

Poster Abstracts

(P – 1)

Safety standards and regulation for diagnostic radiation facilities in Jamaica

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Objectives: To assess the current status of radiological safety practices in Jamaica and recommend radiation management and safety practices in accordance with the Jamaican Nuclear Safety and Radiation Protection Act, 2015.

Methodology: A series of questionnaires were administered among a sample of radiology workers from public and private facilities, who were randomly selected through a systematic grouping exercise. Interviews were conducted with chief radiology personnel and data collected from secondary sources was compared to that received *via* the primary medium. A control study was also conducted in a New York hospital to compare the radiation safety practices with results from this study.

Results: Thermo-luminescent dosimeters (TLD) were identified as the main dosimeters employed in Jamaica. However, there was no protocol in place specifying the safe use and storage of dosimeters and there was no management system in place to keep records of dose measurements within the departments. Departments also lacked stipulated guidelines that should be followed when personal dosimeters return values exceeding the maximum occupational permissible dose.

Conclusion: There is a need for policies endorsing the use of a management system complimented by a dosimetry registry that can be employed to ensure the maximum occupational permissible dose is not exceeded. Preventative procedures should also be implemented to avoid the occurrence of the issue.

(P – 2)

Preliminary assessment of the geriatric anxiety scale in the Jamaican population: case study

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Objective: To evaluate the geriatric anxiety scale (GAS) in the assessment of anxiety in two cases by comparing results with the standardized Beck anxiety inventory (BAI).

Methods: Patients A and B, both ≥ 60 years, were approached to participate in the study. The clinician assessed global assessment of functioning (GAF) scores and patients were recruited if the GAF score was ≥ 30 . After consenting to the study, clinicians assessed the patient's anxiety symptoms using the BAI and GAS. Demographics, type of anxiety diagnosed, drug therapy for anxiety and other medical conditions were extracted from the patients' dockets. Stacked bar charts were used to compare the BAI and GAS scores. The GAS sub-scales were used to provide further assessment of the somatic, cognitive and affective factors of anxiety for each patient.

Results: Patient A was diagnosed with major depressive disorder and tardive dyskinesia. Beck anxiety inventory and GAS revealed similar findings of minimal to normal level of anxiety. Global assessment of functioning sub-scales further determined that patient A displayed minimal levels of somatic, affective and cognitive anxiety. Patient B was diagnosed with generalized anxiety disorder. Patient B's anxiety state was rated as moderate using BAI but as severe using GAS. Furthermore, GAS subscales revealed mild somatic, moderate cognitive and severe affective anxiety levels in patient B, which supports the diagnosis of generalized anxiety disorder.

Conclusions: This pilot study provides preliminary data which support GAS utilization in assessing anxiety in the aging patient. The GAS sub-scale scores support the diagnosis of generalized anxiety disorder in Patient B.

(P – 3)

Improving disease knowledge in six to 10-year olds with sickle cell disease: a quasi-randomized trial

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Background: Increasing knowledge and understanding of disease is known to improve outcomes in persons living with a chronic illness. In this paper, we aim to compare the disease knowledge of children with sickle cell disease (SCD), age 6–10 years, who received an intervention (an educational colouring book on SCD) geared towards improving disease knowledge, to those who did not receive the book.

Methods: A quasi-experimental study was conducted where disease knowledge was determined in 56 children who had received the book and compared to 60 children who did not receive this intervention.

Results: The mean knowledge score was significantly higher in the intervened group (15.0 ± 3.0 versus 12.0 ± 4.0 , $p < 0.001$). The knowledge score was higher in older children ($r: 0.41$; p -value: 0.01) and in those in higher grades ($F = 356.25$; p -value < 0.001), but there was no difference between sexes (p -value = 0.27). In a gender adjusted multiple regression model (adjusted R-squared: 38.6%; p -value < 0.001), knowledge score was significantly lower in those who did not receive the intervention (coef: -2.62; p -value < 0.001), in those with more than five persons living at home compared to two persons at home (coef: -3.89; p -value < 0.001), in those whose father was unemployed (coef: -2.24; p -value < 0.001) and increased with age (coef: 0.69; p -value: 0.001).

Conclusion: The study highlights that a simple, children friendly intervention can significantly improve knowledge about SCD in even young children. It also underlines various social factors are associated with children's understanding of their disease.

(P – 4)

Severity and outcomes of community acquired acute kidney injury: a single-centre study

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Background: This retrospective study focussed on the prevalence, severity and outcomes of community acquired acute kidney injury (CA-AKI) in an institution.

Method: All patients included were over 16 years, were not on renal replacement therapy and attended to the University Hospital of the West Indies between January 2015 and June 2015. A Acute kidney injury was diagnosed and staged by KDIGO criteria

Results: Four hundred and thirty-two patients (4.22%) met the diagnostic criteria of AKI. Of these, 171 (39.6%) had stage I AKI, 110 (25.5%) had stage II and 151 (35.0%) had stage III. Among the underlying causes, volume depletion remained as the leading cause of CA-AKI. Patients who had underlying causes which required urgent medical attention are likely to achieve recognition of CA-AKI at an early stage (95% CI, 1.884 to 2.128, $p < 0.001$). Volume depletion and cardiac failure significantly increased the risk of CA-AKI (OR, 2.037, 95% CI, 1.130 to 1.651, $p = 0.004$ and OR, 1.759, 95% CI, 1.827 to 1.982, $p = 0.03$), respectively. Ninety-four patients (21.8%) had incomplete and 46 patients (10.6%) had no renal recovery at ≥ 90 days. The majority of patients who achieved complete renal recovery were patients who had stage I AKI (90.1%). Fifty-two patients with CA-AKI (12%) required dialysis and most of them (86.5%) had stage III AKI. Stages I and II CA-AKI had better renal outcomes than stage III CA-AKI (95% CI, 1.566 to 1.875, $p < 0.001$). The 30-day mortality and 90-day mortality among the patients with CA-AKI were 6.3% and 7.4%, respectively.

Conclusion: The severity of CA-AKI varies with underlying cause. The earlier medical attention may link with the better renal recovery. Volume depletion and cardiac failure are significant risk factors for CA-AKI and volume depletion remains as the leading cause of CA-AKI. Further larger studies are necessary to find out the correlation between community-acquired infections and CA-AKI. Stage III AKI caused most adverse outcomes. The rate of all-cause mortality is higher in patients with CA-AKI compared to patients without AKI.

(P – 5)

Prevalence of potential drug-drug interactions with warfarin use at University Hospital of the West Indies cardiology clinic

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Background: Drug-drug interactions (DDIs) with warfarin may result in a higher risk of patients developing adverse events, such as bleeding and thromboembolism.

Method: A cross-sectional study was performed at the University Hospital of the West Indies Cardiology Clinic from January 2014 to May 2014 and February 2015 to October 2015 recruiting patients on warfarin therapy. Concomitant drugs prescribed to patients were recorded from docketts. Using the Warfarin drug-drug interactions Drug Interactions Checker from the Drugs.com website potential DDI were classified as major, moderate or minor.

Results: A total of 71 patients on warfarin therapy participated in the study. Most patients were taking other medications with warfarin (n = 68, 95.8%) that ranged from one to 10 concomitant drugs with four drugs (n = 17, 23.9%) being the most frequent taken with warfarin. A total of 46 (64.8%) patients were on drugs that had potential DDIs with warfarin, involving 23 concomitant drugs; of the total frequency of potential DDIs with warfarin (n = 91), 20 (22.0%) were major and 23 (25.3%) were moderate. The most common major DDI involved aspirin (n = 6) and clopidogrel (n = 6).

Conclusion: Patients on warfarin therapy are being placed on concomitant medications that place them at risk of adverse effects that could possibly outweigh the benefits.

Keywords: Warfarin, DDIs, aspirin, clopidogrel

(P – 6)

Postnatal assessment of the components of Metabolic Syndrome: a study in patients previously diagnosed with pregnancy-induced hypertension and gestational diabetes at the University Hospital of the West Indies and Victoria Jubilee Hospital, Jamaica

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Introduction: Metabolic Syndrome (MS) is the constellation of atherosclerotic risk factors that predisposes patients to Type 2 diabetes and cardiovascular disease. Several international studies have found an association between gestational diabetes (GDM) and pregnancy-induced hypertension (PIH) and the development of MS postpartum. This study was carried out locally to assess the development of markers for MS postpartum over a one-year period in patients with GDM and/or PIH.

Method: This retrospective cohort study was conducted at three, six and 12 months postnatally, in patients with a history of PIH and/or GDM, evaluating markers for MS using the Harmonizing criteria. The patients' body mass index (BMI) was also calculated. The Chi-squared test was used to test associations between the components of metabolic syndrome and categorical variables.

Results: Of the 360 women who agreed to participate in the study, only 105 women participated in the study. Associations between the PIH, GDM, PIH and GDM groups and MS were not found to be statistically significant at three, six or 12 months postpartum. The highest rate of MS was observed in patients who had both PIH and GDM. A comparative analysis of BMI and the development of

MS, showed statistically significant associations between patients who had a high BMI at three ($p = 0.02$) and six months ($p = 0.01$) postnatally and the MS.

Conclusion: An elevated BMI postpartum is a risk factor for the MS. No significant associations were found between groups and the MS, which was likely due to a small sample size.

(P – 7)

Vesicovaginal fistulae: a retrospective case series at the University Hospital of the West Indies over a 15-year period

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Introduction: There is a paucity of evidence on the epidemiology of vesicovaginal fistulae (VVF) in Jamaica and the Caribbean. This information is largely anecdotal. There is a higher chance of acquiring VVF post hysterectomy due to its invasiveness and higher incidence of infection. Identification of the causes and outcome of VVF may influence our approach to the surgical management of gynaecological disorders. This study was done to determine the aetiology of VVF, their associations and the outcome of their management at the University Hospital of the West Indies (UHWI).

Method: This was a retrospective case series of patients who were diagnosed with VVF at the UHWI during the period 2000–2015. Patients were identified from admission records of the female surgical and Gynaecology wards, the Urology preoperative booking records and operating theatre records and the coding system at the medical records department, UHWI.

Results: Fourteen patients were identified as having VVF during the study period and 11 patients were confirmed to have VVF. Total abdominal hysterectomy (TAH) was the leading cause of VVF. Vesicovaginal fistulae were commonly associated with bladder injury and intraoperative difficulty at the time of initial surgery. The majority of cases of VVF were surgically repaired and 73% patients were dry post VVF treatment.

Conclusion: There was an overall good outcome post VVF intervention. Fastidious pre-operative assessment and good surgical technique during pelvic surgeries is important in preventing this post-operative complication.

(P – 8)

Investigation of the laxative effects of extracts of the *Spathodea campanulata* plant

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Background: The *Spathodea campanulata* (African tulip) plant is a member of the family *Bignoniaceae*, and is used in traditional practices for the treatment of constipation, glaucoma and malaria. Very little scientific evidence exists to support these claims. This study seeks to investigate laxative potential of the plant and whether this is mediated *via* muscarinic receptors.

Method: The study involved measuring intestinal transit in mice, weight of feces in rats and *in vitro* investigation using isolated rat ileum to determine possible muscarinic involvement in the mechanism by which the laxative effect is mediated. Mice were divided into groups (n = 4), starved overnight and each group orally administered activated charcoal along with water, aqueous stem bark extract or bud fluid of the plant on the day of the test. The mice were later sacrificed and the percentage intestinal transit of charcoal measured. Groups of rats (n = 4) were orally administered bud fluid or aqueous stem bark extracts of the plant daily for four weeks with weekly monitoring of food and fluid intake along with fecal output. The force of contraction induced by the plant samples in isolated rat ileum was measured in the presence and absence of atropine to investigate involvement of muscarinic receptors.

Results: Intestinal transit was significantly greater in mice administered the plant extracts in comparison to normal control ($p = 0.016$). Both plant samples induced contractions in the isolated rat ileum which were dose-dependently inhibited by atropine. There was no significant difference in weight of feces between groups.

Conclusion: *Spathodea campanulata* increases gastrointestinal motility by stimulation of muscarinic receptors.

(P – 9)

The effect of preoperative fasting time on maternal and neonatal glucose levels and outcomes in elective caesarean section patients at the Victoria Jubilee Hospital

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Background: Preoperative fasting is universally practised before anaesthesia to reduce the volume of stomach contents and decrease the risk of regurgitation, aspiration and pneumonitis. However, prolonged fasting can have adverse

effects including dehydration, hypoglycaemia and severe thirst, which may be transferred to the fetus in obstetric patients.

Materials: A cross-sectional survey was conducted between July and December 2015 at the Victoria Jubilee Hospital (VJH) of all patients undergoing elective Caesarian section under spinal anaesthesia. Data collected included maternal fasting time, preoperative glucose level, volume status and neonatal glucose level, APGAR score and any special care nursery (SCN) admissions. Data was analysed using SPSS version 21.

Results: Two hundred and fifty patients were enrolled and the mean preoperative fasting time was 15 ± 3.1 hours. Longer fasting times (> 14 hours) were associated with lower maternal blood glucose ($p = 0.006$) but not neonatal blood glucose ($p = 0.16$). Just under half (46%) of the maternal patients had a glucose level of less than 4 mmol/L, but all were asymptomatic. Prolonged fasting was also correlated with increased urine ketones ($p = 0.003$) and decreased urine output ($p = 0.009$) in the mother, but not severity of thirst ($p = 0.68$). Neonatal APGAR score at one minute ($p = 0.195$), five minutes ($p = 0.169$) and SCN admission ($p = 0.746$) were not associated with maternal preoperative fasting time.

Conclusion: Preoperative fasting times in obstetric patients at the VJH are on average more than twice that recommended. Those with prolonged fasting (> 14 hours) had increased risk of hypoglycaemia and dehydration. However, there were no clinically significant adverse outcomes in the neonates.

(P – 10)

Body image disturbance and skin bleaching

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Background: Skin bleaching which damages the skin is pervasive among Blacks in Jamaica. The many negative health outcomes associated with the practice suggest that the people who bleach their skin may suffer from skin colour-driven body image disturbance. This study looks at body image disturbance among Jamaicans who bleach their skin. The hypothesis states that there is a positive relationship between skin bleaching and body image disturbance.

Materials: The study used a convenience sample of participants (n = 160) with a skin bleaching group (n = 80) and a non-bleaching comparison group (n = 80). The instrument included demographic questions, the body image disturbance questionnaire and questions about skin bleaching.

Results: The results of a *t*-test revealed that the skin bleaching group (M = 1.5255, SD = 0.42169) was not significantly different from the non-bleaching group (M = 1.4938, SD = 0.74217) in terms of body image disturbance,

t: (158) = 0.333, $p = 0.740$. The participants who bleached did not suffer from body image disturbance. Self-reports revealed that they bleached to acquire beauty, attract a partner, elude the police and market skin bleaching products. The practice was fashionable, popular and it made some participants feel good, while others were fans of a popular dancehall artiste who bleached his skin.

Conclusion: Bleaching provide several benefits. These are beauty, personal and social acceptance, deceiving law enforcement, identification with the celebrities who bleach their skin, and the use of the bleached body to advertise the “effective” bleaching products. The participants were not preoccupied and concerned with their body image based on their black skin.

(P – 11)

Factors associated with the decayed, missing, filled teeth (dmft) rate: a comparison of rural and urban children ages three to five years old

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Background: Dental caries is a major public health issue, affecting 60–90% of school children, and is associated with oral hygiene practices, diet and socio-economic status. The objectives of this study were to compare the decayed, missing, filled teeth (DMFT) rate and associated risk factors in children 3–5 years old residing in rural and urban Jamaica and to understand some issues affecting the delivery of dental services.

Materials: A cross-sectional study was conducted comprising children attending early childhood institutions in rural St Thomas (n = 121) and Kingston [urban] (n = 124). Participants were selected based on dentition status and place of residence. Dental screening was conducted by trained dental nurses. Caregivers completed self-administered questionnaires to assess their child’s oral hygiene practices, dietary habits and socio-economic status. Dental administrators from the private and public sectors were interviewed.

Results: Median DMFT rate was higher in St Thomas (1) than in Kingston (0) [$p = 0.027$]. A greater proportion of children in Kingston brushed before meals ($p = 0.018$), consumed dairy ($p = 0.034$) and soda ($p = 0.002$) daily, had dental insurance ($p = 0.02$), had caregiver earning above minimum wage ($p < 0.001$) and easier access to dental

facilities ($p < 0.001$). There were positive correlations between DMFT rate and soda consumption ($p = 0.023$; $r_s = 0.206$; $n = 122$) in Kingston and DMFT rate and candy consumption ($p = 0.016$; $r_s = 0.220$; $n = 119$) in St Thomas. St Thomas had limited human resources.

Conclusion: Children in rural areas have higher DMFT rates, with access to services being their major challenge.

(P – 12)

The effect of using a standardized protocol to treat hyperglycaemic crises at the University Hospital of the West Indies

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Background: We hypothesized that adherence to a standardized protocol for the management of hyperglycaemic crises results in decreased hospital length of stay (LOS) and mortality.

Methods: We did a retrospective observational study of patients admitted with hyperglycaemic crises from 2010–2014. One hundred and twenty-two patients’ dockets were available for review. We devised a scoring system for the level of adherence (LOA) to the American diabetes association protocol involving key areas of management (maximum score being seven). Univariate and multivariate analyses were done correlating LOA with length of time in crises, LOS and mortality.

Results: The mean LOA score was 3.9. The mean length of time spent in crises was 38 ± 27 hours, with time taken to start IV fluids and LOA being independent factors. A one-unit increase in LOA was associated with a 6.8 ± 1.7 hour decrease in time spent in crisis ($p < 0.001$). Length of stay was 8.4 ± 6.1 days, which was associated with the presence of infection, time taken to start antibiotics and length of time spent in crisis (p -values < 0.05). For each hour spent in crisis, LOS increased by five hours. The mortality rate was 11.4% with most deaths in the group with lower LOA and in older sicker patients. There was a 55% reduction in odds of dying with each one-unit increase in LOA score.

Conclusion: Increased adherence to a protocol is associated with decreased time in hyperglycaemic crises and mortality and probably shorter LOS. Improving the adherence to the protocol may have significant clinical and financial benefits

(P – 13)

Neonatal outcome of babies born to women 40 years and over at the University Hospital of the West Indies 2012–2013

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Aim: To determine neonatal outcome of babies born to women \geq 40 years at the University Hospital of the West Indies.

Methods: This was a retrospective descriptive study looking at the outcome of all babies born to women \geq 40 years and control babies born to women aged 20–30 years at the University Hospital of the West Indies between January 1, 2012 and December 31, 2013. Maternal and neonatal demographic data and course of admissions for admitted neonates were recorded. Descriptive analyses were performed. Statistical significance was taken at the level $p < 0.05$.

Results: There were 210 neonates delivered to women \geq 40 years, 112 (53%) were females compared to 212 babies delivered to the younger controls, 116 (55%) of whom were female. Women \geq 40 years accounted for 49 per 1000 live births during the study period. Women 40 years and older were more likely to have an operative delivery than their younger controls (OR 3.4; CI-5.1). They were also more likely to deliver a low birthweight infant (OR 1.9; CI 1.2 – 3.3) and have significantly more neonatal admissions for prematurity and low birthweight ($p < 0.05$). There however, was no difference in neonatal outcome between the two groups.

Conclusion: Although women 40 years and over were found to be at increased risk of being delivered by Caesarean section and of delivering a low birthweight infant, no significant difference in neonatal outcome was noted.

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Marine algal natural products with anti-oxidation and anti-cancer properties

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For their various bioactivities, natural products derived from marine algae are important ingredients in drugs for treating cancer and other diseases. The present work compares the bioactivities and biological functions of natural products isolated from the brown algae of the specie *Styopodium zonale*. The anti-oxidation effects and bioactivities of compounds have been evaluated with known

drugs. Stypoldione (**1**) showed ichthyotoxicity effects at concentration 2.5 μ M with *Poecilia reticulata*. Cytotoxic activity was reported in vitro for Zonaquinone acetate (**2**) against breast cancer and colon cancer cell lines at IC (50) values of 19.22–21.62 μ M and 17.11–18.35 Mm, respectively comparing favourably with standard treatments tamoxifen (17.22–17.32 μ M) and fluorouracil (27.03–31.48 μ M). Also Cytotoxic activity was reported in vitro for 5',7'-Dihydroxy-2'-pentadecylchromone (**3**) against prostate cancer and colon cancer cell lines at IC(50) values of 12–17 μ M and 40 μ M, respectively, comparing favourably with standard treatments Ketoconazole (38.5–43.5 μ M) and fluorouracil (658.5–663.5 μ M). Marine algal natural products have great potential as prototypes for the pharmaceutical industry for use in anti-cancer and anti-oxidation drugs.

(P – 15)

A randomized control trial comparing the “rule of threes” oxytocin protocol to the currently practiced oxytocin regime in achieving adequate uterine tone following Caesarean delivery at the University Hospital of the West Indies

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Background: Postpartum haemorrhage (PPH) accounts for ~21% of maternal mortality in Latin America and the Caribbean. Oxytocin is the first-line agent for the prevention and treatment of PPH, but has significant side-effects, including tachycardia and hypotension. Recent studies have used lower doses of oxytocin to achieve adequate uterine contraction following caesarean delivery with fewer side-effects. This study sought to compare the efficacy and safety of a recently-proposed lower oxytocin protocol (“Rule of Threes”) with the currently practised oxytocin regime in our population.

Materials: Fifty healthy pregnant patients for elective Caesarean delivery under spinal anaesthesia were randomized into two groups – receiving the “Rule of Threes” oxytocin protocol (3 IU bolus then 30 IU/L at 100 mL/hr) or the currently practised oxytocin regime (5 IU bolus then 40 IU/L at 100 mL/hr) following delivery. The adequacy of uterine contraction, blood pressure and heart rate were assessed at timed intervals after oxytocin administration and compared between groups. Blood loss, side-effects and rescue doses of oxytocin or other uterotonic agents were compared.

Results: There were no significant differences in adequate uterine tone ($p \geq 0.35$), rescue doses ($p = 0.46$), or additional uterotonic agents ($p = 0.60$) between groups. The higher dose had more tachycardia within the first minute of

administration (10% increase in HR vs 1%; $p = 0.004$), but no increased hypotension ($p = 0.48$). There were no differences in subjective side-effects between groups.

Conclusions: Adequate uterine tone can be achieved and maintained with the lower dose “Rule of threes” oxytocin protocol in elective Caesarean delivery. It reduces occurrence of tachycardia.

(P – 16)

Prevalence of medicinal plant use by cancer patients in Jamaica

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Objective: To assess the prevalence of use of medicinal plants among cancer patients in Jamaica.

Methods: An interviewer administered cross-sectional study was conducted on 100 cancer patients attending the oncology and urology out-patient clinics at the University Hospital of the West Indies. Data were gathered on participant’s recent use of medicinal plants, concomitant use with prescription medicines, source of information on plant use and disclosure of herb usage to doctors. Pearson’s chi-squared tests were used to identify associations between demographic information and medicinal plant use.

Results: Eighty per cent of patients currently used medicinal plants, predominantly (88.8%) to treat their cancer. Information on plant preference and preparation methods were frequently obtained from friends (65%) and family members (13–20%). *Annona muricata*, commonly known as soursop was the most abundantly used medicinal plant (58.8%) to treat a variety of cancers. 74.7% of patients used medicinal plants concomitantly with prescription (Rx) medication with the perception that there is no harm in taking both (71.6%). 94.6% of the current users of medicinal plants did not discuss use with their doctors. There were no significant associations between demographics and medicinal plant use.

Conclusion: Use of medicinal plants among cancer patients, is high in Jamaica and patients continue to use herbs and Rx drugs concomitantly without disclosure to their doctors. This survey sheds light on this important public health issue.

(P – 17)

Valvular heart disease at Kingston public hospital in Jamaica, West Indies

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Background: This study estimated the prevalence of valvular heart disease (VHD), its underlying aetiology, and specific valves affected, among patients attending the Cardiology Clinic at the Kingston Public Hospital (KPH) in Jamaica, between August 2010 and February 2014.

Method: Data were obtained from the KPH Cardiology Clinic electronic patient database, which comprised 1202 persons at the time of the study. Data included patient demographics, diagnoses, and valvular abnormalities as assessed by echocardiogram. Statistical analysis was done using Stata 12.1.

Results: Data from 1171 individuals were used in these analyses. The prevalence of VHD was 21.6% ($n = 254$). There was no significant sex difference in this prevalence, with rates of 19.5% ($n = 78$) in males and 22.7% ($n = 178$) in females ($p = 0.207$). Mitral regurgitation was the most common valvulopathy (12.9%, $n = 151$), followed by tricuspid regurgitation (5.6%, $n = 65$), rheumatic heart disease (RHD) was the most common single cause for VHD, accounting for 18.1% of cases, followed by hypertensive heart disease (HHD), which accounted for 11.4%. In a multivariable logistic regression model, adjusted for age and gender, the odds ratio (OR) for VHD among patients with RHD was 30.3 (95% CI 13.8–66.6, $p < 0.001$), while for dilated cardiomyopathy the OR was 2.56, (95% CI 1.62–4.06, $p < 0.001$) and for HHD, the OR was 1.49, (95% CI 1.05–2.13, $p = 0.027$).

Conclusion: The prevalence of VHD among patients attending the Cardiology Clinic at KPH was 21.6%, comparable with rates reported in the Caribbean. Rheumatic heart disease remains the most common cause of VHD and mitral regurgitation is the most common valvular abnormality.

(P – 18)

Dietary practices and blood pressure control among hypertensive Jamaicans: the Jamaica health and lifestyle survey 2007–2008

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Background: We evaluated whether dietary practices were associated with blood pressure control among hypertensive Jamaicans who were aware of their condition.

Methods: Data from food frequency questionnaires from the Jamaican Health and Lifestyle Survey 2007–2008 were analysed. The questionnaire estimated consumption of commonly eaten foods. Blood pressure (BP) was measured using a mercury sphygmomanometer following a standardized protocol. Controlled hypertension was defined as systolic BP < 140 mmHg and diastolic BP < 90 mmHg. Principal component analysis (PCA) was used to define patterns of consumption of individual foods within food groups.

Results: Analyses included 557 hypertensive participants (466 females, 91 males), with mean age 55.2 years; 35% had controlled hypertension. Twelve food clusters created using PCA were used in analyses. In bivariate models, participants with diets having more frequent consumption of skimmed and low fat milk were more likely to have controlled BP while those with diet having more frequent consumption of sugar-based sweeteners were less likely to have controlled hypertension. In multivariable analysis, controlling for age, gender, BMI and occupation, diets with higher consumption of fish and chicken as protein source (OR=1.20, 95% CI 1.01–1.44, $p = 0.044$), and those with skimmed or low fat milk as dairy products (OR= 1.27, 95% CI 1.06–1.52, $p = 0.010$) were associated with higher odds of controlled hypertension; diets with more frequent use of sugar-based sweeteners (OR = 0.84, 95% CI 0.73–0.97, $p = 0.016$) was associated with reduced odds of controlled hypertension.

Conclusion: Patients with hypertension who reported more frequent consumption fish, chicken, and low fat milk products were more likely to have controlled hypertension.

(P – 19)

Contact lens care in the Jamaican population

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Background: One hundred and twenty-five million persons use contact lenses worldwide for correction of vision, cosmetic purposes and therapeutic reasons. Sixty-six per cent of wearers are female and the mean age of wear is 31

years. The prevalence of contact lens related infections (CLI) has increased with the advent of overnight wear lenses, change in lens care practices and increased incidence of multidrug resistant micro-organisms.

Materials: One hundred and five contact lens wearers were interviewed, using a questionnaire based survey, regarding their contact lens care practices.

Results: Majority (42%) of the contact lens wearers were over 30 years of age and male (68%). Eighty per cent wore the lenses for refractive purposes and had achieved up to tertiary-level education. Thirty-three per cent of patients had worn their lenses for less than five years. Majority (35%) wore monthly, disposable, soft contact lenses and 42% followed the recommended wearing schedule. Twenty-eight per cent had experienced an eye infection while wearing contact lenses.

Conclusion: Contact lens related infections are more common in daily wear, monthly disposable lenses. Majority of patients do not follow the recommended schedule of wear and continue to wear the lenses outside the prescribed schedule. The level of education and prior training did not contribute to the onset of CLI. Patients with more experience in using contact lenses had a lesser risk for developing infections. Likely reasons include patients being more experienced and developing a standard routine.

(P –20)

The Knowledge, attitudes and practices of doctors and nurses at an urban public hospital regarding the use of universal precaution

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Background: The use of universal precautions is a vital requirement for all healthcare workers when delivering care to all patients. The purpose of the study was to ascertain information on the knowledge, attitude and practices of nurses and doctors, related to universal precautions use at an urban public hospital.

Method: A mixed methods design was used to collect data from 253 nurses and doctors via a researcher developed questionnaire and one focus group discussion convened with of 12 participants (6 nurses and 6 doctors). The SPSS version 20 programme was used to analyse the data.

Results: Most nurses and doctors (97.2%) had good knowledge of universal precautions. Needle stick injuries and blood splash incidents were high among respondents with 83% of medical and nursing personnel reporting being stuck by a used needle between 1–4 times over the preceding year. Non-compliance with universal precautions was high with only 24% of participants always using personal protective equipment when contact precaution was required. Many respondents (71%) reported that the insti-

tution failed to provide adequate amounts of personal protective equipment.

Conclusion: Although knowledge about universal precautions was high, the incidence of needle stick injuries and blood splash incidents were high. Many practitioners failed to consistently use gloves. The institution also failed to supply an adequate amount of personal protective equipment.

Keywords: Knowledge, Universal Precautions, Health Workers, Health Facilities, Blood borne Pathogens.

(P – 21)

The effect of health literacy level on health outcomes in patients with diabetes at a Type V health centre in western, Jamaica

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Background: Diabetes mellitus is the second leading cause of death in Jamaica affecting more than 220 000 Jamaicans, 52.6% of which are uncontrolled (Wilks, Younger, Tulloch-Reid, McFarlane & Francis, 2008). Diabetic clients are faced with the sometimes overwhelming responsibility of navigating the healthcare system and making appropriate health choices.

The purpose of this study is to identify the effect of health literacy levels on health outcomes in patients with diabetes at a Type V health centre in Western Jamaica.

Method: A correlational survey design employing random sampling technique was used. An 18 item questionnaire and the Newest Vital Sign tool were administered to 88 consenting adult diabetics to assess health literacy levels. Docket reviews assessed their health outcomes. Data were analysed using the Statistical Packages for Social Sciences (SPSS) version 18.

Results: Participants were predominantly female (77.3%); aged 51–70 years (SD 0.625); married (44%); employed (46%) and diagnosed with diabetes > 10 years (42%). Only 13.6% of the study population was adequately health literate. Health literacy scores and gender were not statistically significant ($p = 0.84$). Statistical significance was noted between health literacy scores and age and health literacy scores and educational level completed, both having a p -value of < 0.001 . Pearson's Correlations revealed no linear relationship between health literacy scores and health outcome ($r .185, p = 0.084$).

Conclusion: Possible limited health literacy and suggested high likelihood of limited health literacy is predominant in the study population. Age and educational level are statistically associated with the levels of health literacy; however, the findings suggest no association between health literacy level and diabetic health outcomes.

Keywords: Health literacy, Health Outcome, Diabetes Mellitus

(P – 22)

Audit of the obstetric anaesthesia practice for Caesarean sections at Victoria Jubilee Hospital

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Objective: To assess the obstetric anaesthesia practice (including maternal and neonatal outcomes) for Caesarean deliveries at Victoria Jubilee Hospital (VJH) over a three-month period.

Method: All parturients ≥ 16 years undergoing caesarean delivery were included. Data collected included maternal demographics; intra-operative course including anaesthetic technique, adverse events and immediate neonatal outcomes such as APGAR scores; post-operative analgesic requirement and maternal satisfaction. Data were analysed using SPSS version 22.

Results: One hundred parturients were enrolled during the three-month study period. The mean maternal age was 27.7 ± 6.7 years. The median parity was 2.0. Regional anaesthesia (RA) was used in 87% elective cases and 60.4% emergency cases. Parturients who underwent general anaesthesia (GA) had significantly greater blood loss ($p = 0.035$). The post-operative pain scores did not differ according to anaesthetic technique; however time to first request for analgesia was longer in patients who received RA (26.2 minutes vs 13.4 minutes, $p = 0.14$). Maternal satisfaction with pain control was better in parturients who received RA (98% vs 94.7%, $p = 0.037$). There were 105 neonates (inclusive of six pairs of twins); mean birthweight for the singleton was 2.92 kg; 2.54 kg for twins. The APGAR scores were not different, whether RA or GA. A greater proportion of GA-delivered neonates required neonatal resuscitation with oxygen therapy (18.5% vs 5.6%, $p = 0.03$).

Conclusion: Majority of the Caesarean deliveries at VJH is done under RA in keeping with international trends. Both GA and RA is safe for mother and fetus; RA is associated with better maternal and neonatal outcomes.

(P – 23)

Comparison of Psychiatric admissions at the University Hospital of the West Indies and the Kingston Public Hospital

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Student Researchers: C Campbell, J Chisholm, D Dailey, B Hickey, E Lothian, L Williams

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Background: Psychiatric disorders account for approximately 25% of the global burden of disease based on disability adjusted life years (DALYS). This suggests that mental health services are a very important part of health services. Low income countries such as Jamaica continue to face resource constraints in the development of mental health services. This has resulted in the need for a more cost-effective approach to providing these services. One of the ways in which Jamaica has done this is to adopt The World Health Organization (WHO) recommendation of integrating mental health into primary care. Another cost-effective method was the admission of psychiatric patients to the open medical wards of general hospitals. Previous studies on open general medical ward admissions have not been able to elucidate the benefits of these types of admissions compared to a specialist psychiatric unit. Previous studies at the specialized psychiatric ward show that the most common diagnosis is schizophrenia and that the length of stay is usually around 22 days.

Materials and Method: Demographic data for psychiatric admissions to the general medical ward of the Kingston Public Hospital (KPH) and the psychiatric ward of the University Hospital of The West Indies [UWHI] (Ward 21) were obtained. This data was collected from the ward admission books of both hospitals for the years 2013–2015. The criteria of gender, address, diagnosis and length of stay were then compared for the hospitals for all primarily psychiatric patients.

Results: The data shows that there are more psychiatric patients at the UWHI over the three-year period than the KPH. There was a longer length of stay on the specialized psychiatric ward than on the open medical ward. Both hospitals have most patients being admitted for schizophrenia as the main diagnosis. Psychotic disorders such as schizoaffective disorder along with severe mood disorders such as bipolar I disorder are the second major diagnosis at the specialized psychiatric ward while adjustment disorders are the second most common diagnosis at the KPH. There are more males than females admitted to the UWHI compared to the KPH that has more females than males admitted annually. The average length of stay was 17 days for the specialized psychiatric ward and eight days for the open medical ward. Both Hospitals are located in the corporate

area of Kingston and St Andrew with most patients residing in the St Andrew area. Most corporate area KPH patients reside in the Kingston 11 area while most corporate area UHWI patients reside in the Kingston 6 area.

Conclusion: The open medical ward and the psychiatric ward vary in several demographic criteria. Both Hospitals had most patients living in the parish of St Andrew with most of the KPH patients residing in the Kingston 11 area, and most UHWI patients in the Kingston 6 area. Although they serve the same catchment area the choice of hospital may be based on proximity. Both hospitals have most patients being admitted for schizophrenia as the main diagnosis. The psychiatric ward at UHWI had more male patients and an average length of stay of 17 days. The open medical ward at KPH had an average length of stay of eight days and more female psychiatric patients. The longer length of stay at the psychiatric ward indicates longer institutional recovery time.

(P – 24)

Factors associated with mercury levels in human placenta and the relationship between neonatal anthropometry in Jamaica and Trinidad and Tobago

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Background: The accumulation of mercury in the placenta can have severe impact on fetal neurodevelopment. The associated factors of prenatal mercury exposure include industrial pollution and maternal fish intake. The aim of this study was to assess the associated factors of mercury exposures in selected pregnant women and investigate the relationship between placental mercury concentration and neonatal birth outcomes.

Method: Ethical approval was granted to collect placental samples from participants at the University hospital of the West Indies (Kingston), Mandeville Regional hospital (Manchester) and the Mt Hope Women's hospital (St Joseph, Trinidad and Tobago). Participants were interviewed on their average fish intake, the number of dental amalgams present, their used of cough syrup and residence. Neonate anthropometric data were also obtained. The placental samples were analysed for total mercury using cold vapour atomic absorption.

Results: The mean placental mercury concentrations were $0.64 \pm 0.5 \mu\text{g/kg}$, $0.67 \pm 0.3 \mu\text{g/kg}$ and $1.4 \pm 0.6 \mu\text{g/kg}$ *ww* for Kingston, Manchester and St Joseph, respectively. The main associated risk factor for prenatal mercury exposure was from maternal fish intake. Participants who reported eating large fish recorded the highest placental mercury concentrations. There were inverse association between placental mercury concentrations and neonate birthweight and head circumference. However, there were no signifi-

cant correlations between placental mercury concentrations and overall neonatal birth outcome measures.

Conclusion: The overall placental mercury concentrations in this study were lower than other literature values. This type of study can provide basic framework for the assessment of potential sources of mercury exposure in the Caribbean region.

(P-25)

Right ventricular strain on computed tomography pulmonary angiography for pulmonary embolism and review of the literature

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Objective: Review of the literature indicates that between 17–57% of patients found to have pulmonary embolism (PE) on computed tomography pulmonary angiograms (CTPAs) also have right ventricular strain (RVS). This study was undertaken to 1.) Determine the percentage of patients diagnosed with PE at the University Hospital of the West Indies, (UHWI) who also had RVS, 2.) Compare the percentage of patients with PE who had RVS to that reported in the literature, 3) Compare the rates for RVS between the sexes and 4) Compare the means for age of patient with and without RVS.

Method: Data were obtained from the databases of the Radiology Department of the UHWI. All CTPAs performed to confirm a clinical diagnosis of pulmonary embolism and the results issued during the period January 1, 2012 and December 31, 2013 inclusive were reviewed. Only initial examinations were included in the study. Follow-up examinations and examinations which were not of diagnostic quality were excluded.

Results: Seventy-eight patients 60 females and 18 males of mean age 58 years and 56 years, respectively had PE. The difference in the means was not significant $p = 0.76$. Twenty patients (25.6%), 17 females and three males of mean age 60.4 years were positive for RVS. Fifty-eight patients (74.4%), 43 females and 15 males of mean age 56.6 years were negative; the difference in the means was not significant ($p = 0.4$). The Fisher Exact test indicated no significant difference in the occurrence of RVS between males and females ($p = 0.8$).

Conclusions: The percentage of patients with RVS on CTPAs at the UHWI is relatively low. There was no significant difference between the sexes in the rate at which RVS occurred. There was no significant difference in the mean age of patients with and without RVS.

(P – 26)

Environmental surveillance to detect multidrug resistant organisms in the intensive care unit at the university hospital

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Objectives: The presence of multidrug resistant (MDR) pathogens in the hospital milieu poses a threat to patients because their presence in this environment can serve as reservoir in the chain of infection. The purpose of this study was to determine the presence of MDR pathogenic bacteria in the intensive care unit (ICU) at the University Hospital of the West Indies (UHWI) and implement strategies, if necessary, to minimize these potential reservoirs of infection.

Methods: Two hundred swabs were taken from clinical and non-clinical surfaces including sinks, bedrails, desks and cupboard handles in all the intensive care units (ICU A and ICUB) at the UHWI at various times throughout the day. The samples were processed according to clinical laboratory standards institute (CLSI) guidelines for the detection of multidrug resistant organisms.

Results: Of the 200 samples collected from the ICU, 25 MDR were identified from both clinical and non-clinical surfaces: eight per cent (2 organisms) were methicillin resistant staphylococcus (MRSA) and the remaining 92% (23 organisms) were MDR gram negative GNBs.

Conclusions: Multidrug resistant pathogenic organisms were detected in unexpected areas of the ICU environment. This is an important finding because they can become an endemic source of infection to critically ill patients. The identification of these pathogens highlights the need for continued surveillance and implementation of infection control strategies which will help to interrupt transmission of these potential pathogens.

(P – 27)

Clinical outcomes of severe aplastic anaemia in Jamaican patients

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Background: Aplastic anaemia (AA) is a rare and grave bone marrow failure syndrome. Without treatment, one-year mortality exceeds 70%. Because curative therapy is not available in Jamaica, patients are referred to the National Institutes of Health (NIH) for treatment on clinical trials. We describe our experience with AA in Jamaican patients.

Materials: The medical records of Jamaican patients diagnosed with AA from 2000–2015 were reviewed to determine response to therapy and final outcome.

Results: We identified 43 patients diagnosed with AA in Jamaica. Two patients were ineligible for NIH protocols and eight patients were lost-to-follow-up or died before therapy could be initiated. Thirty-three patients, two of which were reclassified as myelodysplastic syndrome, were treated. Median age at diagnosis was 23 years (range 7–55), M:F ratio = 1.3: 1. GPI-negative clones were identified in 16 (48%), 25 (76%) patients had elevated serum ferritin, and 15 (45%) had HLA antibodies with platelet transfusion refractoriness. Twenty patients (60%) responded to immunosuppressive therapy and two relapsed. Seven patients underwent haematopoietic stem cell transplantation (HSCT). Clinical complications included severe infections (27%) and iron overload (42%). Overall, 19 (57%) are alive in remission up to 14 years post-treatment; four patients developed symptomatic paroxysmal nocturnal haemoglobinuria (PNH). Three patients have stable partial response on therapy. Five died and four are lost-to-follow-up.

Conclusion: Aplastic anaemia can be cured with good long-term survival. Delays in definitive treatment lead to complications like severe infections and HLA alloimmunization, which make subsequent therapy more difficult.

(P – 28)

Elevated blood pressure in Jamaican patients: an evaluation of the emergency department at the University Hospital of the West Indies

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Background: Since the turn of the century, there has been an increased burden from non-communicable diseases in the Jamaican population, specifically hypertension (HTN). Our primary goals were to estimate the prevalence of elevated blood pressure (BP) in patients presenting to the University Hospital of the West Indies (UHWI) emergency department (ED), and to evaluate the relationship between having elevated BP in the ED and contributory factors such as level of education and underlying HTN illness beliefs.

Materials and Methods: This cross-sectional survey was conducted over six weeks. Patients 18 years and older were considered eligible for participation. Those who presented in cardiac arrest, were suffering from trauma requiring immediate operative intervention, or were too ill to give consent were excluded. Descriptive statistics were derived for study patients. Data between the groups were compared

using Chi-squared, *t*-tests and multivariate logistic regression.

Results: Three hundred and seven participants consented for the study; 126 (41.0 %) had a triage systolic BP \geq 140 mm Hg, 56 (29.3%) carried no previous diagnosis of HTN. Men comprised 55% of the cohort and 145 (47.2 %) had an established history of HTN. One hundred and fifteen (79.3%) of those with a previous diagnosis of HTN reported taking anti-hypertensive medications; 130 (92.4%) agreed that HTN was “a threat to my health” ($p = 0.17$, CI -0.04 to 0.01). Among participants with HTN, level of education was not related to medication compliance or illness beliefs (LR -2.24, $p = 0.34$, CI -1.16 to 3.36).

Conclusion: In this sample of Jamaican ED patients, nearly 1/3 of participants with elevated BP had no prior history of HTN, and close to 2/3 of those with HTN had uncontrolled BP. While 92% of those with established HTN presenting to the ED were aware that elevated BP had negative-effects and many reported taking anti-hypertensive therapy, a majority were found to have uncontrolled BP.

(P–29)

Innovator biopharmaceuticals and biosimilars in the Jamaican healthcare system

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Background: The fastest growing pharmaceutical segment, biopharmaceuticals, will account for 26% global market share by 2026. This study evaluated Jamaican healthcare professionals' experiences with and knowledge of biopharmaceuticals including biosimilars. Study design was descriptive and cross-sectional. Using purposive sampling, 33 healthcare professionals with exposure to biopharmaceuticals participated.

Materials: Interview data was captured using a standardized questionnaire, then extracted, coded and compiled using SPSS 17TM software.

Results: Nineteen (58%) females and 14 (42%) males participated. Twenty-five (76%) participants were physicians, eight (24%) were pharmacists. Only three (7%) respondents were ‘very comfortable’ with the concept of a biosimilar. Seven (23%) respondents rated themselves ‘moderately familiar’ to ‘very familiar’ with European Medicines Agency biosimilars regulations, an equal number rating their familiarity with the World Health Organization biosimilars guidelines similarly. Fisher’s Exact Test confirmed that those ‘infrequently’ using what they thought were biosimilars, rated product efficacy and safety higher than those using them ‘very frequently’. Seventeen (57%) respondents supported ‘interchangeability of biosimilars in clinical practice’. While no pharmacists supported prohibition of ‘automatic substitution’, 15 (68.2%) physicians did ($p = 0.002$). Only five (17%)

respondents expressed that the local regulatory framework addressed biosimilars even moderately.

Conclusions: Knowledge of, and experience with, biopharmaceuticals remain limited and with increased presence in the Jamaican healthcare system, education supporting their effective use and management, grows increasingly important.

(P – 30)

Jamaican prostate cell line development: the challenges involved

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Background: The first human cell line was established in 1952, HeLa cells which paved the way for advances in biomedical research in drug discovery, and the elucidation of cellular signal transduction pathways critical to cancer growth and suppression. Therefore, our research is focussed on developing Jamaican novel prostate (PCa) cell lines as i) There is a current disparity ethnically in available PCa cell lines for testing and ii) Men of African descent are reported to have the highest incidence and mortality rates of PCa globally and a greater resistance to traditional therapies.

Method: Prostate (PCa) cell lines chips were harvested from patients undergoing Trans-urethral resection of the prostate (TURP) at The University of the West Indies (UWI), hospital and immediately transported to the cell culture lab, where they were digested prior to being placed in six well plates and chamber slides coated in matrigel and gelatin in various medium and medium combinations. In another instance, cells were cut-up using sterile scalpel and forceps prior to being placed in similar conditions mentioned earlier. Brother procedures were executed to identify the avenue more favourable to PCa primary explant survival.

Results: Challenges encountered thus far include, difficulties in attaining the balance between degradation of prostate tissue and preservation of cell quality, preventing and managing contaminations of vulnerable tissue samples freshly isolated from the human body and acclimatization of cells to different growth media for *in vitro* growth.

Conclusion: The successful culture of Jamaican PCa cell lines will aid in the development of personalized PCa therapies in order to reduce the current global disparity in MAD and men of European descent with PCa.

(P – 31)

Inhibition of the chemokine receptor 5 (CCR5) reduces

neuronal loss during experimental seizures

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Background: The prevalence of active epilepsy in United States of America (USA) has been estimated as high as 8/1000 people. Chemokines play a role in leukocyte migration across the blood-brain barrier (BBB) in epilepsy. Elevated levels of chemokines and chemokine receptors, including the chemokine receptor 5 (CCR5) and its ligands, RANTES and MIP-1 alpha are over-expressed in epilepsy. Chemokine receptor 5 and its ligands are involved in the migration of lymphocytes through the BBB.

Material: We investigated the role of CCR5 in seizures. We used a rat model based on intraperitoneal kainic acid (KA) administration. Firstly, four months before KA injection, adult test rats were given femoral intra-marrow inoculations of a viral vector, SV (RNAiR5-RevM10.AU1), which carries an interfering RNA (RNAi) against CCR5, plus a marker epitope (AU1), or its monofunctional RNAi-carrying homolog, SV (RNAiR5). Controls received unrelated SV (BUGT) vector. In the second part of the study, different pharmacological inhibitors of CCR5 were used.

Results: RNAiR5-bearing vectors lowered expression of CCR5 in circulating PBMC. In control rats, seizures induced elevated expression of MIP-1 alpha and RANTES in the microvasculature, increased BBB leakage and CCR5+ cells, as well as neuronal loss, inflammation and gliosis, in the hippocampi. Animals given either the bi- or the monofunctional vector were largely protected from KA-induced seizures, neuroinflammation, BBB damage and exhibited a decreased production of MIP-1alpha and RANTES and reduced neuron loss. Brain CCR5 mRNA was reduced in test rats. Rats receiving RNAiR5-bearing vectors showed far greater repair responses. Effects of the pharmacological inhibitors will be presented.

Conclusion: Our results suggest that inhibition of CCR5 in circulating PBMC can decrease their immobilization on endothelial surfaces, thus reducing leukocyte migration across the BBB, and consequently neuroinflammation and deleterious related events in seizures.

(P – 32)

Patient-related factors affecting blood pressure control among hypertensive patients attending primary health-care facilities in western Jamaica

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Background: The Caribbean, like the rest of the world is faced with a major public health challenge caused by

uncontrolled hypertension. The World Health Organisation indicated that in 2008, 40% of adults 25 years and older had hypertension. The burden of the disease is greater in lower and middle-income countries such as the Caribbean. One in every three Jamaicans ≥ 30 years is affected by hypertension and control rate is low. Uncontrolled hypertension predisposes to high rates of morbidity and mortality.

Materials: Cross-sectional study of 365 patients with primary hypertension attending primary healthcare facilities. Pre-tested questionnaire administered; blood pressure and body mass index ascertained. Inferential statistics interpreted data; Chi-squared and Fischer's exact tests analysed differences in dichotomous variables; p -value of ≤ 0.05 held statistical significance. Two focus group discussions and ten in-depth interviews provided qualitative data.

Results: Of the 365 participants, 69.9% had elevated blood pressure readings. Blood pressure was higher in persons who last smoked under one year ($p = 0.018$); consumed alcohol ($p = 0.021$); reported high stress levels ($p = 0.020$) or; had weak support systems ($p = 0.012$; $r = 0.131$). Knowledge deficit was evident. Persons diagnosed ≥ 11 years were more likely to be uncontrolled ($p = 0.010$). Medication adherence ($p = 0.056$), alternative medicine ($p = 0.476$), diet ($p = 0.108$), exercise ($p = 0.568$) and obesity ($p = 0.941$) showed no significant relationship.

Conclusion: Smoking, alcohol consumption, stress, level of awareness and support system are significant modifiable determinants affecting blood pressure control. These contributing factors are often overlooked in management of the condition. Addressing these issues may result in significant improvement in blood pressure control.

(P – 33)

The effect of *Smilax balbisiana* (chainy root) on the blood glucose concentration and haemodynamic parameters in normal Sprague-Dawley rats

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Objectives: To investigate the effect of *Smilax balbisiana* (Chainy root) extracts on blood glucose concentration and various haemodynamic parameters in normal Sprague-Dawley rats.

Method: Various crude extracts from *S balbisiana* (Chainy root) were bioassayed *via* the Oral glucose tolerance test (OGTT) using the ACCU-chek active blood glucose monitoring system. The animals were fasted for approximately 12 hours and fed water *ad libitum*. A fasting blood sample was taken from the tail vein, the extract was administered by oral gavage at 200 mg/kg BW (body weight) or intravenously at 50 mg/kg BW. Blood samples were taken at 30 and 60-minute and immediately after an oral glucose load (1.75 g/kg BW) was administered. Postprandial blood

samples were taken for a further 2½ hours at 30-minute intervals. The CODA six non-invasive blood pressure system was used to determine their systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP) and heart rate (HR).

Results: The crude hexane and ethyl acetate extracts showed significant hypoglycaemic activity in the fasting and postprandial regions of the curve with the most significant effect at the 120-minute interval for hexane (4.36 ± 0.23 mmol/L; $p = 0.000183$) and for ethyl acetate (4.80 ± 0.25 mmol/L; $p = 0.023$) *versus* the control (5.50 ± 0.11 mmol/L). Compared with their respective controls, the SBP, DBP and MAP were lowered for both extracts at the 15 and 20-minute intervals while the HR was also lowered at the 15-minute interval for the hexane extract.

Conclusion: The crude hexane and ethyl acetate extracts of *Smilax balbisiana* exhibited significant hypoglycaemic and hypotensive effects.

(P – 34)

Prevalence of cardiovascular disease and risk factors in patients with systemic lupus erythematosus at the University Hospital of the West Indies -an Afro-Caribbean cohort

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Background: Recent studies suggest that systemic lupus erythematosus (SLE) is associated with accelerated atherosclerosis, but this association has not been studied in Jamaica. The objective of this study is to estimate the prevalence of cardiovascular disease (CVD) and CVD risk factors among SLE patients at the University Hospital of the West Indies (UHWI), a tertiary referral centre in Kingston, Jamaica.

Methods: We conducted a retrospective study in which 143 SLE patients were included. Cardiovascular disease was defined as ischaemic heart disease (IHD), stroke and peripheral arterial disease (PAD). Cardiovascular disease diagnoses and traditional CVD risk factors were identified and documented. Data were analysed using STATA 12.1.

Results: Data from 138 females and five males with mean age of 41 ± 13.5 were analysed. Prevalence of any CVD (IHD, stroke, or PAD) was 18% ($n = 26$). Stroke had the highest prevalence, 10.6%, ($n = 15$), followed by IHD 2.8%, ($n = 4$) and PAD, 1.4% ($n = 2$). Hypertension had the highest prevalent among the CVD risk factor (56.3%). Both diabetes and high cholesterol had estimated prevalence of 13%. Participants with CVD had higher prevalence of hypertension (77% *vs* 52%, $p = 0.021$), higher mean diastolic blood pressure (86.3 *vs* 80.8 mmHG, $p =$

0.037) and lower estimated glomerular filtration rate (103.9 vs 80.8 mL/min/1.73 m²).

Conclusion: Approximately, one in five patients with SLE at UHWI have documented CVD, with stroke as the most common type of CVD. Prevalent CVD in SLE patients is associated with elevated blood pressure and reduced glomerular filtration rate.

(P – 35)

Chronic illnesses and ageing men: a qualitative analysis of two Jamaican men

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Background: The Caribbean region is facing rapid population ageing. As people age, staying healthy becomes critical and their needs, complex. But have we as ‘one Caribbean’ looked at how our healthcare system treats the elderly? What are their experiences? Have we begun to examine the multiple realities that exist or are we still focussing on ‘one health?’ The stated purpose of this qualitative paper is to present an in-depth description of two aged men as they navigate Jamaica’s healthcare system with two different chronic illnesses. The paper will highlight that although the illnesses were different, their experiences were similar. Thematic analysis surrounded ‘buying into illness’, understanding medications, change in lifestyle and the role of caregivers.

Results: The results demonstrated that ageing men needed patient attention and guidance, the relating of information in simple terms (without being regarded as ignorant or unintelligent), the creating of age-friendly environments, the relevance of healthcare professionals practicing the clarification of information for their clients and the need for illustrations on medication bottles.

Conclusion: Kozimala, Putowski and Krajewska-Kułał (2016) found that we must know that apart from knowledge, the efficiency of therapy and diagnostics depend on the right relationship between doctors and patients. We must pay attention to the implications of this fact and tailor daily practices to accommodate the reality of an ageing population.

(P – 36)

Antimicrobial resistant *Streptococcus pneumoniae* isolates from Trinidad and Tobago: genotypes and serotypes distribution

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Background: In several countries the genotypes and serotypes distribution of pneumococcal isolates anti-microbial resistance have been described but such information is lacking from Trinidad and Tobago. We analysed pneumococcal isolates from the country to delineate their genotypes, serotypes and antimicrobial resistant profiles.

Materials and Methods: Anti-microbial susceptibility testing of 97 pneumococcal clinical isolates from both invasive and non-invasive body sites were determined using conventional disc diffusion and microbroth dilution methods according to clinical and laboratory standard institute guidelines. Quellung tests, polymerase chain reaction and multilocus sequence typing were used to characterize the serotypes and genotypes.

Results: Sulfonamides (44.4%), macrolides (15.5%) and penicillin (8.3%) resistance was detected in the isolates. Low resistant rates of 4% to 7% were recorded for all other antimicrobial agents – ciprofloxacin, clindamycin, tetracycline and ceftriaxone. The rate of multi-drug resistant pneumococci isolates was 5% but no resistance was detected against several agents including chloramphenicol, linezolid and vancomycin. Resistance to sulfonamides, macrolides and penicillin occurred mostly in 19F (ST8398, ST236) and 23F (ST629) isolates. Sequence types of most resistant pneumococcal isolates from Trinidad and Tobago belong to the clonal complex PMEN3 and PMEN14 as well as the global resistant clone 19A (ST 320) was encountered.

Conclusion: This is the first time genes mediating pneumococcal resistance is being reported in Trinidad and Tobago. The good news for the country is that the prevalent resistant serotypes, were similar to those that exists in other countries and any possible infections by these isolates would adequately be prevented by available vaccines in Trinidad and Tobago.

(P – 37)

Metformin use and outcome in a cohort of patients with endometrial cancer in Jamaica

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Introduction: Endometrial cancer is the most common gynaecological malignancy worldwide. The incidence in Jamaica is 11.5/100 000. It has been shown to be associated with a number of risk factors including obesity and diabetes mellitus. Literature review has revealed that metformin has been noted to decrease tumour growth by its action of decreasing circulating insulin levels as well as direct inhibition of the growth of the endometrial cancer cell lines, thus improving the outcome for these patients.

Objective: To determine the outcome of patients with endometrial cancer who are diabetic on metformin.

Methodology: Patients with endometrial cancer who attended the Gynaecology oncology unit at the University hospital from January 2005 to December 2015 were identified from the medical records and data extracted. Patients who were diabetic on metformin were compared to those who were not on metformin. Data was analysed using SPSS Version 20. *T*-test and Chi-squared test were used for association. An alpha of $p < 0.05$ was denoted as significant.

Results: Eighty-one cases of endometrial cancer were identified. Forty-four per cent were diabetic of which 64% used metformin. There was no difference in the stage of the disease between metformin users and non-metformin users. However non-metformin users had higher grade disease than metformin users, 91.75 vs 53.85 ($p = 0.035$).

Conclusion: If grade is used as a surrogate for prognosis, then this would suggest that metformin users should have a better outcome by virtue of having a lower grade disease. Ongoing analysis will determine survival outcome in this cohort of patients.

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Prevalence of atrial fibrillation and associated risk factors, among patients attending the Cardiology clinic at Kingston Public Hospital, Jamaica

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Background: This study aimed to estimate the prevalence of atrial fibrillation (AF) among patients in the Cardiology Clinic at Kingston public hospital (KPH), Jamaica and to identify factors associated with AF.

Methods: A cross-sectional study was done, using 1126 patients from the clinic between the years 2010–2014. The data, obtained from an electronic database compiled from patient records, included patient age, gender, date-of-birth, weight, height, blood pressure on first clinic visit, history of smoking, cardiac diagnoses and co-morbidities. Cardiac diagnoses were based on evaluation by a consultant cardiologist. Stata 12.1 was used to assess frequency of AF and other arrhythmias and their association with other patient factors.

Results: Analyses included 757 women and 369 men, with mean age 57 ± 18.5 years. Prevalence of any cardiac arrhythmia was 25.1% ($n = 283$, 95% CI 22.7–27.8%). Prevalence of AF was 8.1% ($n = 91$, 95% CI 6.6–9.8%) and was higher in men compared with women (10.8 vs 6.7%, $p = 0.018$). In a multivariable logistic regression model, factors significantly associated with AF were: older age (OR 1.05 for each year, $p < 0.001$), male gender (OR 1.6 $p = 0.041$) and valvular heart disease (OR 2.3, $p = 0.001$). There was a trend towards coronary heart disease being associated with lower odds of AF (OR 0.51, $p = 0.18$).

Conclusion: The prevalence of AF among patients attending the Cardiology Clinic at KPH was 8.1% between the years 2010–2014. Factors associated with prevalent AF included older age, male gender and valvular heart disease. Atrial fibrillation remains a significant burden among these patients with cardiovascular disease.

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Current practice and knowledge in aneuploidy screening, a nation-wide survey

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Background: Aneuploidy screening is appropriate for all pregnant women as there is variable risk among all pregnancies. This study sought to determine the current approach and knowledge of aneuploidy screening among obstetricians and gynaecologists in Jamaica.

Materials: A list of all practicing obstetricians and gynaecologists was obtained from the medical council. A questionnaire was sent by mail or hand-delivered to all obstetricians and gynaecologists across the country. The questions pertained to demographics, knowledge of screening and diagnostic tests available. Doctors with subspecialist training in maternal fetal medicine were excluded. The data obtained was kept anonymous.

Results: Sixty-seven out of 100 (67%) doctors responded to the questionnaire. 63/67 (94.0%) reported that less than 25% of their patients had aneuploidy screening (95% confidence interval [CI], 88.3–99.7). 20.9% (95% CI, 11.2–30.6%) of respondents offered screening to all their patients while 35% offered to women 35 years or older. The fre-

quency of screening tests was 37.3%, 16.4%, 11.9%, 6.0%, 6.0% and 3.0% for the QUAD screen, triple screen, second trimester ultrasound, first trimester screen, free fetal DNA and nuchal translucency, respectively. Of the six knowledge questions asked, four questions had greater than 70% (95% CI, 59.0–81.0%) answered correctly.

Conclusions: Obstetricians and gynaecologists are aware of the risks of aneuploidy and screening tests available, however only a small fraction of their patients received these tests. This suggests the need for further physician education on available tests, increased affordability of tests, patient education and studies on patient views on screening.

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The accuracy of a rapid diagnostic test kit for the detection of HIV, HBsAg and HCV

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Background: Three viruses (HIV, HBV and HCV) cause approximately 540 million chronic infections worldwide. A single rapid test for all three major viruses could facilitate the screening of patients for new cases of infections in one visit.

Objectives: We evaluated the One Step HIV/HBsAg/HCV serum test panel for its sensitivity, specificity, negative predictive value (NPV), positive predictive value (PPV) and efficiency.

Method: Four hundred and twenty well characterized serum samples comprising of 140 each for HIV, HBsAg and HCV detection were used to evaluate the performance characteristics of the commercial test kit. Human immunodeficiency virus diagnosis was done according to the standard laboratory testing algorithm of initial screening with an ELISA or CMIA and confirmation of a positive with Western blot assay. Hepatitis B surface antigen (HBsAg) and HCV were detected by either ELISA or CMIA.

Results: The rapid test gave an invalid result for 18 HIV, five HBsAg and nine HCV samples. The sensitivities of the One Step rapid test kit for HIV, HBsAg and HCV were 93.1% (95% CI: 84.5–97.7), 95.9% (95% CI: 86.0–99.5) and 75% (95% CI: 60.4–86.4), respectively. The overall performance characteristics of the rapid test kit were: sensitivity – 88.8% (95% CI: 83.1–92.7), specificity – 99.1% (95% CI: 96.7–99.8), PPV – 98.7% (95% CI: 95.3–99.6), NPV – 92.0% (95% CI: 87.8–94.8) and efficiency – 94.6% (95% CI: 91.9–96.4).

Conclusion: The One Step HIV/HBsAg/HCV serum test panel demonstrated high sensitivities for detection of HIV and HBsAg but low sensitivity for HCV detection. We would support its use in the screening for infections with HIV and HBV but not for HCV in Jamaica.

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Molecular detection of Human Pegivirus in HIV-positive patients and healthy blood donors in Jamaica

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Background: Human pegivirus (HPgV), formerly called GB virus C (GBV-C) and Hepatitis G virus (HGV), is phylogenetically related to Hepatitis C virus (HCV). Both viruses are members of the *Flaviviridae* family. Human pegivirus is non-pathogenic and is associated with slower progression to AIDS in persons co-infected with HIV. Sexual contact and blood exposure are the main modes of transmission of HPgV.

Objectives: To determine the prevalence of HPgV among persons living with HIV as compared to blood donors in Jamaica and to describe the associated demographic and virologic characteristics of HPgV infection.

Method: This was a retrospective, cross-sectional study utilizing archived HIV-positive (n = 122) and blood donor HIV-negative (n = 70) serum specimens. Human pegivirus RNA was extracted and amplified in a Real Time RT-PCR system. Data was entered in Microsoft Excel and analysed using Epi Info 7.

Results: Human pegivirus RNA was detected in four (4/122; 3.28%) of the patients with HIV and in two (2/70; 2.86%) of the blood donors. There were five inconclusive results. The mean ages of HPgV positive and HPgV negative subjects were 41.2 ± 17.1 and 32.4 ± 12.6 years, respectively. Human pegivirus/HIV co-infected patients had higher mean CD4⁺ counts (532 ± 220 cells/mm³) than HIV mono-infected patients (340 ± 404 cells/mm³) although this was not statistically significant ($p = 0.34$).

Conclusion: There is a low prevalence of Human pegivirus among HIV-positive patients (3.28%) and healthy blood donors (2.86%) in Jamaica. A larger study is recommended to determine risk factors for HPgV infection in our setting.

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Assessment of health related quality of life and socio-economic impact of intensive care unit survivors at the University Hospital of the West Indies

D Turnquest

Background: The concept of “Health-related quality of life” (HRQOL), became popular around the 1990’s and has been defined as the level of well-being and satisfaction associated with an individual’s life and in light of disease, accidents and treatment. Assessment of HRQOL is traditionally patient-based. The HRQOL of patients has been used to determine the socio-economic effect of treatment

and has been used to assess the benefit of management strategies. This is a superior outcome to the traditional methods of mortality indexes and morbidity of major organ function as it is patient centred.

Objectives: (i) To determine the post-ICU discharge HRQOL scores of patients using the SF-12 health survey tool; (ii) Comparing these to already established norms (iii) Establishing possible associations to intensive care unit (ICU) factors and (iv) To assess the socio-economic impact of critical illness

Methods: This was a cross-sectional study conducted in the general ICU at the University Hospital of the West Indies (UHWI). All patients who were discharged during the period February to June, 2015, were eligible for inclusion. They were contacted *via* telephone and invited to participate in the study. The SF-12 v2 and a socio-economic novelty set of questionnaires were administered. Quality of life scores were obtained *via* the standard SF-12 software. The medical records were analysed for; demographics, admitting service, glycaemic control, APACHE-II scores, length of stay and post-ICU discharge hospital stay.

Results: Eighty-eight of the 143 persons discharged during the study period were eligible. Of these 43 were traceable *via* telephone and completed the researcher-administered questionnaire. Medical records for 62 of the 88 patients were traceable and were analysed. The mental component scores (MCS) were above average 51.1 (SD 8.0) and the physical component scores (PCS) were below average 42.5 (SD 9.5) for the study population. The PCS declined significantly with age over 65 (p -value 0.03). Intensive care unit variables did not render statistically significant findings. A below average PCS had significant impact on; employment status (p -value 0.005), reliance on others for financial support (p -value 0.047) and relationship status post-discharge from hospital (p -value 0.042). An above average MCS had significant association with unchanged or increased income to household (p -value 0.04).

Conclusion: The study showed that patient's HRQOL declined; physically, more than mentally and was more marked in older patients. This had implications for ability to work and earning potential not just for patients but their entire household.

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Genotyping cannabis sativa grown in Jamaica

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Background: *Cannabis sativa L* has been used for centuries for fibre, medicinal purposes and as a recreational drug. The designation of Cannabis as a Schedule 1 drug has restricted both basic and clinical research. Now that cannabis is being considered for medicinal use, the genetic characterisation of cannabis strains is important if one is to be able to produce products of consistent quality and efficacy. In this study, random amplified polymorphic DNA (RAPD) analysis was used to examine the genetic diversity of *C sativa* strains collected from two parishes in Western, Jamaica.

Methodology: *Cannabis sativa L* plants were collected in St Elizabeth and Westmoreland. RAPD analysis was done using PCR and the relatedness were analysed using DendroUPGMA dendrogram and CLIQS 1D Pro software. Chemical profiling was done using gas chromatography mass spectroscopy.

Results: Random amplified polymorphic DNA analysis of samples generated a total of 111 bands, 98 (88.3%) of these bands were polymorphic. Similarity indices among the plant samples from St Elizabeth and Westmoreland ranged from 0.333–0.709. Preliminary chemical profiling showed Δ^9 -THC Levels of 1.0 % to 5.42 % and Cannabidiol (CBD) Levels of 0.01 % To 4.84 %.

Conclusions: There is a high degree of genetic diversity in cannabis plants collected from the two parishes. Plants grown in each parish were more closely related.

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