

Poster #15

Research Study

Title: “Association between Maternal Educational Status and Incidence of Congenital Anomalies among Live Births in the United States in 2018”

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Introduction and Objective. About 3% percent of infants are affected by congenital anomalies in the United States each year, accounting for one of the leading causes of death in children under one year. The current literature exhibits a well known inverse relationship between socioeconomic status and risk for congenital anomalies. However, given that few studies have evaluated the role of maternal education status, the objective of this study is to assess whether maternal education status is independently associated with congenital anomalies.

Methods. Our study design is a historical cohort, where we utilized data from the Center for Disease Control and prevention (CDC) 2018 Natality Data Set. The exposure is education status of the mother (high school graduate/GED or less as compared to post-secondary education or higher) and the outcome is congenital malformations present and detected at birth. Both unadjusted and adjusted (for potential confounders) odds ratios (OR) and 95% confidence intervals were computed. For computing adjusted OR, a multivariable and binary multiple logistic regression model was fitted. **Results.** Prior to adjusting for control variables, the odds of congenital malformations were higher among those that had some college credit/AA or less as compared to achieving a Master's degree or higher. After adjustment, the odds ratios of all maternal education status categories decreased by 20% and became nonsignificant, apart from the category “some college/AA”. Within “some college/AA”, the point estimate decreased from 23% to 12% higher odds and the association remained statistically significant: adjusted OR 1.12, 95% CI 1.03-1.20.

Conclusions-Implications. Women with some college credit/AA level of education may represent a specific subset of the population in which educational and/or behavioral interventions may be needed to reduce incidence of congenital anomalies. Future studies should attempt to replicate our findings as well as investigate the existence and role of variables mediating the association between maternal education status and congenital anomalies.