

## Child Health 2

Chairpersons: M Thame, S Ramsewak

### O – 12

#### Prevalence and secular trend of severe congenital defects among the newborn in Barbados – the need for clinical-epidemiological surveillance

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**Objectives:** To describe the prevalence of different types of congenital anomalies and their trend in Barbados.

**Design and Methods:** A retrospective population based clinical audit was conducted for the period 1993 through 2012. All major congenital anomalies that were seen at the time of birth and needed investigations for further identification, observation for complications or immediate intervention were included.

**Results:** The overall prevalence of major congenital anomalies at birth was 0.58% of all live births. There was a significant increase in the prevalence from 0.54% during 1993–97 to 0.66% of all live births during 2008–12. The highest number of major congenital anomalies seen during the study period was anomalies of the circulatory system (20.2%), followed by anomalies of the musculoskeletal system, which made up 15.5% of all major anomalies. Three per cent of all newborn admissions to the Neonatal Intensive Care Unit during the study period were for congenital anomalies. Major congenital anomalies were responsible for 13.9% of all neonatal death.

**Conclusions:** The prevalence of major congenital anomalies seen in this study was lower than that reported from other parts of the world. However, there is an increasing secular trend and major congenital anomalies contribute significantly to neonatal death in this country.

### O – 13

#### Regaining of birth weight and subsequent growth velocity in neonates

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**Objective:** To determine when normal and low birth weight newborns regain birth weight and to investigate their growth velocity at one and six months of age.

**Design and Methods:** This was a prospective study conducted between October 2010 and May 2011 on newborns admitted to the Special Care Nursery, University Hospital of the West Indies. Low birth weight and normal weight infants had their weight, length and head circumference measured within 24 hours of birth. Measurements were repeated at discharge and again at one and six months of age. Growth velocity between one and six months of age was calculated.

**Results:** Low and normal birth weight neonates regained their birth weight by day 19 and day 30, respectively. Between one and six months of age, the mean weight velocity for the normal birth weight infant was 36.8 g/day compared to 69.5 g/day in the very low birth weight infant (VLBW). Differences between the categories were statistically significant ( $p = 0.034$ ).

**Conclusion:** Low birth weight neonates regained birth weight faster than normal birth weight infants. There was a high weight gain velocity between one to six months among VLBW. This may be due to a compensatory over feeding to grow a bigger baby. This practice may be undesirable.

## O – 14

### **Baseline measures and changes in the prevalence of child underweight, overweight and obesity between 1981 and 2010: Results from the Barbados Children's Health and Nutrition Study (BCHNS)**

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**Objective:** To observe the change in prevalence of child underweight, overweight and obesity in Barbados since 1981 using international criteria to produce baseline prevalence measures from a 2010 survey of grade three school children in the BCHNS.

**Design and Methods:** Heights and weights were taken for a survey of 255 boys and 325 girls using standard procedures. The prevalence of overweight and obesity (OWOB) was calculated using the World Health Organization's (WHO) body mass index (BMI)-for-age Z-scores (BAZ), the Centers for Disease Control (CDC) growth percentiles, the International Obesity Task Force (IOTF) cut-offs, and Harvard weight/height for age (WHA) growth standards. The prevalence of underweight was calculated using WHO BAZ and Harvard WHA growth standards.

**Results:** Based on WHO references, the prevalence was 3.3% (95% CI: 1.9, 4.7), 17.4% (95% CI: 14.3, 20.5) and 17.4% (95% CI: 14.3, 20.5) for underweight, overweight, and obesity, respectively. The prevalence of combined OWOB was 29.1% (95% CI: 25.7, 32.7), 30.1% (95% CI: 26.2, 33.7), and 31.3% (95% CI: 27.5, 35.0) with CDC growth percentiles, IOTF cut-offs, and Harvard WHA growth standards, respectively. Underweight since 1981 has decreased by more than half, while the prevalence of OWOB has more than tripled.

**Conclusions:** Underweight appears to be limited in Barbados with a shift toward higher OWOB prevalence. The rapid increase in child OWOB over the last 30 years warrants immediate public health attention to address the imminent child obesity epidemic.

## O – 15

### **The prevalence of elevated blood pressure in adolescents in Nassau, The Bahamas**

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**Objective:** To determine the prevalence of elevated blood pressure (EBP) in Bahamian adolescents.

**Design and Methods:** A cross-sectional survey employing a self-administered questionnaire, and concurrently obtaining anthropometric measurements, was conducted involving selected grades 9, 10 and 11 students of all targeted public high schools. Statistical analyses correlated blood pressure (BP) with body mass index (BMI), age and gender.

**Results:** Mean age of the 785 students completing the study was 14.6 ( $\pm$  1.153) years, and 87.6% were Bahamian. The prevalence of elevated systolic blood pressure (SBP) was 4.7% and 6.6% for elevated diastolic blood pressure (DBP). Elevated blood pressure prevalence was 8.9% and was more common among grade 9 students. Both SBP and DBP increased with age in the male students. The prevalence of overweight/obesity was 34.3% (14.4% overweight, 19.9% obese). Body mass index, number of days per week eating fast food and perception of body weight were predictive of EBP. Body mass index, age and perception of body weight were found to be predictive of SBP and DBP. Overweight/obese students were 2.7 times more likely to have EBP. Elevated blood pressure was associated with BMI, family history of hypertension and parents overweight/obese status.

**Conclusion:** The estimated prevalence of EBP in adolescent school children in New Providence, Bahamas, was comparable with neighbouring nations.

## O – 16

### **Effect of a controlled intervention of healthy lifestyles, via infusion of the primary school curriculum, on knowledge attitudes practices and beliefs among school children in Trinidad and Tobago**

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**Objectives:** To implement and evaluate an interdisciplinary teaching model for integrating nutrition and healthy lifestyles into the primary school curriculum.

**Design and Methods:** A controlled intervention of curriculum infusion was undertaken with adequate power to detect a 15% increase in knowledge toward nutrition and fitness among children aged 8–11 years in four intervention and four control schools. Teachers (n = 24) were trained in intervention strategies based on the Health and Family Life Education (HFLE) nutrition and fitness

module. A validated questionnaire was used to assess changes in each knowledge, attitudes, practices and beliefs (KAPB) domain.

**Results:** Schools were in three locations in Trinidad and one in Tobago, having a total of 400 children from grades 2, 3 and 4 (35%, 33%, 32%) with 57% females. Overall, the intervention resulted in a significant ( $p < 0.05$ ) net increase in knowledge compared with controls. However, one control school effected an *ad hoc* intervention and was excluded from the analysis; this resulted in larger intervention effects. The intervention group had a larger (30.4% vs 2.7%;  $p < 0.001$ ) net increase in knowledge, and controls had a significant net decrease in attitude (-17.1 vs -4.7%;  $p < 0.001$ ). Practices increased in both groups with no change in beliefs scores. At the end of the study, mean KAPB scores were all below 60% of the total achievable score in all groups.

**Conclusions:** A teacher led infusion of the primary school curriculum resulted in a significant increase in knowledge and prevented a decrease in attitudes towards healthy lifestyles among school children.

#### O – 17

##### **Prevalence of anaemia and the dietary intake of children ages 5–9 years in Trinidad and Tobago**

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**Objective:** To examine the prevalence of anaemia among children aged 5–9 years and examine their dietary intake in relation to anaemia.

**Design and Methods:** A survey of 5–9-year old children ( $n = 315$ ) in Trinidad schools with a large proportion of children receiving the school lunch programme was undertaken in 2012. Haemoglobin level was measured by Hemocue using a cut-off for anaemia of  $< 11.5$  g/dL. One 24 hour recall was done with the child and caregiver. Nutrient analysis was done using CANDAT software. Haemoglobin values were obtained for 242 children.

**Results:** Prevalence of anaemia was 15%. The average total energy intake among all children was 1958 kcal/d. Macronutrient distribution as a percentage of energy intake

was 56% carbohydrates, 13% protein and 31% fat. Energy from sugar was 21%. The mean intake levels for iron, folate and vitamin C were adequate but calcium levels were low. There were no differences in nutrient intakes between the anaemic and non-anaemic children.

**Conclusion:** Anaemia is still present in school children but the dietary correlates are difficult to discern.

#### O – 17a

##### **Suicide ideation among adolescents in Trinidad and Tobago: Protective and risk factors**

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**Objective:** To explore protective and risk factors of suicide ideation among adolescents in Trinidad and Tobago.

**Design and Methods:** In 2009, the Youth Trend Research Empowering National Development study of high school students in Trinidad and Tobago was conducted. This self-administered survey included items addressing demographics, well-being and health practices. Logistic regression was conducted to assess the odds ratio for predictors of suicide ideation.

**Results:** Overall, protective factors were: being male (OR 0.57 (95% CI, 0.49, 0.66)), church attendance (OR 0.90 (95% CI, 0.82, 0.99)) and father and mother understanding problems (OR 0.81 (95% CI, 0.71, 0.92) and (OR .074 (95% CI, 0.65, 0.83), respectively). Risk factors included: feeling sad/hopeless (OR 6.32 (95% CI, 4.84, 8.25)), forced to have sexual intercourse (OR 2.04 (95% CI, 1.44, 2.89)), missing school (OR 1.19 (95% CI, 1.04, 1.37)), sniffed or inhaled substances (OR 1.18 (95% CI, 1.04, 1.33)) and alcohol (OR 1.09 (95% CI, 1.02, 1.17)). Gender specific analysis revealed that alcohol, cocaine, forced sexual intercourse, church attendance, sad/hopeless, being Afro-Trinidadian and mother and father's understanding of problems were significant for females. For males, being Indo-Trinidadian, sad/hopeless, understanding of problems by mothers, marijuana, and missing classes were the significant predictors.

**Conclusions:** While attention should be paid to the salient risk and protective factors, consideration should be given to the ways in which these factors differ by gender.