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Characterizing prenatal and congenital syphilis in Saskatchewan, Canada, 2019-2022

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Abstract

Background: Syphilis infections are increasing at a significant rate among women of child-bearing age (15 to 45 years) in the province of Saskatchewan. Of great concern, there has been an increase in infants born with congenital syphilis since 2019, from zero infants in 2018 to 68 in 2022. This increase indicates gaps and missed opportunities in managing an entirely preventable and treatable infection. This analysis aims to understand factors associated with syphilis infections among mom-baby pairs in a Canadian jurisdiction in order to identify opportunities for timelier intervention. **Population and Methods:** Syphilis surveillance data from the provincial electronic notifiable disease database will be extracted for pregnant women with syphilis and all infants at risk of exposure during pregnancy from 2019 to 2022. Descriptive analyses will be conducted to understand the demographic and clinical characteristics, and risk factors among pregnant women with syphilis infections. A case control study design will be used to determine any associations among pregnant women with syphilis and the birth outcomes of 1) congenital syphilis (including syphilitic stillbirth) and 2) live birth without congenital syphilis. Logistic regression models will be used to control for factors known to be associated with a congenital case. Calculated odds ratios will provide quantitative information on the relative association between risk factors and birth outcomes (congenital syphilis or not) among pregnant women. **Results:** In Saskatchewan, the rate of confirmed syphilis infections among females has increased from 35 cases per 100,000 population in 2019 to 255 in 2022. Of these female patients, the median age of infection is 27 years, and 96% are within child-bearing years (15 to 45 years). The majority of these infections within this population are staged as infectious syphilis (78%), posing a significant public health concern for pregnancy. Additional results from this analysis are in progress and results are preliminary. **Conclusions:** By understanding differences between mom-baby pairs with and without congenital syphilis, we aim to identify gaps in care in order to provide recommendations for action to reduce the rate of a preventable disease among newborns.

Palabras clave: congenital syphilis; morbidity; statistics; public health surveillance; Canada.

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