

IMPACT OF MATERNAL SMOKING ON OBSTETRIC AND NEONATAL OUTCOMES IN TWIN PREGNANCIES: A NARRATIVE REVIEW

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INTRODUCTION

Maternal smoking, including both traditional cigarettes and electronic ones, is a significant modifiable risk factor associated with adverse perinatal outcomes, especially in twin pregnancies.

>>> OBJECTIVES

This narrative review aims to explore the impact of maternal smoking on obstetric and neonatal outcomes in twin pregnancies, which inherently carry a higher risk of complications.

METHODS

A literature research was performed by searching PubMed and EMBASE databases for studies published from January 1994 to October 2024. The search terms included "tobacco AND twin pregnancies," "smoking AND twin pregnancies," and "nicotine AND twin pregnancies." Twelve studies that met the following specific criteria were included in the review: they were published in Spanish or English, provided a detailed methodology and focused on the maternal and neonatal impact of smoking in twin pregnancies. Data extracted from the studies included study design, participant characteristics, smoking exposure (active or passive) and reported maternal or neonatal outcomes. ZOTERO was used to manage articles and remove duplicates.

RESULTS

The findings demonstrate a clear association between smoking and increased risks of preterm birth, fetal growth restriction (FGR) and neonatal respiratory disorders in twin pregnancies. These risks are exacerbated when smoking is combined with other factors, such as preeclampsia and elevated body mass index (BMI). Smoking was also associated with long-term post-natal complications, including respiratory problems like asthma, as well as cognitive and behavioral disorders. However, an association between tobacco in twin pregnancies with preeclampsia was not found and further studies are needed to clarify the relationship in the fields of preterm premature rupture of membranes (PPROM) and fetal death. The adverse effects of smoking are primarily due to reduced oxygen supply to the fetus, caused by nicotine-induced vasoconstriction and carbon monoxide exposure, leading to placental insufficiency and fetal hypoxia. These effects are amplified in twin pregnancies due to the increased physiological demands.

CONCLUSIONS

This narrative review highlights the significant risks of maternal smoking in twin pregnancies, including preterm birth, fetal growth restriction, neonatal respiratory disorders and long-term post-natal complications. Smoking cessation programs during pregnancy are essential to mitigate these risks and improve maternal and neonatal health outcomes. Targeted research on smoking's impact in twin pregnancies can further enhance prevention and intervention strategies.