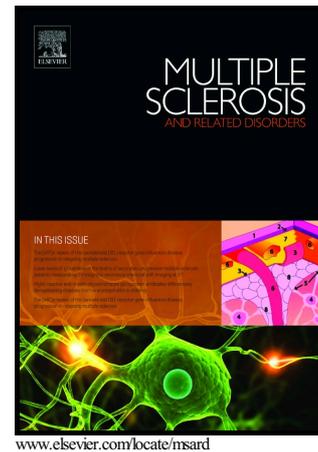


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## Maternal and perinatal characteristics of infants who, later in life, developed multiple sclerosis: record-linkage study

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### Abstract

**Background:** Pre-natal and early life factors may have a role in multiple sclerosis (MS) pathogenesis in some people. However, the reporting of any influence of maternal and perinatal factors on MS risk has been limited. We aimed to study maternal and perinatal characteristics of babies who went on to develop MS.

**Methods:** Data were analysed from the historical Oxford Record Linkage Study dataset 1970-1989, which incorporated a specialised maternity dataset with record linkage between mother and baby, covering a population of 850,000. Each maternal admission record, and records of her baby, were linked to any prior or subsequent recorded day-case or inpatient hospital admission episodes 1963-2011. The file of the offspring was searched for a subsequent record of MS, and the maternal and perinatal characteristics of the offspring with a record of MS were compared with those with no record of MS.

**Results:** There was a record of MS for 75 of the offspring, of which 60 were female. MS was significantly more common in children of mothers who smoked (OR=2.1 (95% CI 1.0-4.7)). There was a tendency towards an elevated risk of MS in children of mothers of lower social classes (social class 4+5 OR=1.9 (0.9-3.9)). There were no significant associations between MS in the offspring and mothers' marital status, maternal weight, parity, pre-eclampsia, blood group, or babies' birth weight, birth weight for gestational age, mode of delivery, or presentation at delivery.

**Conclusions:** This study does not support an important role for most studied maternal and perinatal factors in influencing MS risk. The possible exceptions, speculatively because numbers of subjects with MS were small, were maternal smoking, and pre-term birth. Future work, using datasets that would yield bigger numbers of cases of MS, should explore interactions between perinatal factors that are unlikely to be acting independently.

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