Public Health 1

Chairpersons: N Astwood, P Adams

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Depression among tertiary education students in a developing country

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Objective: To determine the prevalence of depression among students at The University of the West Indies, St Augustine campus over the period 2014–2015.
Subjects and Methods: A cross-sectional study utilizing convenience sampling was executed between January and May 2015. A self-administered questionnaire based on the Centre for Epidemiological Studies Depression Scale-Revised (CESD-R) was formulated by the addition of demographic and other variables and was distributed to a total of 1020 undergraduate students at The University of the West Indies, St Augustine. The acquired data were analysed using Statistical Package for Social Sciences (SPSS) for Windows 8.
Results: With a response rate of 95.2%, the study revealed the overall prevalence of depression to be 39.8%, with 39.3% of non-medical students and 40.2% of medical students being depressed (95%CI). The factors statistically associated with depression were religion ($p = 0.013$), smoking ($p < 0.001$), alcohol consumption ($p < 0.001$), illicit drug use ($p = 0.008$) and being previously treated for depression ($p < 0.001$). More than two-thirds (69.5%) of respondents thought that they could recognize the symptoms of personal depression; however, 53.5% of them misdiagnosed themselves as not being depressed (95%CI). A quarter (24.9%) of respondents believed there is a stigma attached to seeking help for depression while 37.8% of them were unaware of the available counselling resources (95%CI).
Conclusion: The overall prevalence of depression at The University of the West Indies, St Augustine campus during the 2014–2015 period was found to be 39.8%. The factors associated with depression were alcohol consumption, illicit drug use, smoking, religion and a previous diagnosis of depression.

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Smoke-free legislation in Barbados: Compliance among hospitality venues

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Objective: To evaluate the level of compliance with the smoke-free legislation among hospitality venues (bars and restaurants) in Barbados.
Subjects and Methods: A cross-sectional study was conducted among 67 venues using purposive sampling. Venues were recruited from two coastal areas patronized by tourists and one rural area patronized by Barbadians. Compliance status was determined using an observation checklist containing five indicators. Univariate analysis provided proportions with 95% confidence intervals (95% CI) using Epi Info 7. Fisher's exact test examined the association between location and compliance with $p \leq 0.05$ accepted as significant.
Results: Overall compliance status of venues was full compliance 6% (95% CI 1.7, 14.6), partial compliance 63% (95% CI 50.1, 74.2), non-compliance 31% (95% CI 20.6, 43.8). Indicators showed that more than half (55%) of the venues displayed 'no smoking' signage, 7% signage compliance, 40% smoking indoors and 36% having ashtrays/ashbins present. When viewed by location, more venues in the tourist area were non-compliant (57%; 95% CI 19.6, 49.6) compared to the non-tourist area (28%; 95% CI 12.1, 49.4), provided significantly more ashtrays/ashbins ($p = 0.03752$) and were plagued with challenges of active smoking nearly twice as many times as venues within the non-tourist area (50% *vs* 28%).
Conclusion: Full compliance with the smoke-free legislation is very low in Barbados among hospitality venues. Training programmes targeting operators and night-time surveillance are critical to raising the level of conformity to the legislation.

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Household food security, HIV knowledge and dietary patterns among Trinidadian adults: A cross-sectional study

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Objective: To determine the relationship between food consumption patterns and prevalence of food insecurity among Trinidadian adults.
Methods: A convenience sample of two hundred and twenty selected households participated in the study. Data were collected over a three-month period in the year 2015. A structured paper-based questionnaire was used to collect data on HIV knowledge, food consumption frequency, food security status and sexual risk behaviours. Principal component analysis was used to derive dietary patterns. Multiple logistic regression models were used to determine the association between household food security and HIV knowledge and dietary pattern scores. All models were adjusted for gender, age, ethnicity, employment status and educational status.
Results: Two dietary consumption patterns were identified, namely westernized and prudent patterns. Overall, household food insecurity was approximately 65%, with food insecurity with children being that of 41% and without children 63%. Average HIV knowledge was 61.48 ± 15.16% among participants. Higher HIV knowledge (OR = 0.84; $p = 0.002$) and prudent dietary factor scores (OR = 0.64; $p < 0.001$) were associated with a greater odds of being food secure. Conversely, higher westernized dietary factor scores (OR = 1.33; $p = 0.008$) were associated with a greater likelihood of being food insecure.
Conclusion: Greater awareness to HIV and healthier dietary patterns were seen among individuals from food secure households while persons who had westernized lifestyles were more likely to be from food insecure households. A greater effort is needed by governmental and public health institutions to help reduce the burden of food insecurity in the Caribbean.

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From past to present: 100 years of public health practice in Trinidad

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Objective: The aim of this study is to map the chronological achievements of public health, supported by the outlining and discussion of emerging themes.
Subjects and Methods: A retrospective analysis was done of data from the published population and vital statistics reports of the Central Statistical Office for the period 1953–2006, as well as all available published reports of the Ministry of Health. Data were also collected from the published reports of the Registrar General for the period 1944–52.
Results: The study chronologically showed the elimination of hookworm, smallpox, malaria, cholera, typhoid, yellow fever and the vaccine preventable diseases such as measles, mumps, rubella, poliomyelitis, diphtheria, tetanus and pertussis. In addition, for the first time, the mumps epidemic of 2000–2003 was identified.
Conclusion: While much has been achieved over the past 100 years, many challenges lie ahead. Hence a highly trained and skilled public health workforce is required to confront a changing healthcare landscape, epidemics and rising expectations to address key determinants of health.

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Public *versus* private healthcare – Views of doctors, nurses and the public

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Objective: The study investigates the perception of public *vs* private healthcare among doctors, nurses and the public in Trinidad.
Subjects and Methods: A cross-sectional study was conducted on a sample of 1222 persons. Respondents were asked *via* interviewer-administered questionnaire which healthcare system (public or private) they would choose and why, if ability to pay was not a factor. They were also asked to state what in their view would improve the systems. The data collected were subject to the Chi-squared test and Fisher's exact test to determine any significant associations.
Results: One thousand two hundred and twenty-two persons were interviewed (response rate 89%). The majority of all groups would choose private healthcare ($\chi^2 = 238.06$, df = 7, p-value = 0.000). The majority of non-medical groups perceived private care to be faster and better ($p = 0.000$); doctors would like more accountability in private settings and more drugs and equipment in the public sector, while non-clinical groups wanted cheaper private care ($p = 0.000$).
Conclusion: The publicly funded healthcare system seems to be falling short on some quality standards, thus

contravening a fundamental human right. The public should be informed when making a decision to opt for private care that the same doctors often work in both settings. For critical care, the public institutions have a better staff complement, although this study highlighted the need for more drugs and better equipment. The government needs to look closer at the reasons all groups, including doctors and nurses, would choose private healthcare.

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Saving the prostate: Predictive factors for participation in prostate cancer screening among older men in Trinidad and Tobago

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Objective: This study explored factors hypothesized to be associated to participation in prostate cancer screening among older Trinidadian adults.
Subjects and Methods: A cross-sectional study was conducted using data collected from self-administered questionnaires from adult males aged 40 years and older in the country of Trinidad. Participant characteristics and participation rates in prostate cancer screening were described using means and frequencies. Principal component analysis was used to identify dietary patterns. Multi-variable logistic regression models were used to investigate the association between sociodemographic, lifestyle, prostate cancer knowledge and health belief model (HBM) characteristics with prostate cancer screening participation.
Results: A total of 260 adult males with a mean age of 51.6 ± 8.15 years were included for all analysis. Approximately 50% of participants were screened for prostate cancer within the past five years with the majority (73%) opting for the prostate-specific antigen (PSA). Significant predictors ($p < 0.05$) for being screened for prostate cancer were sociodemographic (age, being married and a monthly income of > TT $10 000), being obese, having a family history of cancer and higher health belief scores. Higher westernized dietary pattern scores and last medical examination > 12 months were significant predictors for a higher likelihood of not being screened for prostate cancer.
Conclusion: Governmental agencies and health professionals should focus on the modifiable factors related to lifestyle and the HBM to encourage older adults to be screened for prostate cancer. There is a definite need for targeted intervention programmes addressing barriers and benefits of prostate cancer screening and health motivation in Trinidad and Tobago.

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Why SINBAD? Describing diabetic foot ulcers in a Barbados population

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Objective: Here, we report on the characterization of diabetic foot ulcers in a Barbados population using the SINBAD ulcer classification system.
Subjects and Methods: Sixty-five case participants were seen and 73 ulcers presented. All ulcers were categorized upon examination using the SINBAD classification scheme: Site, Ischaemia, Neuropathy, Bacterial infection, Area, Depth. The individual category scores were summed to create a SINBAD score with a range of 0–6. Results were compiled and analysis performed using Stata SE 12.1 (Stata Corporation).
Results: Mean age of the participants was 56.75 (± 9.03 SD) years and more were men (53.4%). The mean diabetes duration was 15.25 (± 9.84 SD) years. Three SINBAD scores (1, 2 and 3) shared the majority of the ulcers at 26.0% each. The next highest was SINBAD score 0 at 15.1% of the ulcers, followed by the SINBAD score 4 at 6.9%. None of the ulcers seen in the participants (0%) registered a SINBAD score of 5 or 6. The majority of the ulcers were neuropathic (61.64% *vs* 38.36%), larger than 1 cm^2 (63.01% *vs* 36.99%), free of bacterial infection (95.89% *vs* 4.11%) and confined to the skin and subcutaneous tissue (100% *vs* 0%).
Conclusion: The SINBAD ulcer classification score indicates the risk of a foot wound failing to heal, with scores of three and above having a significantly increased time to heal and being classified as complicated. In the current study, 67% of the ulcers seen were scored below the threshold of a SINBAD score of 3.

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Spirometry quality control: Man *versus* machine

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Objective: To compare the efficacy of local quality control (QC) of BOLD (Burden of Obstructive Lung Disease) Trinidad and Tobago study with spirometer machine quality grades as well as with BOLD Pulmonary Function Reading Centre QC standards at Imperial College, London.
Methodology: Quality of the randomly chosen two hundred spirometries was independently assessed by the local team based on the 2005 ATS/ERS spirometry standards. Central QC quality assessment results were blinded to the local team. However, the machine quality grades were readily available to both the central and local teams during interpretation. Local and machine QC performances were correlated with the central QC which was taken as the gold standard for this study.
Results: According to central QC, 17.5% of the spirometries were declared as unacceptable. The noted common errors were prolonged peak expiratory flow time (14.5%), submaximal blasts (11.5%), variable efforts (11%) and poor reproducibility (10%). Cronbach's alpha assessment revealed an overall reliability of 0.82 and a correlation of 0.73 between central and local QC. The correlation between central and machine QC was poor (0.548). Local QC exhibited 89.1% sensitivity and 94.3% specificity relative to the central QC. Though the machine QC displayed a better sensitivity (97.6%), its specificity was significantly lower (45.7%).
Conclusion: Local QC was effective when compared with the central QC and executed better performance than the machine's QC. This expertise can now be utilized for the future spirometry based local research studies. Due to limitations in identifying various errors, machine QC should not solely be used as the determinant of acceptability.

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Non-alcoholic fatty liver disease among adult survivors of severe acute malnutrition

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Objective: To investigate whether malnutrition survivors had more liver fat than controls and whether marasmus survivors (Ms) had more liver fat than kwashiorkor survivors (Ks).
Subjects and Methods: We traced 726 of 1336 adults admitted to hospital as infants with a diagnosis of severe acute malnutrition. We used birthweight (BW) from hospital records and measured anthropometry, body composition (DEXA) and liver fat using single, cross-sectional computed tomography (CT) scanning at T12/L1 vertebrae. Data were analysed using multivariate linear regression.
Results: We studied 45 Ms, 43 Ks and 84 age-, gender- and body mass index (BMI)-matched controls (age 29.0 ± 8.4 years, BMI 23.5 ± 5.0 kg/m^2). Using LS ratio, malnutrition survivors had less liver fat than controls (1.3 ± 0.2 *vs* 1.2 ± 0.9, $p = 0.03$). Marasmus survivors had lower BW than Ks (-0.51 kg; $p = 0.02$), were younger ($p = 0.02$), had smaller waists ($p = 0.03$), were thinner ($p = 0.01$) and had less body fat ($p = 0.05$) compared to Ks. Marasmus survivors had more liver fat than Ks after adjusting for age, gender and BW ($\beta = -2.62$, SE = 1.23; $p = 0.03$). Lower BW infants had less liver fat after adjusting for diagnosis ($\beta = -1.51$, SE = 0.76; $p = 0.04$).
Conclusion: Fatty liver occurs at lower BMI in Ms compared with Ks; this difference is likely due to both prenatal and postnatal factors acting independently. While further studies are needed to understand the mechanisms involved, our data suggest the need to monitor infants exposed to severe acute malnutrition beyond the acute episode.