

(CONOR). We calculated the difference between the observed number of hip fractures in 2019 and the expected number of hip fractures given stable fracture rates. IFPPs in 2019 attributable to changes in prevalences of BMI > 25 were estimated according to sex and 5-year age groups from 50 to 85+.

**Results** Hip fracture rates decreased by 28% from 1999 to 2019 with 2,549 fewer hip fractures observed than expected in 2019. The prevalences of BMI > 25 had increased in all age groups in both men and women over the time period. Unadjusted estimates showed that the increased prevalences of BMI > 25 accounted for ~30% of the decline. Increased BMI explained ~50% of the total number of IFPPs in men and ~25% of the total IFPPs in women.

**Conclusion** The incident hip fracture rates in Norway declined between 1999 and 2019. These preliminary results suggest that increased BMI in the population, reflecting a shift in the population BMI distribution, has significantly contributed to the declining hip fracture incidence, particularly in men.

#### OP21 COMPARING ASSOCIATIONS OF TOTAL AND CENTRAL OBESITY WITH INCIDENT ARTHRITIS: RESULTS FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING

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**Background** Body mass index (BMI) and waist circumference (WC) are the measures most commonly used to identify total and central obesity, respectively. Research on the associations between obesity and incident rheumatoid arthritis (RA) and osteoarthritis (OA) is limited, particularly for central obesity. Therefore, we investigated the associations between obesity defined by both BMI and WC and incident RA and OA in England.

**Methods** The English Longitudinal Study of Ageing (ELSA) is a nationally representative panel study of non-institutionalised adults aged ≥50 years, with biannual waves of data collection (2002–2019). Participants with at least one nurse visit measuring height, weight and WC and one follow-up assessment were included in this study. BMI of ≥30kg/m<sup>2</sup> and WC ≥102 cm for men and ≥88 cm for women defined total and central obesity, respectively. Outcomes were self-reported incident RA and OA during follow-up. Prevalent RA or OA cases at baseline were excluded. Cox proportional hazards models were used to investigate the associations between total and central obesity and incident RA and OA separately, controlling for baseline covariates (i.e. age, gender, ethnicity, education, occupation, wealth, smoking and alcohol consumption). Gender differences were formally tested by including interaction terms between gender and obesity. Analyses were conducted using Stata v14.

**Results** The RA and OA analyses included 10,931 (54.1% female; mean age 64.0 (standard deviation (SD) 9.6); mean follow-up 8.8 (SD 4.2) years; and 1,216 incident cases of RA) and 9,281 (51.3% female; mean age 63.6 (SD 9.6); mean follow-up 7.8 (SD 4.2) years; and 2,369 incident cases of OA) participants, respectively. In both samples, more women than men had total and central obesity. Total and central obesity

were both associated with incident RA and these associations were maintained after adjustment for covariates (fully-adjusted hazard ratios (HRs) 1.58 (95% confidence interval (CI) 1.39, 1.80) and 1.43 (95% CI 1.25, 1.62), respectively). Similarly, total and central obesity were both associated with incident OA (fully-adjusted HRs 1.45 (95% CI 1.32, 1.60) and 1.42 (95% CI 1.30, 1.55), respectively). There was no evidence of gender differences in any of these associations (p-values from tests of interaction >0.33).

**Conclusion** Both total and central obesity were associated with increased rates of RA and OA among adults aged 50 years and older. There were no gender differences for these associations. Education about obesity and the development of both RA and OA may result in better prevention or early intervention strategies.

#### OP22 THE GLOBAL PREVALENCE OF FEMALE GENITAL MUTILATION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF NATIONALLY REPRESENTATIVE STUDIES

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**Background** Female Genital Mutilation (FGM) entails the removal, cutting and modification of the external female genitalia for non-medical reasons. The UN Sustainable Development Goal 5 (SDG 5.3) on gender equality calls for ending all traditional harmful practices, including FGM by 2030. This systematic review examined the prevalence of FGM and its subtypes globally, by WHO region, and by country.

**Methods** A systematic search using MeSH headings and keywords from inception to March 2, 2020 was undertaken in MEDLINE, PsycINFO, Web of Science, and EMBASE to identify studies that presented data on FGM prevalence. Only nationally representative studies were included in the meta-analysis. Abstract and full-text screening, quality assessment, and data extraction were undertaken independently by two reviewers. Pooled FGM prevalence was estimated by meta-analysis using a Freeman-Tukey double arcsine transformation and a random effects model using R software. FGM prevalence and types of FGM were presented separately by women and girls. Sub-group analysis was presented by WHO region.

**Results** Out of 3205 articles identified in the search, 28 nationally representative studies were included in the meta-analysis, and these studies included estimates for women and girls in 27 and 34 countries, respectively. The pooled prevalence estimate of FGM in women aged 15–49 was 40% (95% CI:26–55%; I<sup>2</sup> =100%) and 15% (95% CI:10–21%; I<sup>2</sup> =100%) in girls aged 0–14 years old. The country with the highest FGM prevalence in women was Guinea (97%) and the lowest, Uganda (0.3%). The highest prevalence in girls was in Mali (77%), and the lowest in Ghana (0%). The most common FGM type was having flesh removed, at 69% (95% CI:59–79%) of women and 70% (95% CI: 55–84%) of girls, followed by having the genital area sewn shut with 11% of women (95% CI:4–20%) and 9% of girls (95% CI:6–12%). The pooled prevalence by WHO region was 39% (95% CI: 24–56%) for women and 15% (95% CI:9–22%) for girls in Africa, and 52% (95% CI:8–93%) for