Pregnancy Smoking, ETS Exposure, and Birth Outcomes: Relative Risk and Timing of Exposure
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BACKGROUND

- Research has revealed associations between pregnancy smoking and adverse pregnancy, birth, and long term child health and developmental outcomes
- Less well studied and understood is the potential role of environmental tobacco smoke (ETS)

OBJECTIVES

The goal of the study was to examine links between pregnancy smoking, ETS, and birth outcomes
Of particular interest was the relative risk of each exposure and the possible role of timing of exposure

METHODS

- 688 pregnant women from Southern Appalachia were recruited at entry into prenatal care
- At the time of conception, all participants were either active smokers, or were exposed to significant levels of ETS (i.e. lived with at least one pack per day or more smoker who smoked around them)
- Interviews were conducted and medical charts were reviewed

RESULTS

- 665 women could be classified into the following five categories:
  - Smoked 10+ cigarettes/day thru pregnancy (N=118)
  - Smoked <10 cigarettes/day thru pregnancy (N=282)
  - Non-smoker with ETS exposure to 20+ cigarettes/day thru pregnancy (N=55)
  - Non-smoker, early exposure to 20+ cigarettes/day, ETS exposure eliminated by 20 wks (N=150)
  - Early smoker, quit smoking and eliminated all ETS by 20 wks (N=60)

- The five groups of women did not differ significantly on any demographic or medical variables
- Women who smoked throughout pregnancy had significantly worse birth outcomes than those who quit smoking by 20 weeks
- Smoking at least a half pack per day was associated with the highest risk of poor birth outcomes
- Women with significant ETS exposure throughout pregnancy had birth outcomes comparable to, and in some cases worse than, those of active smokers, and significantly worse than those who smoked early in pregnancy but quit by 20 weeks
- Risk was moderately reduced for those who eliminated active ETS exposure by 20 weeks

CONCLUSIONS

- In this sample, pregnancy ETS exposure was as detrimental as pregnancy smoking with respect to birth outcomes
- In addition, the effects of both smoking and ETS exposure were minimized if eliminated by 20 weeks
- Findings underscore the need to address both active smoking and ETS during pregnancy, and the benefits of smoking cessation and elimination of ETS even into the second trimester