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Passive tobacco smoke exposure and children's health outcomes: a preliminary analysis

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Abstract

Background: Children's exposure to Passive Tobacco Smoke (PTS) in utero and during infancy can increase the risk of childhood respiratory diseases and infections (e.g., otitis) [1-3]. **Objective:** This study explores the association between children's exposure to PTS in utero (maternal, frequent smoking family member during pregnancy), up to one year, and current maternal smoke exposure with, to date, and the first two years of life health conditions. **Methods:** Data were collected from 192 parents of children (5-10 years) using a structured survey. Apart from PTS exposure data, it collected children's early health outcomes (developed in the first two years of life) including bronchitis, asthmatic bronchitis, and bronchiolitis, while to date conditions included doctor-diagnosed asthma, eczema, and otitis. Descriptive and univariate analyses were performed using SPSS v.29, with results presented through odds ratios and 95% confidence intervals. **Results:** In utero, 12.3% of children were exposed to maternal tobacco and 18.8% to PTS from another family member. Twenty-two percent were exposed to PTS during their first year of life, and 17.5% had currently smoking mothers. Among others, PTS exposure in utero from maternal smoking was associated with 1.32 and 1.10 times higher odds of bronchitis and otitis, respectively with no statistical significance. Children exposed to another smoking family member had 6.53 times significantly higher odds of asthmatic bronchitis than others ($p < 0.05$) and 1.49 times higher odds of asthma ($p > 0.05$). PTS exposure during the first year of life was associated with 1.80 and 2.14 times higher odds of bronchiolitis and eczema, while children with currently smoking mothers had 1.72 and 1.21 times greater odds of bronchitis and eczema, respectively ($p > 0.05$). **Conclusions:** Although further investigations with a larger sample size are imperative to validate these associations, these preliminary findings reinforce the harmful effects of children's PTS exposure on their health.

Keywords: tobacco smoke exposure; passive smoke exposure; children; bronchitis; asthma; eczema; otitis

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