

## 02.3

### **Factors associated with maternal mortality at advanced maternal age: a UK population-based case–control study**

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#### **Objective**

To examine the factors associated with maternal mortality among women aged  $\geq 35$  years.

#### **Methods**

Unmatched population-based case–control study using secondary data from the UK Obstetric Surveillance System (UKOSS) and the MBRRACE-UK Confidential Enquiries into Maternal Deaths in the UK (CEMD). Information about maternal deaths in women aged  $\geq 35$  years was extracted from the CEMD (2009–12). Information on population level control women was extracted from the UKOSS (2005–12). Sociodemographic, obstetric and medical risk factors known to be associated with maternal mortality and morbidity were examined for their association with maternal mortality among women aged  $\geq 35$  years using logistic regression analysis.

#### **Results**

In all, 105 cases and 766 controls aged  $\geq 35$  years were identified. Five factors were found to be significantly associated with increased odds of death among women aged  $\geq 35$  years: smoking during pregnancy (adjusted odds ratio [aOR] 2.06, 95% CI 1.13–3.75), inadequate use of antenatal care (aOR 23.62, 95% CI 8.79–63.45), medical comorbidities (aOR 5.92, 95% CI 3.56–9.86) and previous pregnancy problems (aOR 2.06, 95% CI 1.23–3.45). The odds associated with death increased by 12% per year increase in age (aOR 1.12, 95% CI 1.02–1.22).

#### **Conclusion**

Age was associated with maternal mortality even after adjusting for other known risk factors. Importantly, this study showed an association between maternal mortality and smoking among women aged 35 years or older, which may be due to more lengthy smoking exposure than in younger women. It emphasises the importance of public health action to reduce smoking levels and address trends in rising maternal age.