Tobacco

R Alati et al. Epidemiology (2006) Vol.17#2 p 138 - 144
In Utero and Postnatal Maternal Smoking and Asthma in Adolescence

Smoking during pregnancy may increase the risk of asthma in female offspring at the age of fourteen. There was no evidence that environmental exposure increased the risk of asthma at that age for either male or female offspring.

Smoking status was established by self report at 2 stages during pregnancy and at 6 months and 5 years during a health visit. Outcomes at 14 years were obtained by health questionnaire. The initial cohort included 7223 live singleton births (52% male). Baseline data included maternal education, socio-economic status, breast feeding and birth weight. Mothers were asked if their child had had asthma within the last 6 months and whether or not they were active smokers. There were enough mothers who only began smoking after pregnancy to ask whether there was a significant difference between asthma risks pre and post birth.

By the age of 14 4,276 boys and girls (i.e. 59%) were reported to have ever had asthma. Pre pregnancy, 735 of their mothers reported smoking 20+ per day. For early pregnancy this dropped to 289 and increased to 429 in late pregnancy. Changes in the group who smoked <20 a day were much less significant. At 6 months, heavy smoking was reported by 653 mothers. The basic data show that of those who had been reported to have had asthma symptoms at any stage by the age of 14, girls whose mothers smoked heavily during early and late pregnancy and at 6 months were overrepresented.

3,915 children (54%) had current asthma. Of these, girls whose mothers smoked heavily in early and late pregnancy and at 6 months were overrepresented. All other categories showed no significant differences.

The data report that 391 mothers smoked heavily after pregnancy but not during pregnancy. Analysis showed no increased risk of asthma in boys or girls for this group. It is not clear that the numbers quite add up here, the data is presented in different ways from one table to the next.

> *Girls were at increased risk of having asthma at age 14 if their mothers had smoked 20 or more cigarettes per day during pregnancy (OR = 1.96; 95% CI = 1.25–3.08).*

Comment
Data on smoking status were obtained prospectively and no-one expected the outcome for boys and girls to be different. All exposure and outcome data was obtained through self-reporting.

The analyses show that maternal smoking during childhood does not affect asthma status at adolescence but that smoking heavily during pregnancy significantly increases the risk to females at age 14.

Other studies have not found a gender difference.

The analysis points towards smoking during pregnancy being a risk factor for female adolescent asthma, but not male, and, suggests that passive smoking during childhood is not a risk factor for either gender. The prospective nature of this study adds weight to these observations when compared to the large number of cross-sectional studies.

The potential for asthma liabilities due to passive smoking seems to have been diminished by this work.