

Poster Presentations

P – 1

Research proposal writing know-how

LC Benjamin, GC Benjamin

Department of Clinical Medicine, Ross University School of Medicine, Portsmouth, Dominica; Princess Margaret Hospital, Roseau, Dominica

E-mail: lbenjamin@rossu.edu

Objective: To identify the common types of errors made by applicants submitting research proposals to the Ross University School of Medicine (RUSM) Institutional Review Board (IRB).

Subjects and Methods: This was a retrospective chart review study in which all research proposals reviewed by the IRB committee of RUSM from January 2013 to September 2014 were analysed.

Results: A total of 28 (56%) of the 50 proposals submitted to the IRB had errors. Errors were identified mainly in the methodology. This was followed by errors in the background and then in the miscellaneous category.

Conclusions: Researchers had the greatest difficulty in writing acceptable proposal methodologies.

P – 2

The knowledge, attitude and beliefs of undergraduate medical and dental students toward dental treatment during pregnancy

D Ramsahai, N Ramlogan, T Hector, L Deyalsingh, M Thorpe, T Ford, AK Bissoon-Moonasar, R Balkaran
School of Dentistry, The University of the West Indies, St Augustine, Trinidad and Tobago

E-mail: ramaa.balkaran@sta.uwi.edu

Objective: To determine the knowledge, attitudes and beliefs of undergraduate pre-clinical medical and dental students at The University of the West Indies toward dental treatment during pregnancy.

Subjects and Methods: All first- and second-year students attending The University of the West Indies Schools of Dentistry and Medicine were invited to participate in a self-administered questionnaire which was based on a validated one and was piloted on the dental interns for item clarity.

Results: Two hundred and seventy-seven students participated in the study. Mean age was 20.6 years; 53.8% were female, with the major ethnic groups showing 56.2% Indo-Trinidadian and 21% Mixed. Of the participants, 12.3% thought that swollen gums were associated with pregnancy, while 28% felt that bleeding gums were not associated with pregnancy. The majority of participants (61.8%) felt that it was safe to conduct dental examinations during pregnancy; however, 27.6% of the participants felt that radiographs were safe during pregnancy. The majority (54%) were uncertain whether pregnancy was associated with tooth decay. More than three-quarters of the students (77.9%) were unsure whether oral disease was associated with pre-eclampsia.

Conclusion: These data provide the first insight into the knowledge, attitudes and beliefs of pre-clinical, undergraduate dental and medical students on pregnancy and oral health in the Caribbean. The knowledge of the participants in this study was low, which underscores the need to educate all future health professionals at the pre-clinical level on the correlation between dental health and pregnancy and the importance of the effects of dental treatment on systemic diseases.

P – 3

Assessment of burnout in physicians employed with the public healthcare system in The Bahamas

M Wallace-Bain, M Gonzales-Cameron, R Roberts-Carter, S Zonicle-Newton, S Pinder-Butler, MAC Frankson
Department of Family Medicine, The University of the West Indies, School of Clinical Medicine and Research, Nassau, Bahamas

E-mail: wmerrilyn@yahoo.com

Objectives: To assess the prevalence of burnout among physicians employed in urban *versus* Family Island public healthcare clinical settings in The Bahamas.

Method: A cross-sectional study was done utilizing a self-administered survey covering demographics, general health, work environment and Maslach Burnout Inventory items among physicians within community healthcare centres in New Providence, Grand Bahama (GB), the Family Islands, and the Rand Memorial Hospital (GB).

The Statistical Package for Social Sciences was used for data analysis.

Results: Eighty-four physicians participated. Their median age was 36.5 (IQR: 29.75, 43.25) years; 66.3% (55) were females. Almost two-thirds (65.3%) of doctors at Rand Memorial Hospital and 62.5% of public health doctors in New Providence *versus* 38.9% of physicians in community clinics of islands elsewhere in The Bahamas had significant burnout (Cramer's $V = 0.47$, $p = 0.074$). At the Rand Memorial Hospital, self-reported burnout occurred in all nine participating physicians in internal medicine, 66.7% (4) in emergency medicine, 72.7% (8) in surgery, 66.7% (2) in psychiatry, 16.7% (1) in obstetrics, 37.5% (3) in paediatrics and 83.3% among other physicians. Burnout status in participating physicians correlated with their gender ($\Phi = 0.306$, $p = 0.006$) and age ($r = -0.258$, $p = 0.020$). Poor relationship with colleagues, sleep deprivation, irregular sleep patterns and lack of appreciation separately correlated with burnout status. Using logistic regression analysis, multivariate predictors of burnout status were lack of appreciation (OR = 2.75, $p < 0.001$) and perception that exercise is an effective stress reducer (OR = 0.47, $p = 0.006$).

Conclusion: Physicians' sleep patterns and perceptions of lack of appreciation and not perceiving exercise as a stress reducer were clear predictors of burnout in government employed physicians working elsewhere in The Bahamas than at the Princess Margaret Hospital.

P – 4

Total flavonoid content and antioxidative activity of Surinamese nutraceuticals

DRA Mans, K Oedairadsingh, J Toelsie, R Bipat, JA Hasrat

Departments of Pharmacology and Physiology, Faculty of Medical Sciences, Anton de Kom University of Suriname, Paramaribo, Suriname

E-mail: dennis.mans@uvs.edu

Objective: To evaluate Surinamese nutraceuticals for total flavonoid contents and to relate levels of these constituents to antioxidant activities.

Subjects and methods: Parts from *Euterpe oleracea* (*E oleracea*), *Oenocarpus bacaba* (*O bacaba*), *Hibiscus sabdariffa* (*H sabdariffa*), *Cestrum latifolium* (*C latifolium*), *Solanum melongena* (*S melongena*), *Morinda citrifolia* (*M citrifolia*), *Punica granatum* (*P granatum*), *Eugenia uniflora* (*E uniflora*), *Momordica charantia* (*M charantia*), *Luffa acutangula* (*L acutangula*), *Annona muricata* (*A muricata*) and Aloe vera were macerated, extracted with water, freeze-dried and assessed for total flavonoid contents and antioxidant activity using an aluminum chloride colorimetric method and a 2,2-diphenyl-1-picryl-hydrazyl-hydrate (DPPH) free radical

scavenging assay, respectively. Data were expressed as mean \pm SD ($n \geq 3$; Student's *t*-test, $p < 0.05$).

Results: Total flavonoid contents of the preparations from *E oleracea* and *O bacaba* fruits, *H sabdariffa* calyces and *C latifolium* leaves were > 100 rutin equivalents (RE) per mg extract and they scavenged DPPH free radicals at IC_{50} values < 100 $\mu\text{g/mL}$. Those from *S melongena* and *M citrifolia* fruits and *P granatum* seed pulps were < 50 RE per mg extract, but these samples also eliminated DPPH free radicals at IC_{50} values < 100 $\mu\text{g/mL}$. The preparations from *E uniflora*, *M charantia*, *L acutangula*, and *A muricata* fruits and those from Aloe vera leaves had both relatively low flavonoid contents (< 100 mg RE per mg extract) and low antioxidant activity (IC_{50} values > 200 $\mu\text{g/mL}$).

Conclusions: Despite some exceptions, in general, there was a good agreement between total flavonoid content and degree of antioxidant activity of the plant extracts. Some of these natural antioxidants may represent bioactive human health-promoting phytochemicals.

P – 5

Health awareness as a predictor of chronic non-communicable diseases in St Vincent and the Grenadines

D Santhosh, M Crasta, J Campbell, D Green, B Kim, W Alceus

Saint James School of Medicine, Arnos Vale, St Vincent and the Grenadines

E-mail: dsanthosh@mail.sjism.org

Abstract: This study was initiated to evaluate the effect of health awareness on health values such as dietary structure and choices. It also sought to evaluate the effect of health awareness levels on the presence of chronic non-communicable diseases in St Vincent and the Grenadines.

Subjects and Methods: This was a cross-sectional survey based on a community-based proportional sample of adults residing in the Georgetown and Leeward areas of St Vincent and the Grenadines. A 20-item survey instrument was used to gather data on demographics, socio-economic status, dietary structure and health awareness.

Results: Participants with high awareness level had higher educational levels and lower incidences of non-communicable diseases than individuals with low awareness levels. There was no significant difference in health awareness levels between gender and age. Chi-squared test gave a *p*-value of less than 0.00001 for the association between awareness level and disease. The relationship between awareness level and education yielded a *p*-value of 0.000088. Also, it was discovered that higher health aware individuals participated in health-centred behaviours. There was no significant difference in factors that affected the purchase of foods amongst all awareness groups. Cost and brand were identified as the most signi-

ficant factors in purchasing food. Calories and nutritional facts seemed to have lower influences on food purchase.

Conclusion: Health awareness is linked to chronic non-communicable diseases such as cancer, cardiovascular disease, hypertension, diabetes and stroke. However, there was a positive correlation between higher awareness and higher education levels.

P – 6

The prevalence of dental caries in public and private schools in St Kitts

*R Liburd, P Lawrence-Williams, E Beltran, T Christmas, P Martin, B Irons, S Estupian
St Kitts Dental Unit, Ministry of Health, St Kitts and Nevis
E-mail: citydentortho@gmail.com*

Objective: To compare the prevalence and severity of dental caries between school children attending public and private schools in St Kitts.

Subjects and Method: A total of 440 randomly selected students aged 6, 12 and 15 years from nine public schools and two private schools participated in a cross-sectional national oral health survey between October 2014 and May 2015. A questionnaire to identify knowledge, attitudes and practices and a clinical examination using World Health Organization (WHO) protocol were utilized.

Results: The prevalence and severity of dental caries were lower in six-year olds and 15-year olds from private schools than public schools. For example, mean decayed missing filled teeth [DMFT] (6) private = 0.65, DMFT (6) public = 2.80. Data for 12-year olds in private schools were not available. Additionally, students attending private school were more likely to engage in better oral health practices including more frequent brushing of teeth and better brushing technique. They were also more likely to brush their teeth after school (OR = 2.5, $p = 0.03$).

Conclusion: Students attending private schools have lower levels of dental caries and a higher proportion report healthier oral health practices. National oral health programmes should focus on reducing these inequalities.

P – 7

Level of patients' satisfaction with medical student's involvement in care at Queen Elizabeth Hospital

*SL Brade, PM Lashley, NP Sobers-Grannum
Faculty of Medical Sciences, Public Health, The University of the West Indies, Cave Hill, Bridgetown, Barbados
E-mail: bradesarah@gmail.com*

Objectives: To determine the factors associated with patient satisfaction with medical students being part of

care in the medical, surgical and gynaecological inpatient services at the Queen Elizabeth Hospital in Barbados.

Subjects and Methods: A cross-sectional survey was administered to inpatients at Queen Elizabeth Hospital, Barbados' main acute care medical facility. A 16-item closed-ended questionnaire was used in face-to-face interviews. Patient satisfaction was assessed through six predictor variables: level of satisfaction and level of comfort with a student, willingness to repeat the experience, willingness to recommend the service offered by the student, level of annoyance with the student and opinion on whether medical students' presence improved care.

Results: A total of 200 out of 206 patients – 67.5% of which were females – were asked to participate in the study. We found that 82.8% of men and 78.7% of women were satisfied with the medical students' involvement in their care, while only 73.4% and 69.6% of men and women, respectively reported feeling comfortable with medical students' involvement in their care. These gender differences were not statistically significant. In examining patients' level of comfort with the medical student, age and education were significant predictors. Those who were employed (64.6%) tended to have a lower level of comfort with medical students than those who were not employed (79.07%) [$p = 0.026$; OR = 0.483; CI = 0.253, 0.923].

Conclusion: The overall level of patient satisfaction with medical students was low relative to other studies. Age and education were significant predictors of patients' level of comfort with medical students.

P – 8

Investigating the uptake of the HPV vaccine and knowledge and attitudes toward HPV vaccination in Trinidad

*R Abraham, K Ahow, R Elder, K Mungrue
The University of the West Indies, Faculty of Medical Sciences, Department of Paraclinical Sciences, Unit of Public Health and Primary Care, St Augustine, Trinidad and Tobago
E-mail: ryanabraham@me.com*

Objective: The aim of this study is to measure the proportion of the population aged 9–26 years who have received at least one human papillomavirus (HPV) vaccination shot as well as to quantify how many received the three required vaccination shots in Trinidad. This study will also explore parental awareness and attitude toward the HPV vaccine.

Subjects and Methods: We used a cross-sectional prospective study design. The population consisted of all parents 18 years and over with at least one live birth attending a paediatric outpatient clinic at three teaching hospitals associated with The University of the West

Indies. A *de novo* questionnaire was designed and administered to all participants,

Results: We report four key findings: 1) overall knowledge of HPV as well as the vaccine was low among parents with children eligible for the HPV vaccine, 2) parents indicated high levels of willingness and acceptability of the HPV vaccine, 3) very few parents understood the types and nature of the vaccine and 4) there was a low uptake, particularly in the school-based programme.

Conclusion: We provide evidence on parental barriers to the HPV vaccination programme introduced in 2013 as well as the current uptake of the vaccine.

P – 9

Primary healthcare: Is it the answer to the delivery of effective healthcare in Trinidad?

K Mungrue

The University of the West Indies, Faculty of Medical Sciences, Department of Paraclinical Sciences, Eric Williams Medical Sciences Complex, Mt Hope, Trinidad and Tobago

E-mail: kameel.mungrue@sta.uwi.edu

Objective: The aim of this study is to determine the characteristics and caseloads of primary care in a selected geographical region of Trinidad for the period 2013–2015.

Subjects and Methods: A prospective observational study of eleven primary healthcare facilities in North Central Trinidad was done. Each facility was considered a cluster and all ambulatory face-to-face visits to a physician were recorded and classified into three categories: 1) chronic non-communicable diseases, 2) maternal and child healthcare and 3) other, for 2013, 2014 and January to September 2015. The number of physicians and their current post-graduate training were also determined.

Results: There were 313 259 and 254 266 ambulatory face-to-face visits at eleven primary health care facilities in 2013 and 2014. At the end of the 3rd quarter of 2015, there were 190 937 visits, suggesting that this pattern was continuing. While there were more visits for maternal and child healthcare, there was a 16% increase in chronic non-communicable diseases between 2013 and 2014.

Conclusion: This study provides evidence for the first time of the increasing burden placed on primary healthcare in Trinidad.

P – 10

Factors and criteria that prompt delayed pregnancies: Age range (35 years and above)

D Santhosh, M Flynn, L Jean, SJ Sykes, S Wilson

Saint James School of Medicine, Arnos Vale, St Vincent and the Grenadines

E-mail: dsanthosh@mail.sjssm.org

Objective: The purpose of conducting this research was to provide an in-depth analysis of women who have chosen to delay having children, for a multitude of reasons, and how this has shifted perspectives on child bearing. In the past, pregnancy generally occurred among younger women, but this has drastically deviated toward women waiting for longer periods of time to start a family and have children. We sought to understand the main contributing factors women encounter while delaying pregnancy through conducting a cohort study.

Subjects and Methods: The study involved an online survey of 150 participants through the software called Survey Monkey with the help of a questionnaire that aided in the analysis tool. The research was conducted by first seeking out participants who could be grouped into two cohorts, either 35 years and over with no history of previous pregnancies or 35 years and over with prior history of pregnancy. There was an anticipated total of 150 participants but, overall, 158 participants were analysed. This survey illustrates the information that will be the basis of our research. We included all the vital information about the details of our research study and an informed consent. The responses were analysed accordingly and a Chi-squared-test, *p*-value and degree of freedom was done to obtain accurate data.

Results: Most (44.59%) of the participants were between the age of 35 and 40 years, 25.48% were between 40 and 45 years and 29.94% were 45 years and above. Nearly all (99.37%) of the participants viewed emotional stability as significant. Education was another major demographic that was explored and the majority seemed to be working in the field of education (15.65%), healthcare (30.43%) and law (2.61%) or were self-employed (20.0%).

Conclusions: Respondents who did not have children were more likely to fall under the category of having higher education and more prestigious job opportunities. Financial and emotional stability were important criteria for respondents in both cohorts (those who did and those who did not have children). Health risks and illness were statistically significant but age group did not play a significant role in delayed pregnancy.

P – 11

Prevalence of exclusive breastfeeding, its barriers and demographic variation in Montserrat

A Gopal, G West, I Buffonge, R Elton
Ministry of Health, Montserrat
Email: *drashag@hotmail.com*

Objective: To determine the prevalence of exclusive breastfeeding and how it is influenced by demographic factors that affect the use of non-nutritional supplementation.

Subjects and Methods: A descriptive retrospective chart review was performed. Data were collected from the notes of 381 infants born between 2006 and 2012.

Results: Of the 381 infants born, only 292 met the criteria. Exclusive breastfeeding prevalence was 51%, 39%, 30%, 19% and 11% at the 1st, 2nd, 3rd, 4th and 5th month, respectively. The cultural practice of supplementing with non-nutritional feeds like water, gripe water and juice *etc* was 24%, 18%, 14%, 11% and 9% at the 1st, 2nd, 3rd, 4th and 5th month, respectively. There was no significant variation with demographic factors (nationality, parity, marital status and maternal age). However, data revealed a statistically significant correlation between mother's higher education and less use of water ($p = 0.009$). Mann-Whitney tests and Chi-squared tests were used.

Conclusion: In Montserrat, there is a low prevalence of exclusive breastfeeding as the cultural practice of supplementing with non-nutritional feeds continues. This study suggests that demographic variations such as parity, maternal age, marital status and nationality do not individually affect the tendency to supplement infants; however, mothers with lower levels of educational attainment are more likely to give their infants supplementation with water. Education is key to the success of the Baby Friendly Hospital Initiative.

P – 12

Withdrawn

P – 13

The morbidity pattern of children with sickle cell disorders admitted to the Queen Elizabeth Hospital, Barbados (2009–2013)

D Grannum, PM Lashley
Queen Elizabeth Hospital, Barbados
E-mail: *Paula.lashley@cavehill.uwi.edu*

Objective: A retrospective study was conducted to report on the morbidity and mortality pattern of sickle cell disorders in children who required hospital admission in Barbados over a five-year period.

Subjects and Methods: The admission registers of the paediatric wards and the paediatric intensive care unit at the Queen Elizabeth Hospital were reviewed, and the medical files of all the children with sickle cell anaemia admitted to these wards from January 1, 2009 to December 31, 2013, were analysed.

Results: Two hundred and twenty (59 patients) admission notes were analysed during the five-year period. The admission age ranged from five months to 16 years; 53.2% were male and 46.8% were female. The majority (85.8%) of the patients had Hb SS and 14.2% had Hb SC. The most common reason for admission was vaso-occlusive crisis; blood transfusions were done during 39.7% of the admissions. There were no deaths during the study period.

Conclusion: The number of sickle cell-related admissions and morbidity has increased, compared to 20 years ago and during sequential years of this study. There has also been an increase in the number of blood transfusions among children with sickle cell. The mortality rate for children with sickle cell in Barbados is low compared to other territories in the Caribbean and worldwide. The need for better comprehensive management protocols and universal screening is emphasized to decrease the morbidity patterns seen in this study.

P – 14

Congenital diaphragmatic hernia, omphalocele, gastroschisis and other major congenital malformations of the musculoskeletal system among neonates in Barbados

K Singh, K Morris, C Best, A Greaves, C Greaves,
A Kumar
The University of the West Indies, Cave Hill; The Queen Elizabeth Hospital, Barbados
E-mail: *keertisinghis@gmail.com*

Objectives: To study the overall prevalence rate and the pattern of major congenital malformations of the musculoskeletal system. To describe the prevalence trend, associated risk factors, morbidity and mortality from abdominal wall defects and the diaphragmatic hernias.

Subjects and Methods: A retrospective audit study of major congenital malformations of the musculoskeletal system was conducted during 1993–2012 in this predominantly Afro-Caribbean population. Cases were identified from the neonatal admission register and supplemented with data from the birth registry and the individual case files.

Results: There were 57 cases of major congenital malformations of the musculoskeletal system, giving an

overall prevalence of 9.02/10 000 live births. The prevalence of omphalocele, gastroschisis and diaphragmatic hernias were 2.53, 2.22 and 1.42 per 10 000 live births, respectively. A decreasing trend in the prevalence of gastroschisis was noted but this was not significant. Gastroschisis was significantly more prevalent among mothers < 21 years, premature deliveries and low birth-weight babies. Diaphragmatic hernia was significantly more prevalent among mothers in the age group 21–35 years. The case fatality ratio for the omphalocele, gastroschisis and diaphragmatic hernia was 12.5%, 28.5% and 67%, respectively.

Conclusions: Omphalocele, gastroschisis and diaphragmatic hernias diagnosed at birth carry high mortality and provides sufficient reason for routine antenatal ultrasound screening for all pregnant women for better management and outcome.

P – 15

Effective vaccine management assessment in Guyana – Setting a standard for the vaccine supply chain, 4th July – 21st July 2014

J Woolford, W Adu-Krow

PAHO/WHO, Georgetown, Guyana; Ministry of Public Health, Guyana

E-mail: woolforjan@paho.org

Objective: To review effective vaccine management (EVM) performance at randomly selected sites at three levels of the supply chain, against key criteria.

Subjects and Methods: Sixteen sites, including three lowest distribution level stores and 13 service level stores were randomly selected from eight regions out of 10. The National Vaccine Store was a compulsory site for assessment. Data collection was carried out with five teams using EVM questionnaire and data analyses were conducted using the EVM assessment tool. Data were collected and the EVM tool generated “criteria scores” for the nine global criteria to determine performance of the supply chain. In addition, “category scores” were generated on the eight EVM categories to provide an indication on the nature of interventions required.

Results: Guyana’s vaccine supply chain scored high in its first EVM assessment. At the primary level, eight out of nine EVM criteria scored over 80%. The mean score for the primary level was 88%, ranking it third highest among the 70 EVM assessments conducted globally and internationally since 2009. At the lowest distribution level, five out of eight EVM criteria scored over 80%. The harmonic mean score for the lowest distribution level was 79%. At service delivery level, all relevant EVM criteria scored close to or over 80%. The harmonic mean score for the service point level was reported at 84%.

Conclusion: This assessment was a baseline EVM which identified key strengths and challenges in the vaccine management performance. An EVM Improvement Plan has been developed to sustain high performance and address major challenges.

P – 16

Addressing teenage pregnancy in St Kitts and Nevis

S Martin-Clarke, N Carty-Caines, G Avery, P Lee

Ministry of Health, Charlestown, Nevis; University of Medicine and Health Sciences, St Kitts

E-mail: ssmcgold@yahoo.com

Objective: To analyse the trends in teenage pregnancy rates (TPRs) in St Kitts and Nevis over the fifteen-year period 2000–2014 and then review plans already in place to address problems and make suggestions for further action.

Subjects and Methods: Information was obtained from a wide range of published sources and personal reports to describe the extent of the problems and remedial actions taken. An analysis was then made of TPRs for St Kitts and Nevis covering 2000–2014.

Results: Teenage pregnancy is a universal problem. We found an overall TPR for St Kitts and Nevis of 16.5%, with St Kitts at 17.8% and Nevis at 14.9%. There was a statistically significant fall for both islands at $p = 0.001$ for St Kitts and $p = 0.015$ for Nevis. A good understanding has been obtained of the key causes including low income, absence of father figure, male expectations and early unprotected sex. There has been good progress in raising awareness and changing attitudes and behaviour, but many people remain unaware of some of the key issues.

Conclusion: A programme of interventions set up in St Kitts and Nevis in 2006/7 resulted in a slow fall in a previously static TPR. The programmes already in place can continue to make a significant improvement to the lives of teenagers in Nevis, resulting in a further reduction in pregnancies.

P – 17

Haemophilia care in Martinique: From 1982 to 2015

O Pierre-Louis, C Joachim, J Smith-Ravin, MN Yerro, S Molcard, I Citony, F Michel, J Rabout, M Vestris, M Rose, J Véronique-Baudin, S Pierre-Louis

University Hospital of Martinique Haemophilia Treatment Regional Center; Martinique Hospital, Fort de France; University Hospital of Martinique, Oncology Research and Martinique General Cancer Registry; Oncology, Haematology, Urology, Pathology Department, Pierre Zobda Quitman Hospital, Fort de France cedex; University Hospital of Martinique, Haematology

Laboratory; Pierre Zobda Quitman Hospital, Fort de France cedex; University Hospital of Martinique, Biology-Pathology; Martinique Hospital, Pierre Zobda Quitman Hospital, Fort de France; French West Indies University, Martinique; EA 929 AIHP-GEODE, BIOSPHERES, Schoelcher Campus, Schoelcher; University Hospital of Martinique Pharmacy, Pierre Zobda Quitman Hospital, Fort de France cedex

E-mail: olivier.pierre-louis@chu-fortdefrance.fr

Objective: Haemophilia A (HA) and B (HB) are the most common congenital bleeding disorders, characterized by missing clotting factor VIII (FVIII) for HA or factor IX (FIX) for HB, associated with specific mutations for the corresponding genes. This is the first article to focus on a localized specific haemophiliac population in the French West Indies.

Subjects and Methods: Clinical, biological, genetic and sociodemographic data were collected at the Martinique Regional Centre for the Treatment of Haemophilia (CRTH), established in 2000. Implementation of care services, number and diagnoses of patients, frequency of complications such as inhibitors, HIV and hepatitis C infection and underlying genetic mutations are described.

Results: Martinique, French West Indies, has a high rate of HA/HB as compared with other countries in the world. One hundred and thirty HA/HB patients were diagnosed in Martinique. The establishment of a CRTH provides standard care management to this population and may be a model for similar approaches in other French overseas regions. Nowadays, these patients can benefit from clinical and paramedical care comparable to what prevails in mainland France.

Conclusion: This study provides the first global report on epidemiological characteristics of haemophilia in Martinique. From the experience of Martinique, it would be interesting to build collaborative work around diagnosis methods and treatments in French overseas islands.

P – 18

Case study of haemophilia B in a family in Barbados

C Alexis, T James

The University of the West Indies, Cave Hill, Barbados

E-mail: cheryl.alexis@cavehill.uwi.edu

Objective: To discuss the profile of a family with haemophilia in Barbados and its impact.

Subjects and Methods: The family members studied were all patients of the Queen Elizabeth Hospital, Barbados. The authors did site visits, and two questionnaires, one dealing with the clinical aspects, the other with the quality of life, were administered to the five affected family members who were living in Barbados.

Results: Three generations of a family with haemophilia B in Barbados were examined. The first generation was the first known case in the family; early challenges were the non-acceptance of blood products as they are Jehovah witnesses. The era of the recombinant factor revolutionized their treatment. Complications included inhibitor development in one member and chronic haemarthrosis in two members who are wheelchair bound. Of note there were no blood-transmitted viruses in any member.

Conclusions: Despite being affected by a chronic bleeding disorder, this family has coped well by bonding together. Although their religion early on hindered effective treatment, the availability of the recombinant factor replacement impacted positively on this family and allowed them a reasonable quality of life. Major fears are the loss of availability of access to government assisted factor replacement. The need for a multidisciplinary and comprehensive approach to the treatment of haemophilia is recognized. There is a need for greater public health recognition.

P – 19

What is the incidence of adrenal adenomas in patients with previously diagnosed essential hypertension? An autopsy study

K Cruickshank, N Depeiza, D Gaskin, C Dupuis

King's College and King's Health Partners; Queen Elizabeth Hospital, Bridgetown, Barbados

E-mail: nadiadepeiza@gmail.com

Objective: To determine the incidence of adrenal adenomas in coroner's autopsy cases with previously diagnosed hypertension.

Subjects and Methods: Data were collected from 68 consecutive coroner's autopsy cases performed at the Queen Elizabeth Hospital over a three-month period. Exclusion criteria were paediatric cases (less than 16 years of age), decomposed bodies and visitors. At autopsy, the glands were dissected and placed in 10% neutral buffered formaldehyde for fixation.

Results: Of the 68 pairs of glands examined, nine grossly contained golden yellow cortical nodules which were sent for histopathologic evaluation. The nodules ranged in size from 0.4 cm to 2 cm in maximum dimension. Of the nine nodules, three were histologically confirmed adrenocortical adenomas, giving rise to a 4.4% prevalence in the study population.

Conclusion: The true incidence of adrenal adenomas is unknown and further autopsy studies would have to be performed to get a true representation of these tumours in this population.

P – 20

Progress in prostate cancer care in St Kitts and Nevis

*D Thwaites, J Scarborough, G Avery
Alexandra Hospital, Ministry of Health, Nevis Island
Administration; University of Medicine and Health
Sciences, St Kitts
E-mail: dwaynethwaites@hotmail.com*

Objective: To determine the importance of prostate cancer awareness in the community and the efforts toward detection and the provision of early, effective treatment.

Subjects and Methods: An analysis was made of records on deaths and admissions for prostate cancer in St Kitts and Nevis from 2002 onwards. A further review was made of activity in screening and raising awareness, starting in 2009.

Results: Cancer is the second most common cause of death in St Kitts and Nevis. In St Kitts, the most common cause of cancer deaths from 2005–2014 was prostate with 57 (36.1%) of the 158 cancer deaths. In Nevis, prostate was also the most common cause with 30 (23.0%) out of 130 cancer deaths between 2002 and 2011. Screening by the prostate-specific antigen (PSA) test has been carried out since 2009, covering an average of 200 men per annum with an overall positivity rate of 13.3%. Biopsy and surgical treatment are carried out locally but more advanced treatment is carried out abroad.

Conclusions: St Kitts and Nevis has recognized the seriousness of prostate cancer and an active programme of screening has been introduced. A purpose-built centre has been set up and more men are coming forward at an earlier stage for screening and treatment.

P – 21

Determining the prevalence and distribution of Type 2 diabetes in Nevis

*JW Richardson, C Conn, M Crawford-Johnson, A Browne,
A Herbert, S King, D Omar, N Swaby, Y Tchuisseu, A Wills,
M OConnor, G Mills
University of Virginia, Charlottesville, VA, USA; Clarence
Fitzroy Bryant College, St Kitts; Nevis Sixth Form College,
Nevis
E-mail: jwr4f@eservices.virginia.edu*

Objective: A multi-university team sought to produce the first island-specific baseline data of the prevalence of Type 2 diabetes mellitus (T2DM) and its risk factors in Nevis, West Indies, to support the Ministry of Health's commitment to evidence-based public health interventions.

Subjects and Methods: Records from all six public health clinics yielded 1434 eligible files from which 439 were randomly selected (4% of the island population). Identification numbers were assigned and charts were examined

for metabolic screenings, medical history, T2DM risk factors and diagnosis of T2DM. Descriptive statistics were used to analyse and summarize the data.

Results: Approximately 17% of the sampled Nevis records (n = 74) noted a diabetes diagnosis, distributed as follows: 17% females (n = 53/309) and 16% males (n = 21/130); 6% of 18–49 year olds (n = 19/279) and 34% of 50–75 year olds (n = 55/160). Evidence of a family history was recorded in 211/439 cases (48% of sample) and of those, 62% (n = 130) revealed a family member with T2DM. When screened for co-morbidities, hypertension and elevated cholesterol were consistently evident in the diabetic population (59% and 74%, respectively). **Conclusions:** Persons with T2DM account for 17% of the sample, which approximate the Ministry of Health national estimate of 20%. Women, those in the 50–75-year age cohort and those with a diabetic family history were more likely to be diabetic. It is not clear whether co-morbidities pre-dated diabetes diagnoses, but suggest future studies and targeted interventions. The under-representation of males also suggests a need for further study.

P – 22

Prevalence of diabetes, obesity and dyslipidaemia in persons within high and low income groups living in north and south Trinidad

*A Rahman, Y Raghunanan, C Ragoonath, V Rahming,
D Rajh, S Rambadan, N Ramdass, BS Nayak
Faculty of Medical Sciences, The University of the West
Indies, St Augustine, Trinidad and Tobago
E-mail: shivananda.nayak@sta.uwi.edu*

Objectives: To compare the prevalence of diabetes mellitus, obesity and dyslipidaemia in high and low income groups of north and south Trinidad and to determine factors associated with these diseases.

Subjects and Methods: A cross-sectional analysis was completed among 200 participants who visited the two major hospitals in south and north Trinidad where fasting glucose, lipid profile, body mass index (BMI), waist and hip ratio and blood pressure of both diabetic and non-diabetic participants were obtained *via* questionnaires. These variables were analysed with SPSS and mean differences were assessed.

Results: There was a higher proportion of residents of south Trinidad with diabetes and dyslipidaemia at 68.6% and 52% when compared to 28.6% and 27%, respectively for the north population. Those from north Trinidad showed a higher prevalence of obesity at 45.9% and higher income levels. Among participants from the north, 17.3% smoked or were exposed to cigarettes compared to 9.8% of participants in the south. North had 2% of participants consuming alcohol daily while 3.9% consumed alcohol daily in the south. In the north, 21.4% of participants were

stressed when compared to 18.6% from the south. A significant correlation existed among cholesterol, low-density lipoprotein (LDL) and triglycerides.

Conclusion: The correlation between cholesterol, LDL and triglycerides suggest that obesity is caused by dyslipidaemia. Also, lower income and stress can result in dyslipidaemia and obesity.

P – 23

The link between the consumption of sweetened beverages and the development of overweight and obesity among selected students of The University of the West Indies, St Augustine

S Bawa, N Rupert, M Webb

Department of Agricultural Economics and Extension, Faculty of Food and Agriculture, The University of the West Indies, St Augustine, The Republic of Trinidad and Tobago

E-mail: halilbawa@gmail.com

Objective: The purpose of this study was to investigate the relationship between sweetened beverage consumption and overweight and obesity among the students of The University of the West Indies, St Augustine campus.

Subjects and Methods: A cross-sectional study design was used, with a non-probability sampling being a convenient sampling method due to the short period of time to conduct the study. The target population was the students of The University of the West Indies at St Augustine aged ≥ 18 years. Data were collected through a self-administered questionnaire to be completed by each participant; anthropometric and clinical measurements were completed by the researcher. A total of 161 questionnaires were distributed to the students. Out of 161 questionnaires distributed, 137 were collected, but only 133 were fully completed, which gave a response rate of 83%. Analyses were conducted using IBM SPSS Statistics 19.0 (IBM Corporation, Chicago, IL, USA).

Results: Of the respondents, 97.1% stated that they consumed sweetened beverages. Based on the results generated from Chi-squared statistic test, there was no association between body mass index (BMI) and gender, age group, ethnicity and the frequency of the consumption of sweetened beverages and their quantities.

Conclusions: No association between the intakes of sweetened beverages and overweight and/or obesity was found among the participants, but a very high prevalence of the consumption of these beverages was observed.

P – 24

Overweight and obesity in children in Guyana

P Singh

Pan American Health Organization/World Health Organization, Guyana, Georgetown

E-mail: singhpri@paho.org

Objective: To investigate the prevalence of overweight and obesity in children in Guyana and thereby increase national capacity toward changing behaviour patterns of people toward a healthier lifestyle.

Subjects and Methods: The prevalence of overweight and obesity was examined by using published results of the cross-sectional Global School-based Student Health Survey (GSHS) and review of the 1997 micronutrient survey and the 1999 Physical Activity Survey in Guyana. In all, 2392 students participated in the GSHS with focusses on early youths aged 13 to 17 years.

Results: The GSHS of 2010 found 15.9% of girls and 14.6% of boys aged 13–15 years were overweight and 3.6% of girls and 4.6% of boys of the same age group were obese.

Conclusion: Overweight and obesity not only threatens lives but costs for treating related illnesses impede economic growth and it is considered a public health issue. A significant factor for the overweight and obesity epidemic is the increasing importation of foods associated with development, and diets and lifestyles such as high calorie snacks and drinks, while natural local foods, especially fruits and vegetables, are ignored. It is vital to halt the epidemic not only to save lives but economies as well. Prevention is a significant weapon against obesity which requires a concentrated effort by governments and an educated public that can understand the significance of policies meant to reduce chances of obesity, while not seeming to dictate what should be consumed.

P – 25

Cooperation and response rates in the Burden of Obstructive Lung Disease study in Trinidad and Tobago (BOLD TT)

F Lutchmansingh, L Conyette, S Sakhamuri, T Seemungal, W Chin-Soo, C Gomez, S Jaggernauth, S Mohammed, ALF Penco, A Persaud, L Pinto-Perreira, I Ramnarine, A Ramos, D Ramoutar, R Rawlins, S Sagubadi, C Sinanan-Mahabir, M Trotman, M West, G Wheeler

Department of Clinical Medical Sciences, Faculty of Medical Sciences, The University of The West Indies, Mount Hope, Trinidad and Tobago; Thoracic Society of Trinidad and Tobago (TSOTT)

E-mail: fallon.singh@gmail.com

Objective: Despite ranking third as the leading cause of death worldwide, the prevalence of chronic obstructive pulmonary disease (COPD) is unknown in Trinidad and Tobago. The Burden of Obstructive Lung Disease in Trinidad and Tobago (BOLD TT) study will estimate COPD prevalence and burden in a true population-based random sample from non-institutionalized individuals following an internationally standardized protocol.

Subjects and Methods: This was a cross-sectional study using a stratified clustered sampling framework targeting a total of 1207 randomly selected households across Trinidad and Tobago. Ethics approval was obtained prior to household visits. Subjects were classified as no contacts, (a) non-responders, (b) those eligible but refused to participate and (c) those eligible and recruited. We assessed the cooperation rate defined as $[c / (c + b)]$ and response rate $[c / (a + b + c)]$ for Trinidad and Tobago and compared these to international BOLD sites.

Results: There was an overall cooperation rate of 97% and response rate of 94% from a total of 2137 nationals of Trinidad and Tobago ≥ 18 years who were contacted and eligible to participate in the study. In post bronchodilator spirometry in participants ≥ 40 years ($n = 1274$), cooperation and response rates were 96% and 89.9%, respectively. Response and cooperation rates reported previously for the BOLD study sites ranged from 10% to 87%. International BOLD site comparisons showed mean response rate of $55.3 \pm 27.6\%$ and cooperation rate of $62.1 \pm 21.9\%$.

Conclusion: Trinidad and Tobago has reported the highest response and cooperation rates from cross-site comparisons.

P – 26

Barriers and facilitators to reversing diabetes Type 2: Keeping on target during a low-calorie diet

L Bartholomew, K Bynoe, C Taylor, R Taylor, N Unwin, MM Murphy

Chronic Disease Research Centre, Tropical Medicine Research Institute, The University of the West Indies, Barbados; Public Health Group, Faculty of Medical Sciences, The University of the West Indies, Cave Hill, Barbados; Newcastle Magnetic Resonance Centre, Newcastle University, UK

E-mail: latoyabartholomew@gmail.com

Objective: The use of a very low-calorie diet over a short period of time (approximately eight weeks) has been shown to restore normal glucose and insulin metabolism in a high proportion of people with recently diagnosed Type 2 diabetes. This study sought to explore the barriers and facilitators of using this low-calorie diet approach as part of a larger feasibility study being conducted in Barbados.

Subjects and Methods: Twenty-five individuals (10 men, 15 women) aged 20 to 69 years with Type 2 diabetes

completed an eight-week liquid (760 calorie) diet. Participants were interviewed before commencing the study to explore their perceptions of the diet and again at the end of the eight-week phase to discuss their experiences.

Results: Challenges included limited food choices, peer pressure in cultural settings and working around the daily routine. Participants found it particularly difficult to attend social events where food tends to be the focal point. Facilitators included social support, self-motivation and self-organization. Participants who were motivated to reverse their diabetes (not just losing weight) and had a good support network were able to overcome many of the challenges.

Conclusion: A supportive environment (people and food) is crucial to meeting weight loss goals. Self-motivation, organization and a rigid meal plan enabled participants to keep to the low-calorie diet. This study has shown that it is feasible for participants to complete a low-calorie diet to reverse Type 2 diabetes and the findings can be used to inform a larger Caribbean-wide trial.

P – 27

A community and environmental health assessment of Onaville, Haiti

D Myles, S Bidaisee, J Philippe, V Meltzer, C Macpherson
Windward Islands Research and Education Foundation, St George's University School of Medicine, Department of Public Health, St George's University, St George's, Grenada

E-mail: dmyles@sgu.edu

Objective: To promote quality of life and reduce burden of illness in Onaville, Haiti.

Subjects and Methods: A cross-sectional needs assessment survey was conducted with 215 (268: < 0.01 CI) head of households, representing 1003 (M: 460, F: 543) community members. A geographically stratified random sampling process was used to select participants. The Centers for Disease Control and Prevention (CDC) survey, Community Health Assessment and Group Evaluation (CHANGE): Building a Foundation of Knowledge to Prioritize Community Needs, was adapted for interview use. The survey contained twenty-nine yes or no questions, thirteen Likert scale questions and eight open-ended questions. Health determinants found were ranked according to the frequency in which the study population identified them.

Results: When asked to self-report health status of their family, 58.6% ($n = 126$) of respondents said they and their family were 'unhealthy'. When asked if they had experienced poor health in the last 30 days, 58.6% ($n = 125$) of respondents answered 'yes'. Within the last year, 66% ($n = 142$) of respondents or respondents' families

required a physician but were unable to see one. In response to being asked if they had access to health services, 90% (n = 192) of head of households responded 'no'. In response to being asked if they had adequate access to healthcare, over one-half of participants (53%, n = 114) indicated "build a clinic, hospital, or healthcare centre."

Conclusion: Community members' deemed access to healthcare as the primary point of concern for Onaville. Basic services such as utilities, access to healthcare and education need to be provided to the Onaville community. International aid is needed as the current leadership of Onaville is unable to provide basic infrastructural services for the community.

P – 28

Possible lessons to learn taking a gendered approach to climate change

H Skervin, C Daniels

Grenada National Organization of Women, St George's, Grenada

E-mail: *mskerv@gmail.com*

Objectives: The paper examines methodologies, challenges, impact and lessons learnt from two projects implemented in Grenada which sought to provide a gendered response to climate change. The first, in the aftermath of the 2004 and 2005 hurricanes, provided skills training in plumbing, masonry, tiling and installation to 200 women to meet labour demand in reconstruction. The second, in 2013, pioneered an environmentally sustainable livelihood initiative involving fourteen women in ownership, design, construction and sale of wooden hurricane shutters. Objectives were to furnish explanations for outcomes and generate useful knowledge for reconstituting gender in climate change.

Subjects and Methods: Empirical data were drawn from participant registries, attendance logs and project reports. Anecdotes and interviews of administrative staff, facilitators and vendors provided qualitative data for coding and cross-referencing.

Results: Support needed to sustain the initiatives was insufficient and rooted in failure to provide appropriate resources for participants after training for active work. Impact level outcome and sustainability from the groups stood at 0.003% and 7%, respectively of beneficiaries working in the sector in 2014. Failure to secure funding to pursue post-training targets suggests over-design and unrealistic expectations of achievement from the three/six-month training and apprenticeship.

Conclusion: Market realism should be injected into climate change building construction training and apprenticeship involving women. Longer training is necessary to develop competence, autonomy and women's

agency in non-traditional endeavours. Media promotion showcasing women entrepreneurship in construction will not impress market buyers and investors unless product quality, competitiveness and innovativeness are beyond that which already exist.

P – 29

A review of biomedical waste management practices at St George's General Hospital, Grenada

M Forde, C Bhola

Department of Public Health and Preventive Medicine, St George's University, St George's, Grenada

E-mail: *martinforde@mac.com*

Objectives: To review biomedical waste (BMW) management policies practised in Grenada and analyse the amount of BMW that is generated by the St George's General Hospital in Grenada.

Subjects and Methods: Utilizing a cross-sectional approach, the quantity and type of BMW generated by the main hospital in Grenada was determined.

Results: From the data obtained, there was a moderate to strong positive linear correlation between patient load/beds filled and amount, in kilograms per day, of waste generated for the healthcare facility. There is a lack of formal policy regarding BMW management, that is, handling, segregation, storage and disposal.

Conclusions: While segregation of wastes generated at the St George's General Hospital is taking place, this is being done in an environment where a clear BMW policy and guidelines do not exist. Short-term measures to improve BMW management at this healthcare facility include the proper management of sharps, the provision and use of personal protective equipment (PPE) and the consistent use of colour coded bags. For the long term, the recommendation is for the implementation of laws, policies and regulations on the proper management of BMW in Grenada.

P – 30

Climate change, flooding and laboratory preparedness in Georgetown, Guyana

C Boston, R Kurup

University of Guyana, Georgetown, Guyana

E-mail: *cecilboston@ymail*

Objective: To determine the level of preparedness among selected laboratories in Georgetown, Guyana, to a possible vector-borne disease outbreak; to determine the level of knowledge, attitudes and practices of laboratory personnel toward climate change and vector-borne disease.

Subjects and Methods: This study used a mixed-method approach, incorporating personnel from five public and private laboratories who were certified by the Guyana National Bureau of Standards (GNBS) and who consented to participate in the study. The use of questionnaires and a standardized checklist was used to assess parameters such as knowledge, attitudes, practices and laboratory preparedness.

Results: This study showed that 75% of respondents had a satisfactory to good knowledge in relation to climate change and its effects and 25% had poor knowledge. Practices shared the same outcome as knowledge, as 89.6% of respondents had satisfactory to good practices, with the majority (83.3%) of those having satisfactory practice levels. However, in relation to attitude, 70.8% had a negative attitude, while only 29.2% exhibited a positive attitude. Laboratories were observed to be ill prepared to handle a vector-borne disease outbreak. The results indicated that two out of the five laboratories included in the study tested for all three pathogens. However, their scores were 65% and 70% when measured on the preparedness checklist.

Conclusion: The data concluded that laboratories are not prepared for possible vector-borne disease outbreaks. Therefore, the Ministry of Health in collaboration with laboratories should derive strategic ways to prepare laboratories.

P – 31

Large-scale soybean production in the Amazon and pesticide use: Environmental and occupational health risks and concerns

*CJS Passos, BMS Caldas, J Valentini, S Sauer
Faculty UnB at Planaltina, University of Brasília, Brazil;
Institute of Collective Health, Federal University of
Western Pará, Santarém, Brazil
E-mail: cjpassos@unb.br*

Objective: To assess human exposure to pesticides at intensive soybean production areas located in the highland region of the Santarém municipality, state of Pará, Brazilian Amazon.

Subjects and Methods: With a cross-sectional study design, we measured the enzyme activity for plasmatic butyrylcholinesterase (BChE) as biomarkers of human exposure to pesticides, at local and small-scale agricultural households who live around huge soybean crops, during two key sampling periods: February 2015 (fumigation period) and August 2015 (non-fumigation period). Plasmatic BChE activity was determined by Doles[®] commercial kits, according to the method of Ellman *et al* (1961) and following the Brazilian Regulatory Norm #7. Along with blood collection, a sociodemographic, environ-

mental, health and occupational questionnaire was likewise applied to 82 villagers, both adult men and women, who read and signed an informed consent form.

Results: Butyrylcholinesterase activity averaged 9.4 ± 2.7 UI/mL in August (median: 9.2; range: 3.0–15.8 UI/mL) and 5.4 ± 1.9 UI/mL (median: 5.0; range: 1.7–11.7 UI/mL) in February. Initial paired comparative analyses for a subsample of 38 persons indicated an average 39.2% BChE inhibition (range: 0–80%), where 12 persons (31.6% of the subsample) presented with BChE inhibition $\geq 50\%$, 27 persons (71.1%) showed BChE inhibition $\geq 30\%$ and 29 persons (76.3%) revealed BChE inhibition $\geq 25\%$. In addition, a large number of study participants self-reported many toxic symptoms typical of acute pesticide exposures.

Conclusions: Our data constitute the very first evidence of risks for human exposure to pesticides in the context of large soybean production in the eastern portion of the Brazilian Amazon.

P – 32

The aftermath of a disaster: Montserrat 20 years on

*V Brown, G West, G Avery
Health Department, Government of Montserrat;
University of Medicine and Health Sciences, St Kitts
E-mail: brownv@gov.ms*

Objectives: To review the progress being made by the people of Montserrat in maintaining the recovery process 20 years after the start of the most recent series of volcanic explosions in 1995.

Subjects and Methods: We reviewed all available records and reports to determine how well Montserrat has made progress in the many areas influencing human health twenty years later.

Results: More than two-thirds of the original population of 12 000 were evacuated after the 1995 explosions. The remaining people relocated to join the small population already living there. In respiratory health, chronic diseases and injuries, the outcomes were no worse than in other small islands of the Caribbean. In mental health, many people, especially the very young, are still experiencing psychological problems.

Conclusions: The island of Montserrat has made a steady recovery from the devastating volcanic explosions starting in 1995. There are good signs that, in areas of health risk that can be attributed to volcanic activity, a good deal of stability has been achieved except in mental health. The volcano has been in a passive phase since February 2010 but everyone is aware that it can reactivate at any time. A Disaster Management Team is on constant standby to deal with such an event.

P – 33

To evaluate the blood usage and wastage at Georgetown Public Hospital Corporation between January 2012 and December 2014

*A Anderson, L Burns, M Frank, M George, R Kurup,
C Boston*

University of Guyana, Georgetown, Guyana

E-mail: *cecilboston@ymail.com*

Objective: The primary objective of this research was to identify the blood type(s) that is of highest demand at the Georgetown Public Hospital Corporation (GPHC) and whether a pattern of blood usage can be determine. With this information, a focussed blood collection system can be developed, which will reduce the level of wastage of blood at GPHC.

Subjects and Methods: This study took on a retrospective approach which used data from the GPHC Laboratory's Delphyn system for the period January 2012 to December 2014. The data were coded and entered into SPSS version 13 for analysis.

Results: The total recorded units of blood used at GPHC for the period under review was 16 426. The highest recorded blood was received in 2014 from the National Blood Transfusion Service (NBTS). O+ blood type was most requested in each quarter. In relation to blood components, packed cells were the most requested. In 2013, the highest amount of blood was disposed. The reason most common for disposal was expiration, followed by broken seal, broken cold chain, broken bag, returned after 30 minutes and clotted blood; the least common reason was component with red cells.

Conclusion: The results from the study shows that O+ packed cells is the most utilized blood component and out of 16 426 units issued, 4167 units were discarded of the total blood received from NBTS. Additionally, an average of 20% of blood collected was wasted each year. Therefore, it is recommended that more awareness be done to inform doctors and nurses.

P – 34

Maternal dietary quality and sociodemographic status and their association with food insecurity in the St George region of Trinidad and Tobago

J John, LT Hernández Salazar

Universidad Veracruzana, Campus Xalapa, Xalapa-Enríquez, Veracruz-Llave, México

E-mail: *temeche@gmail.com*

Objective: This exploratory study sought to understand the relationship between food insecurity, sociodemographic status and diet quality in a sample of pregnant mothers in Trinidad.

Subjects and Methods: This qualitative, descriptive study took place in five health centres of the St George East Region of the North Central Regional Health Authority in Trinidad and Tobago. The target population was healthy expectant mothers of any age and gravida with singleton pregnancies between 12 and 20 weeks' gestation. A convenience sample from each of the health centres was taken. Two hypotheses explored the relationship among the three main variables of sociodemographic status, dietary quality and food security status (ELCSA).

Results: Seventy-one per cent of the mothers had unhealthy pre-pregnancy body mass index. The majority of mothers had a moderate diet quality as well as socio-demographic status. Forty-four per cent of households were food secure and 7% experienced extreme food insecurity. Households with children were less food secure and experienced more severe grades (moderate and extreme) of food insecurity as compared to households without children. Food insecurity was negatively correlated with sociodemographic status and consumption of low dietary quality foods positively correlated with socio-demographic status. Food insecurity was not statistically significant with diet quality. Multi-gravidity was not statistically significant with higher diet quality.

Conclusions: Contrary to previous studies using the ELCSA, a better social standing was not linked to being food insecure or a high diet quality; as sociodemographic status increased, diet quality actually decreased. Multi-gravidity status also did not affect diet quality. Thus, other factors may be influencing dietary choices for pregnant women.

P – 35

Assessing family health through a comprehensive community health needs assessment: Focus on qualitative findings

*N Michael, J Valmond, L Ragster, G Callwood, CP Penn,
M Smith*

*Caribbean Exploratory (NIMHD) Research Center,
University of the Virgin Islands;*

*St Thomas East End Medical Center Corporation, Inc, US
Virgin Islands*

E-mail: *nmichae@uvi.edu*

Objective: To assess community perceptions of healthcare needs and services on the eastern end of St Thomas, US Virgin Islands (USVI).

Subjects and Methods: A concurrent, mixed-methods design was used. Approximately 100 adults participated in the qualitative portion of the study. Qualitative data collection using purposive sampling included town hall meetings, focus group discussions and key informant interviews. Content analysis was used to generate themes from qualitative data collected.

Results: Major health issues of concern included oral health, mental health, elderly care and accessibility to services. Some themes that emerged included: (1) *forgone healthcare*; (2) *pressing and unmet healthcare needs*, including the necessity for health services to treat arthritis, asthma, cancer, dental care, diabetes, cardiovascular diseases, high blood pressure, high cholesterol, mental illness, respiratory problems, sleep apnoea, stress and vision care; (3) *lack of access to and availability of healthcare services* – access issues revolved around lack of finances/limited financial resources, lack of insurance, transportation challenges, hours of operation, scheduling of appointments, immigration status and limitations associated with Medicaid benefits; and (4) *health literacy and health education*, specifically the need for sharing of information to help persons do a better job of taking care of their health.

Conclusion: Urgent attention needs to be given to the critical health and programmatic issues, health conditions of most concern, access and availability issues noted, barriers and challenges described and the gaps in services that impact the health of families in the community.

P – 36

Awareness project in safe pesticide use for 5th and 6th graders at primary schools in Nickerie

R Ramjatan, WB Hawkins, D Mans, T Graafsma, A van Sauers, MY Lichtveld

Regional Health Services (Stg RGD), Nickerie, Suriname; Tulane University School of Public Health and Tropical Medicine, Department of Global Environmental Health Sciences, New Orleans, LA, USA; Medical Faculty, ADEK University, Paramaribo, Suriname; Institute for Graduate Studies and Research (IGSR), Paramaribo, Suriname; Ministry of Agriculture and Livestock, Paramaribo, Suriname

E-mail: ramjatanradha@gmail.com

Objective: To raise the awareness in safe pesticide use for 5th and 6th graders at primary schools in Nickerie.

Subjects and Methods: An approval of the Ministry of Education is required as this project will be executed during school hours. The target population involves 1184 pupils and their 59 teachers from all 25 primary schools in Nickerie. A special PowerPoint presentation in safe pesticide use has been designed at a 5th grader's level. This project will be executed by trained community health workers (CHWs). Every session will need five CHWs; one CHW will do the presentation and two CHWs will demonstrate the use of personal protective equipment (PPE) on a dummy, while two other CHWs will assist in all activities during the sessions. Every session will be preceded by a pre-test and finalized by a post test, which will

be analysed to measure knowledge gained in this population on safe pesticide handling.

Anticipated Impact: We expect at least an increase of 80 per cent awareness in safe pesticide use among the target population, which will be measured with a pre- and post test. An output of 25 primary schools in Nickerie and a total of 25 CHWs trained in delivering this PowerPoint presentation and demonstration of PPE use on a dummy is expected. We also expect that 5th and 6th graders involved in this project may contribute to the awareness of safe pesticide handling in this community, although children will not be allowed to handle pesticide.

P – 37

The Caribbean Consortium for Research in Environmental and Occupational Health: An assessment of environmental and occupational health threats in Suriname and the Caribbean region

W Hawkins, D Mans, M Lichtveld

Department of Global Environmental Health Sciences, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, USA; Department of Pharmacology, Faculty of Medical Sciences, Anton de Kom University of Suriname, Paramaribo, Suriname
E-mail: whawkins@tulane.edu

Objective: To examine the findings of the planning phase of the Caribbean Consortium for Research in Environmental and Occupational Health (CCREOH) designed to address high-priority environmental and occupational health risks in Suriname and those common to the increasingly vulnerable Caribbean region.

Subjects and Methods: Multi-pronged needs assessments were conducted to document baseline capacity and community needs targeting health outcome data, laboratory capacity, training programmes and environmental health policy. Environmental and occupational health assessments included gold mining-related mercury contamination, occupational and community risks associated with agricultural-related pesticides and analysis of medicinal plants and nutraceuticals.

Results: Laboratory and training assessments in Suriname revealed significant gaps in capacity. Environmental and occupational health policies in Suriname and other Caribbean countries are either absent, or where present, not enforced. Mercury (Hg) contamination has been confirmed in sediments (0.14–0.35 ug Hg/g) and frequently consumed fish (0.17–1.64 ug Hg/g). Pesticide residues exceeded maximum residual levels (MRLs). Endosulfan, a banned pesticide, was detected in one of eight samples in Tannia (mean 0.07 ppm, EU MRL 0.05 ppm). Organochlorines and pyrethroids were detected in 35% of samples. Pesticide residues in all contaminated produce exceeded one or more MRLs.

Conclusions: The CCREOH preliminary studies documented high priority environmental and occupational health threats Suriname and the region are facing. A collaborative regional full-scale research and research-training grant is needed to address dietary exposure to Hg, lead (Pb), arsenic (As), manganese (Mn), tin (Sn) and pesticides in at-risk pregnant women and their offspring.

P – 38

Integrating places of worship into the primary care pathway to prevent and control non-communicable diseases in the Caribbean

S Harding, U Read, R Gobin, P Ricketts, M Rambaran, P Mohamed, T Thomas, S Macfarlane, TA Samuels, A Abdulkadri, S Persaud, M Bullock-DuCasse, T Davidson-Sadler, D Johnson, J Hospedales, K Cruickshank, R Wilks

King's College London, London, United Kingdom; School of Medicine, University of Guyana, Georgetown, Guyana; Ross University School of Medicine, Portsmouth, Dominica; Tropical Medicine Research Institute, The University of the West Indies, Barbados; Department of Economics, The University of the West Indies; Ministry of Health, Guyana; Ministry of Health, Jamaica; Ministry of Health, Dominica; Caribbean Public Health Agency
E-mail: dr_gobin@yahoo.co.uk

Objective: In face of the high non-communicable diseases (NCDs) burden in the Caribbean and the huge pressure on its fragile health systems, we propose an asset-based approach to support NCD prevention and control in the Caribbean. We will assess whether health advocates (HAs) in places of worship (PoWs) can be successfully integrated into the primary healthcare (PHC) pathway.

Subjects and Methods: This one-year study was co-designed with the Ministries of Health (MoH), Caribbean Public Health Agency (CARPHA) and religious organizations. Health advocates from 70 PoWs, with 4500 congregants, associated with 22 PHC centres in poor urban and rural communities in Guyana (primary site), Jamaica and Dominica, will be trained to support NCD prevention, treatment adherence and prompt referrals. Primary healthcare nurses will supervise HAs; MoHs will provide overall governance. All three countries will have intervention and comparator PHC facilities. Additionally, surveys of congregants in Guyana will be used for detailed process and outcome evaluation. We will evaluate the intervention in real time to observe the interaction between contexts, mechanisms and outcomes. A mixed-methods approach will use concept mapping with stakeholders, longitudinal ethnographic and qualitative interviews with congregants, HAs and practitioners and baseline compared with end quantitative surveys of congregants and PHC records. Qualitative data will be analysed using the constant

comparative method, and quantitative data using multi-level generalized linear regression.

Anticipated Impact: Collaboration with communities will strengthen programme impact, build capacity of the healthcare and scientific workforce and enable development of a toolkit for up-scaling the intervention that addresses complexity of context across the region.

P – 39

The Burden of Obstructive Lung Disease in Trinidad and Tobago (BOLD TT) pilot study – Design, methodology, spirometry

L Conyette, F Lutchmansingh, S Sakhamuri, T Seemungal, W Chin-Soo, C Gomez, S Jaggernaut, S Mohammed, ALF Penco, A Persaud, L Pinto-Perreira, I Ramnarine, A Ramos, D Ramoutar, R Rawlins, S Sagubadi, C Sinanan-Mahabir, M Trotman, M West, G Wheeler

Department of Clinical Medical Sciences, Faculty of Medical Sciences, The University of the West Indies, Mount Hope, Trinidad and Tobago; Thoracic Society of Trinidad and Tobago (TSOTT)
E-mail: liane.conyette@gmail.com

Objective: To describe the design, methodology, risk factors and spirometry of the Burden of Obstructive Lung Disease in Trinidad and Tobago (BOLD TT) pilot study.

Subjects and Methods: Thirteen technicians were trained using BOLD standardized protocols. At least 10 non-institutionalized adults per technician, age 40 years and older who met the inclusion criteria for spirometry, were required for the pilot. These subjects were selected by non-randomized convenient sampling and were not part of the BOLD TT study. The initial pilot on 183 subjects resulted in a spirometry acceptability rate of 47%. After retraining, a second pilot study on 148 subjects yielded a spirometry acceptability rate of 86.9%. Spirometry was done before and fifteen minutes after the administration of an inhaled short-acting bronchodilator. Anthropometric measurements and blood pressure measurements were also done. All spirometry data were sent electronically *via* a secure, encrypted Internet transfer to the BOLD Coordinating Centre to be graded and monitored for quality drift.

Results: The mean (SD) age was 50.79 (9.72) years. Of all the subjects, 63.1% (89) were female and African ethnicity was most prevalent (41.10%). Eighteen (12.80%) subjects were current smokers with a mean (SD) forced expiratory volume in 1st second (FEV1) of 2.86 (0.46) L and 72.22% of these current smokers were males. For all subjects, the mean (SD) FEV1 was 2.32 (0.65) L, forced vital capacity (FVC) was 2.91 (0.85) L and FEV1/FVC was 80% (6.00%). Using the Global Initiative for Chronic Obstructive Lung Disease (GOLD) fixed ratio, nine adults (6.40%) were obstructed; 51.1% of adults were restricted.

Conclusion: Six per cent of adults over the age of 40 years in the BOLD TT pilot project were obstructed and 51.1% were restricted. Full BOLD analysis is pending.

P – 40

Describing cultural challenges in the Burden of Obstructive Lung Disease in Trinidad and Tobago (BOLD TT) study

L Conyette, F Lutchmarsingh, S Sakhamuri, T Seemungal; For and on behalf of the TSOTT: W Chin-Soo, C Gomez, S Jaggernauth, S Mohammed, ALF Penco, A Persaud, L Pinto-Perreira, I Ramnarine, A Ramos, D Ramoutar, R Rawlins, S Sagubadi, C Sinanan-Mahabir, M Trotman, M West, G Wheeler

Department of Clinical Medical Sciences, Faculty of Medical Sciences, The University of The West Indies, Mount Hope, Trinidad and Tobago; Thoracic Society of Trinidad and Tobago (TSOTT)

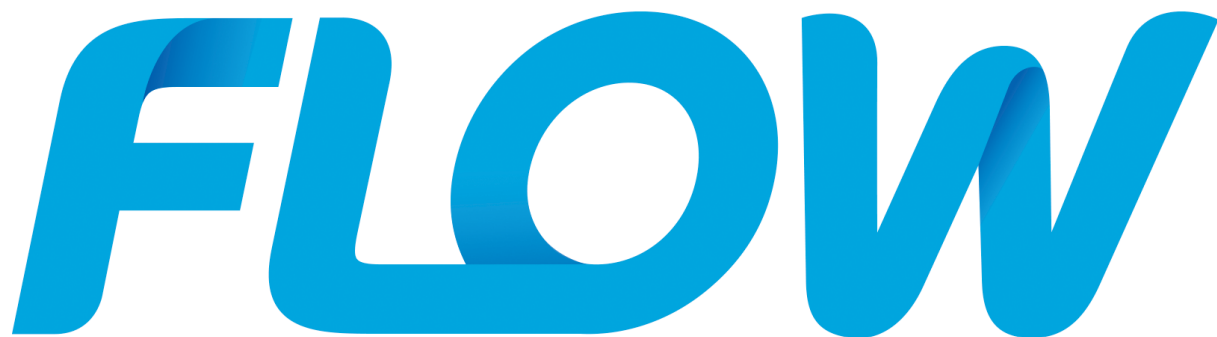
E-mail: liane.conyette@gmail.com

Objective: To describe the cultural challenges associated in conducting the Burden of Obstructive Lung Disease in Trinidad and Tobago (BOLD TT) study.

Subjects and Methods: Household visits were conducted by trained technicians and informed consent was obtained. Each participant was assigned an anonymous BOLD TT identification number (ID) which was used on all study forms and for their pre- and post-bronchodilator identification. No names, addresses or phone numbers left the study site as participants were identified only by the study ID.

Results: In conducting the BOLD TT study, despite the strict standardized protocols, cultural challenges were reported in a few of the field and household visits. For example, the technicians faced challenges with the geographic and low socio-economic status of some homes, being attacked by a dog, having a participant who chose to be nude to conduct the study and even having a male participant who inappropriately exposed himself to the all-female work team.

Conclusion: Cultural sensitivity is paramount in reaching out to diverse populations. It requires an understanding of the background of the target population which is provided by partnering with local leaders and groups and public education campaigns. The ethical conduct of the researchers forms the foundation. In the BOLD TT study, there were few cultural challenges and where they occurred, they were immediately addressed.

The word "FLOW" is written in a large, bold, blue font. The letters have a 3D effect, with a white shadow on the left side of each letter, giving it a sense of depth and movement. The font is sans-serif and modern.