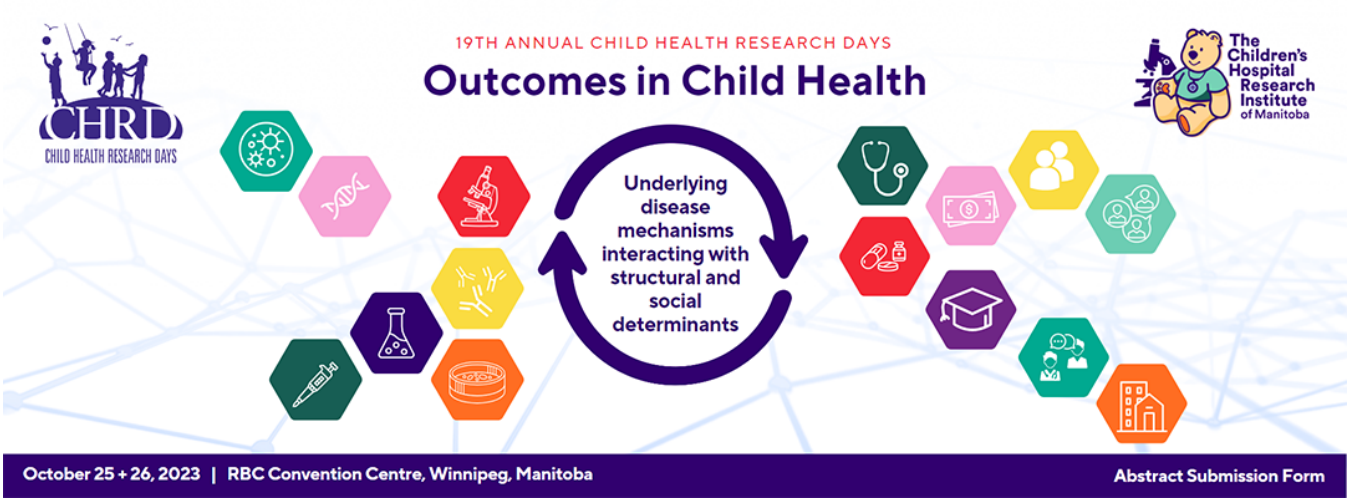

CHRD 2023: Abstract Submission Form

Submitter Name
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Presenter Status
Non-Trainee

Research Category
Clinical

Role in the project
Write Abstract

Title
A comparison of birth outcomes in the Next Generation cohort based on in utero exposure to diabetes and substance use during pregnancy

Background
Pregnancies complicated by diabetes are at increased risk for adverse birth outcomes. Substance use during pregnancy also contributes to poor birth outcomes.

Objective
The objective of this project was to examine whether abstaining from substance use during pregnancy can protect infants exposed to diabetes in utero from poorer birth outcomes.

Methods
The Next Generation cohort includes infants born to mothers with pre-gestational diabetes (T2DM) and gestational diabetes (GDM). Birth outcomes such as birth weight, gestational age, C-sections, admission to NICU, hypoglycemia, and neonatal complications (jaundice, respiratory distress and feeding problems) were obtained from electronic medical records. Substance use (alcohol, tobacco, marijuana, and illicit drugs) during pregnancy was self-reported in maternal pre-natal charts. For birth weight and gestational age, a generalized mixed model was used with diabetes and substance exposure statuses as class variables and an interaction effect included. For the other variables, logistic regression was used.

Results
215 infants had complete medical records and were included in this analysis. 47.9% were not exposed to substances in utero while 52.1% were exposed to substances in utero. There were no significant associations found between birth outcomes and substance exposure status. Although there were no significant differences between the substance exposure and non exposure groups, it was found that T2DM

status increased the risk for C-sections (p=0.0085), admission to NICU (p<0.0001), hypoglycemia (p<0.0001), and neonatal complications (p=0.0003) compared to the GDM group.

Conclusion
Although there were no significant associations between substance exposure status and birth outcomes in our cohort, we expect that the abstinence from substances still plays a positive role during pregnancy. As the results show that T2DM was associated with higher rates of adverse birth outcomes compared to GDM, it should inform a more focused approach with research and pre-natal care for women with T2DM.

Table/Figure File
table_CHRDabstract.pdf

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Table 1: Birth outcomes of infants based on exposure to diabetes in utero and exposure type to smoking, drugs and/or alcohol

Birth outcomes	T2DM		GDM	
	Exposure (n=63)	Non exposure (n=58)	Exposure (n= 49)	Non exposure (n= 45)
Gestational age in weeks	36.2(2.0)	36.3(2.1)	37.6(1.2)	37.4(1.1)
Birth weight (grams)	3267.0 (773.6)	3354.2 (712.7)	3392.8 (493.5)	3349.5 (495.8)
C-section delivery	28.6%	50%	22.4%	24.4%
Admission to NICU	42.9%	43.1%	8.2%	15.6%
Hypoglycemia	50.8%	41.4%	12.2%	15.6%
Congenital abnormalities	22.2%	15.5%	0%	2.2%
Neonatal complications	61.9%	37.9%	20.4%	42.2%

Values are reported as mean (standard deviation) and percentage