Maternal age at delivery, lung function and asthma in offspring : a population-based survey

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There is limited information about potential impact of maternal age on the respiratory health of offspring. We investigated the association of maternal age at delivery with adult offspring's lung function, respiratory symptoms and asthma, and potential differences according to offspring sex.10 692 adults from 13 countries participating in the European Community Respiratory Health Survey (ECRHS) II responded to standardised interviews and provided lung function measurements and serum for IgE measurements at age 25-55years. In logistic and linear multilevel mixed models we adjusted for participants' characteristics (age, education, centre, number of older siblings) and maternal characteristics (smoking in pregnancy, education) while investigating for differential effects by sex. Maternal age was validated in a subsample using data from the Norwegian birth registry.Increasing maternal age was associated with increasing forced expiratory volume in 1s (2.33mL per year, 95% CI 0.34-4.32 mL per year), more consistent in females (p; trend; 0.025) than in males (p; trend; 0.14). Asthma (OR 0.85, 95% CI 0.79-0.92) and respiratory symptoms (OR 0.87, 95% CI 0.82-0.92) decreased with increasing maternal age (per 5years) in females, but not in males (p; interaction; 0.05 and 0.001, respectively). The results were consistent across centres and not explained by confounding factors.Maternal ageing was related to higher adult lung function and less asthma/symptoms in females. Biological characteristics in offspring related to maternal ageing are plausible and need further investigation.
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