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Title

Modifiable Preconception Care Indicators and Their Association with Pregnancy Outcomes: A Case Control study

Priority 1 (Research Category)

Women's health

Presenters

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Abstract

Context: Preterm birth (PTB) is among the leading causes of infant morbidity and mortality in the United States. PTB also presents risks to mothers. Women who deliver preterm are at twice the risk for future cardiovascular disease as women who have term deliveries. Improving women's health before conception may help reduce preterm births and improve maternal and infant outcomes. Preconception care has been highlighted in many national guidelines as crucial to the success of healthier maternal and infant outcomes. Objective: Identify gaps and opportunities in preconception care of females of reproductive age, with a focus on modifiable preconception indicators that are associated with PTBs. Methods: This is a retrospective case control study. The cases (n=221), PTBs at Lehigh Valley Health Network (LVHN), are compared to the controls (n=442), term births at LVHN. Eligible charts are those of women, 18 years and older, who delivered at one of the LVHN sites between 6/1/2018 to 5/31/2019, matched 1:2, based on age, parity and prior history of preterm delivery. Exclusion criteria is any delivery prior to 20 weeks of pregnancy or maternal age under 18 years, two years prior to pregnancy intake. Patient charts were reviewed for all primary care visits at LVHN in the 2 years prior to pregnancy intake for assessment of key indicators of preconception care. Data extracted from the Electronic Medical Records (EMR) was imported into a secure Excel database and transferred to REDCap Project. Preconception care indicators were manually reviewed and entered into the same REDCap Project. Pearson's Chi square test was used to evaluate for association between the eleven preconception indicators and PTB. All statistical tests were conducted using SPSS. Results: Three of the eleven preconception indicators, i.e., use of multivitamins 3 months before conception, diabetes control and blood pressure control in preconception have a statistically significant association with PTB ($p < 0.05$). Eight indicators that did not have a significant association with PTB are pregnancy intention, access to care, smoking status, body mass index, sexually transmitted disease, depression screen results, teratogenic medication use and use of harmful substances. Conclusions: Preconception multivitamin

use, diabetes and blood pressure control may help improve PTBs. Studies exploring receipt of counseling and management of all eleven indicators may further help assess their impact on birth outcomes.