

Birth weight, household smoking and the risk of wheezing in adolescents: a retrospective cohort study

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Abstract:

Low birth weight (LBW) and environmental tobacco smoke (ETS) exposure are each associated with respiratory difficulties (wheezing) in children. This study was designed to examine the combined association of LBW and ETS with wheezing. A retrospective birth cohort analysis linked with a national survey of allergic disorders among 1018031 junior high school students in Taiwan (1995–96) was analyzed. The reported incidence of wheezing (yes or no) and ETS exposure (4 categories: 0, 1–20, 21–40 and ≥41 household cigarettes per day) were obtained from validated questionnaires. Logistic regression models were used to assess the associations of interest. LBW was associated with a higher odds ratios (ORs) of reporting ever wheezing (1.08, 95% confidence interval, 1.01 to 1.16), current wheezing (1.09, 95% confidence interval, 1.00 to 1.20) and wheezing with exercise (1.11, 95% confidence interval, 1.02 to 1.21) within the smoke-free cohort. Higher ETS exposure correlated to a higher risk of wheezing (ever, current and with exercise). With ETS exposure, adolescents from the lowest birth weight cohorts were more likely to report wheezing (ever, current and with exercise). ETS and LBW each has been comprised a public health risk for respiratory symptoms in children. Furthermore, LBW may exaggerate the risk among those exposed to ETS. LBW, ETS and associated respiratory impairments may deserve special attention as part of a comprehensive environmental health risk assessment directed toward prevention and intervention.