

Poster Presentations

P – 1

Knowledge, attitudes, and perceptions on genetically modified organisms: Case for sterile mosquito release against Zika in Grenada

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Objective: To assess knowledge, attitudes and perceptions of various stakeholders in Grenada regarding genetically modified organisms and the release of genetically modified mosquitos.

Design and Methods: The study adopted a cross-sectional design with a study population that comprised of members from seven stakeholder groups of civil society in Grenada. The sample population was obtained through a snowballing strategy and data collection for the study consisted of a semi-structured interview. Data was managed through the collection and reviewing of data from transcribed interview notes, as well as observations and interpretations made during the field collection. Interview recordings were analysed to identify emerging themes. These themes were ranked according to the frequency with which they appeared and main concepts identified by linking related themes.

Results: Most groups were aware of genetically modified organisms, though some were uninformed. Many supported the use of genetically modified mosquitos against Zika, but there were several varying concerns, including, environmental worries and the impact of these organisms on humans. Many questioned the characteristics of Zika itself and some believed Zika is a man-made virus created in a laboratory. Others doubted the link of Zika virus to microcephaly and other birth-defects and some were unsure if Zika virus is transmitted by mosquitos.

Conclusion: There is a wide-range of differing knowledge, attitudes and perceptions towards genetically modifying technology in general and towards mosquitos in response to Zika.

P – 2

Health-related fitness of urban children in Suriname: An ethnic variations

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Objective: The aim of this study was to investigate the health-related fitness (HRF) of 11-year old children living in an urban area in Suriname. Differences among the five main ethnicities were examined.

Design and Method: Performance on the HRF components; morphologic component, cardiorespiratory and muscular endurance, muscular strength, running speed and flexibility were determined in the children of Maroon ethnicity (African descent), Hindustani ethnicity (South Asian descent), Javanese ethnicity (Indonesian descent), Creole ethnicity (African descent) and mixed ethnicity by use of the Eurofit test battery.

Results: A total of 313 children were included, of which there were: 69 Maroon, 88 Hindustani, 42 Javanese, 27 Creole and 87 mixed children. For most of the HRF components, the 20 metre shuttle run test (SRT), standing broad jump (SBJ), sit and reach and sit-up test, more than 50% of the children in each ethnic group performed below average according to Eurofit norm values. The majority of children were classified as having a normal body mass index and performed according to or above the norm value for the sprint test. A difference between ethnic groups can be seen in the in the SRT, SBJ and hand-grip strength; a larger group of the Javanese and Hindustani children performed below average, compared to the Maroon, Creole and the mixed children.

Conclusion: The 11-year old children had lower performance levels for more than five out of seven HRF components; performance also differed between ethnicities. These results highlight the need to further investigate the HRF of Surinamese children to design a suitable intervention.

P – 3

The effects of natural disasters on the health of the people of Caribbean countries in the 20th and 21st Centuries

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Objective: To examine the records of all major natural disasters in the Caribbean during the 20th and 21st Centuries and determine how they affected the health and welfare of the people.

Design and Methods: A detailed search was made of on-line records to determine the location, time and type of natural disasters during the specified period. Emphasis was given to disasters that caused havoc and/or killed many people.

Results: Hurricanes have been the most common and destructive disaster. Their paths can usually be predicted and early warnings and good preparatory work has reduced damage and casualties except in Haiti. Earthquakes are much more predictable but they too have had episodes of massive destruction and loss of life. Volcanoes are very low in terms of deaths apart from the catastrophic explosion in, Martinique in 1902. This destroyed a capital town and killed a whole local population. The recently active Montserrat volcano wiped out a capital town in 1995 but killed only a small number of people. Tsunamis have not caused any major loss of life or major destruction.

Conclusions: The death and destruction caused by natural disasters has continued throughout the 20th and early 21st Centuries. One of the most devastating was, Mont Pelee volcano in 1902. Two of the worst disasters have occurred recently in Haiti in 2010 and 2016. The number of disasters may be increasing with the effects of El Nino. Adverse effects have increased in some areas with continuing poverty.

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Similarities and differences between tobacco control and climate change from a public health perspective

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Objective: To determine similarities and differences between tobacco control and climate change and lessons learnt from these industries from a public health perspective.

Design and Methods: Published literature was reviewed on similar studies done both locally and internationally on climate change and tobacco use to ascertain similarities and differences between the two.

Results: The number of deaths caused globally and the number of deaths that can be averted is alarming. Both industries constitute a common market failure known as negative externalities. They have utilized a remarkably similar public relation strategy and tactics to deceive the public over the past decades and both have long-term effects on health and the environment with substantially adverse socio-economic ones. There is, however, a huge difference in long-term cost and it may seem that tobacco use is seen to be more health-related than climate change.

Conclusions: Controlling tobacco use is the highest immediate priority for global health, while climate change is the biggest threat to health in the medium and long-term. Tackling these industries is still a challenge in most countries. It is predicted that the number of deaths from tobacco use and climate change will rise in the future, notwithstanding some successes such as a small decline in the number of global deaths from some infectious diseases.

P – 5

Food security in Guyana – feasibility of heliculture as a means to ensure food security

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Objective: To investigate the feasibility of establishing a heliculture industry in Guyana, directed towards commercial production and management that can be geared towards diversifying the Agriculture Sector and strengthening food security.

Design and Methods: Literature review on snail farming was done along with economic modelling.

Results: The nutritional value of snail meat is surprisingly higher than other meat sources although there is stigma related to snail meat consumption in Guyana. However, international markets exist and these can be profitable. Snail rearing requires little effort, time and expenses and can yield great profits if done on large scale. Local packaging can allow for good marketing techniques.

Conclusions: Small and medium sized enterprises have a positive impact on rural incomes, rural employment and women employment. The project has the capacity to generate sustainable increases in farm production and marketing outputs and internal economic rates of return of 16563%. The Heliculture Industry is potentially the most dynamic force in the nation's economy and will be able to create rapid and positive change in the improvement of the nation's rural farming community and economy of the country. Guyana has large amounts of undeveloped arable land that can be brought under cultivation. There is no foreseen negative externality that poses from the establishment of commercial snail farming.

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Displacement post-natural disaster: An exploration of the needs of survivors displaced due to storm Erika in Dominica

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Objectives: On August 27 2015, Dominica experienced tropical storm “Erika” after which 574 people were left homeless and 713 were evacuated/displaced. This study aimed to understand the experiences of the impact of the storm on the health of the displaced survivors, including, the perceived health priorities of the survivors, and the government’s response.

Design and Methods: A focus group discussion was conducted with four key informants from the Ministry of Health, followed by semi-structured individual interviews with 11 displaced survivors ages 22 to 70 years originally from the communities of Dubique, Petite Savanne and Bath Estate. All interviews and the focus group were audio recorded, transcribed, coded inductively for emerging themes, based on a grounded theory approach.

Results: The primary perceived healthcare need identified by both the Ministry and displaced survivors was mental health services for adults and their children. Other key needs were healthy foods and employment which would reduce the stress of providing for families. The importance of social cohesion also emerged as participants were cognizant of having lost their social support networks from their home communities having been displaced by the disaster.

Conclusions: The need for continuous counselling was clearly indicated by survivors and key informants alike. It is recommended that the government consider educating the public on the benefits of addressing mental-health issues such as, stress, loss of social support post-disaster, in order for displaced survivors to feel comfortable doing so, due to the stigma attached to accessing these services.

P – 7

Effects of an educational intervention about ‘Bush Medicine’ on the knowledge, attitudes and practices of physicians and pharmacists

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Objectives: To assess the effect of a video educational intervention about medicinal plants and including: ‘bush

medicine’, on the knowledge, attitudes and practices (KAP) of pharmacists and physicians.

Design and Methods: A cross-sectional study was conducted among registered physicians and pharmacists with a suitable self-administered and validated KAP survey questionnaire on bush medicine in Guyana. An educational intervention using a video was shown to all participants after completion of Pre-KAP questionnaire survey. The impact of the video was later evaluated by means of post-KAP questionnaire survey and analysed using confirmatory factor analysis (CFA), Wilcoxon Sign Rank tests and logistic and multinomial regression models.

Results: Two hundred and seventy-four practitioners participated in the study; 140 physicians and 134 pharmacists. The study revealed that physicians had a stronger belief in holistic health; but pharmacists showed a more positive attitude towards ‘bush medicines’ and knew more about their use. Overall, 99% believed that patients should inform their physician/pharmacist about their ‘bush medicine’ use but less than 10% had either recommended or collaborated with a ‘bush doctor’. More than 90% believed that clinical trials should be conducted with bush medicine and 75% would allow their patients to be in the clinical trials. Although there was a lack of knowledge about the side effects, contraindications and drug-interactions, this improved after the intervention.

Conclusions: The study found a paucity of knowledge among participating healthcare professionals towards ‘bush medicine’ and therefore strongly recommends implementing formal education on ‘bush medicine’ in the MBBS and Pharmacy curricula so that healthcare professionals can better understand the effectiveness and toxicity of ‘bush medicine’.

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Patients’ perception of dental radiation in Trinidad and Tobago

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Objectives: To investigate patients’ perceptions of dental radiation in Trinidad and Tobago.

Methods: Two hundred structured questionnaires were distributed to a convenience sample of patients who attended The University of the West Indies, School of Dentistry clinics. The questionnaire was based on previously tested questionnaire. Descriptive statistical analysis was performed using SPSS software version 22.

Results: Two hundred patients responded to the questionnaire. These included; 125 female respondents and 54 males. There were 32.5% Afro-Trinidadian respondents,

25% Indo-Trinidadian and 16% of mixed ethnicity. Of the respondents, 14.5% had primary education with 55.9% secondary, 27.9% undergraduate degree level and 1.7% Master's degree holders. Most (88.3%) knew what a dental X-ray was with 106 of 172 respondents (61.6%) indicating that their knowledge of dental X-rays came from dentists/doctors. The vast majority of respondents (91.4%) believed that X-rays were good with 83.2% (149 respondents) indicating that X-rays help in some way. More than half of the individuals (57.1%) who responded to the question on their opinion on X-rays for pregnant women responded unfavourably with 22.7% giving a favourable response. Additionally, 50.3% of respondents thought that it was favourable to perform X-rays on children.

Conclusions: The results of this study revealed both positive and negative perceptions of dental radiation by patients in Trinidad and Tobago. Dental radiation safety during pregnancy is an area of concern for patients and there is need for education of patients with regards to the safe use of these diagnostic tests during gestation.

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Prevalence of dental anxiety and fear among university students

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Objective: To establish the prevalence of dental anxiety in an adult Caribbean population and explore the influences of sociodemographic factors on dental anxiety.

Design and Methods: An anonymous self-administered questionnaire was distributed to consecutive university students attending The University of The West Indies, St Augustine Campus. Along with demographics and use of dental services, the questionnaire included the modified dental anxiety scale (MDAS) which has five questions about anxiety to dental treatment rated on a five-point scale (1 = not anxious to 5 = extremely anxious), with a maximum score of 25.

Results: One hundred and ninety-seven university students participated in the study, 51.3% were male and 76% were 18–24 years old. Overall, 62.4% of participants reported a low-level of dental anxiety (MDAS 5–14), 22.3% moderate dental anxiety (MDAS 15–18) and 15.2% severe dental anxiety (MDAS 19+). For having a tooth extracted, female participants had significantly higher mean anxiety scores (4.11 SD 1.23) than males (3.63 SD 1.36) [*t*-test $p < 0.05$]. Significantly higher mean MDAS scores were found for

participants who had lower self-rated oral health (ANOVA, $p < 0.05$), difficulty finding dental care or had avoided going to the dentist due to fear of treatment (*t*-test, $p < 0.05$).
Conclusion: Moderate-to-severe dental anxiety was reported in over a third of participants in this sample of university students. Invasive dental treatment can elicit high levels of anxiety. Female participants were more anxious about dental treatment than male participants.

P-10

Medication use and the importance of medication history in dentistry at a community-based dental clinic, Trinidad

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Objective: To describe the medication used by patients of a community-based Dental Clinic and the prevalence of various medical conditions among these patients.

Design and Methods: One hundred patients attending a community-based Dental Clinic were invited to participate in this study. Data were collected via a self-administered questionnaire which was distributed to a convenience sample. Descriptive data such as, age, gender, medical conditions and medication used were recorded. The patients' medical conditions were then classified into general groups and analysed using SPSS version 22.

Results: The participants had a mean age of 42 years. The majority (58%) were female. Most (49%) participants were Afro-Trinidadians. The vast majority (83%) did not have a dentist. Some (17%) participants had been hospitalized for either illness and/or surgery in the past. Most (56%) participants were not taking any form of medication while 44% of participants displayed a wide range of medication use. Some (30%) had only one medical condition, 14% were on a combination of medical drugs, in order to treat multiple medical condition. The medical conditions with the highest prevalence were hypertension (14%), diabetes (11%) and ophthalmic disease (7%).

Conclusion: These findings emphasise the array of medical conditions which must be taken into consideration in the dental setting as systemic health issues and their associated medications play an important role in treatment planning.

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Prevalence and risk factors of multi-drug resistant bacteria in the Burn Care Unit of Georgetown Public Hospital Corporation

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Objectives: To detect the prevalence of multi-drug resistant (MDR) bacteria, antimicrobial resistance trends/patterns and the risk factors and outcomes associated with infections at the Burn Care Unit (BCU).

Design and Methods: This study was a retrospective, cross-sectional study which analysed records from 2012–2015. Data were collected from the Microbiology and Records Departments; the samples were from burn patients admitted to the BCU who had microbial work-up done by the Microbiology Department.

Results: The proportion of positive cultures which were MDR decreased and the three most prevalent MDR bacterial isolates were methicillin resistant *Staphylococcus aureus* (MRSA) (28%), *Acinetobacter sp* (28%) and *Pseudomonas sp* (22%). Catheter tip swabs contained the highest percentage (22%) of MDR bacterial isolates. No statistically significant relationship was found between the age, gender and length of hospital stay of patients and their acquisition of a MDR isolate. Moreover, there was a decrease in the death rate of patients who had MDR isolates and an increase in recovery of patients with MDR isolates from 2012 to 2015.

Conclusions: The main limitation was the absence of data and poor record keeping, resulting in a contracted sample size; therefore, the Microbiology and especially the Records Department should rapidly implement better and more accessible methods of organizing and storing data. This study should be extended to other wards/units within the hospital to establish the antimicrobial resistance patterns and their contributing factors. This information can be employed to improve antibiotic usage policies and infection control procedures aimed at reducing patient recovery time and cost.

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Systems science for Caribbean health: The development of a model for guiding policy on diabetes in the Caribbean

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Objective: Type 2 diabetes (T2DM) is a major cause of morbidity and mortality in the Caribbean and a threat to economic and social development. Halting its rise by 2025, the World Health Organization (WHO) target, requires interventions addressing the determinants of unhealthy diet and physical inactivity. Many of these interventions are in line with promoting sustainable development and resilience to climate change. The objective of this project is to engage with stakeholders in the development of a system dynamics (SD) simulation model on the effect of different policy interventions on diabetes prevalence and mortality in the Caribbean.

Design and Methods: Following SD methodology, we combined the input of stakeholders from multiple sectors across three countries (Belize, Jamaica and St Vincent and the Grenadines) with existing data on regional non-communicable disease (NCD) policy and published quantitative evidence. Causal maps on the determinants in the Caribbean of physical inactivity, poor diet, consumption of sugar-sweetened beverages and effective healthcare delivery were developed.

Results: Stakeholders reinforced the need for upstream interventions including the provision of a healthy food environment and sustainable urban development that favours physical activity. These are supported by fiscal incentives (subsidies) and disincentives (taxes). Feedback loops illustrate the complexity of the social-health determinants of T2DM. The causal maps are serve as the basis for a stakeholder-driven policy simulation model.

Conclusion: The interconnectedness of diabetes determinants highlights the importance of a multi-sectoral response. The simulation model will aid Caribbean policymakers in evaluating the potential impact of different policy options on future diabetes prevalence and mortality.

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Formulation and evaluation of diclofenac sodium loaded poly- ϵ -caprolactone microspheres

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Objective: The purpose of this research paper is to develop and evaluate a formulation of parenteral controlled drug delivery system of diclofenac sodium using a biodegradable polymer.

Design and Methods: This included water-in-oil-in-water (w/o/w) emulsion method for microsphere formulation. Twenty-four batches of formed microspheres were evaluated by scanning electron microscopy, fourier transform infrared spectroscopy (FTIR), differential scanning calorimetry (DSC), X-ray diffraction (XRD) and *in vitro*

release studies/dissolution studies. Drug-polymer ratio and speed were altered for each formulation.

Results: Diclofenac sodium polycaprolactone microspheres (DSPCLM) were successfully prepared with mean particle size of formed microspheres ranging between $17.58 \mu\text{m} \pm 0.2$ to $596.92 \mu\text{m} \pm 5.2$. Scanning electron microscopy images revealed mainly spherically shaped microspheres with uniform size distribution. Drug loading varied between 2.52% to 89.80%. Encapsulation efficiency varied from 1.37% to 55.15%. Dissolution studies demonstrated positive indicators for future *in vivo* studies.

Conclusion: Microspheres were successfully prepared and evaluated. This is the only research study using polycaprolactone (PCL) as a biodegradable polymer for micro-encapsulation of diclofenac sodium. Drug-polymer ratio can alter the duration of drug-release and toxicity levels. Diclofenac sodium polycaprolactone microspheres-7 was the best-selected formulation for further *in vivo* studies. Biodegradable microspheres will cause a controlled delivery system of diclofenac sodium and hence, decrease toxicity levels.

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The comparative analysis of the costing of cataract surgery in the public versus private health sector

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Objectives: (1) To determine preoperative, operative and post-operative financial costs to patients treated for cataracts at private institutions. (2) To determine the financial cost to the state in treating cataracts by unit cost of surgery in public hospitals, with preoperative and post-operative costs and compare with (1).

(3) To compare and contrast financial cost for treating cataracts (preoperative, operative and post-operative) in the private and public hospitals.

(4) To compare and contrast waiting time between clinic appointments and surgery in private and public sectors; determine causal factors.

(5) To determine whether it is feasible for government to outsource services of treatment of cataracts to private institutions.

Materials and Methodology: Sample size consisted of three public and three private hospitals. To maintain confidentiality, public institutions are abbreviated as PH and private as PR. Types of cataract surgeries (PHACO and

ECCE), cost of outpatient surgeries, sterilizing and surgical equipment used, and costs of consumables and pharmaceuticals were obtained. Data on preoperative and post-operative costs, such as diagnostic costs, bed stay cost, *etc* were collected.

Results: Waiting time was 12 weeks in public and 3.5 weeks in private sector. Average cost of performing cataract surgery was TT\$9085 in the public and TT\$16 467 in private sector. The doctor's fee privately averaged TT\$ 7433 and it was TT\$1045.08 in public field. Equipment, consumables and pharmaceuticals cost was TT\$7541.76 in public and TT\$2867 in private.

Conclusion: Waiting time at public hospitals was four times that in private. After evaluation of the above results it was seen that the private cost was more than in public hospitals.

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Transportation (medical evacuations) of snake bitten persons from the Hinterland Regions in Guyana: Cost analysis

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Objective: To assess whether the cost of medical evacuation to the national referral hospital is more cost-effective than equipping the regional hospitals to provide similar treatment for a snake bite victim.

Design and Methods: Data were analysed from the medical evacuation (medevac) database developed by the Information Technology Department to capture relevant information on patients being transferred *via* medical evacuation from various regions in Guyana.

Results: Of the 417 medevacs conducted country-wide over the five-year period under study, 57 were for snake bite cases constituting an average 9% of medevac cases annual and 10.7% of total costs. This cost is borne by the Ministry of Public Health (MoPH) and varies depending on a number of factors such as: airline used, type of aircraft, availability of experienced pilots, which region the case originates from *etc*.

Conclusions: It is relatively inexpensive to treat snake bite at the level of the Hinterland facilities, that is, an average cost for a snake bite victim would be the cost per treatment added to out-of-pocket cost USD\$ 1416. If the services were taken to the regions, it will be cost-effective on the Ministry's budget since the cost of medevacs annually would be reduced and the individual out-of-pocket expenses will be significantly less.

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The role of the Community Development Council in improving health outcomes of children in Guyana

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Objective: To explore the role of the Community Development Council (CDC) in improving the health outcomes of children in Guyana.

Design and Methods: The design was an exploratory design and was conducted as a qualitative pilot study to identify whether or not the CDC had any effect on the quality of life in its community. The village of Pearl, on the East Bank of Demerara, Guyana, South America was selected for study. The village consisted of approximately 250 residents of which 60 of the inhabitants were children. For this pilot study, a convenience sample of five residents participated who represented the cultural make-up of the village. They were randomly chosen. Data were collected by participant observation and face-to-face interviews.

Results: Within months of the formation and function of the CDC, there was noticeable improvement in the appearance of the community. There was more social cohesion. There were also plans in place to reclaim the playground and make it a safe place for the children to play, a move towards the improvement of health outcomes of the children in the village. In addition, a plan was initiated to establish relationships with CDCs in adjoining villages for similar collaborative efforts.

Conclusion: The finding of this pilot study suggested that health outcomes for children can be improved with social cohesion through community organization and community activities. Further studies are necessary to identify the long-term health effects of these CDCs on the community at large and on communities in general.

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Cost analysis of the Ministry of Public Health Nurses Programme for the period 2008–2014

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Objective: To assess the cost-effectiveness of the national nurses training programme (NTP) over a four-year period.

Design and Methods: Data on pass expenditure were analysed using the 2009 expenditure data as a baseline. The cost of the other variables was then quantified either through direct cost analysis or through estimation through

the use of service statistics. Total cost was then generated as follows: $TC = DC + 1 dc + Ac$

Results: In the years examined, 735 students sat the exam, of which 32% passed. The attrition rate was 47.5%. The cost per training for students was USD\$8019 (without accommodation) and USD\$23 655 (accommodation). It is assumed that 243 students left the NTP during the years which attributed to a loss in revenue of approximately \$1 299 078.

Conclusions: A number of recommendations from an independent consulting firm were made including, human resource forecasting, reduce student intake, change the policy to allow for a decrease in stipend if there was one or more failure at final examination, update curriculum for RNs in accordance with international standards, feasibility and the value study of introducing a six-week consolidation preceptorship at the end of the training programme and increase cadre of full-time tutors. An instructor with clinical teaching skills should be utilized and an orientation programme for clinical instructors developed. High speed internet and required textbooks should be provided.

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Electronic cigarette use among young adults in Trinidad

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Objectives: To assess the prevalence and associated factors of e-cigarette use among young adults aged 18–40 years old in Trinidad.

Design and Methods: A representative sample of 795 young adults, obtained from convenient sampling was cross-sectionally surveyed using a pilot tested questionnaire. Chi-squared tests and *t*-tests compared e-cigarette use by covariates.

Results: Prevalence of e-cigarette use is 5.8%, among 18–40 year olds and higher in males: current (80.0%) or ever (62.8%) users ($p < 0.001$). More smokers (48.9% current, 40.6% ever users) and quitters (37.8% current, 18.2% ever users) vaped compared with non-smokers ($p < 0.001$). Replacing tobacco was the most frequent reason for use (52.3%). More males (58.4%) said e-cigarettes were a better alternative for women ($p < 0.001$). Current (68.9%) and ever (55.5%) users said e-cigarettes are safer than tobacco, but more never users (51.5%) said they were dangerous to health ($p < 0.001$). More current and ever users than non-users said development of cancer (46.7%, 41.8%), heart disease (40.0%, 30.1%), or lung damage (48.9%, 41.8%),

respectively was less likely with e-cigarettes than tobacco ($p < 0.001$). While more current (77.8%) and ever (52.4%) users knew they contained nicotine, many current users (40.9%) were unaware of harmful content ($p < 0.001$).

Conclusions: Prevalence of e-cigarette use is 5.8% in young Trinidadian adults, confined to current smokers and quitters of tobacco cigarettes and used to substitute them. Vapers believe the device is safer than regular cigarettes, not dangerous to health and are unaware of harmful ingredients besides nicotine. Regulatory controls on age limits and sales may curb a rising prevalence.

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Transgendered health in Barbados: Exploring the experiences and perceptions of transgender males and females when accessing healthcare services

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Objectives: There is little knowledge of the experiences of the transgendered community in accessing healthcare services in Barbados. This study therefore aimed to explore the experiences of transgender males and females, in accessing general and specialized healthcare services in Barbados, in order to sensitize healthcare workers when treating transgendered patients.

Design and Methods: In depth one-on-one interviews were conducted with eight male-to-female transgendered people. Audio files were transcribed and analysed with the help of Atlas.ti software. Data were coded and emerging themes were recorded based on a grounded theory approach.

Results: Transgender individuals experienced numerous challenges accessing healthcare as a general result of stigma and discrimination from public and private healthcare professionals. All participants sought services at private facilities, which they found to handle their needs with a higher level of confidentiality than at public facilities. Female doctors were perceived as being more open and comfortable with transgendered patients. Services such as hormone replacement and mental health specially tailored to the needs of transgendered patients are lacking.

Conclusions: The issues surrounding healthcare access for transgender persons are complex. Staff sensitisation at all levels within public and private facilities has been recommended by the participants in order to meet their healthcare needs in a comfortable environment. The right to healthcare will continue to be compromised if the identified challenges are not addressed especially in an environment that speaks to healthcare access for all.

P – 20

Proposal for the use of information and communication technology to improve surveillance systems response in Guyana

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Objectives: To propose the use of information and communication technology (ICT) to improve surveillance response in Guyana. The mainstay of controlling a communicable disease is early recognition of impending outbreaks followed by rapid response. Data collection, collation and analysis; and dissemination of information in a timely manner will strengthen the Ministry of Public Health's (MoPH) capacity to implement disease prevention in a timely manner and control activities more effectively.

Methods: Literature review was done on the use of ICT for surveillance systems. A semi-structured interview was carried out with key members of the surveillance and MIS units of the Ministry of Public Health.

Results: Surveillance data is collected manually using paper-based forms, daily and weekly. These forms are then expected to be sent weekly to the MoPH to be transcribed into existing software centrally for data analysis. It was found that data collection systems were inadequate in many instances, especially with regards to the Hinterland. In many cases, timeliness was a major factor with data reaching the MoPH weeks after. Completeness of data submitted was the major issue, with it reported that approximately 50% of data collected in the field never reached the Ministry centrally.

Conclusions: The bottlenecks in the data collection system are of major concern. It is proposed that ICT based data collection systems be piloted with the Malaria Unit, to enable more timely and complete collection and transmission to the central level.

P – 21

Knowledge, attitude and practices of woodworkers on the Linden/Soesdyke Highway, Guyana, in relation to occupational safety and health

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Objectives: To assess the control measures that are put in place at sawmills on the Linden/Soesdyke Highway to ensure safety at the worksite and to reduce and prevent hazards and accidents. To assess the knowledge, attitude

and practice of woodworkers employed at sawmills located on the Linden/Soesdyke Highway as it relates to occupational safety and health (OSH).

Design and Methods: Using observation checklists and questionnaires, a cross-sectional survey design was used for the study. A total of eight sawmills located on the Linden/Soesdyke Highway and 84 woodworkers participated in the study. The study used both descriptive and inferential statistics to analyse the results.

Results: The study showed that 37.5% of sawmills scored above average. Also, the workers have inadequate knowledge, negative attitude and poor practice towards OSH as the overall mean scores for these were found to be 71%, 71.5% and 61.4%, respectively. These are below the cut-off level (75%). There is a weak-positive linear correlation between knowledge, attitude and practice.

Conclusion: It was concluded that employers need to start putting more effort into the measures provided to sawmills to ensure the safety of woodworkers and other individuals at the sawmill. Educational programmes and training sessions need to be put in place as adequate knowledge results in a positive attitude which results in good practice.

P – 22

Zika awareness for prevention and control: A preliminary field study of The Caribbean Public Health Agency press releases

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Objective: This paper analyses health messages in press releases designed to increase knowledge and awareness of Zika among the public, particularly targeted segmented audiences at greatest risk in Trinidad and Tobago.

Design and Methods: A content analysis of six press releases issued by The Caribbean Public Health Agency (CARPHA) in 2015–2016 was conducted to identify the themes, and the extent of similarity, consistency and repetition to determine the potential impact upon pregnant women, the elderly, persons with chronic health conditions, men, teenagers and young children. The themes and patterns were coded in relation to their potential for use in applying social marketing principles and in selecting strategic channels of communication.

Results: The analysis demonstrated five types of content thematic messages, and identified the main categories of patterns. These themes and patterns were linked to social marketing principles which may be used in designing Zika messages for targeted segmented audiences using appropriate channels.

Conclusions: These results suggest ways of improving the design of health messages to communicate with targeted segmented audiences about emerging infectious diseases such as Zika. This approach may be adopted in the Caribbean and the Americas and other similar contexts.

P – 23

Ebola preparedness among the public in Trinidad and Tobago – implications for health system resilience and global health security

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Objective: Health system resilience includes the capacity of health personnel, institutions, and populations to prepare for and effectively respond to crises. The study investigates the public's knowledge, attitudes and practices concerning Ebola virus disease in Trinidad and Tobago.

Design and Methods: A cross-sectional study whereby respondents ($n = 920$) were sampled mainly from bus stops, high streets and shopping malls. Data were collected *via* interviewer administered questionnaires with knowledge questions such as mode of transmission, management; attitude towards persons with suspected Ebola and practices in terms of preparedness. Data were analysed using SPSS version 23.

Results: The response rate was 67.6% (622/920). The main age category of responders was the 20–30-year age category (29.0%); responders were mostly female (41.1%). Regarding knowledge, there were significant differences among occupational categories ($F = 2.811$, $df1 = 6$, $df2 = 571$, p -value = 0.011). Further analysis found that the mean knowledge scores for professional and sales occupations differed significantly (p -value = 0.003). There was a significant association between being afraid to go for treatment and age (p -value = 0.001). Significant associations were also found between occupational grouping and opinion about the preparedness of private medical facilities, likelihood to shun family members with Ebola, being afraid to go for treatment and preference for traditional medicine (p -value < 0.05).

Conclusion: This study highlights opportunities for community engagement in terms of awareness, attitude and practice in order to enhance health system resilience during outbreaks which would maximize national and hence, global health security.

P – 24

Clinical workload in a primary healthcare setting in a small developing country: Implications for the healthwork force

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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.

Design and methods: This is a prospective observational study of eleven primary healthcare (PHC) facilities in North-central Trinidad. 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) MCH and 3) other, for 2013, 2014 and January to September 2015. The number of physicians and their current postgraduate training were also determined.

Results: There were 313 259 and 254 266 ambulatory face-to-face visits at eleven PHC facilities (PHCF) 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: In conclusion, this study provides evidence for the first-time of the increasing burden placed on PHC in Trinidad.

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The Guyana Diabetes Care Project: Development and implementation of a complex multi-component diabetes care strategy

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Objective: Building on previous collaboration, the Guyana Diabetes Care Project seeks to implement three priority interventions for Type 2 diabetes (DM2) prevention and management in the public healthcare system over three

years: (a) screening and treatment for diabetic retinopathy; (b) universal screening and treatment for undiagnosed diabetes in pregnancy and gestational diabetes; (c) expansion of the Ministry's health promotion activities through the introduction of a validated risk score for undiagnosed diabetes.

Design and Methods: A knowledge translation model is applied in Guyana through consultation with stakeholders, the collaboration of experienced partners and development of an implementation team.

Results: We defined and set a goal of improving the health of 23 300 persons in Guyana by January 2019 specifically by: educating 4800 adult citizens in lifestyle changes that prevent DM2, identifying and treating 288 undiagnosed persons, screening 2500 pregnant women and treating 250 for diabetes in pregnancy, screening 16 000 people with diabetes for diabetic retinopathy (DR) and treating 1600 persons with sight-threatening DR with laser photocoagulation, increasing the knowledge and capacity of healthcare professionals practising diabetes care and by reducing the negative consequences of diabetes in pregnancy, gestational diabetes mellitus and diabetic retinopathy. Despite administrative challenges causing slow initial uptake, the first year results show evidence of significant progress in all project components.

Conclusions: Managing diabetes and its complications is a major burden to Caribbean health systems. Successful implementation of project objectives will further develop a national, integrated diabetes prevention and management programme in the public healthcare system in Guyana.

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Risk factors and complications of fetal macrosomia: The Tobago experience

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Objective: Pregnancies with fetal macrosomia are associated with increased morbidity and mortality for both neonate and mother. This study examined the incidence of fetal macrosomia, and identified associated risk factors and complications.

Results: The incidence of fetal macrosomia was 6.3%, and one macrosomic neonate with congenital anomaly died at birth. Risk factors for fetal macrosomia identified were male gender (71.9% vs 42.1%; OR 3.5; *p* 0.002) and diabetes mellitus (21.1% vs 3.5%; OR 7.3; *p* 0.012). There was a three times odds of delivery by Caesarean section (61.4% vs 33.3%; OR 3.2; *p* 0.003), a 15 times odds of emergency Caesarean delivery (86.4% vs 28.9%; OR 15.5; *p* 0.0001), and six times odds of neonatal hypoglycaemia (30.8% vs 6.9%; OR 6; *p* 0.034). Transient tachypnoea of

the newborn, independent of Caesarean delivery, was 12 times more likely in macrosomic babies (38.5% vs 4.8%; OR 12.5; *p* 0.031).

Conclusions: This study identified male gender and diabetes mellitus as strong risk factors for fetal macrosomia, while Caesarean delivery and transient tachypnoea of the new born were noted complications.

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Ethical issues in pregnancy research in the Caribbean

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Objective: To discover what proportion of human subjects' research in the Caribbean involve pregnant women.

Design and Methods: The titles and summaries of all research projects that were approved during 2015 by the 21 (REC) Research Ethics Committees/IRBs in The Caribbean Public Health Agency (CARPHA) member states, which entered their data into the CARPHA Research Protocol Registry, were evaluated. The categorization of 'risk' was researched at the CARPHA Research Ethics Secretariat and compiled. The classification of the risk stated by the five approved research involving pregnant women was tabulated.

Results: A total of one hundred and forty research protocol summaries were entered into the research registry up to April 30 2016, of which only five research protocols (3.6%) focussed on issues involving pregnant women. The three levels of risk (as defined by the CARPHA Research Ethics Secretariat) were also tabulated for information and comparison.

Conclusions: The classification of risk which has no category of 'medium risk' might exclude some valuable research with pregnant women. Research likely to be very beneficial to pregnant women despite a classification of greater than minimal or low-risk ought to be done, once the risk/benefit ratio has been determined acceptable by the REC. Justifiable grounds for any exclusion should be stated at the onset. Pregnant women should not otherwise be excluded from the potential benefits of research.

P – 28

Maternal satisfaction in public and private hospitals (2013) and its policy implications for implementing the Sustainable Development Goals 2030, Guyana, South America

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Objective: To assess maternal satisfaction from the patients' perspective, with regards to the provision of quality maternal healthcare and its' policy implications for implementing the Sustainable Development goals of 2030.

Methods: The methodology of the rapid assessment consisted of focus groups sessions with patients and the use of a questionnaire. Six public hospitals and one private hospital participated from February 26 and March 7, 2013. Variables included: demographic information, antenatal care, knowledge, attitude and practices of healthcare workers, postnatal care and overall satisfaction. Previous research variables on quality of care were used in comparison.

Results: Sixty-four patients participated in the survey. For public hospitals: 100% attended antenatal care, not all were seen by an obstetrician as against private hospitals; 80% of patients were informed on pregnancy complications in public *versus* 100% private, 67% patients in public hospitals were given information on the drugs *versus* 100% private. Poor infrastructure support, ventilation, delayed waiting time, lack of family planning information, poor attitude of nurses in the public hospitals were reported. The classical Donabedian framework that categorizes dimensions of quality of care framework into structure, process, access and social determinants was to compare the public and private hospital patient satisfaction. Recommendations for the policy implications for Sustainable Development Goals (SDGs) 2030 were made.

Conclusion: Developing countries like Guyana face similar challenges as noted in previous research. Policy implications recommended should be implemented so that the country attains the targets of maternal mortality as pertaining to the SDGs.

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Sociodemographic risk factors of dietary pesticide exposure of pregnant women in Suriname

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Objective: To identify sociodemographic risk factors in pregnant Surinamese women being exposed to pesticides in locally grown produce.

Design and Methods: Phases I and II of the study entailed a pilot test of the pesticide residue analysis in nine types of produce. Additionally, a comparative analysis was conducted using the European Union (EU) 2014–2015, screening data of similar produce from Suriname. In Phase III, an interviewer-assisted dietary assessment will be conducted to examine sociodemographic factors and the intake rates of locally grown produce. Data analysis will include ascertaining the extent to which these factors and other social determinants of health influence produce consumption. The dietary assessment tool is based on The National Health and Nutrition Examination Survey (NHANES) dietary assessments and has been tailored to Suriname.

Results: Residues in this study exceeding EU maximum residue levels (MRLs) in produce included, lambda-cyhalothrin (1.08 µg/g) in Chinese cabbage (EU MRL 1.00 µg/g), endosulfan (0.07 µg/g) in Tannia (EU MRL 0.05 µg/g) and lindane (0.03 µg/g) in Tannia (EU MRL 0.01 µg/g). Comparatively, EU samples from Suriname exceeding EU MRLs included, carbendazim in yard-long beans and carbendazim, chlorothalonil and profenofos in peppers. Endosulfan and lindane are listed under the Stockholm Convention to eliminate/control their use and are banned in Suriname for use on produce.

Conclusions: A more comprehensive sampling and analysis of Surinamese produce is warranted. This would inform policy and resource needs and would be necessary to protect public health, especially in the context of climate change that may affect food security and safety. The findings of the dietary assessment will inform public health-policy and dietary interventions to protect pregnant women and their offspring.

P – 30

Quality of life in perimenopausal women: A Bahamian perspective

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Objective: To determine how menopausal symptoms relate to the quality of life experienced by menopausal women attending outpatient clinics in Nassau, Commonwealth of The Bahamas.

Design and Methods: Women (n = 522) aged 40–65 years were assessed using convenience sampling and an adapted version of the Women’s Health Questionnaire to assess the quality of life of these participants. A descriptive and inferential statistics were obtained, inclusive of strength of

association and also a multiple logistic regression modelling was implemented. The IBM-SPSS Statistics was used for analysis.

Results: Participating women’s mean menopausal age was 51.0 (± 6.8) years. Regarding occupation, “professionals, technicians and associate professionals” was the modal percent accounting for 32.5%. Their mean body mass index (BMI) was 32.4 (± 7.0) kg/m². Of the women studied, 51.0% were post-menopausal, 15.5% perimeno-pausal and 33.5% premenopausal. Statistically significant ($p \leq 0.05$) overall standardized mean scores obtained for each domain were 0.23 (± 0.206) for depression, 0.45 (± 0.269) for somatic symptoms, 0.31 (± 0.326) for memory/concentration, 0.38 (± 0.426) for vasomotor symptoms, 0.23 (± 0.268) for anxiety/fears, 0.41 (± 0.281) for sexual behaviour, 0.43 (± 0.345) for sleep problems, 0.34 (± 0.312) for menstrual symptoms and 0.20 (± 0.326) for attractiveness.

Conclusion: Age, marital status, body mass index, occupation, educational level, menopausal status and income satisfaction were significantly associated with the quality of life in menopausal women. Bahamian women enjoy a good quality of life as it relates to menopausal symptoms.

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Retinopathy of prematurity at the Neonatal Intensive Care Unit of the Princess Margaret Hospital

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Objective: To determine the descriptive epidemiology (prevalence and risk factors) regarding retinopathy of prematurity (ROP) in a cohort of infants admitted to the Neonatal Intensive Care Unit (NICU) of the Princess Margaret Hospital (PMH).

Methods: This retrospective chart review from, January 2014 to September 2015, involved eligible preterm infants that were examined using indirect ophthalmoscopy. Retinopathy of prematurity screening of documentation sheet, chart review that provided study data and discharge summary were examined. The available patient demographics and clinical data were entered in Excel and analyses were done with the IBM SPSS Statistical Software.

Results: Of 99 patients, 28.3% (28) had ROP bilaterally. Stage 1 was seen in the right-eye in 60.7% (17) and the left-eye in 57.1% (16) of the cases. Stages 2 and 3 were 25% (7) and 7.1% (2) bilaterally, respectively. Disease was found in 14.3% (4) of cases. Three infants required intervention with intravitreal bevacizumab and one subsequently cryotherapy. A significant relationship was identified between the occurrence of ROP and gestational

age ($p = 0.038$), birthweight ($p = 0.002$), mechanical ventilator use ($p = 0.001$), anaemia ($p = 0.010$), packed red blood cell transfusion ($p = 0.020$) and candidaemia ($p = 0.002$). A non-significant relationship was found between the occurrence of ROP and respiratory distress syndrome (RDS), indirect hyperbilirubinaemia, continuous positive airway pressure (CPAP) and bacteraemia (all $p > 0.05$). Duration of oxygen therapy and candidaemia remained significant variables after multiple logistic regression analysis.

Conclusion: The prevalence of ROP was 28.3%. Duration of oxygen therapy greater, than seven days and candidaemia were significant risk factors for ROP.

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Prevalence of anaemia in schoolchildren living in the interior of multi-ethnic Suriname: The influence of age, gender and ethnicity

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Objective: Anaemia in early life may lead to poor motor development and impaired cognitive function. The current prevalence of anaemia in schoolchildren living in the interior of multi-ethnic Suriname, South America, is unknown. The objective of this study was to investigate the prevalence of anaemia among these schoolchildren and to determine the influence of age, gender and ethnicity.

Design and Methods: Multiple-model (MM) 2014–2015 school screening data from children aged 4–14 years, living throughout Suriname's interior, were used. Anaemia was defined according to The World Health Organization (WHO) guidelines corrected for age and classified by severity. Determinants of anaemia were assessed using logistic regression analysis.

Results: Of the 4236 schoolchildren that were included, 51% were young (4–8 years), 49% were older (9–14 years), 52% were male, and 79%, 17% and 4% were of Maroon, Amerindian and Mixed ethnicity, respectively. Overall prevalence of anaemia was 59.7%, sub-classified as mild (17.6%), moderate (39.5%) and severe (2.6%). Multi-variable logistic regression analysis showed that younger age (OR = 1.66; 95% CI 1.46, 1.88), male gender (OR = 1.17; 95% CI 1.03, 1.32) and Maroon ethnicity (OR = 2.07; 95% CI 1.50, 2.85, compared to Amerindians) were independently associated with anaemia.

Conclusions: Over half of Suriname's interior schoolchildren are anaemic, mainly affecting younger children,

boys and children of Maroon descent. These results call for future studies to determine specific causes and may help implement targeted programmes aimed to reduce the burden of anaemia.

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Erectile dysfunction and depression in a Barbadian male population

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Objective: Here we report on the characterisation of erectile dysfunction (ED) and depression in a Barbadian male population with diabetes using the IIEF-5 and BDI-II questionnaires.

Design and Methods: Sixty-four male participants were administered questionnaires on erectile dysfunction and depression. The participants were assigned to either the case group (current non-healing foot ulcer) or the control group (no current ulcer and no history of foot ulceration). The answers were scored and the scores categorized according to the keys of the respective instruments. Categories for ED were: severe ED, moderate ED, mild-to-moderate ED, mild ED and no ED. Categories for depression were low, moderate and significant. Results were compiled and analysis performed using STATA SE 12.1 (Stata Corporation).

Results: The mean age of the cases was 58.25 (± 9.03 SD) years and the controls was 59.33 (± 14.90 SD). The mean diabetes duration was 15.88 (± 10.20 SD) years in cases and 15.13 (± 15.16) years in controls. Forty per cent of cases and 25% of controls had some form of ED. Only 17.5% of cases and 29.2% of controls had moderate or significant depression. Fifty per cent or more of participants reported no sexual activity for four weeks prior to the study.

Conclusion: Men with diabetes and foot ulcers have greater levels of ED than those without foot ulcers, but those with foot ulcers have less depression than those without foot ulcers. Depression is positively associated with ED but not at levels of statistical significance in this study population size.

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Knowledge, attitudes and practices of clinicians regarding adult vaccines: Influenza, pneumococcal and hepatitis B throughout the Government clinics within New Providence and Grand Bahama, The Bahamas

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Objective: To assess differences in clinicians' knowledge, attitudes and practices regarding adult vaccines: influenza, pneumococcal and hepatitis B in the Government community clinic settings.

Methods: A cross-sectional study design was used during July 2015 to February 2016. Clinicians (n = 147) selected through convenience sampling from Government clinics in Nassau and Grand Bahama were invited to complete a self-administered 75-item questionnaire. A descriptive and inferential statistical analyses evaluated differences and associations.

Results: Of 120 questionnaires administered, 91 were completed for analysis giving a response rate of 75.8%. Overall attitude towards the present influenza vaccine was positive for 80% of physicians, pneumococcal vaccine (PPSV-23) 91% and hepatitis B 92%. Median monthly numbers of vaccine recommendations were: flu-5-9 (0–4, 20–30), pneumococcal-0–4 (0–4, 10–14) and hepatitis B-0–4 (0–4, 0–4). The most common situation leading to vaccination was a “regular check-up” (57.2%, n = 52). A majority, 71.4% (65), confessed vaccination was not on the top of their minds as a consistent barrier. Only 24.2% (22) of clinicians indicated ‘having no time to discuss the vaccine benefits’ 15.4% (14) and 4.4% (4) had doubts about the efficacy of the flu and pneumococcal (PPSV-23) vaccine, respectively. A total of 58.2% (53) of clinicians recognized hepatitis B vaccine as ‘safe for all ages’, with a weak-positive relationship found between age and the physicians’ knowledge of safety ($r_{sp} = 0.220, p = 0.36$).

Conclusion: Overall, physicians’ adult vaccine knowledge and attitude were acceptable for vaccines studied. Continuing education for adult vaccine is necessary. Missed opportunities to immunize adults must become a thing of the past.

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Assessment of knowledge, attitudes and practices towards infection prevention among healthcare workers in Trinidad and Tobago

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Objective: Assessment of knowledge, attitudes and practices (KAP) towards infection prevention among healthcare workers (HCW) in Trinidad and Tobago.

Design and Methods: A cross-sectional study was conducted among 300 HCWs from three regional hospitals in Trinidad and Tobago about their knowledge, attitude and practice towards infection prevention in the country. All information was collected through interview using structured questionnaires. The data were collected from April to June 2016, thoroughly checked and cleaned for completeness before analysis with SPSS version 20 statistical software. The 95% confidence interval and the *p*-value were used to check for association between the dependent and independent variables. A *p*-value of < 0.05 was considered statistically significant.

Results: A total of 300 HCW participated in the study, with a 100% response rate. In this study, only 20.3% respondents were knowledgeable, 46.7% had good attitude and 44% had good practices toward infection prevention, suggesting less than satisfactory scores in this study.

Conclusions: The results highlight, generally poor knowledge, attitudes and practices towards infection prevention in the three hospitals in Trinidad and Tobago. Therefore, policies and measures should be put in place to ensure regular training programmes for HCW, providing strong understanding and a positive outlook on infection prevention.

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Resistance patterns of uropathogens in community acquired urinary tract infections in New Providence, The Bahamas

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Objectives: To determine the uropathogens and antibiotic resistance in patients with community acquired urinary tract infections in New Providence, The Bahamas.

Design and Methods: This was a cross-sectional observational study which involved the culture profiles of urine samples, conducted between September 2015 to January 2016. Participants, 16 years and over from various community clinics in New Providence, The Bahamas, were included. Samples were collected *via* clean catch/midstream urine protocol of the Princess Margaret Hospital Microbiology laboratory and transported using a CS vacutainer system, then processed using dilution method.

Results: There were 109 participants in the study: 14% male and 86% female. The mean age was 46 (\pm 2.01) years; 60% were sexually active and 72.5% admitted to prior antibiotic use in the past year. *Escherichia coli* made-up 42% of cultures. Trimethoprim-sulfamethoxazole (bactrim) was the most prescribed antibiotics but ciprofloxacin was used more often in the men. The resistance to bactrim and ciprofloxacin was 28.6% and 15.8%, respectively. Multivariate analysis showed the variables of gender, employment status, frequency and back-pain were related to a positive culture outcome (OR 3.669, p = 0.013)

Conclusions: *Escherichia coli* is the most common pathogen in community acquired urinary tract infections in this study. Bactrim should not be used as first-line therapy. Nitrofurantoin should be a considered first-choice in empirical treatment. Ciprofloxacin was the choice antibiotic for men in the study. Local guidelines should be developed with further research and continued surveillance.

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Seroprevalence of human T-lymphotropic virus 1 and 2 among blood donors in Guyana (2009–2012)

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Objectives: To determine the overall seroprevalence of human T-lymphotropic virus (HTLV) among blood donors annually from 2009 to 2012 and establish the age-range, ethnic group and blood group with the highest prevalence. The human T-lymphotropic virus is a RNA delta retrovirus that has a high endemicity in certain ethnic groups and geographical areas.

Design and Methods: Blood donor information was collected from the national blood transfusion services (NBTS) for the period January 2009 to December 2012. Data collected was analysed using the STATA software-STATALC 13 (64-bit) and Microsoft Excel. Ethical

approval was granted from the Ministry of Public Health Institutional Review Board (IRB).

Results: A total of 27 368 donor cards were reviewed for the period under study. The study had an overall seroprevalence of 0.9% and age group \geq 50 recorded highest number of seropositive persons. Females had a seroprevalence of 0.5% while males were at 0.4%. Among the groups, Afro-Guyanese were noted as having the highest seroprevalence.

Conclusion: The findings were consistent with other studies. However, there is still the need for more health education and health promotion in the general population to make persons more aware of HTLV and how they can protect themselves.

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Role of carcinoembryonic antigen and histopathological assessment in colorectal carcinomas

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Objectives: To determine the importance of the carcinoembryonic antigen (CEA) values and the histopathological changes in patients aged 30 years and above with colorectal carcinomas. Also, to evaluate the role of dietary patterns and family history in the development of colorectal carcinomas.

Method: Patients were chosen from the Mount Hope Hospital to identify candidates for this study. Histopathology reports were requested, with clinical records containing information pertaining to our study such as CEA values and history. Questionnaires were administered in person or *via* telephone to patients. All data were again tabulated and analysed.

Results: Of the 63 colorectal cancer patients, females (57.2%) were found to develop colorectal cancer more than males (42.8%) in Trinidad and Tobago and 66.7% of patients were of African ethnicity. Most patients were diagnosed between the ages of 51–70 years (69.8%). Diets were low in dietary fibre, high in red meat, fats and oils. A total, of 92.3% participated in little to no exercise, 84.6% consumed alcohol at least twice a week and 44.2% were exposed to cigarette smoke. With respect to CEA values, 78.6% of the values were found to be elevated. Regarding cancer staging, 51.9% of cancers showed no regional lymph node involvement (N0). T3 cancers accounted for 42.3%.

Conclusion: Women, of African descent, over the age of 50 years are the highest at risk of developing colorectal cancer. Diets high in red meats and low in fibre contribute to colorectal cancer, while alcohol and smoking are also risk

factors. Colorectal cancer is associated with elevated CEA values.

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Investigating the risk of incident diabetes among primary care patients treated with simvastatin in the north-central regional health authority, Trinidad

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Objectives: To collect and analyse data on local patients who developed diabetes mellitus (DM) post-simvastatin use. To identify a relationship between the use of simvastatin and the subsequent development of DM.

Designs and Methods: A retrospective, descriptive case-series study design was applied to 384 conveniently sampled patient medical records from the north-central regional health authority (NCRHA). A systematic data extraction form was utilized; exclusion and inclusion criteria were applied. Chi-squared testing and linear regression were performed to determine any association between incident DM and simvastatin use.

Results: Two hundred and seven patients became diabetic during the course of their treatment showing a 53.9% risk of incident diabetes mellitus ($\chi^2 = 2.3438$, $p = 0.1258$). A subgroup analysis of 133 subjects of the 207, to eliminate the confounders of family history of diabetes and age greater than 60 years, found 50 incident diabetics (37%) with no confounders, $\chi^2 = 8.118$ and $p = 0.0042$. This association was dose dependent with a corresponding 32% higher-risk in patients taking 40 mg ($p = 0.001$) of simvastatin daily compared to 20 mg of simvastatin ($p = 0.094$). Linear regression showed significant statistical association between onset of DM and the duration of statin therapy as $p = 0.006$.

Conclusion: In our local population, a statistically significant association with simvastatin use was attained involving patients less than 60 years old without a family history of diabetes with an incident-risk of 37%.

The increased risk of incident DM conferred by higher simvastatin doses warrant physicians' consideration in therapies for dyslipidaemia in patients with multiple-risk factors for DM.

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Depressive symptoms in adult Type 2 diabetes patients in St Vincent and the Grenadines

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Objectives: This study will determine the prevalence of depressive symptoms in St Vincent and the Grenadines (SVG), and the relationship between depressive symptoms and diabetes related complications and diabetes disease duration.

Methods: This cross-sectional study was conducted in nine clinics in urban and rural areas of Grenadine between July to August 2016. Simple random sampling generated a sample of 140 adult participants who had Type 2 diabetes for at least one-year, was not pregnant, terminally ill and able to provide informed consent. A structured questionnaire was interviewer administered. It contained sociodemographic and health items as well as a Patient Health Questionnaire-9 scale. Chi-squared and logistic analyses were executed.

Results: Using PHQ-9 scores > 10 , 12.85% of the participants exhibited clinically significant symptoms of depression. No participant was identified as portraying major depressive symptoms. Chi-squared analysis indicated significant differences in age, levels of exercise, sleep and the use of oral diabetes medication. Logistic regression indicated significant relationships between the presence of two or more diabetes related complications (OR = 8.8, 1.70, 46.37) and moderate depressive symptoms. Participants were more likely to exhibit moderate depressive symptoms with disease duration but this was reduced after 10 years. However, this relationship was not significant.

Conclusion: The significant associations between sleep, exercise, age, two or more complications and depressive symptoms should play a major role in screening, diabetes management and health promotion.

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Progress in prostate cancer care in Antigua and Barbuda

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Objectives: To determine the importance of prostate cancer in the community of Antigua and Barbuda. To further, learn about what is being done to screen for it and provide early and effective treatment.

Design and Methods: An analysis was made of historical records on incident cases and deaths from prostate cancer in Antigua and Barbuda from 2001 to 2005. A further review was made of activity in screening and raising awareness from 2007, when screening started, through to 2016.

Results: Cancer is the second most common cause of death in Antigua after coronary heart disease. The most common cause of cancer deaths overall is prostate. Nearly half of all the male cancer deaths were due to prostate in the 2001–05 series with 108 (51.9%) of the 208 cancer deaths. Screening by the prostate specific antigen (PSA) test has been carried out since 2007 covering an average of 336 men per annum with an overall positivity rate for PSA of 10.9%. Biopsy and surgical treatment is carried out locally but more advanced treatment is carried out overseas.

Conclusions: Antigua has recognized the seriousness of prostate cancer. A purpose built center has been set-up for cancer treatment. An active programme of screening has been set-up and more men are coming forward at an earlier age for screening and treatment.

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Comparison of the knowledge, attitude, practices and prevalence of mental disorders among medical and non-medical students at The University of the West Indies, St Augustine

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Objectives: To assess the knowledge, attitudes and practices towards mental disorders amongst students of The University of the West Indies (UWI), St Augustine Campus, and to compare its prevalence among medical students and students belonging to other faculties.

Design and Methods: A cross-sectional study was conducted among UWI students. Data were collected using a pre-tested self-administered questionnaire, which contained questions on the knowledge, attitude and practices towards mental illness among the 400 students that participated in the survey. The collected data were coded and analysed with SPSS ver. 20.

Results: Of the total 400 students, 50% were medical students and the other half were from other faculties. Medical students had more knowledge about mental disorders compared to non-medical students. The findings suggested that there is a significant (49%) stigma towards

mental disorders when asked about disclosure to others if they were diagnosed with a mental illness. Based on the DSM-5 scores among the participants, anxiety had the highest prevalence of 301 (75%) while psychosis had the least with 59 (15%). Non-medical students gained a higher prevalence for all domains in the DSM-5 except for anxiety and memory.

Conclusions: Students in general are knowledgeable about mental disorders, their causes and treatment. However, there is still a stigma towards persons with mental disorders. It was found that non-medical students had a higher prevalence for mental illness compared to the medical students.

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“You do not really have the same environment, it’s not the same”: Exploring views on food, place and risk of Type 2 diabetes among Black Caribbeans in the United Kingdom

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Objective: To explore views on food, place and risk of Type 2 diabetes among Black Caribbeans in the United Kingdom (UK).

Design and Methods: The food, diabetes and ethnicity (FOODEY) study included, 61 men and women (80% Black Caribbean; aged 24–90 years) in focus groups and interviews. Thematic analysis of transcripts was conducted to identify emergent themes.

Results: Rich descriptions of food habits highlighted some continuity of ‘traditional’ Caribbean food culture. Alongside food habits common to the general population, participants’ diets regularly included, dishes such as rice and peas with fried chicken, or for post-retirement participants’ individual foods such as plantain. Although, the prevalence of Type 2 diabetes in the Caribbean is similar to that among UK Black Caribbeans, the contention of lower prevalence in the Caribbean was strongly held. While family history was considered a key risk-factor, “West Indian” food habits were viewed as detrimental in the British setting and that “bad genes load the gun, but lifestyle pull the trigger”. Cold weather, stress due to racism and lack of physical activity in the UK were felt to contribute to increased risk. The Caribbean, “not the same environment” was deemed a suitable setting for consuming traditional foods and high sugar intakes, for example, due to active living, consumption of organic vegetables and the hot climate.

Conclusions: Lay explanatory models for the role of food, place and risk of diabetes, which included, both accurate knowledge and misconceptions, have implications for addressing Type 2 diabetes among UK Black Caribbeans.

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The Barbados insulin matters (BIM) study – Barriers to insulin therapy among a population-based sample of people with Type 2 diabetes in the Caribbean Island of Barbados

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Objectives: To determine the attitudes and beliefs that may lead to psychological insulin resistance among people with Type 2 diabetes (T2DM) in Barbados.

Design and Methods: A cross-sectional survey was conducted among a representative sample of persons over 25 years living with T2DM in Barbados. The insulin treatment appraisal scale (ITAS) was administered to all who consented. The ITAS has 20 items with possible score range from 20 to 100 for positive to negative perceptions regarding insulin.

Results: There was a 67% response rate; 117 participants of whom 32% were male, mean age 66 years; 90% black and 21% taking insulin and 16% had diabetic retinopathy. Positive perceptions of insulin among the sample were that insulin helps with glycaemic control (78%), prevents complications (61%) and improves health (58%). The majority had the following negative perceptions of insulin: that it meant worsening of diabetes (68%), caused family to worry (63%), meant self-management had failed (57%) and a fear of painful injections (54%). Mean total ITAS score was 61.6 (SD 7.7). This score was significantly lower for those taking insulin compared to those not taking [63.8, 95% CI 62.5, 65.2 vs 53.7, 95% CI 51.1, 56.4; ($p < 0.0001$)]. Gender, age and duration of diabetes were not predictors of ITAS scores.

Conclusions: Multiple areas to improve patient education were identified during consultation to minimize psychological insulin resistance and delay of insulin use. Patients using insulin had less negative perceptions than those not taking insulin.

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Chemotherapy induced neutropenia and other outcomes among breast cancer patients in Guyana

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Objectives: To determine the effect of neutropaenia on chemotherapy patients and also, the standard serum liver

biochemical testing and haematology tests as they relate to the effect of chemotherapy dosing.

Design and Methods: The research was a laboratory-based retrospective study, executed at the Oncology department of the Georgetown, Public Hospital Cooperation (GPHC) during the period 2013–2015.

Results: A total, of 184 patients who were diagnosed with breast cancer at the GPHC, Oncology Department, during 2013–2015 were included in the study. Mean age was recorded 54 ± 11.2 years. The most patients were from Region 4 (37.9%, Indo-Guyanese ethnicity (41.9)) and predominantly diagnosed with ductal carcinoma 41.3% ($p \leq 0.05$). The haematology and biochemistry variables showed variation after chemotherapy.

Conclusions: This research revealed that chemotherapy induced the suppression of blood cells in the haematological system. Some health concerns include, white blood cell depletion, the inability of the body to produce healthy platelets and red blood cells, thus, resulting in an overall low blood count. The findings in this research revealed significant correlation between chemotherapy treatment and the cytotoxicity results.

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The prevalence of precancerous cell among women using visual inspection with acetic acid in Region 5 Guyana

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Objective: To determine the prevalence of cervical cancer among women in Region 5 Guyana using visual inspection with acetic acid (VIA) test and also, to determine the most affected age group.

Design and methodology: A retrospective study was conducted in Region 5, a rural farming district in Guyana with a varied ethnic population in which records were analysed of women between the ages of 17 and 64 years that attended the VIA Clinic at the Mahaicony Diagnostic and Treatment Centre between 2011 and 2015.

Results: The records over the period 2011–2015, showed that 10.5% of women tested for the first-time positive for precancerous cells from a total of 1469. The age of the women range from 15 to 64 years with a mean age of 35 years. The age group mostly affected was 25 to 34 years (27.1%). The percentage of the women who were previously tested and returned one year later was 9%.

Conclusion: The prevalence of precancerous cells in females of Region 5 is 9.6%. The age group most affected is 25–34 years which represent both their reproductive and productive years. Women between the ages of 15 to 24 years represented 18% and ranked 3rd overall. Compared to national figures, Region 5 seems to be one of the most

affected regions. These results do correlate with similar studies done in developing countries.

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Nutritional analysis of the planned menu in two district hospitals in Barbados

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Objectives and Method: To analyse the two-week planned menus at two district hospitals in Barbados and determine the menus' quality by comparing them to the food-based dietary guidelines for Barbados (FBDGs), the Caribbean six food groups daily recommended servings, and the dietary reference intake (DRI) for older adult.

Results: Menus failed to meet four of the seven FBDGs, but met two of the food groups of the CSFGs recommending daily servings. However, fruits, vegetables, legumes and nuts failed to meet mean average with ≤ 1 servings; and fats and oils servings varied between the institutions. Fourteen DRI targets were analysed in the study. Mean levels for calories was 1237 kcal or 77% and 69% for females and males estimated energy requirements (EER) at one institution, and 1056 kcal or 66% and 59% for female and males at the other. Dietary reference intake targets for macronutrients were met as well as Vitamin B12 and iron, however, the menu still failed to meet more than 50% of the DRI targets.

Conclusion: Menus at both institutions failed to meet most of the dietary standards and targets. Scheduled menu analysis is recommended for promoting and enhancing the dietary needs of the elderly in district hospitals in Barbados.

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Breast cancer and its impact on quality of life of patients attending the National Radiotherapy Centre, Trinidad and Tobago

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Objective: To analyse the quality of life among breast cancer patients at the National Radiotherapy Centre (NRC) in Trinidad. Breast cancer is the most frequently diagnosed cancer in women worldwide accounting for 23% of total new cancer cases and is the second most common cancer in the world after lung cancer.

Methodology: This study is a multi-method sequential explanatory design and included the collection of quantitative-epidemiological data and medical histories related to patients diagnosed with cancer who attended the NRC during the period September to November 2011. The instrument – the European Organization for Research and Treatment of Cancer QoL Questionnaire (EORTC QLQ-30) was specifically designed for patients with cancer (Aaronson *et al* 1993). Of the sample, 127 patients or 41.6% were breast cancer.

Results: The results indicate that there is no significant association between breast cancer and quality of life (p -value = .160). Those with breast cancer (over 63%) had a good/very good quality of life with over 9% with a very bad quality of life.

Conclusion: Although, women with breast cancer have been reported to experience psychological and social symptoms resulting in decreased quality of life, this study found that only 9% reported a very bad quality of life.

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Cardiopulmonary resuscitation: Analysis of chest compressions by second year medical students

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Objective: To assess the relationship between a brief refresher in American Heart Association (AHA) basic life support (BLS) for healthcare providers (HCP) and quality of chest compressions during cardiopulmonary resuscitation (CPR) by medical students.

Methods: Data were gathered from 179 medical students at St George's University at the beginning of year two who had taken the AHA BLS for HCP 11 months prior. Participants were randomized into two groups: one group had a seven minute refresher video with hands on practice ($n = 92$) while the other group had no refresher ($n = 87$). Data were recorded on a Resusci-Anne[®] Skill-Reporter[™] mannequin, and analysed using Wilcoxon rank sum and unpaired t -test and Chi-squared analyses.

Results: Statistically significant improvement in percentage of correct compressions were noted in those with the refresher compared to those who did not have the refresher (33.3% vs 10.4%, $p = 0.03$). Measured compression rate per minute and allowance of full chest recoil were also significantly improved (115 vs 109, $p = 0.01$, 0.57% vs 3.29%, $p = 0.02$), though both groups were similar in compression depth (48.8 mm vs 47.6 mm, $p = 0.33$), incorrect hand positioning (29.2% vs 36.6%, $p = 0.22$), shallow compressions (43.2% vs 48.1%, $p = 0.41$) and knowledge scores (7.3 vs 7.5, $p = 0.42$).

Conclusions: This study demonstrated that a short refresher improved overall chest compressions, compression rate and greater adherence to allowing full chest recoil in year two medical students. Increased frequency of short practice sessions may improve care of patients when students are required to perform chest compressions in a future clinical setting.

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Assessment of the knowledge and practice of dietary habits and healthy lifestyles among medical and non-medical students in Trinidad and Tobago

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Objective: To examine, compare and identify useful predictors of knowledge and practice of healthy dietary and lifestyle habits among medical and non-medical university students in Trinidad and Tobago.

Design and Methods: Self-completed questionnaires were used in a survey of 246 students from the three tertiary level institutions in Trinidad. Statistical package for the social sciences (SPSS) was used for both descriptive and inferential data analysis.

Results: Mean dietary habit knowledge scores, out of 100, of medical and non-medical students were 72.2 ± 11.44 and 68.8 ± 11.66 , respectively ($p = 0.020$). Similar means with respect to healthy lifestyle practice were 60.3 ± 12.23 and 54.5 ± 15.15 , respectively ($p = 0.001$). The percentage of students using recreational drugs was higher among female medical students (30.4%) than among female non-medical students (14.5%); $p = 0.024$, but not among male students ($p = 0.174$). Lifestyle practice was similar between the two groups.

Conclusion: Whereas medical students are more knowledgeable about healthy lifestyle and dietary habits than their non-medical counterparts, their lifestyle practices are similar except for the issue of recreational drugs; the use of which is more prevalent among female medical students than among female non-medical students. Since use of recreational drugs is associated with stress, studies are needed to examine stress levels among university students in Trinidad and Tobago and whether gender and the use of recreational drugs are associated variables.

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Estimating the occurrence of resistant hypertension in Trinidad

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Objective: The aim of the study is to measure the proportion of patients with hypertension who meet the criteria for resistant hypertension (RH) among patients attending primary healthcare facilities in Trinidad and describe its epidemiological features.

Design and Methods: We used a cross-sectional study design. Participants were selected using a clustered sampling technique from primary care clinics throughout the Island. Data were collected by the administration of a pretested structured questionnaire. Apart from demographics, data were collected on the duration of hypertension and predisposing risk factors, and the presence of chronic kidney disease (CKD) and the metabolic syndrome.

Results: Initially 428 patients with hypertension were recruited, however, only 391 entered the study of which 64 (16.4%, 95% CI 13, 20.3) met the criteria for RH. Resistant hypertension was found to be more common in patients 61–70 years old, females and patients of African descent. Half of the patients classified as resistant hypertensive were obese, both CKD and the Metabolic syndrome were higher in patients with RH compared to non-resistant hypertension.

Conclusion: We provide evidence for the first-time that the occurrence of RH in patients attending primary healthcare facilities in Trinidad was 16%. Resistant hypertension in Trinidad patients is associated with overweight/obesity, Type 2 diabetes, chronic kidney disease and the Metabolic syndrome.

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Faith and spirituality in the Jamaican mental healthcare landscape

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Objective: To initiate a situational analysis of Jamaican mental health related programmes, which would highlight intersections and divergences in efforts from the Ministry of Health, third sector, and faith/spirituality-based initiatives and in so doing clarify areas for collaborations.

Design and Methods: This was a scoping study involving desk review, interviews and a symposium. As the initial stage of a larger collaborative project intended to increase

public awareness, reduce stigma and the duration of untreated mental illness and improve outcomes in Jamaican communities, the focus was on mental health initiatives led by the Ministry of Health, faith-based organizations (FBO) and places of worship (PoW) in Kingston, Jamaica. In person, telephone, and email interviews were conducted with key stakeholders/ religious community leaders in the Kingston and St Andrew area. A four-hour long symposium was also held to share local, regional and international initiatives in mental health promotion, treatment and stigma reduction.

Results: The scoping study found that there are several mental health programmes currently being run in the Kingston and St Andrew region within FBO and PoW, third sector organizations, and the Ministry of Health. Issues highlighted were lack of knowledge to develop mental health programmes and issues with financial and human resource sustainability.

Conclusion: Information garnered from interviews and during the symposium indicates that there is need and desire for MoH, FBO and third sector collaborations to meet the mental health needs of the Jamaican population.