

# Identification of Risk Factors for Adverse Outcomes for Second Births to Teenage Mothers

## Background

Adolescent pregnancy and child bearing are significant public health problems in most large metropolitan areas of the United States and the rates in the City of Milwaukee represent some of the highest in the country.<sup>1</sup> There is general agreement in the literature that teen pregnancies and subsequent births result in more adverse outcomes when compared to outcomes in older women.<sup>2,3</sup> There is, however, disagreement among studies about what factors are significantly associated with these adverse outcomes and if young maternal age poses an increased risk when other factors are controlled.<sup>2, 3-5</sup> Repeat pregnancy and child bearing in adolescents is suspected to be even more deleterious to mother and child than a single adolescent birth because of compounded socio-economic impacts and short pregnancy intervals.<sup>6-8</sup>

## Problem

The ability to identify births to the same woman is necessary to study repeat childbearing. Many birth databases supply information on previous live births but births to the same mother are not linked.

## Purpose

To develop a method for identifying repeat teen mothers in birth records and to examine risk factors associated with this.

## Methods

The City of Milwaukee Health Department's birth records from 1993-2002 were used, which contained 111,862 individual birth records. The records did not contain any unique maternal identifiers, such as social security number. Data were linked using a probabilistic record linkage technique (FEBRL Version 0.2.2<sup>10</sup>) to identify repeat births to teen mothers. Probabilistic record linkage is the linking of 2 or more files by comparing or matching a number of variables between files and computing the probabilities of agreement or disagreement of all matched variables.<sup>9</sup> Maternal characteristics and birth outcomes of first and second teen

pregnancies to the same mother were compared. Factors associated with adverse outcomes in the repeat birth were determined using logistic regression analyses.

## Results

Second teenage pregnancies resulted in more preterm births. In the second birth, low birth weight and preterm birth were associated with smoking, previous similar birth outcomes, maternal age, race/ethnicity, shorter interpregnancy interval, inadequate prenatal care utilization and inadequate weight gain. Lower median household income was associated with LBW but not preterm birth. Having no father on the birth record was associated with both adverse outcomes.

## Conclusions

Repeat adolescent childbearing results in poorer outcomes, specifically increased incidence of preterm birth as compared to first births. Adverse outcomes (low birth weight and preterm birth) were associated with a number of modifiable risk factors.

## Recommendations

## PROJECT BRIEF

Many of the factors associated with adverse outcomes in this population of repeat teen births can be modified. Programs targeted to teen mothers should address these modifiable risk factors by providing pregnancy spacing and contraceptive advice, smoking prevention and cessation resources, the means to acquire appropriate and adequate nutrition to ensure adequate weight gain, and the importance of adequate prenatal care in the second as well as first pregnancy. Prenatal care for the adolescent mother should also address these preventable risk factors. Even though educational status was not predictive of adverse outcomes in this population most were not high school graduates. Programs that encourage and aid young mothers in finishing high school are essential for the long term economic well being of both the mother and child.

### Investigators

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### Next Steps

Continued analysis is planned to identify any potential trends.

### References

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