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"When should smoking cessation occur to reduce impaired reproductive health caused by tobacco use?"

Introduction

Maternal smoking increases the risk of disease and death for both mother and baby. Quitting smoking before and during pregnancy decreases poor fertility and birth outcomes. Women who quit smoking early in their pregnancy will observe better health outcomes. But when is the optimal time to quit and what effect does that timing have on outcomes throughout the pregnancy period? The 2020 Surgeon General's Report on Smoking Cessation conducted a systematic review of the evidence related to cessation timing during pregnancy to optimize health outcomes and identified the need for more research. This investigation examined the literature since the 2020 Surgeon General's Report to identify studies exploring the point at which tobacco cessation occurs during pregnancy and its ability to improve reproductive health.

Methodology

We conducted a literature review from June to July 2022 using three databases: PubMed, CINAHL, and Embase. Search terms included "tobacco," "reproductive health," and "cessation." The initial search yielded 831 articles. We removed 34 duplicates, leaving 798 articles. Further inclusion criteria limited articles to those published between 2020 to 2022 and in English, based on human subject research, included women of reproductive age (14-46) and focused on the effects of tobacco use on reproductive health. Of the 798 articles, we excluded 794 that didn't meet inclusion criteria, yielding four articles for final review and analysis.

Results

None of the articles included in the final review and analysis identified the optimal point of smoking cessation during pregnancy to reduce impaired reproductive health. Three reported original research related to the effects of cigarette smoking cessation on the menstrual cycle, folliculogenesis and oocyte development, while the other article was a review of the impact of smokeless tobacco cessation on ovarian morphology and function.

Conclusion

This review assessed the literature published since the 2020 Surgeon General's Report examining the impact of cessation timing on improved outcomes throughout pregnancy. The optimal point of smoking cessation remains under-studied. Future research to improve understanding of cessation on reproductive health, considering varying lengths of tobacco cessation and how long it takes to observe improvements, can contribute to better cessation education for women of reproductive age.