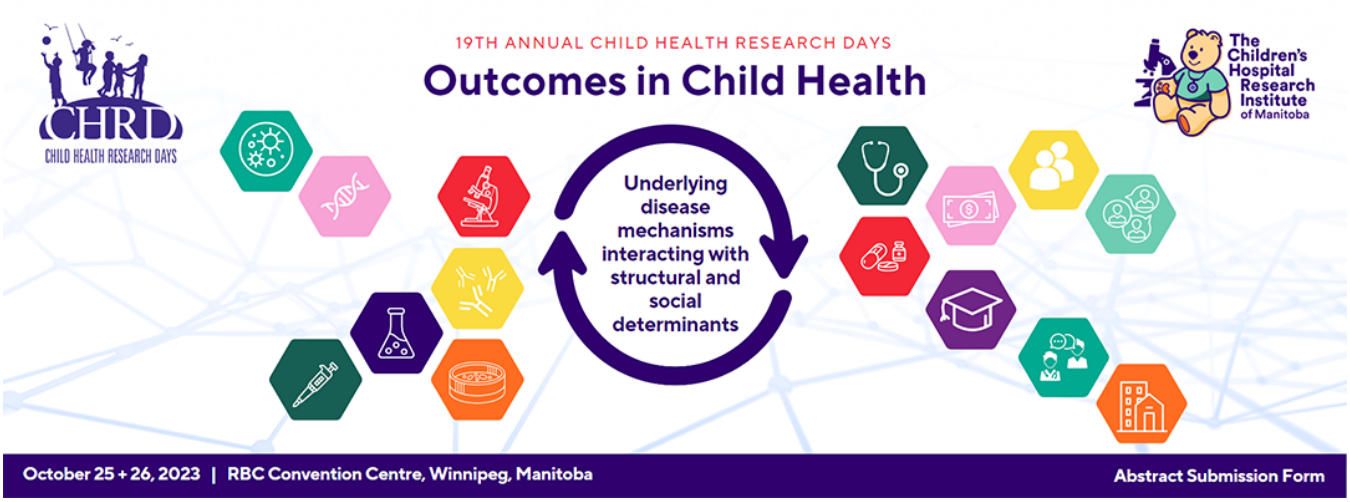

CHRD 2023: Abstract Submission Form

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Presenter Status
Non-Trainee

Research Category
Community Health / Policy

Role in the project
Design
Analyze Data
Write Abstract

Title
Differences in Head Circumference in Canadian Inuit Children from Nunavut Compared to WHO Growth Curves

Background
Growth curves are important tools used by healthcare providers for assessing adequate growth in children by comparing their height, weight, and head circumference to normative data created from a large cohort of children. Monitoring with growth curves may allow early identification of potential medical concerns. However, standardized World Health Organization (WHO) head circumference (HC) growth charts may not reflect all populations, including some Canadian Indigenous populations. This may lead to errors in recognizing microcephaly or macrocephaly, which can have medical and developmental implications. Our centre, which is a tertiary children's hospital providing services for many children from northern Canada, has observed that this may be true in Inuit children of Nunavut.

Objective
To compare head circumference values of Inuit children from Nunavut to WHO reference charts.

Methods
Charts for Inuit children born to mothers residing in Nunavut from 01-Jan-2010 to 31-Dec-2013 were reviewed at community health centres, the Qikiqtani General Hospital in Iqaluit and Iqaluit Public Health. Exclusion criteria included premature birth and known neurological or genetic disease. Results were compared to the WHO reference growth charts and statistically compared

Results

Records of 1960 children comprising 8866 HC data points, were analyzed. Data was robust for the first 36 months of life, with fewer data points thereafter. There were statistically significant differences in the median HC at all age points, with Inuit children demonstrating larger HCs. Macrocephaly was significantly over-represented when using WHO growth curves, and microcephaly was under-represented.

Conclusion
Our results support the clinical concern that WHO growth curves may not reflect the local Inuit population and may lead to over-representation of macrocephaly and under-representation of microcephaly. Population-specific growth curves may be necessary to provide timely and appropriate diagnoses and avoid over-investigation

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