Portuguese and Spanish FRAX® tool: a comparative analysis from EpiReuma.pt

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EpiReumaPt is an ongoing national, population-based, cross-sectional, epidemiologic study to estimate the prevalence of rheumatic diseases in Portugal. Selected cases are eventually observed by a rheumatologist. Portuguese and Spanish FRAX® tool versions were applied and the major osteoporotic (MOFR) and hip (HFR) fracture risk were calculated without DXA results.
The FRAX® tool has been developed by World Health Organization to evaluate 10 years fracture risk. It was validated for many countries on 5 continents, including Spain and, in 2012, Portugal.

A comparative analysis of risk fracture evaluation using Portuguese and Spanish FRAX® calculation tools was performed upon 1444 subjects observed by a rheumatologist. Mean age was 57.98 years-old (SD 15.34), 67.3% were women. The majority were Caucasians (95%). BMI mean was 27.8 (SD 18.12).
In the total sample the difference between the mean MOFR assessed by the Portuguese algorithm (4.74 (SD 5.9)) and the Spanish one (4.4 (SD 5.25)) was statistically significant (p=0.000). The same was observed to mean HFR difference between Portuguese algorithm (1.8 (SD 3.96)) and the Spanish one (1.6 (SD 3.7)) (p=0.000).

The difference between Portuguese and Spanish FRAX® data was also statistically significant for subjects with ≥ 40 years old (MOFR: Portuguese = 5.34 (SD 6.19), Spanish = 4.77 (SD 5.58), p=0.0000) (HFR: Portuguese = 2.06 (SD 4.21), Spanish = 1.83 (SD 3.94), p=0.0000).

The results from Portuguese and Spanish FRAX® tool were statistically different in women for MOFR (p=0.000) and for both sexes for HFR (females p=0.000; males p=0.0063).

Conclusions:

We have observed significant statistically differences in 10 year major and hip fracture risk in a Portuguese population, when either the Portuguese or the Spanish FRAX algorithm were applied. Yet the clinical impact of these differences is unknown, it suggests that the FRAX tool should be validated and selected for specific populations.