[c]NOVA National School of Public Health., Public Health Research Centre-Universidade NOVA de Lisboa., Lisbon, Portugal
[d]NOVA Medical School., Universidade Nova de Lisboa., Lisbon, Portugal

Background/Introduction: Osteoporosis is a public health problem worldwide responsible for fragility fractures (FF). Multimorbidity is very common in elderly patients and there is insufficient knowledge in Portugal about the association of multimorbidity in patients with prevalent FF.

Purpose: Evaluate the association between sociodemographic, lifestyles and chronic non communicable chronic diseases with a prevalent FF in portuguese women > 50 years old.

Methods: Women aged 50 years and older from the EpiReumaPt study (2011–2013), a nationwide, population-based study, were evaluated. Self-reported data regarding sociodemographic, FF and chronic non communicable diseases was collected through a semi-structured questionnaire. FF was defined as any self-reported low-impact fracture that occurred after 40 years of age. Women with prevalent FF were compared with women without prevalent FF. Descriptive, chi-square and Odds Ratio were estimated. All statistical tests were performed using the SPSS 26, considering the significance level of 5%.

Results: A total of 3.662 women with 50 years and more were included and 646 women self-reported a FF. The chronic non communicable disease more frequently self-reported among FF women was rheumatic and musculoskeletal disease (62.9%) followed by hypertension (58.8%) and mental disease (30.0%). There was a significant association between the existence of FF and hypertension (OR= 1.36 (1.15-1.62); p<0.0001) and with diabetes mellitus (OR= 1.36 (1.10-1.67); p-0.004), adjusted for age and rheumatic disease. The same results were found for other chronic diseases, after adjusted for age and rheumatic disease. There was an association between the existence of FF and lower education, but without statistical significance when adjusted for age and rheumatic disease. No association was found between prevalent FF and lifestyles.

Conclusion(s): Prevalent FF are associated with multimorbidity in women > 50 years of age. This should raise awareness to the need to have hospitals and community units prepared to implement integrated care units among fragility fracture patients.

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P145

The assessment of fracture risk and osteoporosis rate among patients over 50 years old undergoing medical rehabilitation

Larisa Marchenkova
National Medical Research Center of Rehabilitation and Balneology-Rehabilitation department for somatic patients, Rehabilitation department for somatic patients, Moscow, Russia C.I.S.

Background/Introduction: Taking a course of physical rehabilitation creates the prerequisites for falls and injuries in patients at high risk of fractures. Data on fracture risk and prevalence of osteoporosis in older patients starting medical rehabilitation can change the approach of doctors to the development of rehabilitation programs and the management of such patients.

Purpose: To assess the prevalence of osteoporosis, individual risk factors for osteoporosis as well as the proportion of people with high risk of osteoporotic low-energy fractures among patients over 50 years old undergoing treatment according to the "medical rehabilitation" profile.

Methods: The study group comprised of 600 patients (426 women and 174 men) aged 50 to 84 years, average age 64.25 ± 10.17 years, undergoing treatment in a rehabilitation department. This was a cross-sectional study in the form of unified questionnaire, including data concerning age, weight, height, BMI, clinical and rehabilitation diagnosis, anamnesis of the main disease, anamnesis vitae, presence of osteoporosis diagnosis in the anamnesis, its treatment, osteoporosis risk factors estimation. An assessment of 10-year probability of osteoporotic fractures was carried out using Russian model of online FRAX® calculator.

Results: 41.8% patients in the study sample had osteoporosis risk factors, including 31.2% of subjects had 3 risk factors or more. 38.0% patients showed a high fracture risk according to the FRAX calculator. 34.1% had a diagnosis of osteoporosis, and 45.8% already had osteoporotic fractures. Among those who did not undergo densitometry examination, 69.9% had a history of low-traumatic fractures, and only 58.5% of patients with an established diagnosis of osteoporosis and 26.8% of those at high risk of fractures received effective therapy for osteoporosis.

Conclusion(s): Population of patients over 50 years old undergoing rehabilitation is characterized by high frequency of osteoporosis and probability of fractures, and insufficient quality of osteoporosis verification and anti-osteoporotic therapy administration at the same time.

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P149

Independent external validation of FRAX® and Garvan fracture risk calculators: A sub-study of the FRISBEE cohort

Felicia Baleanu[a], Alexia Charles[b], Laura Iconaru[a], Virginie Kinnard[b], Jean-François Fils[c], Michel Moreau[d], Rafik Karmali[a], Murielle Surquin[e], Florence Benoit[e], Aude Mugisha[e], Marianne Paesmans[d], Michaël R. Laurent[f], Pierre Bergmann[g], Jean-Jacques Body[a]
[a]CHU Brugmann- Université Libre de Bruxelles, Endocrinology, Brussels, Belgium
[b]CHU Brugmann- Université Libre de Bruxelles, Clinical Research, Brussels, Belgium
[c]Ars Statistica, Ars Statistica, Brussels, Belgium
[d]Inst. J. Bordet- Université Libre de Bruxelles, Data Centre, Brussels, Belgium
[e]CHU Brugmann- Université Libre de Bruxelles, Department of Geriatrics, Brussels, Belgium
[f]University Hospitals Leuven, Centre for Metabolic Bone Diseases, Leuven, Belgium
[g]CHU Brugmann- Université Libre de Bruxelles, Department of Nuclear Medicine, Brussels, Belgium

Background/Introduction: Probabilistic models including clinical risk factors with or without bone mineral density (BMD) have been developed to estimate the 5- or 10-years absolute fracture risk.

Purpose: We investigated the performance of the FRAX® (Belgium) and Garvan tools in a well-characterized population-based cohort of 3560 postmenopausal, volunteer women, aged 60-85 years at baseline, included in the Fracture Risk Brussels Epidemiological Enquiry (FRISBEE) cohort, during 5 years of follow-up.

Methods: Baseline data were used to calculate the estimated 10-year risk of hip and major osteoporotic fractures (MOFs) for each participant using FRAX® (Belgium). We computed the five-year risk according to the Garvan model with BMD.

For calibration, the predicted risk of fracture was compared with fracture incidence across a large range of estimated fracture risks. The accuracy of the calculators to predict fractures was assessed using the area under the receiver operating characteristic curves (AUC).

Results: The FRAX® tool was well calibrated for hip fractures (slope 1.09, p<0.001; intercept -0.001, p=0.46) but it consistently underestimated the incidence of major osteoporotic fractures (MOFs) (slope 2.12, p<0.001; intercept -0.02, p=0.06). The Garvan tool was well calibrated for 'any Garvan' fractures (slope 1.05, p<0.001; intercept 0.01, p=0.37) but largely overestimated the observed hip fracture rate (slope 0.32, p<0.001; intercept 0.006, p=0.05).

The predictive value for hip fractures was better for FRAX® (AUC: 0.841, 95% CI 0.795-0.887) than for Garvan (AUC: 0.769, 95% CI 0.702-