

The effect of young maternal age on low birth weight: A comparison of adolescent primiparas and their adult sisters

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Background: Population-based studies have found conflicting results as to whether having a pregnancy before reaching the age of 20 is associated with low birth weight. This study used sister pairs to examine the relationship between young maternal age (<20 years) and low birth weight (<2500 grams).

Methods: A retrospective matched pair cohort study was conducted using data obtained from maternally linked Washington State birth and hospital discharge records for singleton live births in the years 1992-2008. Study subjects consisted of primiparous sister pairs in which one sister gave birth as an adolescent, and the second sister gave birth as an adult. Conditional logistic regression was used to estimate odds ratios (OR) and 95% confidence intervals (CI) to compare low birth weight among either younger adolescents (aged 13 to 16 years; n=296) or older adolescents (aged 17 to 19 years; n=2146), and their adult sisters (aged 22 to 34 years; n=2442). A second analysis compared small-for-gestational-age births among younger or older adolescents to that among their adult sisters.

Results: We found no significant association between young maternal age and low birth weight when controlling for year of delivery and marital status, either in the younger adolescents or older adolescents (OR=1.07; 95% CI, 0.54-2.13; and OR=0.70; 95% CI, 0.46-1.06, respectively). Similarly, no risk of small-for-gestational-age was seen among younger or older adolescents (OR=1.00; 95% CI, 0.56-1.76; and OR=1.13; 95% CI, 0.86-1.50, respectively) after adjusting for year of delivery.

Conclusions: These findings do not support previous population-based studies that found an increased risk of low birth weight among adolescents. Using sisters in this study allowed us to control for unmeasurable potential confounders related to family social environment, childhood exposures, genetics, or other unknown confounders, which may have contributed to the increased risk seen in population-based studies.

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