

## Respiratory Health Effects Of Childhood Exposure To Environmental Tobacco Smoke In Children Followed To Adulthood

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**Rationale:** A significant proportion of children are exposed to environmental tobacco smoke (ETS) throughout the world. The primary source is parental smoking. It is unknown to what extent the negative effects of ETS on respiratory symptoms track from childhood into adulthood. **Methods:** TESAOD (Tucson Epidemiologic Study of Airway Obstructive Disease) is a large population-based prospective study that was initiated in 1972. Participants were followed prospectively with questionnaires completed every two years in 12 follow-up surveys up to 1996. We identified subjects who entered the study as children (<15 years old) and were followed to adulthood (>18 years) during the study follow-up. Based on questionnaire data, active asthma, wheeze, cough, and chronic cough (cough for three consecutive months) were coded as never (never reported in childhood or adulthood), incident (never reported in childhood, but  $\geq$  one positive report in adulthood), remittent ( $\geq$  one positive report in childhood, but not in adulthood), and persistent ( $\geq$  one positive report both in childhood and adulthood). Parent information on smoking status was collected simultaneously with child questionnaires. ETS exposure status was assessed as "ever" or "never" based on either parent reporting current smoking between the child's birth and 15 years. **Results:** Information on parental ETS exposure in childhood and outcomes in adulthood was available for 371 non-Hispanic white participants (53.4% male) with mean age at initial survey of 7.3 years. Total mean follow-up time was 19.2 years (8.5 years in adulthood). Between birth and 15 years, 52.3% of children were exposed to ETS. After adjusting for sex, age, years of follow-up, and personal smoking status (assessed at age 15 and above), ETS exposure in childhood was significantly associated with persistent wheeze ( $RR_{adj}$  1.9,  $p=0.026$ ), persistent cough ( $RR_{adj}$  5.9,  $p<0.001$ ), and persistent ( $RR_{adj}$  3.7,  $p=0.030$ ) and incident chronic cough ( $RR_{adj}$  2.3,  $p=0.040$ ). Other outcomes were not significantly associated with ETS exposure. **Conclusions:** Exposure to parental smoking increases the risk of persistence of respiratory symptoms from childhood into adulthood independent of personal smoking.

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