Epidemiology of pre-existing multimorbidity in pregnant women in the UK in 2018: a cross sectional study using CPRD, SAIL and SMR

Objectives
To estimate the burden of pre-existing multimorbidity in pregnant women in the UK

Design
Cross sectional study

Setting and participants
Pregnant women aged 15-49 years with a conception date between 1/1/2018 and 31/12/2018 were included. For women with ≥one pregnancy in the study period, the first pregnancy in 2018 was included regardless of the pregnancy outcome (this may not be the woman's first ever pregnancy). Three routine datasets were used: for primary care: CPRD GOLD (UK, n=37,641 pregnant women) and SAIL databank (Wales, n=27,782); for secondary care: SMR linked secondary care datasets and community prescribing data (Scotland, n=6,099).

Main outcome measures
The primary outcome was prevalence of pre-existing multimorbidity (≥two morbidities) in pregnant women, defined from 79 long-term physical or mental health conditions. Different definitions of multimorbidity were explored, with a focus on mental health. The association of multimorbidity with women's characteristics was also explored.

Results
The prevalence of pre-existing multimorbidity in pregnant women was 44.2% (95% CI 43.7% – 44.7%), 46.2% (45.6% - 46.8%) and 22.2% (21.2% - 23.3%) in CPRD, SAIL and SMR respectively; when limited to active disease, this fell to 24.2% (23.8% - 24.6%), 23.5% (23.0% - 24.0%) and 18.6% (17.6% - 19.6%). Higher gravidity, body mass index and smoking history were significantly associated with pre-existing multimorbidity in pregnant women across all three datasets. Mental health conditions and atopic conditions were the most prevalent individual morbidities and also featured in the top combinations of morbidities.

Conclusion
A significant proportion of pregnant women had pre-existing multimorbidity. Further research is required to understand the aetiology, wider determinants and trajectory of multimorbidity in order to develop interventions for prevention and early detection of multimorbidity.

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