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Chairpersons: K Broome, S Persaud

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Jamaicans living with sickle cell disease: What do they know about SCD?

M Asnani, M Anderson
Tropical Medicine Research Institute; Department of Sociology, Psychology and Social Work,
The University of the West Indies, Kingston, Jamaica
E-mail: *monika.parshadasnani@uwimona.edu.jm*

Objective: This study seeks to qualitatively explore in-depth what knowledge persons with sickle cell disease (SCD) have about their disease. There is minimal information on this area and definitely none from Jamaica where SCD remains the commonest genetic disorder. Interventions will be suggested.
Design and Methods: Thirty in-depth interviews (50% males, 50% urban residence) were conducted with adult patients with SCD attending the Sickle Cell Unit in Jamaica. Transcribed data were analysed using thematic analysis. Approval was obtained from the University Hospital of the West Indies/University of the West Indies/ Faculty of Medical Sciences Ethics Committee.
Results: The main themes emerging from the interviews were: "transmission of SCD", "mechanisms of action", "managing SCD" and "source of knowledge". Most participants understood that SCD was hereditary, but rural participants especially had misunderstandings *eg* they thought SCD could be transmitted through blood, from non-parent kin, and from one parent only. Rural participants also had poor knowledge of what caused the problems in SCD. Most participants understood that their partner should be tested for their sickle status; however, many did not insist on partner testing. Most persons had a good understanding of what daily precautions to take to manage their illness. Commonest sources of information were from the doctors, pamphlets and brochures, and least from the community.
Conclusions: There are important gaps in understanding of the inheritance pattern of the disease. Patients also need to be empowered to encourage their partners to get tested. Rural participants need greater targeted counselling efforts. These efforts need to be led by the health care professionals to improve understanding of the disease among patients.

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Sickle cell disease: A risk factor for fatal dengue fever in the 2012 epidemic in Jamaica – A preliminary report

A Rankine-Mullings, JM Knight-Madden, M MooSang, OL Lynch, M Reid
Sickle Cell Unit, Tropical Medicine Research Institute, The University of the West Indies, Kingston, Jamaica
E-mail: *jennifer.knightmadden@uwimona.edu.jm*

Objective: The objective of this study was to determine the relative risk of death from dengue among individuals who also had sickle cell disease (SCD) compared to the general population, during the 2012 dengue outbreak. We also sought to explore the experiences of the Sickle Cell Unit (SCU), Jamaica, during the outbreak, specifically the clinical presentation and diagnostic evaluation of patients with suspected dengue fever.
Design and Methods: This study is a retrospective analysis of patients with SCD who presented to the SCU between August and October 2012. The clinical presentation of SCU patients suspected or confirmed to have dengue and the outcomes of dengue serology is described. Information disseminated by the Ministry of Health, Jamaica was used to calculate the relative risk for death from dengue for SCU patients compared with the general population.
Results: Fever, headache and gastrointestinal disturbances were the most frequently presenting manifestations. There were nine deaths occurring in confirmed or suspected dengue cases; three being patients of the SCU and two having Sickle C disease. The relative risk of dying from dengue with co-existing SCD was 85 (95% CI: 24.6, 293.4), $p < 0.001$.
Discussion: Patients with SCD, especially those with Sickle C disease, who present with symptoms compatible with dengue should be considered high risk, admitted to hospital and monitored carefully for signs of complications.

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Impact of a comprehensive sickle cell centre on early childhood mortality in a developing country: The Jamaican experience

L King, S Bortulosso-Ali, C Cunningham-Myrie, M Reid
Sickle Cell Unit; Epidemiology Research Unit, Tropical Medicine Research Institute, The University of the West Indies, Kingston, Jamaica.
E-mail: *lesley.king@uwimona.edu.jm*

Objective: To compare under-five mortality in children with sickle cell disease (SCD) in Jamaica, diagnosed by newborn screening and managed in a comprehensive care facility, to the general population.
Design and Methods: The study was carried out at the Sickle Cell Unit (SCU) in Kingston, Jamaica. We determined the status (dead/alive) at age five years in a cohort of children with SCD diagnosed by newborn screening and managed at the SCU during the period November 1995 to December 2009. The standardized mortality ratio (SMR) was calculated using World Health Organization (WHO) life tables for reference mortality.
Results: Five hundred and ninety-nine children were eligible for the study. Eight deaths (1.3%) occurred during the study period. The mean age at death was 2.0 ± 1.5 years. The overall under-five mortality incidence was 2.8 (95% CI 1.4, 5.9) per 1000 person years with a SMR of 0.47 (95% CI 0.2, 0.9; $p < 0.05$).
Conclusions: Under-five mortality in children with SCD diagnosed at birth and managed at a comprehensive care clinic in Jamaica is significantly lower when compared to the general population. Children with SCD, a highly vulnerable population, can be effectively managed, even in resource-limited environments.

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Measuring perinatal and under-five mortality in Jamaica: Quality and completeness of vital data

A McCaw-Binns, J Mullings, Y Holder
Department of Community Health and Psychiatry, University Health Centre, The University of the West Indies, Kingston, Jamaica; International Biostatistics and Information Services, Castries, St Lucia
E-mail: *affette.mccawbinns@uwimona.edu.jm*

Objective: To assess the completeness of reporting of fetal and under-five deaths from vital data and the quality of coding and classification of these deaths.
Design and Methods: A multi-source methodology was used to validate the completeness of registration of fetal and under-five deaths occurring during 2008. Registered events were compared to records from hospitals, police, forensic pathologists and Coroner's courts. Data on birth weight, gestation and date of birth were extracted from hospital records. A 10% random sample was examined to evaluate the quality of certification and coding.
Results: Of 797 fetal and 933 under-five deaths, 523 (66%) fetal and 738 (79%) under-five deaths were registered by March 31, 2009 to enable counting for 2008. The fetal, infant and under-five mortality rates were 18/1000 births, and 20 and 22/1000 live births, respectively. Under-reporting of fetal deaths was associated with maternal age, gender of infant, region and place of death. Among under-five deaths, age at death, region, place and cause of death were important. Registration rates decreased with infants' age due to increased incidence of accidents with age and delays in registering Coroner's case deaths. Fetal death certificates lacked usable cause of death data, particularly those certified by midwives.
Conclusions: While the registration of fetal and under-five deaths improved between 1998 and 2008, under-reporting reduced the effective rates by 20–34%. A separate perinatal death certificate to certify fetal and neonatal deaths would improve recording of maternal and fetal causes of death and other risk factors (birth weight, gestation, age at death).

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Leading causes of death in the English- and Dutch-speaking Caribbean during the period 2000–2008

S Quesnel, E Boisson, R de Souza, A Hinds,
E Bissessarsingh, B Irons
Caribbean Epidemiology Centre (CAREC), Port-of-Spain, Trinidad and Tobago, Pan American Health Organization (PAHO/WHO), Washington DC, USA
E-mail: *quesnesa@carec.paho.org*

Objective: To describe the leading causes of death in the English- and Dutch-speaking Caribbean during the period 2000–2008.
Design and Methods: Data were extracted from the regional mortality database and analysed using the Global Burden of Diseases grouping for the underlying causes of death. A leading cause trend analysis was completed for the years 2000–2008 using proportion of total annual deaths from each cause. Leading causes in 2006 (most complete year of data) were further analysed. Data were analysed using Microsoft Access, Microsoft Excel, Tableau and STATA.
Results: During 2000–2008, the top three leading causes of death were cerebrovascular disease, diabetes mellitus and ischaemic heart disease. In 2006, overall and in all age groups, except those aged > 65 years, there were more deaths among males than females. In this year, 57% of deaths occurred among those aged > 65 years and 24% occurred among those aged 45–64 years. Leading causes

of death also varied among age groups, with non-communicable diseases being the leading cause among those aged > 45 years and HIV/AIDS being the leading cause among those aged 25–44 years. Mainland countries were more affected by HIV/AIDS; cardiovascular diseases featured more prominently in Eastern Caribbean countries.
Conclusions: Chronic non-communicable diseases have dominated the first five leading causes of death. Death due to HIV/AIDS has decreased over the years, but still ranks at number six. The complex challenges to public health systems for preventing and managing non-communicable diseases will require judicious use of resources, reorientation of health services and motivating the population toward healthy lifestyle behaviours.

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Socio-economic differences in mortality among adults in The Bahamas

N Brathwaite
Health Information and Research Unit, Ministry of Health, Nassau, Bahamas
E-mail: *nanikab@hotmail.com*

Objective: To examine differences in mortality rates by socio-economic status (SES) among adults in The Bahamas.
Design and Methods: A subsample of adults 25 to 59 years was extracted from registered deaths databases for the years 2000 to 2009. Occupation as coded in the dataset was used to determine socio-economic status. The outcome variable was crude rates per 10 000 persons for each occupational class, derived from the 2000 census. Descriptive statistics, the absolute range, relative range, the population attributable risk (PAR), and the effect index were all used to examine differences for all causes and selected causes of mortality.
Results: The median number of deaths for this period was 486. Mortality rates showed a gradual increase as SES decreased (13.1 of the highest class, 52.0 of the lowest). High (4.0 or greater) relative ranges and/or PARs (60% or greater) existed for all cause mortality, all cause mortality for males, female heart diseases, male cancer, all external causes, male external causes, and all stroke. The highest discrepancy of mortality by SES was for HIV disease, with relative ranges of around 10, and PARs of approximately 80%. The effect index for HIV ranged from 1.6 for all persons (95% CI 1.2, 2.0) to 1.8 (95% CI 1.1, 2.6) for males.
Conclusions: While the overall results were expected, the social class discrepancy for AIDS mortality was surprising. This may be real, or due to recording differences on death certificates.

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Allostatic load in Jamaicans: Sex differences and variability across neighbourhoods

C Cunningham-Myrie, E Mabile, I Govia, N Younger, M Tulloch-Reid, S McFarlane, D Francis, G Gordon-Strachan, R Wilks, K Theall
The University of the West Indies, Kingston, Jamaica; Tulane University, New Orleans, LA, USA
E-mail: *colette.cunninghammyrie@uwimona.edu.jm*

Objective: Allostatic load (AL) is defined as the cumulative wear and tear on physiological systems and organs due to chronic stress. The objective of this study was to describe sex differences in AL among Jamaicans and examine whether variability exists across Jamaican neighbourhoods.
Design and Methods: The Jamaica Health and Lifestyle Survey 2008 (JHLS II) dataset was used to derive AL scores. Allostatic load score was created using seven biomarkers: systolic and diastolic blood pressure, waist circumference, body mass index (BMI), total cholesterol levels and fasting blood glucose levels and self-reported asthma. The 'neighbourhood' was defined as the enumeration district (ED). Clustering was measured using the intra-class correlation coefficient (ICC).
Results: There was a statistically significant sex difference in mean AL scores across all age groups with consistently higher mean scores among women. The 35–44-year age group had the largest percentage (31%) of high AL scores. There was significant clustering of AL by ED, with more clustering among women *versus* men (3.5% *vs* 2.0%).
Conclusions: Significant sex differences exist in AL among Jamaicans with significant variability across neighbourhoods. These sex differences are in sharp contrast to studies conducted in many other countries, where men demonstrate more physiologic reactivity to psychological stressors. Given the established relationship between AL, non-communicable diseases and other health outcomes, special attention should be paid to individual and neighbourhood factors that may contribute to these sex differences in adaptive responses to repeated exposures, and adaptations to both acute and chronic stressors and strains.