Methods:** A secondary analysis of data collected from older, community-dwelling people in Brazil, Lithuania, Poland, Spain, and Turkey was performed. The 14 items of the SF-SarQoL were extracted from the original 55-item SarQoL questionnaire and used to calculate the SF-SarQoL score. Sarcopenia and probable sarcopenia was diagnosed with the EWGSOP1 or EWGSOP2 criteria. Discriminative power between sarcopenic and nonsarcopenic groups was evaluated for each country separately because of the heterogeneity between diagnostic criteria. Internal consistency was evaluated with the Cronbach's alpha and the McDonald's omega values. Correspondence between the overall quality of life (QoL) score of the short and long form of the SarQoL questionnaire was determined using the intraclass correlation coefficient (ICC). We performed a confirmatory factor analysis to investigate the structural validity of the SF-SarQoL.

**Results:** The 775 included participants had an average age of 75.8±7.8 years old, and most were women (70.6%). Sarcopenic participants had significantly ( $p<0.05$ ) worse QoL scores compared to nonsarcopenic people in 4 out of the 5 included studies, confirming discriminative power. Internal consistency was high with an alpha value of 0.872 (95%CI: 0.858-0.885) and an omega value of 0.875 (95%CI: 0.862-0.888). We found a very high level of correspondence between the SarQoL and the SF-SarQoL score with an ICC of 0.907 (95%CI: 0.894-0.919). Robust fit indicators did not demonstrate good fit for a 1-factor model (CFI=0.931; TLI=0.918; RMSEA=0.169; SRMR=0.085) but improved for a 2-factor model (CFI=0.952; TLI=0.942; RMSEA=0.142; SRMR=0.076) which previously showed good fit in a Belgian sample.

**Conclusion:** The SF-SarQoL measures sarcopenia-related quality of life with less response burden than the SarQoL questionnaire and demonstrates adequate measurement properties. Its structural validity should be further investigated.

**Disclosures:** CB, JYR and OB are shareholders of SarQoL SPRL

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### COMPARISON OF BODY COMPOSITION BETWEEN HEALTHY SUBJECTS AND POST-COVID PATIENTS EVALUATED THROUGH DUAL FULL-BODY X-RAY ABSORPTIOMETRY

L. E. Quintanar-Trejo<sup>1</sup>, R. Coronado-Zarco<sup>1</sup>, A. Olascoaga-Gómez de León<sup>1</sup>, K. Zarco-Ordoñez<sup>1</sup>, N. C. Centeno-Morales<sup>1</sup>, X. López-Megchun<sup>1</sup>, A. Y. A. Aragón-Hernandez<sup>1</sup>, J. Quinzanos-Fresnedo<sup>1</sup>

<sup>1</sup>Instituto Nacional de Rehabilitación, Mexico, Mexico

**Objective:** To evaluate the body composition in subjects after infection by the SARS-CoV-2 virus, compared with a group of healthy controls.

**Methods:** Full-body DXA (with the 2018 generation Hologic Discovery W equipment) was performed on post-COVID-19 patients three weeks after diagnosis of the infection. They were compared with a group of healthy controls of both genders, older than 18 years old, with no history of SARS-CoV-2 virus infection. The variables of the body composition were divided into: associated with visceral adipose tissue (VAT),