Conclusion: Although this study is unable to show that anti-resorptive treatment should be started in the first year after discontinuation of TPTD, it is promising since the difference between the medians in the total hip BMD values obtained until one year and after one year are marginally significant. These results can be linked to the small sample size and highlight the need for further studies in this area.

REFERENCES:

- [1] Napoli N, Langdahl BL, Ljunggren Ö, Lespessailles E, Kapetanios G, Kocjan T, Nikolic T, Eiken P, Petto H, Moll T, Lindh E, Marin F. Effects of Teriparatide in Patients with Osteoporosis in Clinical Practice: 42-Month Results During and After Discontinuation of Treatment from the European Extended Fors-teo® Observational Study (ExFOS). *Calcif Tissue Int.* 2018 Oct;103(4):359-371. doi: 10.1007/s00223-018-0437-x. Epub 2018 Jun 16. PMID: 29909449; PMCID: PMC6153867.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2964

POS1114

INFECTION RISK AMONG RHEUMATIC PATIENTS RECEIVING DENOSUMAB THERAPY: SINGLE CENTRE EXPERIENCE

K. L. Ng¹, M. Mohd Zain¹, I. S. Lau¹. ¹Selayang Hospital, Rheumatology, Batu Caves, Malaysia

Background: Osteoporosis (OS) is common in rheumatic diseases (RMD). OS fracture leads to morbidity and premature mortality. The treatment for OS is well established with good long term safety profile. Oral bisphosphonate (BIS) is recommended as initial treatment option for both postmenopausal and glucocorticoid induced OS. Denosumab (DSB), is the noninferior alternative option. Despite its efficacy, DSB was linked with elevated infection risk in non RMD. Yet, data in RMD is lacking.

Objectives: To determine the infection risk and associated factors in RMD patients receiving DSB.

Methods: This is retrospective cohort study. Data was extracted from medical database (between Jan 2010 & Dec 2018) at Selayang Hospital, Malaysia. Descriptive statistical analysis, logistic regression (LR) and cox (proportional hazard) regression [CPHR] were the analysis methods.

Results: 50 cases were analysed. 96% were female. The median age was 72.5 ± 12.7 years. The primary rheumatological disorders were rheumatoid arthritis (48%), OS (24%) and systemic lupus erythematosus (10%). 92% had ≥ 1 comorbidity including metabolic/cardiovascular diseases (74%), chronic lung diseases (CLD) (40%) and diabetes mellitus (DM) (22%). 54% had disease modifying anti rheumatic drug (DMARD) therapy; majority (59.2%) received single conventional synthetic DMARD. Only 7.4% received combination biologic DMARD therapy. 28% had received prednisolone therapy, with dose < 7.5mg OD in 78.6%.

The median age at DSB initiation was 71 ± 12.4 years. 38% had fracture history and 88% had received previous OS treatment.

In total, 13 infection episodes were recorded. The infection risk was 26% & incidence rate was 134 cases per 1000 person-years. 84.6% required hospitalisation and 38.5% were severe cases. The mortality rate was 23.1%. The mean DSB treatment duration to first infection was 15.46 ± 11.9 months.

Univariate LR showed infection risk and hospitalisation were higher with longer DSB treatment duration, OR 1.062 (95% CI: 1.010 - 1.117), $p = 0.018$ & OR 1.057 (95% CI: 1.003 - 1.114, $p = 0.037$), respectively. These risks were lower in absence of steroid use, OR 0.2 (95% CI: 0.051 - 0.784, $p = 0.021$) and OR 0.215 (95% CI: 0.052 - 0.889, $p = 0.034$), respectively. Additionally, infection risk was lower in absence of CLD, OR 0.188 (95% CI: 0.048 - 0.742, $p = 0.017$) and hospitalisation was lower without concomitant DM, OR 0.050 (95% CI: 0.050 - 0.950, $p = 0.043$). Yet, multivariate LR did not infer the above predictions, after adjustment made for age, gender, rheumatological diseases, comorbidity, DMARD therapy and steroid dosing. For severe infection and case fatality, no predictive factors were identified.

CPHR showed patients without steroid use had lower fatality risk, HR 0.077 (95% CI: 0.007 - 0.864, $p = 0.038$). With confounding factors (age, gender, previous infection and comorbidity), the observed difference was insignificant.

Conclusion: Risk of infection and hospitalisation could be higher in rheumatic patients receiving longer DSB treatment duration. Concomitant comorbidities (CLD and DM) might increase the risk of infection and/or hospitalisation.

REFERENCES:

- [1] Cummings SR, San Martin J, McClung MR, Siris ES, Eastell R, Reid IR, et al. Denosumab for prevention of fractures in postmenopausal women with osteoporosis. *N Engl J Med* 2009;361:756-65.
- [2] Watts NB, Roux C, Modlin JF, Brown JP, Daniels A, Jackson S, Smith S, Zack DJ, Zhou L, Grauer A, Ferrari S. Infections in postmenopausal women with osteoporosis treated with denosumab or placebo: coincidence or causal association? *Osteoporos Int.* 2012;32(1):327-337.

- [3] Prabhakaran S, Pritchard C. Comparison of infection rates in patients receiving denosumab, denosumab and biologics and biologics alone in a suburban rheumatology clinic [abstract]. *Arthritis Rheumatol* 2014;66 Suppl 10:S409.
- [4] Bray V, Bagley A, West S, Etzel C, Kremer J, Kolfenbach J. Infection risk among patients receiving concurrent denosumab and biologic or non-biologic DMARD therapy: An analysis of the Consortium

Acknowledgements: We would like to thank the Director General of Health Malaysia for his permission for this poster presentation.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.3038

POS1115

DESCRIPTIVE STUDY OF THE PERCEPTIONS AND PREVENTIVE PRACTICES OF POSTMENOPAUSAL TUNISIAN WOMEN REGARDING OSTEOPOROSIS

S. Ben Jemaa¹, Y. Mejdoub², H. Fourati³, J. Damak², S. Baklouti³. ¹Hedi Chaker Hospital, Rheumatology, SFAX, Tunisia; ²Hedi Chaker Hospital, Community Medicine, SFAX, Tunisia; ³Hedi Chaker Hospital, Rheumatology, SFAX, Tunisia

Background: Due to their serious consequences affecting quality of life, prevention of osteoporosis is considered a priority. Thus, identifying the level of knowledge is useful in developing effective interventions and in guiding public health programs to prevent osteoporosis.

Objectives: The aim of this study is to describe beliefs and practices of menopausal Tunisian women related to health and osteoporosis in order to develop effective and targeted interventions for the prevention of this disease.

Methods: A descriptive cross-sectional study was conducted among menopausal Tunisian women who consult the basic health center in the area of Sfax region in Tunisia. Data collection include socio-demographic characteristics, the "osteoporosis health belief scale" developed by Kim and his colleagues and the daily calcium intake which was calculated by a questionnaire developed by Patrice Fardellone.

Results: We have included 170 women. The mean age was 58.92 ± 9.07 years. Seventy-seven percent of women were housewives, 14.7% were active and 8.3% were retired. Seventy-five percent were married. Forty-two women (24.7%) were illiterate, sixty-three (37.1%) were at primary level and 33.5% were at secondary level. One hundred twelve women (65.3%) live in an urban environment, against 34.7% who belong to a rural environment.

The level of perception of osteoporosis was very altered in 22.9%, altered in 32.4% and moderately altered in 31.8% of women. Women's perceptions of the benefits of physical exercise and calcium intake were moderately altered in 42.4% and 51.2%, respectively. For obstacles to the practice of physical exercise, the level of perception was altered in 43.5% of women. Regarding the obstacles to calcium intake, the perceptions of our population were altered in 32.9% of cases.

The daily intakes of calcium vary from 215 to 1444 mg per day with an average of 620.20 ± 204.523 mg / day. Only eight women (4.7%) had sufficient daily intake.

Conclusion: Our study showed that all subscale of the "osteoporosis health belief scale" were altered. Promotion programs should aim at creating a supportive physical and social environment for the adoption of safer behaviors and especially education must be targeted.

REFERENCES:

- [1] Belgacem, A. Noura, et S. Soussi, « Les perceptions des femmes tunisiennes selon le modèle des croyances liées à la santé et leurs pratiques relativement à l'ostéoporose », *Pan Afr Med J*, vol. 23, 2016.
- [2] H. Ahmadié, A. Basho, A. Chehade, A. Al Mallah, et A. Dakour, « Perception of peri-menopausal and postmenopausal Lebanese women on osteoporosis: A cross-sectional study », *Journal of Clinical & Translational Endocrinology*, vol. 14, p. 19-24, déc. 2018.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.3571

POS1116

ENHANCING OSTEOPOROSIS MANAGEMENT: THE CONTRIBUTION OF FRAX® AND VFA IN TUNISIAN WOMEN

C. Daldoul¹, N. El Amri¹, S. Laataoui¹, K. Baccouche¹, H. Zegaloui¹, E. Bouajina¹. ¹Farhat Hached Hospital, Rheumatology, Sousse, Tunisia

Background: The FRAX® is a tool proposed by the World Health Organization (WHO) to calculate 10-year fracture risk of hip fracture and major osteoporotic fractures. The utility of this tool is to help treatment decision when it is litigious. Previous low trauma fracture represent a factor in FRAX® calculation. However, asymptomatic osteoporotic vertebral fractures (VF) identified on X-rays or Vertebral Fracture Assessment (VFA) scans are rarely included. To the best of our knowledge, there was no previous evaluation of fracture risk in Tunisian women.

Objectives: To compare hip fracture risk and major osteoporotic fractures risk using the FRAX® tool, without and with the consideration of asymptomatic VF on VFA. To evaluate the impact of FRAX® calculation and asymptomatic VF identified on VFA on osteoporosis management.

Methods: We conducted a cross-sectional study over a period of 5 months at the rheumatology department. The study included post-menopausal women without a previous diagnosis of VF referred for BMD (Bone mineral density) measurement. Each participant had a BMD assessment and a VFA scan to detect VF. The FRAX® was calculated using femoral neck BMD initially without then with consideration of VF. The change of therapeutic decision was assessed after taking into consideration FRAX® and the VFA results.

Results: The study included 210 post-menopausal women with a mean age of 61.5±8.5 years. The mean BMI was 31.04±5.52 kg/m². One woman was a current smoker and alcohol intake was not found in our sample. Thirty-seven percent of our participants had at least one fragility fracture. A severe fragility fracture was recorded in 10.5% and a previous hip fracture was reported in 5.24%. An early menopause was found in 19.5% of our women. Twenty percent of our population were receiving corticosteroids and 8.2% of our population had rheumatoid arthritis. The mean vertebral and total hip BMD was 0.955±0.165 g/cm² and 0.850±0.135 g/cm² respectively. Osteoporosis and low BMD were found in respectively 50% and 34.28%. The median probability of major osteoporotic fracture for our population was 1.5% with an interquartile range from 0.9 to 2.5% without using VFA data and 1.65% with an interquartile range from 1 to 2.6% while taking into consideration VFA results and the difference was statistically significant ($p<0.0001$). The median probability of hip fracture for our population was 0.4% with an interquartile range from 0.1 to 0.9% without using VFA data and 0.4% with an interquartile range from 0.1 to 1% while taking into consideration VFA results and the difference was statistically significant ($p<0.0001$). In all patients, the FRAX® was under the threshold intervention even after including the asymptomatic VF and it did not change the therapeutic decision. The presence of asymptomatic VF on VFA changed the therapeutic decision in 15% and indicated an anti-osteoporosis drug therapy.

Conclusion: VFA scanning helped in the therapeutic decision in 15% of our population. In this evaluation, we showed that a comprehensive fracture risk pathway incorporating VFA has enhanced diagnosis of vertebral fractures and improved targeting of treatment better than FRAX® tool.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4195

POS1117 AGREEMENT BETWEEN VERTEBRAL FRACTURE ASSESSMENT AND RADIOGRAPHIC SCANS FOR THE DIAGNOSIS OF VERTEBRAL FRACTURE

C. Daldouli¹, N. El Amri¹, K. Baccouche¹, H. Zegaloui¹, E. Bouajina¹. ¹Farhat Hached Hospital, Rheumatology, Sousse, Tunisia

Background: Conventional radiography of thoracic and lumbar spine are considered the gold-Standard imaging for vertebral fracture (VF) identification. However, there was a growing interest in the use of vertebral fracture assessment (VFA) as a low radiation tool. In fact, the radiation dose for VFA is about 3 micro Sievert compared to 600 Sievert for lateral standard radiography. Moreover, it costs 2-times less than X-rays. However, the advantage granted by a lower radiation dose is unfortunately counterbalanced by higher noise rates and therefore lower image quality.

Objectives: The aim of this study was to investigate the diagnostic accuracy of VFA compared to lateral spine radiographs.

Methods: We conducted a cross-sectional study over a period of 5 months at the rheumatology department. The study included post-menopausal women without a previous diagnosis of VF. Each participant had a BMD assessment, a VFA scan and a lateral thoracolumbar X-rays (Rx) to detect VF. VF were identified according the Genant semi-quantitative method. The number of unreadable vertebrae were compared between VFA and Rx using a McNemar test. Cohen's kappa coefficient, the sensitivity (Se), the specificity (Sp), the positive (PPV) and negative predictive (NPV) values at each vertebral level and at the individual level were calculated with 95% confidence interval (95% CI) to analyze the agreement between VFA and Rx results.

Results: The study included 62 patients were collected. The mean age was 62.03±7.84 years. the mean body mass index (BMI) was 29.99±5.13 kg/m² and the mean menopausal duration was 15.7±8.28 years. Parental history of hip fracture and prior history of fragility fracture were recorded in 25.9% and 40.3% respectively. A premature menopause, Rheumatoid arthritis and use of corticosteroids were found in 12.9%, 4.8% and 19.4% respectively. A historical height loss of more than 4cm and a prospective height loss of more than 2cm were reported in 21% and 38.7% respectively. Using VFA, 22.6% of our population had at least one VF≥ grade2 and 33.9% had at least one VF≥grade1. Using Rx, 19.4% of our population had at least one VF≥ grade2 and 25.8% had at least one VF≥grade1. Among all vertebral levels, no statistically significant difference was found while comparing the number of unreadable vertebrae on VFA and

radiographs. Taking into consideration VF≥grade2, there was an almost perfect agreement between VFA and Rx ($k=0.806$, $p<0.001$); the Se, Sp, PPV and NPV of VFA were respectively 91.7% (95% CI 59.8-99.6), 94% (95% CI 82.5-98.4), 78.6% (95% CI 48.8-94.3) and 97.9% (95% CI 87.5-99.9). Taking into consideration VF≥grade1, there was a moderate agreement between VFA and Rx ($k=0.580$, $p<0.001$); the Se, Sp, PPV and NPV of VFA were respectively 81.3% (95% CI 53.7-95), 82.6% (95% CI 68-91.7), 61.9% (95% CI 38.7-81) and 92.7% (95% CI 79-98.1). At the vertebral level and when including only grade 2 and 3 VF, the Se, Sp, PPV of VFA were 100% (95% CI 82.2-100), 98.9% (95% CI 97.7-99.5), 74.2% (95% CI 55.1-87.5) and 100% (95% CI 99.3-100) respectively. At the vertebral level, the Se, Sp, PPV and NPV of VFA in detection of grade≥1 VF were 65.8% (95% CI 48.6-79.9), 98.3% (95% CI 96.9-99.1), 67.6% (95% CI 50.1-81.4) and 98.1% (95% CI 96.8-99.0) respectively. The analysis by vertebral level revealed substantial to almost perfect agreement for all levels except for T4 and T6 where the test was not applicable. There was a perfect agreement for T5, T8, L3 and L4 vertebrae.

Conclusion: VFA showed a high diagnostic performance compared to Rx. One interesting finding is that the NPV of VFA is very high at the vertebral and the individual level and either grade 1 VF were took into consideration or not. This means that a normal VFA can formally rule out the presence of VF.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4206

POS1118 THE RELEVANCE OF OSTEOPOROSIS DIAGNOSIS AND TREATMENT FOR DOCTORS WORKING IN THE FIELD OF PHYSICAL AND REHABILITATION MEDICINE

L. Marchenkova¹, V. Vasileva¹. ¹National Medical Research Center for Rehabilitation and Balneology of Ministry of Health of Russian Federation, Rehabilitation Department for Somatic Patients, Moscow, Russian Federation

Background: There is a high prevalence of osteoporosis (OP) among patients of the older age undergoing rehabilitation. Therefore, it is obvious that physicians working in the field of physical and rehabilitation medicine should be well oriented in this medical problem.

Objectives: to study the relevance of the problem of osteoporosis (OP) for physicians working in the field of physical and rehabilitation medicine, their awareness of the main methods of diagnosis, treatment and prevention of this disease, as well as the frequency of their use in daily clinical activities.

Methods: A cross-type study was carried out using a questionnaire survey. The study included 157 doctors (M-34, F-123) of 8 medical specialties working in 27 specialized medical institutions on the profile of "medical rehabilitation". The questionnaire for doctors consisted of 21 items of special questions.

Results: 90.45% of the surveyed doctors believed that the problem of OP is relevant for their clinical activities, 100% of the respondents indicated that the presence of OP significantly affects the rehabilitation prognosis and 95.54% - on the degree of effectiveness of medical rehabilitation. According to the respondents, patients with OP make up on average 30.0% [20.0; 50.0] (0-90) of the total flow of patients. 92.36% (145/157) of doctors indicated that they know the risk factors for OP, 98.73% (155/157) - methods for diagnosing OP, 68.79% (108/157) - methods for treating OP, 80.25% (126/157) - methods of preventing OP, 47.13% (74/157) - what is FRAX. However, 35.01% (55/157) of the respondents considered their level of awareness of the problem sufficient for managing patients with OP. Diagnostic procedures for OP are recommended by all endocrinologists (100%) and the majority of traumatologists (72.73%), gynecologists (66.67) and cardiologists (64.28%), as well as on average half (50%) neurologists and therapists. Endocrinologists (100%), gynecologists (66.67%) and therapists (60%) are mainly involved in the treatment of OP. 32.48% (51/157) of physicians have ever referred their patients to a bone mineral density assessment.

Conclusion: Conclusion. The problem of OP is relevant for the clinical activities of specialists in physical and rehabilitation medicine, and there is the need for advanced training on the problem of OP among these specialists.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4274

POS1119 A SINGLE DOSE OF ZOLEDRONATE INDUCES MODIFICATIONS OF SERUM VEGF IN OSTEOPOROTIC POSTMENOPAUSAL WOMEN

F. Bellone¹, N. Morabito¹, A. Gaudio¹, A. Sottile¹, S. Loddo¹, F. Corica¹, A. Catalano¹. ¹University of Messina, Department of Clinical and Experimental Medicine, Messina, Italy; ²University of Catania, Department of Clinical and Experimental Medicine, Catania, Italy

Background: Zoledronate (Zol) is an aminobisphosphonate commonly used to treat osteoporosis and other benign and malignant skeletal diseases. Exposure to bisphosphonates has been previously associated with the risk of osteonecrosis of the jaw (BRONJ), a rare but serious side effect. In cancer patients,