

their physical nor the C-reactive protein results. In contrast to our hypothesis, we have noted that these drugs did not aid for better muscular outcomes. Nevertheless, future studies are necessary for exploring and determining their possible beneficial actions.

#### P834

### PECULIARITIES OF BONE MINERAL DENSITY AND BODY COMPOSITION IN WOMEN WITH RHEUMATOID ARTHRITIS COMPARED TO WOMEN WITHOUT RHEUMATOID ARTHRITIS

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**Objective:** To establish specific features of bone mineral density (BMD), body composition and skeletal muscle changes in middle-aged and elderly women with rheumatoid arthritis (RA) compared to women without RA.

**Material and Methods:** The study included 86 women with RA aged 59.06±7.52 years and 81 women without RA aged 57.4±5.3 years. BMD in spine and femur and body composition was assessed using Lunar Prodigy device (General Electric). BMD was estimated according to T-score. Osteopenia was defined as T-score -1 to -2.5  $\sigma$ ; osteoporosis was defined as T score  $\leq$ -2.5  $\sigma$ . Obesity was detected if fat mass estimate was  $\geq$ 32%. Sarcopenia was defined as lean mass index (LMI) $<$ 5.64 kg/m<sup>2</sup>. Descriptive characteristics (means, percentages, etc.) were used to summarize characteristics of the cohorts. Comparisons of characteristics between cohorts were made with Chi-square and Fisher tests.

**Results:** We have detected significantly lower femoral BMD ( $p<0.001$ ), fat ( $p=0.005$ ) and muscle ( $p=0.003$ ) in women with RA compared to their non-RA counterparts. Both, women with RA and those without RA had high prevalence of low BMD meeting criteria for osteopenia or osteoporosis. There was no statistically significant difference in the prevalence of osteopenia in women with and without RA (52% and 61%, respectively;  $p=0.614$ ). Osteoporosis was somewhat more common in RA compared to the non-RA group (39.5% and 25.9%, respectively;  $p=0.062$ ). Over 90% of women in both groups were obese. However osteopenic obesity was less common in women with RA (50%) than in those without RA (67.5%,  $p=0.019$ ). Based on LMI findings, sarcopenia in the form of osteopenic sarcopenia and sarcopenic obesity was more prevalent in women with RA (13.95%) than in those without RA (4.94%,  $p=0.047$ ).

**Conclusions:** Women with RA have higher prevalence of osteoporosis and sarcopenia compared to women without RA. Assessment of the body composition by radiographic densitometry in female RA patients with osteopenia or

osteoporosis may be used to detect sarcopenia and its phenotypes in order to inform prognosis and adjust the management plan.

#### P835

### LOW BONE MINERAL DENSITY IS THE MAIN CONTRIBUTOR TO FALLS-RELATED HEALTH BURDEN IN THE ELDERLY

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**Objectives:** Falls are the leading injury type in population 70 years and above and a major health burden and cause of death globally. Most of such burden is due to bone fractures. In the Global Burden of Diseases (GBD) Initiative, the worldwide attributable burden of falls due to low bone mineral density (BMD) was analysed through its relationship with fractures.

**Methods:** The estimates followed the Counterfactual Risk Assessment Methodology used in the GBD study (1). Systematic review was performed seeking population-based studies with femoral neck (FNBMD) measured by Dual-X-Ray-Absorptiometry in people 50 years and over. Age- and sex-specific levels of mean $\pm$ SD FNBMD (g/cm<sup>2</sup>) were extracted from eligible studies, and this was used as the exposure variable. The age and sex-specific 99th percentile from non-Hispanic whites in the National Health and Nutrition Examination Survey (NHANES) 2009-2010 was used as theoretical minimum risk factor exposure distribution, to estimate the potential impact fraction (PIF) of FNBMD for fractures. Relative risks of FNBMD for fractures were obtained from a previous meta-analysis (2). Coded hospital data was used to calculate the fraction of falls-related deaths due to fractures. Disability levels were established by applying disability weights to each type of fracture. Then, PIFs were applied to obtain attributable deaths and disability due to low BMD.

**Results:** The absolute global health burden for falls in the population 70 years and above almost doubled between 1990 and 2015. More than 50% of such burden was attributable to low BMD. Low BMD could explain more than three quarters of all deaths due to falls and two fifths of all falls-related disability in this age group. Mortality and disability

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