

Children and Adolescent Health

Chairpersons: S Pooransingh, K George

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Keeping the score on child survival in Trinidad as we shift from Millennium Development Goal Four to Sustainable Development Goal Three

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Objective: The purpose of this study is to determine the factors associated with child mortality as we transition from Millennium Development Goal Four (MDG4) to Sustainable Development Goal Three (SDG3).

Subjects and Methods: A database of deaths in children under five years in Trinidad from July 2013 to June 2014 was compiled from civil registration and vital statistics. This information was used to obtain the medical records for each death. Clinical details surrounding the birth and death of each death were extracted from the medical records, including date and cause of death.

Results: Results of findings including gravidity, parity, type of death, Apgar score, maternal age and birthweight were investigated. These factors were found to affect the risk of under-five mortality in Trinidad. The most common cause of death in under-five children was disorders relating to short gestation and unspecified low birthweight (ICD-10–P02). The under-five mortality rate was calculated to be 18.4 per 1000 live births.

Conclusion: We provide evidence that short gestation and low birthweight (> 1500 g; ICD-10–PO2) and adolescent mothers were the main contributors to under-five mortality. We also showed that an Apgar score did not identify babies most vulnerable.

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The impact of a paediatric basic assessment and support in intensive care (BASIC) course in Barbados

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Objective: The aim of this study was to assess the performance and acceptance of the paediatric basic assessment and support in intensive care (BASIC) course as conducted in a training facility associated with The University of the West Indies and the Queen Elizabeth Hospital – a general teaching hospital.

Subjects and Methods: Paediatric BASIC handbooks were distributed at least two months prior to the course to ensure that attendees were able to familiarize themselves with the topics in a timely fashion. All participants were required to complete the online open book electronic multiple choice questionnaire as a pre-course self-administered evaluation, and the post course examination.

Results: A total of 60 healthcare providers attended the two courses in 2014 and 2015. In 2014, 82% of participants were physicians, but in 2015 this proportion fell to 63%. The pre-course average score for all doctors attending was 75% (95% confidence interval [CI] 72, 79; standard deviation [SD] 11) and 84% (95% CI 82, 86; SD 6.4) for the post test score. The averages for the nurses were 58% (95% CI 47, 70; SD 21) and 65% (95% CI 60, 70; SD 8.5), respectively. In the open-ended questions, all participants gave a positive response to the course and found that the practical skill stations and simulations were particularly helpful. Specific areas identified as being extremely useful were the sessions on ventilation, acid base balance and fluids.

Conclusion: The BASIC course did have an impact on the knowledge of healthcare providers with respect to emergency and critical care.

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Early infant feeding and its risk of overweight/obesity in Montserrat

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Objective: To explore the relationship between overweight/obesity among two-year old infants and their feeds received in the first six months of life.

Subjects and Methods: This study was a retrospective chart review of data collected from clinic and hospital

records. A sample of 381 infants born between 2006 and 2012 was studied.

Results: Of the total 381 infants, 268 had all the required information on their feeds at six months and weight for length up to two years. At six months, 56 infants had received nutrition from exclusively/predominantly breast milk and 177 had partial breast milk. By two years, there were two (3.6%) overweight/obese in the exclusively/predominantly breastfed as against 19 (10.7%) among the partial breastfed infants. World Health Organization (WHO) Z-scores of weight for length were used to classify overweight/obese or normal. There is a higher prevalence of overweight/obesity at two years among those who received partial compared to exclusively/predominantly breastfed infants ($p = 0.05$) using linear-by-linear Chi-squared tests.

Conclusion: This study demonstrates overweight/obesity among two-year old infants who received partial breast milk when compared to exclusively/predominantly breastfed infants. This protective effect of exclusive/predominant breast milk is evidence of a modifiable cause of overweight/obesity very early in life.

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Morbidity and mortality of extremely low birthweight infants in a developing country: Experience from the sole neonatal intensive care unit in Barbados

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Objectives: To identify the current contributing factors to morbidity and mortality in extremely low birthweight (ELBW) infants in Barbados, the changes in mortality for ELBW infants in the first decade of the 21st century and to address the implications of these trends on treatment decisions and resource allocation in the care of ELBW in Barbados.

Methods: A retrospective chart review of all ELBW infants consecutively admitted to the neonatal intensive care unit (NICU) between January 1, 2001 and December 31, 2010, was conducted. There were 154 infants identified as being eligible for study using the defined selection criteria. Mortality during initial hospitalization and morbidity in the survivors (defined as clinical or culture-proven sepsis, respiratory distress syndrome [RDS], necrotising enterocolitis [NEC], pulmonary haemorrhage, pneumothorax, patent ductus haemorrhage [PDA], intra-ventricular haemorrhage [IVH], retinopathy of prematurity [ROP] and bronchopulmonary dysplasia [BPD]) were assessed using the available data.

Results: The overall survival rate was 49.3% for the 10-year period. Survival was higher in infants weighing ≥ 750 g and of gestational age ≥ 28 weeks. The most frequent

morbidities were RDS (91.2%), probable sepsis (95%) and hyperbilirubinaemia (89.7%). Birthweight < 750 g, gestational age < 28 weeks and low Apgar scores (< 3) at one minute of life were negative predictors of survival. Overall mortality was 50.7%.

Conclusion: Survival of ELBW infants in Barbados has improved over the last decade. Recommendations for continued improved survival rates include aggressive post-delivery management of all ELBW infants ≥ 750 g and ≥ 28 weeks, as well as research into the infection-control practices on the unit in an effort to decrease the incidence of sepsis in these neonates.

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Obesity and other non-communicable disease risk factors and behaviours among Turks and Caicos Islands youth: Implications for public health intervention

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Objective: To measure non-communicable diseases (NCDs) and risk factors/behaviours among Turks and Caicos Islands (TCI) youth.

Subjects and Methods: Sociodemographic, health/medical history, physical, lifestyle/behavioural and biochemical measurements were collected from 2319 (1171 male and 1148 female) 10–15-year old high school entrants (2008–2014). SPSS (version 20) compared continuous (*eg* body mass index [BMI], blood pressure [BP] and cholesterol) and categorical (*eg* gender, nationality, obesity and cholesterol status) variables using one-way analysis of variance (ANOVA) and Chi-squared analyses.

Results: Most self-identified as TCI (1148 [54.0%]) and Haitian (539 [25.3%]) nationals; mean age was 12.3 ± 0.7 years with boys (12.5 ± 0.7 years) older than girls (12.3 ± 0.07 ; $p = 0.0001$). Approximately half (1082 [46.6%]) was overweight (492 [21.2%]) or obese (590 [25.4%]); fewer Haitians were overweight/obese than non-Haitians ($p < 0.05$). Daily, most (70.6%) consumed breakfast; only 19% and 16% consumed ≥ 1 serving of fruits or vegetables, respectively; the physically active ($n = 1396$) had lower mean BMIs (21.5 ± 5.9 kg/m² vs 22.8 ± 5.7 kg/m²; $p = 0.0001$) and consumed more servings (8 oz) of water (4.9 ± 2.5 vs 4.3 ± 2.4 ; $p = 0.0001$) than the inactive. More overweight/obese than normal/underweight (7.9% vs 3.1%; $p = 0.0001$) had elevated BPs. Approximately 13% (of subsample of 475) had cholesterol levels > 200 mg/dL.

Conclusion: Obesity and NCD risk behaviours often begin in childhood. These findings have public health impli-

cations. A “health in all” policy framework to support a comprehensive NCD plan to promote healthy lifestyles, build environments, other school and community-based interventions would reduce TCI’s obesogenic environment, NCD burden and escalating healthcare costs.

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Barriers to parent-teen communication regarding sex in Providenciales, Turks and Caicos Islands

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Objectives: To determine existing levels of, and barriers to, effective parent-teen sex communication in a Turks and Caicos Islands (TCI) sample.

Subjects and Methods: A mixed method cross-sectional study design was used. One hundred and ninety-four teens between the ages of 12 and 16 years from four secondary schools in Providenciales, along with their parents, participated. Quantitative data were collected by a self-administered questionnaire and the Parent-Teen Sexual

Risk Communication-III (PTSRC-III) tool: both parents and teens reported on whether or not they engaged in conversations on specific sex-related topics. Qualitative data were collected *via* a semi-structured interview which identified barriers to parent-teen sex communication among both parents and teens.

Results: A similar proportion of teens and parents, respectively, reported discussing topics such as HIV (82.8% vs 81.4%), HIV/STI (92.9% vs 90.7%) and HIV prevention (94.1% vs 86.8%). Differences were observed in reports of communication about birth control (83.5% vs 65%) and condom use (83.8% vs 68%). There were also differences in comfort levels in discussing sex (94.4% vs 45.3%). Furthermore, higher education level of the parent was associated with comfort discussing sex ($\chi^2 = 46.307$, $p < 0.001$). Finally, teens identified lack of parental trust as a barrier to parent-teen sex communication, while parents identified lack of comfort and uncertainty of topics to discuss as barriers.

Conclusions: Sex communication is beneficial as it helps parents to pass on values and can help teens to make good sexual health choices. The study’s findings suggest mechanisms are needed to help parents and teens overcome specific barriers in order to facilitate effective communication with each other.