CHRD 2022: Abstract & Poster Submission Form

Submitter Name

Omaymah Abulannaz

Submitter Email

abulanno@myumanitoba.ca

Presenter Status

○ Undergraduate Students

○ Masters Student

◉ PhD Student

○ Post-Doctoral Fellows

○ Residents

○ Non-Trainee

Research Category

○ Basic Science

◉ Clinical

○ Community Health / Policy

Role in the project

☑ Design

☐ Perform Experiments

☑ Analyze Data

☑ Write Abstract

☐

Title

The Incidence and Clinical Risk Factors of Neonatal Opioid withdrawal Syndrome in Manitoba, Canada between 1995-2019

Background

Opioid use has increased dramatically and presents a major public health concern in Canada. Neonatal Opioid Withdrawal Syndrome (NOWS) occurs as a result of abrupt discontinuation of prenatal opioid exposure by birth. NOWS is characterized by neurologic, respiratory and cardiovascular distress and it develops in up to 80% of neonates exposed prenatally to opioids. Factors associated with the development of NOWS are poorly understood.

Objective

To evaluate the factors associated with the development of NOWS diagnosis.

Methods

This is a population-based cohort study using de-identified linked administrative data housed at Manitoba Centre for Health Policy. Multivariable logistic regression was utilized to evaluate the association between clinical and demographic factors and the diagnosis of NOWS.

Results

Over the study period, an opioid was dispensed to 6.75% women during pregnancy. There was an increase in the proportion of women who filled prescriptions for opioids from 3.6% in 1995 to 6.6% in 2018 (p<.0001), however, there was a modest reduction to 5.9% in 2019. The Incidence of NOWS tripled between 1995 and 2018 (2.0-5.8 per 1000 live births). Crude rate of NOWS cases has reduced to 4.7 cases per 1000 live births in 2019. A total of 362440 mother-infant dyads met the inclusion criteria, of whom 1136 were diagnosed with NOWS. The logistic regression model included gestational age, birth weight, infant sex, maternal age, alcohol use and smoking during pregnancy and exposure to certain medications. Male infants, alcohol use during pregnancy, smoking, selective serotonin reuptake inhibitors, benzodiazepines and gabapentin use during pregnancy increased the likelihood of the development of NOWS diagnosis.

Conclusion

Clinicians should be mindful of an infant's risk for the development of NOWS diagnosis, allowing for individualized health care. Given the increasing rates of prenatal opioid exposures, continued effort should be made to study the factors that predict NOWS diagnosis and severity with particular attention to sex-based differences.

Do you have a table/figure to upload?

⊙ Yes ○ No

CHRD_NOWS_TABLE.pdf

Authors

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Name	Email	Role	Profession

Omaymah Abulannaz	abulanno@myumanitoba.ca	Presenting Author	PhD student
Chelsea Ruth			
Geert 't Jong			
Lauren kelly			

Table 1. Factors associated with Neonatal Opioid Withdrawal Syndrome.

Predictor	Multivariable Analysis AOR(95%CI)	*P*-value
Female Sex	0.87(0.77-0.97)	0.02
Gestational age Children born preterm	1.4(1.12-1.68)	0.002
Birthweight Low Birth Weight	1.7(1.4-2.2)	<.0001
Alcohol use during pregnancy	1.37(1.1-1.7)	0.01
Smoking during pregnancy	4.9(3.9-6.3)	<.0001
SSRI use during pregnancy	2.5(2.1-3.1)	<.0001
Benzodiazepines use during pregnancy	6.7(5.7-7.8)	<.0001
Gabapentin use during pregnancy	3.33(2.45-4.47)	<.0001
SEFI-2 score High SES	0.54 (0.46-0.63)	<.0001
Breastmilk	0.26(0.23-0.29)	<.0001
Maternal age >35	1.6(1.3-2.1)	0.004