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Master's Project Title: Does Cesarean Section Increase the Risk of Child Asthma? A systematic review

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Abstract

Background: Asthma, the most common chronic childhood inflammatory condition, is a disease with far-reaching public health impact. The prevalence of child asthma has risen dramatically in the last half-century. During the same time period the U.S. cesarean section rate has risen nearly six-fold, leading some researchers to postulate a connection between the two. The purpose of this systematic review is to examine the evidence both for and against an association between cesarean section and child asthma.

Methods: A literature search was performed through the University of Minnesota library website. Search terms included ("cesarean section" AND "child" AND "asthma") and ("cesarean section" AND "child" AND "mode of delivery"), with secondary searches of the reference lists of retrieved articles. Quality of articles was determined using the United States Preventive Services Task Force "Hierarchy of research design and quality rating criteria."

Results: The search strategy returned 127 articles. After elimination of duplicate and clearly irrelevant articles, 29 observational studies and 3 meta-analyses were selected. Methodological problems were common: only 9 studies adjusted for all of the most important confounders. Of the 6 articles chosen for final analysis, 4 detected a significant association between cesarean section and child asthma.

Conclusion: Despite significant methodological issues, the preponderance of available research evidence supports a small-to-moderate association between cesarean section and child asthma. While further research is needed, efforts to reduce unnecessary cesarean births now could lead to a small but significant reduction in asthma morbidity in the United States.