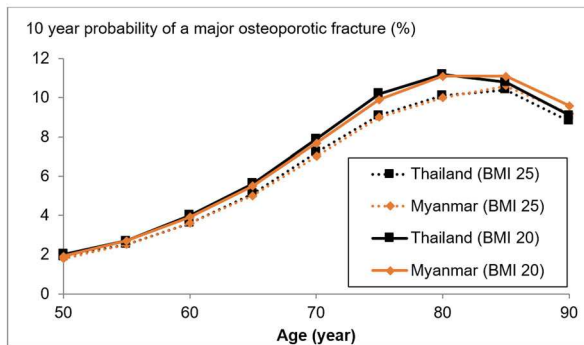


Myanmar model had little impact on the rank order of risk. When the fracture incidence from Thailand was used to the population of Myanmar, it was estimated that 15,432 hip fractures arose in 2020 in individuals over the age of 50 years, with a predicted increase by approximately 2.5 times to 38,433 in 2050.

**Conclusion:** The surrogate FRAX model for Myanmar provides an opportunity to determine fracture probability within the Myanmar population and help guide decisions about treatment.



**Figure** The 10-year probability of a major osteoporotic fracture (%) for a woman with no clinical risk factors, BMI 20 and 25 kg/m<sup>2</sup> where the BMD was not known.

**Acknowledgment:** Asia Pacific Consortium on Osteoporosis (APCO) for assistance and collaboration.

#### P459

##### KNEE OSTEOARTHRITIS AND ADVERSE HEALTH OUTCOMES: AN UMBRELLA REVIEW OF META-ANALYSES OF OBSERVATIONAL STUDIES

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**Objective:** Knee osteoarthritis (OA) is a common condition, associated with a high rate of disability and poor quality of life. Despite the importance of such evidence in public health, no umbrella review (i.e., a review of other systematic reviews and meta-analyses) has systematically assessed evidence on association between knee OA and adverse health outcomes. We therefore to map and grade all health outcomes associated with knee OA using an umbrella review approach.

**Methods:** The search was made across several databases up to 22 April 2022. We used an umbrella review of systematic reviews with meta-analyses of observational studies assessing the effect sizes, based on random effect summary, 95% prediction intervals, heterogeneity, small study effects, and excess significance bias. The evidence was then graded from convincing (class I) to weak (class IV).

**Results:** Among 3,847 studies initially considered, five meta-analyses were included for a total of five different outcomes. Three adverse outcomes were significantly associated with knee OA (i.e., cardiovascular mortality, falls, and subclinical atherosclerosis). The presence of knee OA was associated with a significantly higher risk of cardiovascular mortality (odds ratio, OR = 1.17; 95% CI, confidence intervals: 1.02–1.34), falls (RR = 1.34; 95% CI 1.10–1.64), and

conditions associated with subclinical atherosclerosis (OR = 1.43; 95% CI 1.003–2.05). The certainty of each of this evidence was weak.

**Conclusion:** Our umbrella review suggests that knee OA can be considered as putative risk factor for some medical conditions, including cardiovascular diseases and falls, however, it is important to note that the evidence is affected by potential biases.

#### P460

##### ASSOCIATION BETWEEN POLLUTION AND FRAILTY IN OLDER PEOPLE: A CROSS-SECTIONAL ANALYSIS OF THE UK BIOBANK

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**Objective:** Frailty is a relevant issue in older people being associated with several negative outcomes. Increasing literature is reporting that pollution (particularly air pollution) can increase the risk of frailty, but the research is still limited. We aimed to investigate the potential association between pollution (air, noise) with frailty and pre-frailty among 60 years old and over participants of the UK Biobank study.

**Methods:** Frailty presence was ascertained using a model including five indicators (weakness, slowness, weight loss, low physical activity, and exhaustion). Air pollution was measured through residential exposures to nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM<sub>2.5</sub>, PM<sub>2.5-10</sub>, PM<sub>10</sub>). The average residential sound level during the daytime, the evening and night was used as an index for noise pollution.

**Results:** A total of 220,079 subjects, aged 60 years old and over, was included. The partial proportional odds model, adjusted for several confounders, showed that the increment in the exposure to NO<sub>x</sub> was associated with a higher probability of being in both the pre-frail and frail category (odds ratio, OR = 1.003, 95% CI = 1.001–1.004). Similarly, the increase in the exposure to PM<sub>2.5-10</sub> was associated with a higher probability of being pre-frail and frail (OR = 1.014, 95% CI = 1.001–1.036), such as the increment in the exposure to PM<sub>2.5</sub> that was associated with a higher probability of being frail (OR = 1.018, 95% CI = 1.001–1.037).

**Conclusion:** Our study indicates that the exposure to air pollutants as PM<sub>2.5</sub>, PM<sub>2.5-10</sub> or NO<sub>x</sub> might be associated with frailty and pre-frailty, suggesting that air pollution can contribute to frailty and indicating that the frailty prevention and intervention strategies should take into account the dangerous impact of air pollutants.

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#### P461

##### THE PREVALENCE OF OSTEOPOROSIS, ITS RISK FACTORS AND THEIR ASSOCIATION WITH SELF-ASSESSMENT OF HEALTH IN RURAL WOMEN OF THE URALS

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**Objective:** To reveal the prevalence of osteoporosis (OP) and assess the associations of its risk factors with the level of self-assessment of health and its prospects among women over 50 living in rural population of Urals.

**Methods:** During 2021–2022 a cross-section population-based study was carried out in the village Kalinovo, Nevyansky district, 66 km to the North from Yekaterinburg. The source for the sample was the lists