

## Health Systems: Communicable Diseases – Surveillance and Prevention

Chairpersons: K Lewis-Bell, MA St John

### O – 52

#### Pneumococcal conjugate vaccines introduction in the immunization programme from 2011 and its impact on mortality under five years in Guyana

*J Woolford, M Thomas, RV Anthonisamy  
Pan American Health Organization/World Health Organization, Georgetown Guyana  
Email: woolforjan@paho.org*

**Objective:** To assess the impact of routine pneumococcal conjugate vaccines (PCVs) on the mortality of children under five years of age due to all causes including pneumonia.

**Methods:** Data were extracted from national authorities' secondary mortality data from 2000 to 2013. Crude mortality rates and cause-specific mortality rates were calculated. Frequency distributions, descriptive statistics such as mean, median, correlation and linear regression models were calculated for interpretation and prediction purposes. Data analysis was done using SPSS 20.0 for the deaths as coded in the International Classification of Diseases, 10<sup>th</sup> edition.

**Results:** Mortality cases from 2000 to 2013 were reviewed (n = 4931). There was a steady decline in the mortality rate over the years. Data revealed that the mortality rate was highest in the period prior to the introduction of PCVs and decreased to 263 or 35.3 per 1000 births at the end of 2013. There was a high negative correlation (-0.882) between year and the number of deaths due to respiratory-related illness for children below five years of age and this was highly significant at  $p$ -value = 0.000 < 0.05. The linear regression model was significant since the  $p$ -value = 0.000 < 0.05 and the coefficient of determination was 77.7%. Applying the model, the under five years mortality predicted for 2014, 2015 and 2016 were 17 (26/1000), 15 (23/1000) and 12 (19/1000), respectively.

**Conclusion:** This study showed that the national authorities should continue to invest in PCV immunization programme, look into other major causes of death under five years and prepare plan of action for the management.

### O – 53

#### Implementation and outcomes of a patient tracing programme for HIV at the Medical Research Foundation, Trinidad and Tobago

*J Edwards, N Lyons, A Hinds  
Medical Research Foundation of Trinidad and Tobago, Port-of-Spain, Trinidad and Tobago  
Email: jeffrey2000@gmail.com*

**Objective:** To describe the implementation and outcomes of a missed appointment tracing programme to reduce loss to follow-up (LTFU) among the human immunodeficiency virus (HIV) patients in care at the Medical Research Foundation, Trinidad and Tobago (MRFTT).

**Methods:** A list of patients who missed their clinic appointments between July 2016 and June 2017 was generated using the Electronic Medical Records System. Between April and September 2017, two social workers who were hired as patient tracers contacted patients or their given next of kin were *via* telephone to reschedule their visits. The outcomes of all calls were logged, monitored and updated intermittently to see whether patients returned.

**Results:** Tracing activities were conducted on 1058 patients who were identified as missing their clinic appointments. Initial outcomes were identified for 192 patients: 27 (2.5%) were transferred to another clinic, 64 (6%) confirmed dead, 35 (3.3%) hospitalized, 50 (4.7%) migrated and 16 (1.5%) incarcerated. An additional 866 patients were identified for active follow-up and were contacted through phone calls including, 589 (68%) who were successfully returned to care, of whom 507 (86%) restarted medications. One hundred and twelve (13%) had not yet returned despite repeated phone calls and 165 (19%) could not be contacted. The three most common barriers patients reported were forgetting their appointments, being too busy and/or having to work and not wanting to be seen coming to the clinic.

**Conclusion:** A patient-tracing programme is a practical and feasible approach to routinely track patients who missed appointments, reduce LTFU and retain patients in HIV care.

## O – 54

### Surveillance of HIV-infected mothers and infants in a prevention of mother-to-child transmission programme

*M St John, D Babb*

*Queen Elizabeth Hospital, Barbados*

*Email: mastj@caribsurf.com*

**Objective:** To evaluate the trends and outcomes among human immunodeficiency virus (HIV) infected pregnant women and infants.

**Methods:** The national surveillance prevention of mother-to-child transmission (PMTCT) programme was expanded and fully implemented in 2002. The medical records of HIV-infected pregnant women who delivered live births between January 2012 and December 2016 were reviewed. Specific maternal indicators among women with live births were evaluated: age, parity, gestation, highly active antiretroviral therapy (HAART), delivery type and indicators for infants: birthweights, outcomes and mother-to-child transmission (MTCT) rates were analysed. Data were entered on a Microsoft Excel spread sheet.

**Results:** One hundred and four pregnant women delivered live infants and were aged 18–40 years. Ten (9.6%) were primiparous and the remainder multiparous. There were two (2%) women with repeat pregnancies. All except for two women were taking HAART at the time of delivery. There were 107 live births, with one twin delivery and one triplet delivery. Eighteen per cent of deliveries resulted after Caesarian sections. Birthweights ranged from 1600 g to 4.4 kg and gestations from 30 weeks to post term. Four infants (4%) were admitted to the Neonatal Intensive Care Unit after birth. Two routine polymerase chain reaction (PCR) tests done by four months of age revealed infection in three (2.85%) infants.

**Conclusion:** This surveillance study revealed an increased infection rate of MTCT during the period of surveillance. This merits a need for strengthening of measures in the PMTCT national programme to achieve an even better outcome among HIV-infected pregnant women and their offspring.

## O – 55

### HIV prevention in The Bahamas: Self-reported prevalence and attitudes toward male circumcision among selected population groups

*C George, R Roberts, D Brennen, L Deveaux, S Read*

*University of Ontario Institute of Technology, Oshawa, Canada; The University of the West Indies School of Clinical Medicine and Research, Nassau, The Bahamas; Ministry of Health, Nassau, The Bahamas; University of Toronto, Toronto, Canada*

*Email: clemon.george@cavehill.uwi.edu*

**Objective:** This study explored Bahamian males' self-reported prevalence of circumcision, their attitudes towards male circumcision (MC) and willingness to be circumcised.

**Methods:** For the study survey, we used a cluster sampling technique currently in use by the Department of Statistics. We recruited both males and females but for this report, the focus was on males only. For the Royal Bahamian Police and Defence Force personnel, we used convenience sampling. A standardized questionnaire adapted from the Joint United Nations Programme on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome/World Health Organization (UNAIDS/WHO) was used to elicit data from adults with an age-appropriate version being used for high school students. The study was approved by the Research Ethics Board of the University of Ontario Institute of Technology and the National Ethics Committee of The Bahamas. Data analysis was done in SPSS.

**Results:** Our sample included 104 individuals within the Royal Bahamian Defense Force (RBDF), 150 Royal Bahamian Police (RBPF) officers, 210 male college students and 723 male high school students. Self-reported circumcision was as follows: 23% RBDF, 31.5% and 35% younger and older RBPF officers, respectively, 33% and 16.5% college and high school students, respectively. Of the uncircumcised men, 33%, 29%, 20% and 35% of the RBDF, RBPF, college and high school students responded positively to wanting circumcision.

**Conclusion:** Our study indicated that if MC was offered to men as part of a comprehensive package of men's health, there would be a high uptake. Further, there was a knowledge gap on MC as a health protection practice.

## O – 56

### Knowledge of Human Papillomavirus and Human Papillomavirus vaccines among Bahamas high school students

*C George, R Roberts, D Brennen, L Deveaux, S Read*

*University of Ontario Institute of Technology, Oshawa, Canada; The University of the West Indies, School of Clinical Medicine and Research, Nassau, The Bahamas; Ministry of Health, Nassau, The Bahamas; University of Toronto, Toronto, Canada*

*Email: clemon.george@cavehill.uwi.edu*

**Objective:** This study explored school-aged youth knowledge of human papillomavirus (HPV) and HPV vaccines using and standardized questionnaire.

**Methods:** We used a cluster sampling technique in use by the Department of Statistics to recruit students in 2014. We recruited both males and females. A standardized HPV questionnaire was used to elicit data. The study was approved by the relevant Research Ethics Boards. Data analysis was done in SPSS.

**Results:** A total of 1553 students completed the questionnaire. For this paper, our sample of interest were those who answered the question: 'Before today, did you hear about HPV?' 146 (10.7%) responded 'yes'. Only gender differentiated between those who had not heard (males) *versus* those who had heard about HPV (females). With regards to those who had heard about HPV, there was a serious gap in detailed knowledge of HPV and the vaccine. More than 60% of the students did not know that HPV can cause cervical cancer. Overall, 30% of participants knew that there were no visible signs of HPV.

**Conclusion:** Only gender, differentiated between those who had not heard (males) *versus* those who had heard about HPV (females). With regards to those who had heard about HPV, there was a serious gap in detailed knowledge of HPV and the vaccine. More than 60% of the students did not know that HPV could cause cervical cancer. Overall, 30% of participants knew that there were no visible signs of HPV.

### O – 57

#### **Human T-lymphotropic virus Type 1 co-infection among HIV-infected patients attending a large HIV treatment centre in Trinidad**

*J Edwards, N Lyons, A Hinds*

*Medical Research Foundation of Trinidad and Tobago, Port-of-Spain, Trinidad*

*Email: jeffrey2000@gmail.com*

**Objective:** To determine the prevalence of Human T-lymphotropic virus Type 1 (HTLV-1) infection in patients attending the HIV Clinic and to determine the CD4 counts of HIV/HTLV-1 co-infected patients compared to HIV singly infected patients at initial visit to the HIV Clinic at the Medical Research Foundation as studies showed that HIV/HTLV-1 co-infected patients may have artificially elevated CD4 counts.

**Methods:** The Electronic Medical Records System generated a list of HIV/HTLV-1 co-infected patients who attended a large HIV Treatment Centre in Trinidad between 2002 and October 2017 and a comparison group of HIV singly infected patients during the years 2015–2016. A chart review study was conducted on these patients.

**Results:** Between April 2002 and July 2017, 8646 HIV patients were enrolled at the clinic and 160 (1.85%) were HIV/HTLV-1 co-infected; 74 males (46.2%) and 86 females (53.8%), age range 17–81 years, mean age 40.8 years, mean CD4 count = 371 cells/mm<sup>3</sup>. Between January 2015 and December 2016, 744 HIV singly infected clients were enrolled, 448 males (60.2%), mean age 35.5 years. Mean CD4 count was 335 cells/mm<sup>3</sup>. Human T-lymphotropic virus Type 1/HIV co-infected patients at initial visit were more likely to be female (95% CI: 1.25, 2.48,  $p = 0.001$ ) and of older age (95% CI: 3.17,

7.51,  $p < 0.0001$ ). There was no statistically significant difference in CD4 counts among HIV co-infected patients compared to those singly infected with HIV ( $p = 0.17$ ).

**Conclusion:** The HTLV-1 seroprevalence increased with age and was higher in females confirming the findings of other studies and there was no statistically significant difference in CD4 counts between HTLV-1 co-infected and HIV singly infected patients.

### O – 58

#### **Fertility desire and awareness of fertility options among the HIV population**

*K Carroll, AM Pottinger*

*The Hugh Wynter Fertility Management Unit, The University of the West Indies, Kingston, Jamaica; Department of Child and Adolescent Health, The University of the West Indies, Kingston, Jamaica*

*Email: kamali.carroll@uwimona.edu.jm*

**Objective:** To explore fertility desires and intent of people living with HIV and determine if sero-discordant couples were aware of assisted reproductive methods that reduced the risk of infection.

**Methods:** A cross-sectional design conducted at the Centre for HIV/AIDS Research and Education (CHARES) with 178 men and women aged 18–49 years. A questionnaire on fertility desire and intent and awareness of assisted conception was interviewer-administered. Ethical approval was received from The University of the West Indies Ethics Committee. Chi-square and Fisher's Exact test, when applicable, were conducted to explore differences among study variables.

**Results:** Whether in serodiscordant or seroconcordant relationship, 62% indicated an interest in having children, with a larger percentage being serodiscordant (64% vs 47%),  $p = 0.09$ . Both groups reported active attempts at conceiving through unprotected intercourse (32% sero-discordant and 27% sero-concordant). There was no difference between younger (below 30 years) and older participants (over 40 years) and their desire for children (31% vs 28%). Older persons and men were more likely to disclose their status to their partners ( $p = 0.04$  and  $p = 0.02$ , respectively). Fifty-one per cent described being aware of methods of fertility treatments to reduce transmission, with younger participants being more aware of options than their older counterparts (59% vs 45%,  $p = 0.05$ ).

**Conclusion:** Human immunodeficiency virus status did not dampen the desire of PLHIV to have children or pursue a pregnancy, with higher interest reported by sero-discordant couples who were at increased risk of transmission. The results highlighted awareness of fertility options but the uptake of these options remained low.

**Elimination of the mother-to-child transmission of HIV and congenital syphilis in the Caribbean: Enabling factors, challenges and lessons learned**

*S Jones, N Jack, S Caffee*

*PAHO/WHO Office of Caribbean Sub regional Office-Coordination, Barbados*

*Email Address: jonessan@paho.org*

**Objective:** To present an overview of the enabling factors, challenges and lessons learned from the implementation of the strategy for the elimination of the mother-to-child transmission of HIV and Congenital Syphilis (EMTCT) in six Caribbean countries.

**Methods:** A comprehensive desk review and qualitative analysis was conducted on the national EMTCT reports, which were submitted by countries applying for validation between April 2015 and July 2016. Gaps and challenges

identified and documented by countries during an informal assessment process were also analysed.

**Results:** The analysis revealed that the enabling factors such as political commitment, strong maternal and child health services and adequate budgetary allocations were common across all the countries. While there existed a solid structure for the prevention and management of HIV of the pregnant woman and the exposed infant within the framework of maternal and perinatal services, the same was absent for syphilis. Universal and early access to ANC services and the level of awareness of the two infections among pregnant women affected the manner in which the services were accessed and subsequently delivered.

**Conclusion:** Strengthening of the national structure that supports the quality management of maternal and perinatal programmes with clear protocols is needed. This should be supported by ongoing monitoring and evaluation of the primary prevention and treatment services for HIV and syphilis.