

MATERNAL AND INFANT CHARACTERISTICS ASSOCIATED WITH NON-SYNDROMIC ANOTIA AND MICROTIA, TEXAS, 1999-2014.

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Background: We sought to address a gap in the literature concerning the lack of identified risk factors for non-syndromic anotia/microtia (A/M), focusing on maternal and infant characteristics.

Materials/Methods: We obtained data on all non-syndromic A/M cases for the period 1999-2014 from the Texas Birth Defects Registry, a population-based active surveillance system. We obtained demographic data for cases and all livebirths in Texas during the same period from the Texas Center for Health Statistics. We utilized Poisson regression to estimate prevalence ratios of any, isolated, bilateral, and unilateral A/M.

Results: There were 1,322 cases of non-syndromic A/M, of whom 982 were isolated and 340 were multimalformed, 88.9% were unilateral, and 11.1% were bilateral. We observed increased prevalence among males for non-syndromic A/M (adjusted prevalence ratio [aPR] = 1.32 confidence interval [CI]: 1.18 – 1.47). Compared to non-Hispanic White children, birth prevalence was higher for Hispanic children (aPR = 2.91 CI: 2.49-3.41), but lower for non-Hispanic Black children (aPR = 0.54 CI: 0.38 – 0.76) after adjustment for maternal age and residence on the U.S.-Mexico border. Lower maternal education, maternal diabetes, and older maternal age were associated with increased prevalence of A/M. Similar results were obtained in stratified analyses of isolated, unilateral, and bilateral A/M, save that maternal diabetes was most strongly associated with bilateral A/M (aPR = 4.72 CI: 3.07 – 7.25) and non-Hispanic Black children have similar prevalence to non-Hispanic White children in bilateral A/M. In a separate analysis, we demonstrated that children with two Hispanic parents were at the greatest risk of A/M, adjusted for maternal age, diabetes, and residence on the U.S.-Mexico border (Figure 1).

Conclusions: We identified associations between maternal race/ethnicity, diabetes, education and A/M. Bilateral A/M was more strongly associated with maternal diabetes but less strongly associated with maternal race. Future research should address the causes of disparities in A/M by race, ethnicity, and education.

Images / Graph / Table

Prevalence of Non-Syndromic Anotia/Microtia among Children with Hispanic Parents

