

Abstract for CUGH conference in New York, March 15-18, 2018

## Disparities in Perinatal and Birth Outcomes in the Interior of Suriname

L.F. Soares<sup>1</sup>, M.P. Uiterloo<sup>2</sup>, M.S. MacDonald-Ottevanger<sup>3</sup>, B.C. Jubitana<sup>2</sup>, E. van Eer<sup>2</sup>, M.Y. Lichtveld<sup>1</sup>, C.W.R. Zijlmans<sup>1,3</sup>

<sup>1</sup>Tulane University School of Public Health and Tropical Medicine, Department of Global Environmental Health Sciences, Louisiana, USA. <sup>2</sup>Medical Mission Primary Health Care Suriname, Suriname; <sup>3</sup>Scientific Research Center Suriname / Academic Hospital Paramaribo, Paramaribo, Suriname;

Correspondence to: L.F. Soares, Isoares@tulane.edu

**Background:** Suriname is a middle-income country in the northeast of South America, 10% of its population (~50,000 persons, 78% Maroon, 10% Amerindian, and other) lives in the remote tropical rainforest interior. Perinatal healthcare for these vulnerable indigenous people, provided by Medical Mission Primary Health Care Suriname (MM), has not yet been reported internationally. Therefore we assessed the influence of maternal age, body mass index (BMI), hypertension, and anemia on low birth weight (LBW), preterm birth, stillbirth (SB) and neonatal mortality (NM).

**Methodology:** data on maternal and newborn health from 2004-2014 were recorded at all 56 MM-clinics. BMI, hypertension, anemia, prematurity and LBW were defined using WHO standards. Determinants of birth outcomes were assessed using logistic regression analysis.

**Results:** 9803 pregnancies and 9927 infants were included (2.5% multiple pregnancies). Mean maternal age was 25.7 ( $\pm 7.2$ ) years, BMI 24.8 ( $\pm 6.7$ ) kg/m<sup>2</sup>, 63% of mothers (5878/9368) were anemic, 2.4% (225/9368) severely anemic. 17% (1374/8063) infants were born preterm, 11.4% (1043/9161) had LBW. SB rate was 8.3/1,000 births, NM rate 4.2/1,000 live births.

Statistically significant associations ( $p \leq 0.05$ ) were found for:

adolescent pregnancy (<20 years) (23.5%, 2334/9919) with LBW (OR=1.8; 95%CI:1.6-2.1) and preterm birth (OR=1.7; 95%CI:1.5-1.9), mothers 10-14 years had higher NM (OR=3.8; 95%CI:1.2-12.6) compared to mothers 20-34 years; maternal underweight (4.1%, 360/8726) with LBW (OR=1.8; 95%CI:1.3-2.3), overweight (26.8%, 2337/8726) inversely with prematurity (OR=0.8; 95%CI:0.7-0.9) and LBW (OR=0.8; 95%CI:0.7-1.0), obesity (12.8%, 1119/8726) with NM (OR=2.6; 95%CI:1.2-5.4) and inversely with LBW (OR=0.6; 95%CI:0.5-0.8) and prematurity (OR=0.5; 95%CI:0.4-0.6), compared to normal BMI; maternal hypertension (8.6%, 835/9728) with LBW (OR=2.1; 95%CI:1.7-2.5) and SB (OR=3.2; 95%CI:1.9-5.2).

In multivariate analysis, hypertension became associated with prematurity (OR=1.3; 95%CI:1.0-1.6), overweight no longer with LBW, other associations remained unchanged.

**Conclusion:** Prevalence of adolescent pregnancy, maternal anemia, and preterm birth was high in Suriname's interior compared to the national (18%, 31%, 12.7%) and regional level (18%, 28.3%, 8.6%), hypertension, LBW and NM rate were lower than nationally reported (26%, 13.6% and 12.9/1,000 live births respectively). Young maternal age, BMI, and hypertension were frequently associated with poor outcomes. These results indicate large disparities within Suriname and the region and urge for targeted programs to further improve perinatal health for Suriname's indigenous population.