Figure 1. Candidates for pharmacologic intervention by WHO criteria and FRAX criteria.

*P < 0.05. Statistical analysis was performed using McNemar's test. WHO, World Health Organization.

FRAX, Fracture risk assessment tool; OA, osteoarthritis; BMD, bone mineral density.

Abstract THU0437 – Figure 1

Conclusion: We demonstrated that knee OA patients have an increased risk of osteoporotic fracture according to FRAX criteria, but not WHO criteria. Our study suggests that FRAX supports clinical decision to reduce osteoporotic fracture in patients with knee OA.

Disclosure: All authors agree that there are no conflicts of interest (both personal and institutional) regarding scientific financial interests that are relevant to the work conducted or reported in this manuscript.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6532

THU0438 DO CORTICOSTEROIDS OR HYALURONIC ACID INTRA-ARTICULAR INJECTIONS IMPACT THE RISK OF TOTAL KNEE REPLACEMENT? REAL-LIFE DATA FROM THE KHOALA COHORT

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Background: Long-term structural outcomes of corticosteroids (CS) or hyaluronic acid (HA) intra-articular injections in knee osteoarthritis (KOA) are unclear. Whether HA injections delay the need for total knee replacement (TKR) remains controversial, and an increased risk of cartilage damage has been reported with repeated CS injections.

Objectives: We conducted this study to compare, in real-life setting, the risk of TKR in patients receiving CS or HA vs. in those who did not receive intra-articular injections.

Methods: Khoala cohort is a French nationwide population-based cohort of 878 patients with symptomatic hip or knee OA (ACR criteria), aged 40-75 years. This study included patients with baseline KOA only. Patients were followed annually by self-reported questionnaires and by clinical examination and radiography at baseline (year 0), years 3 and 5. The risk of incident TKR was compared between patients who had never received intra-articular injections vs. patients who received at least 1 CS or HA injection during follow-up.

We used a marginal structural model with inverse probability of treatment weighting to determine the causal relationship between treatment and the risk of incident TKR in the treated knee during the 5-year follow-up. This model allows the adjustment for time-varying confounding factors (i.e. pain, function and mental health scores) in addition to constant confounders (i.e. baseline age, sex, BMI, Kellgren-Lawrence grade).

Results: This study involved 656 patients (mean age 62.2 ± 8.5 years; 70.3% females) of which 91 (13.9%) underwent TKR during follow-up. CS or HA injections were performed in 143 (21.8%) and 191 (29.1%) patients, respectively, and 92 (14.0%) received both treatments. The 5-year relative risk of incident TKR in treated vs. untreated knee was 0.96 (95%CI 0.35 to 2.66; p=0.94) CS-treated knees and 0.38 (95%CI 0.15 to 1.03; p=0.06) in HA-treated knees.

Conclusion: In this study, CS injections for symptomatic KOA did not increase the 5-year risk of incident TKR. There was a non-significant trend for a reduced risk of TKR in HA-treated knees.

Acknowledgement: This work was supported by the French Society of Rheumatology and ART-Viggo Association.

Disclosure of Interests: Augustin Latourte: None declared, Anne-Christine Rat: None declared, Willy Nguenon Sime: None declared, Abdou Omorou: None declared, Florent Eymard: None declared, Jeremie Sellam: None declared, Christian Roux: None declared, Francis Guillemin Grant/research support from: Expanscience, Pascal Richette Consultant for: Grunenthal, Horizon, Speakers bureau: AstraZeneca, Grunenthal

DOI: 10.1136/annrheumdis-2019-eular.5436

THU0439 MEASUREMENT PROPERTIES OF PAIN CATASTROPHIZING SCALE IN PATIENTS WITH KNEE OSTEOARTHRITIS

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Background: Up to 20% of patients with knee osteoarthritis (OA) do not respond well to knee replacement surgery (KR) despite surgical success. We hypothesize that pain catastrophizing among these patients may affect KR outcomes.

Objectives: To assess the validity and reliability of the Pain Catastrophizing Scale (PCS) in patients with knee osteoarthritis (OA) in Singapore.

Methods: We used cross-sectional data from 675 knee OA patients enlisted for knee replacement surgery (KR) in a Singapore tertiary referral hospital from May to September 2018. Data was collected 2 weeks prior to KR. Analyses were guided by the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) framework. Internal consistency was assessed using Cronbach's alpha. Construct validity was assessed through seven *a priori* hypotheses by correlation of overall PCS score with other patient-reported outcomes. Structural validity was evaluated via confirmatory factor analysis using maximum likelihood method. Measurement invariance across gender subgroups was assessed using multi-group confirmatory factor analysis.

Results: There were 675 patients (mean±SD age = 65.52±6.84 years, 70.37% female) with knee OA enlisted for KR (91.7% total, 8.3% unicompartmental). The mean±SD PCS score was 12.65±10.55, 0.14% and 8.63% ceiling and floor effects. PCS demonstrated high internal consistency (Cronbach's alpha=0.94). Construct validity was demonstrated by fulfillment of six out of seven (85%) *a priori* hypotheses. The PCS model showed good fit for a two-factor structure after accounting for appropriate modification indices (CFI=0.957, TLI=0.950, RMSEA=0.073, SRMR=0.043), demonstrating good structural validity. Measurement invariance across gender groups was demonstrated.

Conclusion: This study supports internal consistency, construct validity and structure validity of PCS as a measure of pain catastrophizing in knee OA patients in Singapore.