

Dean's Message

The Faculty of Medical Sciences (FMS) is proud to be hosting another Annual Research Conference. This event which started 13 years ago has become a hallmark of our operation as a Faculty and has served to generate and highlight outstanding research by staff and students at Mona. The idea of having this kind of supportive environment for presentation of research has stimulated interest in research extending well beyond the academic staff. The constructive feedback generated has improved the quality of research output and allowed for generation of new ideas.

The range of health problems challenging the health sector and Caribbean communities forces us to respond in a variety of ways through policy and service initiatives. The Faculty, however, has a role to play in both of these but more critical is the process of ensuring that the policy and services are rational, evidence-based and cost effective. The process of informing policy and service must be one in which research plays a key role.

The Faculty is proud of its track record of research. The last few decades of its work has seen contributions to a better understanding of the health problems of the region. Inroads have been made into conditions such as malnutrition and sickle cell anemia. A number of initiatives which have become a part of the mainstream have been guided by work done by our colleagues both past and present. However there is still much ground to cover if we are to impact on emerging health challenges. The chronic diseases, re-emerging infections, and violence and injury which was the theme of last year's Research Conference, are a part of our epidemiological landscape. It is clear that we have to engage in more intervention type research which will build

on our understanding of what exists and take us to a level of how we can make a meaningful difference. With this in mind, this year's Research Conference's workshop focusses on Clinical Trials.

This is a very timely topic for the meeting. The clinical trial is not a new design available to researchers but admittedly we have not done enough of these in our part of the world. The challenges we face in doing trials are not simply a question of funds or know-how. What we have to do in effect is to expand our culture and vision of research and back this with the relevant organizational capacity. I am delighted that the FMS Research Conference is not only a vehicle for presenting the myriad of excellent work being done within the Faculty but it plays a role in setting the agenda and informing the research culture.

The conference committee has put together an exciting agenda. The speakers are some of the finest both locally and internationally. We welcome Professor Ren Holness as our speaker for the Sir Kenneth Standard Distinguished Lecture. Taking a look at what exists and reflecting on what we are already doing as far as clinical trials are concerned will allow us to look at strategies for building competence, capacity and collaboration in this area.

I would like to thank the committee, the presenters, our corporate sponsors and all those who have contributed to hosting this year's conference and workshop.

*Archibald McDonald
Dean,
Faculty of Medical Sciences, Mona
November 2005*

14th Annual Research Conference and Workshop on Clinical Trials: Building Capacity and Competence

Programme

November 16, 2005

*Mona Visitor's Lodge
and Conference Centre*

Opening Ceremony

5:30 pm

Opening Remarks

*Professor AH McDonald
Dean, Faculty of Medical Sciences, Mona*

Welcome

*Professor Kenneth Hall
Principal, Mona Campus*

Remarks

*The Honourable John Junor
Minister of Health, Jamaica*

Introduction of the Sir Kenneth Standard Distinguished Lecturer

*Dr Ivor Crandon
Head, Department of Surgery, Faculty of Medical Sciences, Mona*

The Sir Kenneth Standard Distinguished Lecture

*Professor Renn Holness
Director of Education, Department of Surgery QE II Health Sciences Centre,
Halifax Infirmary, Canada*

Presentation to Lady Evelyn Standard

*Dr Tomlin Paul, Department of Community, Health and Psychiatry,
Faculty of Medical Sciences, Mona*

Vote of Thanks

*Dr Rosemarie Wright-Pascoe
Senior Lecturer, Department of Medicine, Faculty of Medical Sciences, Mona*

RECEPTION

November 17, 2005
Research Conference
Main Medical Lecture Theatre

8:00 am Registration

Session 1

Sickle cell disease, Pathology and Microbiology

Chair: D Shah and J Knight-Madden

- (O – 1) 8:30 am *Determinants of blood pressure in adults with sickle cell disease*
K Campbell, M Asnani, C Cuningham-Myrie, V Cumming, EN Barton, M Reid
- (O – 2) 8:45 am *Genetic determinants of glutathione depletion in sickle cell disease*
S Howell, N McFarlane-Anderson, KG Marshall, AV Badaloo, M Reid, TE Forrester, CA McKenzie
- (O – 3) 9:00 am *Differences in resting metabolic rates in homozygous S and heterozygous C sickle cell disease*
Y Rodriquez, L Wilson, D Thomas, A Badaloo, TE Forrester, M Reid
- (O – 4) 9:15 am *Prevalence of human immunodeficiency virus infection in pulmonary tuberculosis patients in Jamaica*
P Akpaka M Tulloch-Reid, A Justiz-Vaillant, MF Smikle
- (O – 5) 9:30 am *Prevalence and antibiotic susceptibility patterns of methicillin resistant staphylococcus aureus in Trinidad*
S Kissoon, F Orrett, W Swanston, M Monteil, P Akpaka
- (O – 6) 9:45 am *Molecular epidemiology of methicillin resistant staphylococcus aureus isolates in Trinidad and Tobago*
P Akpaka, S Kissoon, F Orrett, W Swanston, M Monteil, P Jayaratne
- (O – 7) 10:00 am *Cervical intraepithelial neoplasia in a cohort of HIV- positive women at the University Hospital of the West Indies: management and outcome*
I Bambury, A Mullings, H Fletcher, N Johnson, M Tulloch-Reid

Poster Presentations

Sponsored by Juici Patties

Session 2

Surgery, Anaesthesia and Child Health

Chair: JM Brandy and R Melbourne-Chambers

- (O – 8) 10:45 am *Outcome prediction of patients admitted to the Intensive Care Unit, The University Hospital of the West Indies: an analysis of the clinical variables*
M Isaac-Williams, H Harding, M Reid
- (O – 9) 11:00 am *An assessment of the level of training and experience of doctors in accident and emergency departments in Jamaica. What can the public expect?*
IW Crandon, H Harding, E Williams, M Bullock-DuCasse, AH McDonald
- (O – 10) 11:15 am *Non-Fatal, unintentional injuries in children in six parishes in Jamaica*
H Trotman, E Ward, A McCaw-Binns

- (O – 11) 11:30 am *Adherence to antiretroviral drug therapy in paediatric patients with HIV/AIDS in Jamaica*
YRG White, J Steel-Duncan, RB Pierre, P Palmer, T Evans-Gilbert, B Rodriguez, CDC Christie
- (O – 12) 11:45 am *Trans-sphenoidal pituitary surgery at the UHWI*
IW Crandon, N McLennon, H Harding, CAR Bruce
- (O – 13) 12:00 noon *Body composition among pregnancies of adolescent girls and mature women and the impact on fetal growth and birthweight*
M Thame, C Omond, H Trotman, H Fletcher, M Antoine
- (O – 14) 12:15 pm *A comparison of anthropometry of mothers and infants within the puerperium, with respect to maternal age*
I Manswell, M Antoine, M Thame
- 12:30 pm **Lunch**
- Session 3** **Nutrition and Internal Medicine**
Chair: CA Powell and D Gilbert
- (O – 15) 1:30 pm *Temperament characteristics of undernourished and term low birthweight in Jamaican children*
H Baker-Henningham, S Walker, CA Powell, S Grantham-McGregor
- (O – 16) 1:45 pm *Hypercholesterolaemia and social status in Jamaica*
M Tulloch-Reid, N Younger, M Boyne, N Zohoori, T Ferguson, F Bennett, J Mullings, E Ward, DE Ashley, RJ Wilks
- (O – 17) 2:00 pm *Glycaemic and metabolic control in youth with diabetes mellitus in Jamaica*
M Tulloch-Reid, M Boyne, MF Smikle, E Choo-Kang, R Parkes, R Wright-Pascoe, EN Barton, RJ Wilks, D Williams
- (O – 18) 2:15 pm *Evaluation of mid-upper-arm circumference as a screening tool for undernutrition in the elderly*
AV Simpson, CA Powell
- (O – 19) 2:30 pm *Nutritional status of children with and without perinatal exposure to the human immunodeficiency virus. A retrospective cohort study in St James, Jamaica*
YD Davis, RJ Wilks, CA Powell
- (O – 20) 2:45 pm *The validity of blood glucose and cholesterol as estimated by finger-stick*
N Younger, F Bennett, M Tulloch-Reid, J Mullings, TE Forrester, E Ward, DE Ashley, RJ Wilks
- 3:00 pm **Poster Presentation**
Sponsored by Mother's Power Patties

Session 4

Obstetrics, Community Health and Psychiatry

Chair: WD Abel and S Kulkarni

- (O – 21) 3:30 pm *Maternal mortality in Jamaica: challenges for the 21st Century*
A McCaw-Binns, S Alexander, JLM Lindo, CT Escoffrey, K Spence, K Lewis-Bell,
G Lewis
- (O – 22) 3:45 pm *To study the competence of community midwives in Jamaica as skilled birth attendants*
EE Reynolds-Hedmann, A McCaw-Binns, B Burkhalter
- (O – 23) 4:00 pm *A retrospective analysis of breech deliveries at the Victoria Jubilee Hospital in the year
2002*
EMM Codrington, J Malcolm
- (O – 24) 4:15 pm *Healthcare workers in St James: How prepared are they for a Hurricane?*
M Johnson-Campbell, J La Grenade, D Nevins, A McCaw-Binns
- (O – 25) 4:30 pm *Early age of onset of substance abuse in clients treated in an adolescent substance abuse
clinic in a general hospital in Jamaica*
W De La Haye, J Harris
- (O – 26) 4:45 pm *Consultation-liaison psychiatric services in an urban general hospital in Jamaica*
S Halliday, M Irons-Morgan, FW Hickling

Closing remarks and presentation of prizes

WORKSHOP
Faculty of Medical Sciences Research Day
November 18, 2005

Clinical Trials: Building Capacity and Competence

AIM

The aim of the workshop is to demonstrate the methodological approach in developing and conducting sound clinical trials. The challenges faced by researchers in developing clinical trials and how these can be addressed will also be examined. Strategies for strengthening clinical trials-based research at the Faculty of Medical Sciences, Mona will be discussed.

OBJECTIVES

Designing clinical trials

At the end of this session, workshop participants will be able to:

- i) define clinical trial and outline its design features
- ii) identify when the clinical trial is an applicable and relevant approach
- iii) describe and explain the different types of clinical trials
- iv) outline the content and format of the clinical trial research protocol

Conducting clinical trials

At the end of this session, workshop participants will be able to:

- i) identify relevant issues in the selection and recruitment of patients for clinical trials
- ii) describe the approach taken to achieve random patient assignment
- iii) describe approaches for estimating clinical effects
- iv) discuss strategies for data analysis

What's stopping the University of the West Indies (Mona) from doing more clinical trials?

At the end of this session, workshop participants will be able to:

- i) recognize examples of successful trials done internationally
- ii) identify trials conducted (past or present) by local researchers
- iii) debate challenges faced by local researchers in conducting trials (funding, technical capacity, cultural and ethical issues etc)
- iv) summarize the way forward for building local capacity to conduct clinical trials

Workshop Programme

November 18, 2005

Main Medical Lecture Theatre

Session 1

Designing clinical trials

Chair: EN Barton

8:30 – 10:00 am

The clinical trial: basic definitions and design
M Tulloch-Reid

Answering research questions with clinical trials
CDC Christie

Types of clinical trials
A Vessey

Highlights of successful international clinical trials
R Holness

COFFEE BREAK (Sponsored by Tastee Limited)

Session 2

Conducting clinical trials

Chair: E Ward

10:30 am – 12:00 noon

The clinical trial protocol: ethical issues
A Mullings

International guidelines in conducting clinical trials
K Goodman

Strategies for Analysis of Clinical Trial data
N Younger

Technologies used in data management
E Spencer

Legal aspects of conducting clinical trials in the University of the West Indies
B Grant Otunla

LUNCH (Sponsored by Tastee Limited)

Session 3

What is stopping the FMS Mona from conducting more clinical trials?

Chair: H Fletcher

1:30 – 3.00 pm

Good clinical practice in clinical trials in resource-limited settings

J Van den Broeck

Successful University of the West Indies trials

CDC Christie, M Reid

The pharmaceutical industry as collaborators

GP Henry

Challenges facing local researchers in developing clinical trials based research

P Figueroa

Closure: The Way Forward – building capacity and competence for clinical trials

H Fletcher

Launch of the Collaborative Institutional Review Board Training Initiative

(CITIPROGRAM)

November 18, 2005

4:30 pm

Main Medical Lecture Theatre, The University of the West Indies

Chair's remarks:

Dean

Remarks:

Vice Principal

Background/History:

Dr Paul Braunschweiger
Dr Ken Goodman

The University of the West Indies
initiative (demonstration):

Dr Anthony Mullings

Registration of faculty/student on site:

Sign in of Vice Principal, Dean, and student

Launch of site

Poster Presentations

- (P – 1) *The use and impact of the introduction of the partogram at the Cornwall Regional Hospital*
D Scarlett, S Kulkarni, N Johnson, K Lewis-Bell, A McCaw-Binns
- (P – 2) *Factors influencing the mode of delivery in pregnant diabetics at the University Hospital of the West Indies*
I Bambury, A Mullings, S Kulkarni, M Tulloch-Reid
- (P – 3) *A comparative study of the knowledge, attitude and practice of adolescents (13–19) and adults (20 and over) attending the Victoria Jubilee Hospital regarding the Papanicolaou (Pap) smear*
EMM Codrington, J Malcolm
- (P – 4) *The risk factors and outcomes of pregnancies complicated by shoulder dystocia at the University Hospital of the West Indies between 2000–2004: a case-controlled review*
L Christie, S Mitchell, H Fletcher, M Tulloch-Reid
- (P – 5) *Female sexual dysfunction in women attending the colposcopy and family planning clinics at the University Hospital of the West Indies: the prevalence, demographics and risk factors*
L Christie, N McGill, W Aiken, S Mitchell, H Fletcher
- (P – 6) *An assessment of counselling on clients in the in-vitro fertilization programme at the Fertility Management Unit, The University of the West Indies, Mona*
C McKenzie, A Pottinger, C James
- (P – 7) *Longitudinal assessment of plasma choline and metabolites in pregnant women attending the antenatal clinic at the University Hospital of the West Indies*
M Gossell-Williams, H Fletcher, S Zeisel, N McFarlane-Anderson, A Jacob, J Patel
- (P – 8) *Reproductive factors associated with abnormal Papanicolaou smear and the value of Pap smears in diagnosing cervical pathologies*
D Scarlett, H Fletcher, M Reid
- (P – 9) *Is follicle stimulating hormone levels on cycle day 3 a good predictor of assisted reproductive technology outcome in women of advanced age in the Jamaican Population*
R Gibson, J Duncan, J Frederick, S Wynter, V DaCosta
- (P – 10) *Eclampsia at The University Hospital of the West Indies. A 13-year review, 1992–2004*
R Gibson, J Frederick, S Kulkarni, M Rainford
- (P – 11) *Outcome of extremely low birthweight infants at the University Hospital of the West Indies*
C Lord, H Trotman
- (P – 12) *Predictors of outcome in very lowbirth weight infants at the University Hospital of the West Indies*
H Trotman, C Lord

- (P – 13) *A study of health-seeking behaviour of medical professionals at the University Hospital of the West Indies, Mona*
 RJ Wilks, T Buchanan, L Lyle, Y Rodriguez, A Taylor, C Thomas, L Williamson, N Williamson, J Williamson-Smith, M Jackson
- (P – 14) *Drug-use among adolescents in Jamaica*
 WD Abel, K Fox, S Forrester, I Wellington, FW Hickling
- (P – 15) *Perinatal factors and ability: an analysis of students at The University of the West Indies*
 K Foster-Williams, N Younger, M Samms-Vaughan, A McCaw-Binns, DE Ashley, A Brown-Dennis
- (P – 16) *A study of preventive related practices in primary healthcare for seniors*
 D Eldemire-Shearer, C Morris
- (P – 17) *Stalking at The University of the West Indies, Mona: The locally unrecognized phenomenon*
 W Mullings, T Holder, J Mungalsingh, D Patten
- (P – 18) *An examination of the alcohol drinking patterns of students living on residence at The University of the West Indies, Mona Campus*
 DD Rhoden-Salmon, J La Grenade
- (P – 19) *Risk factors and involvement in criminal activities: a study of Belizean inmates*
 LE Harris
- (P – 20) *Anxiety symptoms among a cohort of students post Hurricane Ivan*
 EM Thompson, WD Abel
- (P – 21) *The development of post-traumatic stress disorder following Hurricane Ivan*
 EM Thompson, WD Abel
- (P – 22) *The impact of ganja use among adolescents in Jamaica*
 WD Abel, K Fox, S Forrester
- (P – 23) *Stigma and attitude to mental illness in Jamaica.*
 C Arthur, FW Hickling, H Robertson-Hickling, WD Abel
- (P – 24) *Evaluation of a mobile emergency mental health services*
 MM McCallum, WD Abel, E Kahwa
- (P – 25) *Socio-demographic and clinical profile of persons attending a dementia clinic at the University Hospital of the West Indies*
 C Sewell, L Barnaby
- (P – 26) *Validation of the brief screen for depression in a Jamaican cohort*
 G Lipps, GA Lowe
- (P – 27) *Conduct disorder in children and adolescents in urban Jamaica*
 JA Leiba, FW Hickling
- (P – 28) *Psychohistoriographic cultural therapy: The case study of Montreal*
 FW Hickling, H Robertson-Hickling, J Guzder, S Snow, L Kirmayer
- (P – 29) *Self report of suicidal behaviour among adolescents in Jamaica*
 WD Abel, K Fox, S Forrester

- (P – 30) *The impact of the creative arts in the treatment of maladaptive behaviour at a community-based mental health institution in Kingston, Jamaica*
SE Hare
- (P – 31) *Prevalence of HIV and other sexually transmitted infections among street substance abusers in Kingston, Jamaica*
M Day, W De La Haye, H Gough
- (P – 32) *Centers for Disease Control defined diseases in pregnant HIV-infected Jamaican women*
N Johnson, O Morgan, A Onyonor, P Palmer, M Anderson, J Moore, C Billings, K Harvey, A Mullings, D Mc Donald, G Alexander, MF Smikle, E Williams, D Davis, CDC Christie
- (P – 33) *An evaluation of the pro-apoptotic effect of fluvastatin on human prostatic adenocarcinomas*
CSG Murray, PDA Singh, KCM Coard, W Aiken
- (P – 34) *Bronchogenic carcinoma at the National Chest Hospital, Kingston, Jamaica: A comparative analysis of two periods: 1987–1991 and 1999–2003*
SOA Amiebenomo-Ononuju, TJ Paul, P Williams-Green, M Tulloch-Reid
- (P – 35) *Screening histories of incident cases of in-situ and invasive cervical cancer at the University Hospital of the West Indies, 2002 to 2004*
DHA Skeete, SE Shirley, CT Escoffery
- (P – 36) *The pathology of ovarian tumours at the University Hospital of the West Indies, 2000–2002*
CA Hall, CT Escoffery, SE Shirley
- (P – 37) *The coping strategies used by family caregivers dealing with relatives diagnosed with terminal cancer: homecare versus palliative care*
S Singh
- (P – 38) *Hyperparathyroidism: where are we now?*
H Brown, KCM Coard, DR DuQuesnay, M Newnham and D Skeete
- (P – 39) *Urinary fractionated normetanephrine and metanephrine measured by high pressure liquid chromatography with amperometric detection for the diagnosis of pheochromocytoma*
D McGrowder, T Deboch, J Julius
- (P – 40) *Blood glucose lowering effect of vanadium dipicolinate $\{VO (NH_4 [dipic-C1]H_2O)\}$ on normal and Streptozotocin-induced diabetic rats*
S Powell, RL Lindo, T Dasgupta, DC Crans
- (P – 41) *Clinical audit of management of patients with hypertension and diabetes mellitus at the University of the West Indies Health Centre, Mona Campus–2002*
AJ Standard-Goldson, B Anglin-Brown, A Redwood-Kiddoe, K Foster-Williams
- (P – 42) *Cognitive rehabilitation in traumatic brain injury: a case study*
TS Haynes, FW Hickling, CAR Bruce
- (P – 43) *Utilization of computer assisted stereotatic biopsy – a comparison with free hand biopsy*
CAR Bruce, J Jaggon, IW Crandon, G Char, G Donaldson, D Patten
- (P – 44) *Ocular anomalies and genetics syndromes*
BL Dryce Gordon, LA Gordon

- (P – 45) *Surgical waiting times and outcomes of long bone fractures treated by open intramedullary nailing at the St Ann's Bay Hospital*
D McDowell, D Barnes
- (P – 46) *The mercury concentration in seafood in Jamaica (a preliminary analysis)*
H Fletcher, M Vutchkov, GC Lalor, C Grant, S Bryan and K Aldred
- (P – 47) *Vocational counselling intervention in high school and the effect on career choices*
VU Lindo-Foster
- (P – 48) *What can a 1.5 day practicum in family medicine teach third year medical students?*
P Williams-Green, TJ Paul
- (P – 49) *Lecturers' views on special study modules in Community Health and Psychiatry*
AD Mitchell, TJ Paul, SR Maharaj, M Branday
- (P – 50) *Impact of teaching methods on children's memory: exploring the use of reggae music in learning*
K Morgan, G Townsend
- (P – 51) *The synthesis and pharmacological activity of some novel 1,3-diazepinium chlorides*
JA Grant, YA Jackson, M Gossell-Williams

Sickle Cell Disease, Pathology and Microbiology

Chairpersons: D Shah and J Knight-Madden

(O – 1)

Determinants of blood pressure in adults with sickle cell disease

K Campbell, M Asnani, C Cuningham-Myrie, V Cumming, EN Barton, M Reid
 Department of Medicine and Sickle Cell Unit,
 The University of the West Indies, Kingston, Jamaica

Objective: To determine in an age-, and gender-matched cohort of young adults with homozygous S (HbSS) and heterozygous C (HbSC) disease, the anthropometric, haematological and renal functional determinants of blood pressure and, whether there were differences in blood pressure by genotype, controlling for these factors.

Method: Three blood pressure readings were obtained in the seated position on the right arm using a Dinamap™ with appropriate size cuffs in 51 subjects with HbSC (29 males, 22 females) and 88 subjects with HbSS (43 male, 45 females) attending the sickle cell clinic as part of the 2005 annual cohort review. Height and weight were measured and fat free mass (FFM) was determined by bioelectric impedance. Blood was taken for serum creatinine and haemoglobin measurements and a random urine sample was obtained for protein-creatinine ratio.

Results: The age of the subjects ranged from 23.1 to 31.6 years. Subjects with HbSS had lower body mass index ($p < 0.001$) fat free mass ($p < 0.001$), steady state haemoglobin ($p < 0.001$) and serum creatinine ($p < 0.001$). However, urinary protein-creatinine ratio was higher in subjects with HbSS ($p < 0.01$). In step-wise regression analyses, the significant predictors of diastolic blood pressure were age ($p < 0.05$) and steady state haemoglobin ($p < 0.05$) and there was no difference by genotype. For systolic blood pressure, the major determinants were FFM ($p < 0.001$), male gender ($p = 0.05$) and steady state haemoglobin ($p < 0.04$). Adjusting for these factors, subjects with HbSS had higher blood pressure (mean difference with 95% CI; 7.3, -0.9 to 15.4 mmHg).

Conclusions: The higher systolic blood pressure with lower haemoglobin, more wasting and higher urinary protein-creatinine ratio is suggestive of more severe renal dysfunction in subjects with HbSS.

(O – 2)

Genetic determinants of glutathione depletion in sickle cell disease

S Howell, N McFarlane-Anderson, KG Marshall, AV Badaloo, M Reid, TE Forrester, CA McKenzie
 Tropical Medicine Research Institute and Department of Basic Medical Sciences, The University of the West Indies, Kingston, Jamaica

Objective: To determine whether there is an association between genetic variants in glutathione S-transferase (GST) isoenzymes and the risk of low erythrocyte glutathione (RBC GSH) concentrations in patients with sickle cell disease.

Method: Twenty-five participants with homozygous SS disease (HbSS) and 25 with haemoglobin SC disease (HbSC) were recruited during the Annual Cohort Review at the Sickle Cell Unit. RBC GSH concentration was measured by HPLC. DNA was extracted from whole blood and PCR-based methods were used to genotype polymorphisms in four GST isoenzymes: GSTT1, GSTM1, GSTM3 and GSTP1. The significance of between-group and between-genotype differences were assessed using linear models.

Result: RBC GSH concentration in both the HbSS and HbSC was lower than the normal reference range. We also found that RBC GSH was significantly lower in HbSS vs. HbSC ($p < 0.01$). The null GSTM1 and GSTT1 genotypes were found to be 18% ($n = 8$) and 7% ($n = 29$) respectively. The variant alleles of GSTM3 were found in 51% ($n = 23$) of the subjects. Approximately 65% ($n = 28$) of the subjects had the variant alleles (Val/Val or Ile/Val) for the GSTP1 functional marker. There were no significant differences in genotype frequencies between HbSS and HbSC groups. No statistically significant associations were found between any of the genetic variants and RBC GSH concentrations in a pooled analysis of the two groups (HbSS and HbSC). In exploratory subgroup analyses we noted that the association between GSTM1 and RBC GSH concentration in the HbSS group approached significance at a nominal 5% level ($p = 0.054$).

Conclusion: In this small exploratory study, we have shown that there is a significant difference in RBC GSH

between HbSS and HbSC. There were no significant associations between GST genotypes and RBC GSH although it is possible that GSTM1 genotype may influence RBC GSH concentration. Further studies will be required to address this and other hypotheses arising from these initial data.

(O – 3)

Differences in resting metabolic rates in homozygous S and heterozygous C sickle cell disease

Y Rodriquez, L Wilson, D Thomas, A Badaloo, TE Forrester, M Reid
Student Affairs, Deans Office, Faculty of Medical Sciences and Tropical Medicine Research Institute, The University of the West Indies, Kingston, Jamaica

Objective: We sought to determine in an age-, gender-, and body mass index-matched cohort of young adults with homozygous S (HbSS) and heterozygous C (HbSC) disease whether there were differences in resting metabolic rate (RMR) and dietary intakes by genotype.

Method: Resting Metabolic Rate was measured using a Deltatra II indirect calorimeter in 22 subjects with HbSC (14 males, 8 females) and 21 subjects with HbSS (12 males, 9 females) attending the sickle cell clinic. Height and weight were measured by standard techniques and fat free mass (FFM) was determined by bioelectric impedance. Dietary intakes were measured by 24-hour recall.

Results: The age and FFM of the subjects ranged from 22 to 30 years and 29.3 to 71 kg respectively. By design, there was no significant difference in anthropometry by genotype. In subjects with HbSC compared with subjects with HbSS, RMR (1470 ± 234 vs 1583 ± 199 kcal/d, mean \pm sd), gross protein (90.3 ± 40.6 vs 78.9 ± 33.2 g/d) and energy intakes (2159 ± 693 vs 2032 ± 771 kcal/d) were not significantly different. However, the slope of the relationship between RMR and FFM was significantly different by genotype with the slope being greater in subjects with SS genotype (mean difference with 95% CI; 124, 42 – 206 kcal/d).

Conclusions: The higher RMR adjusted for FFM suggests that subjects with HbSS are more hypermetabolic than subjects with HbSC and that the components of the FFM in SS are different from SC genotype.

(O – 4)

Prevalence of human immunodeficiency virus infection in pulmonary tuberculosis patients in Jamaica

P Akpaka, M Tulloch-Reid, A Justiz-Vaillant, MF Smikle
Departments of Microbiology and Basic Medical Sciences, The University of the West Indies, Kingston, Jamaica, and National Chest Hospital, Kingston, Jamaica

Objective: To determine the prevalence of human immunodeficiency virus-type 1 (HIV-1) infection in patients

that were admitted with pulmonary tuberculosis at the National Chest Hospital, Kingston, Jamaica.

Method: This retrospective study reviewed the hospital records of 537 patients admitted over the period 1995 to 2001 using a data extraction form to obtain information that included their socio-demographic data, clinical signs and symptoms, laboratory diagnosis, treatment and outcome.

Results: The prevalence of pulmonary TB patients with HIV-1 seropositive was 11.6% (47/406). Though the highest number (98, 10.0%) of tuberculosis patients was admitted in 1998, but the highest number of TB co-infected with HIV (10, 26.3%) occurred in patients admitted in 2001. The highest number of TB patients co-infected with HIV came from Kingston and St Andrew parish (27/47) followed by St Catherine (7/47) and St Mary (4/47) but none from Manchester, Portland, Westmoreland and Hanover. The highest number of TB patients came from Kingston and St Andrew parish (156/537) and the least from Hanover (1/537). More males (76.6%, 36/47) had TB co-infected with HIV, while the highest prevalence of TB co-infected HIV infection patients (74.4%, 35/47) occurred in the age group over thirty years. The mortality rate of tuberculosis co-infected HIV patients was 23.4% (11/47) while in the HIV-negative patients was 3.9%, 14/359; ($p = 0.001$). Patients were treated with the standard quadruple drug therapy. No multiply drug resistance was noted in the Mycobacterium tuberculi isolates.

Conclusions: There was a low prevalence of HIV in TB patients in Jamaica compared to other developing countries and this may be related to stringent and effective public health policies in the country.

(O – 5)

Prevalence and antibiotic susceptibility pattern of methicillin resistant staphylococcus aureus in Trinidad

S Kisson, F Orrett, W Swanston, M Monteil, P Akpaka
Department of Paraclinical Sciences, Faculty of Medical Sciences, The University of the West Indies, St. Augustine, Trinidad and Tobago

Objective: We sought to determine the prevalence and antibiotic susceptibility patterns of methicillin-resistant *staphylococcus aureus* (MRSA) in three large hospitals in Trinidad.

Methods: This was a cross-sectional prospective study conducted from January 2000 to December 2001 on all isolates of *S aureus* from clinical specimens received from Port-of-Spain General Hospital (POSGH), San Fernando General Hospital (SFGH) and the Eric Williams Medical Sciences Complex (EWMSC), all located in Trinidad and Tobago. Standard and automated microbiological procedures were used to identify the *S aureus* isolates. MRSA screening was done with agglutination test kit (Denka Seiken Co Ltd; Tokyo, Japan) according to the manufacturer's instruction. Susceptibility to methicillin (oxacillin)

and other drugs was determined by modified Kirby Bauer disc diffusion and E test (AB Biodisk, Solma, Sweden).

Results: Of 1912 *S aureus* isolates, 12.8% (244/1912) were MRSA. The highest prevalence of MRSA was from SFGH (19.6%, 121/616), POSGH (12.3%, 117/953) and EWMSC (1.8%, 6/343). When the data for the study period (2000 – 2001) was compared, there was no significant difference in the prevalence of MRSA, (13.5%, 145/1073 vs 11.8%, 99/839, $p = 0.6$), but the prevalence of MRSA varied from the different facilities of these hospitals. Over 80% of the MRSA isolates were susceptible to meropenem, ciprofloxacin, cotrimoxazole and tetracycline; and completely susceptible to chloramphenicol, rifampin and vancomycin. However, all the MRSA isolates from the three hospitals were resistant to penicillin, ceftriaxone, gentamicin and erythromycin.

Conclusions: The prevalence of MRSA in this study population compares favourably with that in other countries. The MRSA isolates are still susceptible to many commonly used and available antibiotics in the country.

(O – 6)

Molecular epidemiology of methicillin resistant *Staphylococcus aureus* isolates in Trinidad and Tobago

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Objective: To determine the presence of *mecA* and *nuc* genes in methicillin resistant *Staphylococcus aureus* (MRSA) isolates collected between January 2000 and December 2001 from three regional hospitals in Trinidad and Tobago and to investigate their clonal relationships.

Method: Standard and automated microbiological procedures were used to identify 244 MRSA isolates from different facilities of the hospitals. Antimicrobial susceptibility pattern was determined by both Kirby Bauer disk diffusion and E-test methods *MecA* gene was screened using Denka Seiken agglutination test while multiplex PCR testing was done to assess for the *mecA* and *nuc* genes pulsed-field gel electrophoresis was used to evaluate epidemiologic relatedness.

Results: The *mecA* and *nuc* genes were present in all the 244 MRSA isolates. The antimicrobial susceptibility revealed a 100% resistance to penicillin, oxacillin, ceftriax-

one, gentamicin and erythromycin in all the MRSA isolates. The PFGE analysis showed similar banding patterns among 60 strains of the MRSA isolates including those from the different wards of the various hospitals. There was clonal relatedness observed among these MRSA isolates

Conclusions: The relatedness of the MRSA isolates examined suggests that all these clones were from the same source. The PFGE was valuable in clarifying the epidemiology of the MRSA and providing evidence of its mode of spread in these hospitals. Further surveillance of MRSA spread in Trinidad and Tobago is recommended.

(O – 7)

Cervical intra-epithelial neoplasia in a cohort of HIV-positive women at The University Hospital of the West Indies: management and outcome

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Objective: To determine the rate of recurrence of cervical intra-epithelial neoplasia (CIN) in HIV-positive women evaluated at the University Hospital of the West Indies (UHWI).

Method: A chart review of all non-pregnant HIV-positive women who attended the Gynaecologic clinic and Colposcopic clinic between January 1994 and December 2004 identified 21 such women. Eleven of these patients who had CIN and had at least one follow-up Pap smear were the main subjects of this study. These patients were compared to 61 HIV-negative controls that were seen during the same period and also had at least one follow-up Pap smear. Treatment modalities for the groups included cold coagulation and large loop excision of the transformation zone (LLETZ). Cox proportional hazards analysis was used to determine the effect of HIV status on the time to first recurrence of CIN.

Results: The mean ages of the subjects were 32.6 ± 8.5 years and 35.7 ± 8.7 years respectively.

With a mean follow-up period of $2.4 \pm$ years, the rate of recurrence of CIN in patients with and without HIV was 66.24 (95% CI 27.6, 159.1) and 3.0 (95% CI 1.3, 7.3) per 100 person years. The hazards rate ratio for recurrence in subjects with HIV after adjusting for age and CIN stage was 19.1 (95% CI 4.4, 82.1).

Conclusion: HIV increases the risk of recurrence of CIN.

Surgery, Anaesthesia and Child Health

Chairpersons: JM Brandy and R Melbourne-Chambers

(O – 8)

Outcome prediction of patients admitted to the Intensive Care Unit, The University Hospital of the West Indies – an analysis of the clinical variables

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Objective: To analyze the clinical characteristics of the ICU population and determine which factors are predictive of mortality.

Method: Retrospective, analytical cohort of admissions between June 2001 and May 2002. Exclusion criteria included patients < 16 years, those with burns or post cardiac surgery. Data were collected from medical records and analyzed using Stata 7.0 (Stata Corp, College Station, TX) and multivariate logistic regressions.

Results: Of 271 eligible admissions, complete data were available for 198 (73%). M:F ratio was 1:1.2 with a mean age of 53.5 ± 18.7 , range 17–96 years. The commonest comorbidities were hypertension (35.9%), diabetes mellitus (17.7%), asthma or IHD (6.1%). APACHE II scoring ranged from 0–38, mean 17.1 ± 8.45 , mode 18. The majority of admissions (65.2%) were post-operative; 72.2% were emergencies. The commonest admission diagnoses were respiratory failure (25.3%), post neurosurgery (16.7%) and cardiovascular shock (10.6%). The majority (36.9%) required monitoring only, 29.8% ventilatory support and 6.1% inotropic support. Mechanical ventilation ranged from 0–39 days, mean 4.1 ± 6.8 and inotropic support 0–21 days, mean 1.33 ± 2.89 . The most common complications were septicaemia (17.2%), acute renal failure (10.6%) and acute respiratory distress syndrome (3.0%). Mortality rate was 21.7%. Survivors were younger 51.7 ± 18.3 vs 60.1 ± 19.1 years ($p < 0.01$); emergency admissions had a worse outcome, mortality 28.7% vs 3.6%, $p < 0.01$. Mortality increased according to the number of co-morbidities (12.5%, 25%, 36%; $p < 0.05$) and the presence of acute renal failure (ARF) 80.1% ($p < 0.01$), ARDS and intra-abdominal sepsis 67% ($p < 0.01$). Clinical predictors of mortality were

APACHE II Score OR 1.08 (95% CI 1.02, 1.12), duration of inotropic support OR 9.77 (95% CI 3.30, 28.95) and ARF OR 14.51 (95% CI 3.72, 56.61).

Conclusions: This study identified clinical factors which were predictive of mortality in the ICU and mandates the need for heightened suspicion and early, effective intervention.

(O – 9)

An assessment of the level of training and experience of doctors in Accident and Emergency Departments in Jamaica. What can the public expect?

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Objective: To determine the level of training, qualifications and experience of accident and emergency (A&E) officers in public hospitals in Jamaica.

Method: Data were collected prospectively from the Ministry of Health records and via telephone interviews with A/E officers in public hospitals. Data were analyzed using SPSS Version 10.

Results: Of 164 A&E officers, 51% were males, mean age was 31.7 ± 6.64 years, range 23–50 years with a mean of 6.5 ± 5.86 years (median of 5 years) experience since graduation and A&E employment for a mean of 2.5 ± 2.98 years (range = 0–15), median of 2.5 years. The majority (80.5%) were interns or house officers (*ie* Grade MO1), 12.8% MO2, with only 5.5% having consultant qualifications (MO3 or 4). Most (87.5%) were not career emergency physicians and were only part-time in the A&E department (54%), having other duties on the wards. Only 15.2% had any postgraduate training and less than a quarter had basic cardiac life support (BCLS) or advanced trauma life support training (ATLS), the currency of which was expired or unknown in the majority.

Conclusions: This study clearly highlights that most A&E officers in Jamaican public hospitals are relatively inexperienced, inadequately trained and consultant supervision is

not available in most public hospital A&E departments. With the injury epidemic that exists in Jamaica, it is logical that increased training opportunities and resources are required to meet the needs of the population.

(O – 10)

Non-fatal, unintentional injuries in children in six parishes in Jamaica

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Objective: To describe the incidence of non-fatal, unintentional injuries in children in six parishes in Jamaica during a one-year period.

Method: The Jamaican Injury Surveillance System captures emergency visits for non-fatal unintentional injuries. Data entered into the system for unintentional injuries in children 0 – 18 years in six parishes during the period January 1 to December 31, 2002 were utilized. Differences among the age groups in gender, mechanism of injury, place of occurrence and outcome were determined using analysis of variance.

Results: There was a total of 7016 emergency visits, of these males accounted for 4669 (67%) visits and females 2346 (33%). The overall incidence rate was 107/10 000. Males had a significantly higher injury rate than females in all age groups over 1 year ($p < 0.001$) with an overall M: F ratio of 2:1. The ratio of emergency room visits to admissions was 7:1. The most common injury in all age groups was falls ($p < 0.001$) followed by accidental lacerations and accidental blunt injury. The most common place of occurrence of injury in all age groups was the home ($p < 0.001$) followed by the school. Children 1 – 4 years had the highest injury rate 150/10 000 followed by the 5–9 year age group 138/10 000. Admission rates were highest in the under 5-year age group and was most likely to be as a result of poisoning or burns.

Conclusion: Unintentional childhood injuries are of public health importance because of the financial, social and emotional effects on the individual families, communities and society as a whole. Most of these injuries can be prevented by behavioural and environmental interventions hence the implementation of preventive strategies is essential.

(O – 11)

Adherence to antiretroviral drug therapy in paediatric patients with HIV/AIDS in Jamaica

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Objective: With the current increased access to antiretrovirals (ARVs) in Jamaica through the Global Fund, adherence to these drugs is critical for treatment efficacy and prevention of drug resistance. We describe adherence patterns to ARV therapy among a cohort of HIV-infected children attending the paediatric infectious diseases clinics in Greater Kingston and St Catherine. We determined adherence level, reasons for non-adherence, and the relationship between self-reporting and other adherence monitoring factors.

Method: During May to July 2005, fifty-three HIV-infected children on ARVs and their caregivers were consecutively recruited when they accessed outpatient services. A 54-item questionnaire was administered by an independent researcher. Adherence was defined as no missed doses in the last 4 days. Data were collected on clinical characteristics, antiretroviral adherence, psychosocial and related factors, following informed consent, and assent for children over 8 years. Data were analysed using SPSS version 11.

Results: The 53 children were aged 0.8 to 19 years (median 7.9, IQR 5.8) and 57% were male. Seventy-seven per cent had severe disease by Centers for Disease Control classification, with mean CD4 per cent 30.3 (± 14.4). Seventy-nine per cent were receiving zidovudine/lamivudine/nevirapine; median duration on ARVs was 15.3 months (range 0.1 to 115.5). Global adherence level was 87% (46/53), with 93% (42/45) of these children receiving their medication on time, in the previous 4 days. Main reasons for non-adherence were caregiver-related: change in work schedule (21%), forgot (21%), too busy (17%), child away from home (13%). Non-adherence was positively correlated with missing clinic appointments ($r = 0.386$, $p = 0.01$).

Conclusions: Although adherence rates are good, and consistent with trends in developing countries, further interventions are needed to address caregiver-related issues and thereby optimize treatment efficacy, and limit development of resistance in ARV naïve population.

(O – 12)

Trans-sphenoidal pituitary surgery at the University Hospital of the West Indies

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Objective: To determine the clinical characteristics and results of surgical treatment of patients who had trans-sphenoidal resection of the pituitary between January 1989 and June 2005 at the University Hospital of the West Indies.

Method: Data were collected retrospectively from the medical records of all patients who had trans-sphenoidal surgery using the sublabial/paraseptal approach during the study period and analyzed using SPSS Version 10.

Results: Of 102 patients, 59.8% were females, mean age was 45.6 ± 14.4 years, range 17–79 years. The most common presenting symptoms were visual disturbance 80.4%, headache 73.5%, amenorrhoea 22.5% and galactorrhoea 18.6%. Pre-operative diagnoses were predominantly non-functioning adenoma 59.8%, macroprolactinoma 21.5%, acromegaly 6.9% and Cushing's disease 4.9%. Visual failure (71.6%), followed by endocrinopathy (22.6%), were the main indications for surgery. Elevation of the serum prolactin (43.1%) and abnormal cortisol levels (25.5%) were the most common endocrine abnormalities. A CSF leak occurred at the time of tumour resection in 6 patients (5.8%) and continued into the postoperative period in one, requiring temporary CSF diversion. Diabetes insipidus occurred in 13 patients (12.7%) during the postoperative period and was permanent in one patient. Postoperative radiological assessment showed that the size of the mass was unchanged in 6 patients but reduced or eliminated in the remainder. Ten of the 23 endocrinopathies were not cured by surgery. Visual acuity improved marginally and visual fields moderately. Nine patients had postoperative radiotherapy. Recurrence was documented in 23 patients (22.5%) while one patient with Nelson's syndrome died late from non-surgical causes.

Conclusions: The outlook for pituitary tumours has changed significantly in the recent past. The advent of microsurgery, the image intensifier, the trans-sphenoidal approach and neuronavigation have all contributed to increased safety and efficacy of surgical treatment of this common disorder.

(O – 13)

Body composition in pregnant adolescent girls and mature women and the impact on fetal growth and birthweight

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Objective: To investigate body composition in pregnant adolescent girls and mature women and the impact on fetal growth and birthweight.

Method: A total of 425 women attending the antenatal clinic at the University Hospital of the West Indies, Kingston, Jamaica, participated in a prospective study. Recruitment included women 19 years and younger (adolescent girls) and 20 – 45 year-old (mature women). Anthropometry, skinfold thicknesses, blood pressure, urine analysis and ultrasound scans were performed at 15, 25 and 35 weeks gestation. Birth measurements were made.

Result: Analyses were confined to 316 (84.9%) of the women who completed the study. Adolescents had significantly lower measurements compared to the mature women at the first antenatal visit. Newborn anthropometry of the

adolescent had significantly smaller values in the triceps skinfold thickness and the mid-upper-arm circumference ($p = 0.04$; $p = 0.02$ respectively). The percentage fat, fat mass and lean body mass were significantly lower among the adolescents compared to the mature women ($p > 0.0001$) both at the first antenatal visit and at 35 weeks gestation. Greater gain was seen among these measurements throughout the pregnancy among the adolescents ($p > 0.0001$). Regression analyses showed the gain in lean body mass was the most important and consistent predictor of fetal growth and birth anthropometry. Maternal age was not a significant contributor.

Conclusion: This study has shown that body composition differs among adolescents and mature woman. Weight gain and lean body mass attained in pregnancy impact positively on fetal growth and birthweight irrespective of maternal age.

(O – 14)

A comparison of anthropometry of mothers and infants within the puerperium, with respect to maternal age

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Objective: To determine if maternal age contributed to postpartum weight retention which may be a predisposing factor to obesity in later life.

Method: This was a prospective study on 280 women who had anthropometric measurements at less than 15 weeks gestation and at 6 weeks postpartum at the University Hospital of the West Indies (UHWI). One hundred and twenty-two women less than 20 years comprised the adolescent group and 158 women older than 20 years comprised the mature group. At birth and at the six-week postnatal visit measurements of the infants were made. A food frequency questionnaire was administered to 60 women in each group to establish the effect of nutrition on postpartum weight.

Result: The adolescents had significantly lower anthropometric measurements compared to the mature women at the first antenatal visit. The newborn anthropometry of the adolescent had significantly smaller values in the triceps skinfold thickness and the mid upper arm circumference ($p = 0.04$; $p = 0.02$ respectively). Anthropometry of the infants at the six-week postnatal clinic showed no difference. Postnatal weight retention was greater among the adolescent girls compared to the mature women. Both groups had increased skinfold thickness at the supra-iliac area. There was no statistical difference in the amount of calories consumed between the adolescent and the mature women.

Conclusion: This study has shown that there is a difference in postnatal weight retention between the adolescent and the mature woman. Weight retention in adolescents may be a contributor to the development of obesity in later life.

Nutrition and Internal Medicine

Chairpersons: CA Powell and D Gilbert

(O – 15)

Temperament characteristics of undernourished and term low birthweight in Jamaican children

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Objective: To compare the temperament of children at nutritional risk with non at-risk children and to determine if temperament predicts child development.

Method: Two case control studies were conducted. In study one, 139 undernourished children (WAZ < -1.5z scores) and 71 adequately nourished children (WAZ > -1z scores) aged 9 to 30 months were recruited from 18 health centres in the parishes Kingston, St Andrew and St Catherine. In study two, 131 term, low birthweight (LBW) (> 37 weeks, < 2 500g) infants and 93 normal birthweight (NBW) (> 2 500g) infants, recruited from the main maternity hospital in Kingston, were compared at 15 months of age. Child temperament was measured through maternal questionnaire. Child development was measured for all children in study 2 and undernourished children in study 1.

Results: The temperament questionnaire consisted of seven subscales: activity, positive emotionality, negative emotionality, sociability fear, manageability and soothability. Factor analysis of subscale scores yielded two factors. Scores for each subscale were standardized and factor scores computed to give an unmanageable (activity + negative emotionality – manageability – soothability) and an approach factor (positive emotionality + sociability – fear). There were no differences between undernourished and adequately nourished children or LBW and NBW children on either factor. The approach factor independently predicted child developmental quotient in both studies (study 1: B = 0.78, 95% confidence interval: 0.21, 1.35; study 2: B = 0.39, 95% CI: 0.02, 0.77).

Conclusions: Undernutrition *in utero* or in early childhood was not associated with child temperament. Temperament in early childhood predicted child development.

(O – 16)

Hypercholesterolaemia and social status in Jamaica

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Objective: To examine the effect of social status on cholesterol.

Methods: The Jamaica Lifestyle Survey sampled adult Jamaicans and was conducted between 2000 and 2001. All participants completed an interviewer-administered questionnaire. Interviewer-assessed social status was assigned on a 10-point scale and collapsed into three categories – low, middle and high. Blood pressure, weight and height were performed using standard procedures by trained personnel. Fasting total cholesterol and glucose were measured from a capillary sample (Accutrend GCT). Variable means, multivariate and logistic regression analyses took into account the study sampling design and were weighted according to the age-gender distribution of the Jamaican population.

Results: Ninety-three per cent (age 36.4 years, BMI 25.7 kg/m²) of persons sampled had fasting cholesterol measured. The mean cholesterol (95% CI) for the population was 4.49 (4.44, 4.54) mmol/L. Fasting total cholesterol was higher in women compared to men and increased with age, body mass index, blood pressure and fasting glucose. Total cholesterol was lower in persons who lived in an urban environment and who reported smoking, drinking alcohol and being physically active. People with high social status had higher total cholesterol and were more likely to be obese and have diabetes. There was no difference in age or hypertension prevalence by social status. Hypercholesterolaemia (total cholesterol > 5.2mmol/L) prevalence was highest in people with high social status (low-13%, middle -15%, high -21%). The effect of social status on hypercholesterolaemia was independent of age,

gender, urban/rural residence, physical activity, obesity, hypertension and diabetes mellitus.

Conclusion: High social status was associated with hypercholesterolaemia in adult Jamaicans.

(O – 17)

Glycaemic and metabolic control in youths with diabetes mellitus in Jamaica

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Objective: To evaluate glycaemic and metabolic control in young people with diabetes mellitus.

Methods: Patients from the Kingston Public Hospital and the University Hospital of the West Indies who were diagnosed with diabetes before age 25 years and < 6 years prior to evaluation were eligible for the study. Fasting plasma glucose, HbA1c and lipid profiles were obtained from each participant. Blood pressure was measured by a trained investigator using a standard protocol. Elevated blood pressure was defined as > 95th percentile for age, gender and height in participants under 18 years and >130/80 mmHg in adults. Participants were classified according to diabetes type using GAD-65 and IA-2 diabetes autoantibodies and fasting C-peptide measurements.

Results: Forty-five subjects (18M 27F, mean age 20 ± 5 years, 42 (94%) Afro-Caribbean, diabetes duration 3 ± 2 years, 35(78%) Type 1 and 10 (22%) hybrid/indeterminate diabetes) were enrolled in the study. Only 40% of subjects had a fasting glucose < 7.2mmol/l. Twelve per cent had a HbA1c < 7%. Half (54%) had a HDL cholesterol > 1.1 mmol/l and 89% had triglycerides < 1.5 mmol/l. Most (80%) did not have elevated blood pressure. Excluding subjects diagnosed with diabetes < 6 months prior to evaluation did not change these findings. Apart from a higher HDL cholesterol (1.1 ± 0.3 vs 0.8 ± 0.3 mmol/l; $p < 0.01$) in patients with Type 1 diabetes mellitus there was no difference in the fasting glucose, HbA1c, blood pressure, total cholesterol or triglycerides between diabetes groups.

Conclusions: Glycemic control was inadequate in most young people with diabetes. Duration of diabetes and diabetes type were not major determinants of metabolic or glycemic control in this population.

(O – 18)

Evaluation of mid-upper-arm circumference as a screening tool for undernutrition in the elderly

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Objective: To examine the appropriateness of the mid-upper-arm circumference (MUAC) measurement as a screening tool for undernutrition in the elderly.

Method: The convenience sampling method was used to identify 201 patients who were 65 years and older, attending clinics across the Western Regional Health District in Jamaica, from January to March 2004. The Mini Nutritional Assessment (MNA) which includes measurement of height, weight and MUAC was used to collect data. Participants were classified as undernourished, at risk of undernutrition or well-nourished using standard cut-off points of the MNA, Body Mass Index (BMI) and MUAC. The agreement in classifying the same participants was assessed.

Results: Mean MUAC measurements were similar for females and males, 30.9cm and 29.7cm respectively. MUAC decreased as age increased ($p < 0.001$). Frank undernutrition was 3.5% using the MNA, 5.5% using a BMI cut-off point of 18.5 kg/m² and 5% using the MUAC cut-off point of 23.5 cm. There was a 90% agreement between the MUAC and the BMI in identifying undernutrition. The agreement for undernutrition with the MUAC and the MNA was 50 %; the others were classified as at risk by the MNA. A cut-off point for MUAC to identify not only undernourished older persons but many of those at risk was found to be closer to 25.5 cm which identified 10.9% of the sample.

Conclusion: The results suggest that the MUAC, a simple anthropometric measurement, is appropriate for use in screening for undernutrition in the elderly. The cut-off point of 25.5 cm provides a better diagnostic criterion.

(O – 19)

Nutritional status of children with and without perinatal exposure to the human immunodeficiency virus: a retrospective cohort study in St James, Jamaica

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Objective: To compare the nutritional status of a cohort of children born to HIV infected women (exposed) with unexposed children, who participated in the HIV Prevention of mother-to-child-transmission (PMTCT) programme, Ministry of Health 2000–2003.

Method: This study was conducted between October 2004 and May 2005 in four health districts in St James. Fifty-nine exposed children aged 6 to 60 months were identified and matched for age, gender, gestational age and area with 120 unexposed children. Questionnaires were administered to their mothers on feeding practices and morbidity, and anthropometric measurements taken. Data were also collected from health centre and hospital records.

Results: Forty-three per cent of the cohort were interviewed; data on the others were extracted from docket. Of the 179 children, 44% were male; mean \pm SD age was 11.9 ± 5.9 and 14.0 ± 4.9 months for the exposed and unexposed respectively. Among the exposed 11.7% were pre-term compared to 2.5% in the unexposed ($p = 0.012$). Exposed children tended to have lower mean birthweights than the unexposed, 3.0 ± 0.51 and 3.17 ± 0.51 kg respectively ($p = 0.054$). Current weight-for-height and height-for-age were not significantly different between the groups. Episodes of illnesses occurred more frequently during the first year of life and ear infections were more common among the exposed ($p = 0.005$). Twenty-four per cent of exposed infants were fed breast-milk and formula, while 8.5% were breastfed exclusively.

Conclusion: HIV exposed children were lighter at birth than unexposed, and were more likely to be premature. Current nutritional status was adequate. The high prevalence of mixed feeding is cause for concern as this could lead to increased risk of HIV transmission.

(O – 20)

The validity of blood glucose and cholesterol as estimated by finger-stick

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Objective: To quantify validity of the Accutrend GCT machine for estimating glucose and cholesterol in Jamaicans.

Method: Pairs of glucose and cholesterol measurements – venous and capillary (Accutrend GCT) – from 102 St Catherine National Lifestyle Survey (2000–1) respondents were analyzed for agreement using Bland-Altman plots, bias estimation, and correlation coefficients to detect evidence that measurement methods were interchangeable.

Results: Ninety-one and 72 pairs of glucose and cholesterol measurements, respectively, were analyzed. Twenty-eight other persons with cholesterol levels “too low” to be read by the Accutrend machine were each assigned the minimum value recordable by the machine – 3.88 mmol/l. Separate analyses were done for the 72 (measured) and 100 (amended) pairs. The mean within-pair difference for the amended and measured cholesterol values was 0.34 (95% CI = 0.21, 0.47) and 0.53 (95% CI = 0.41, 0.64), respectively. The correlation between the differences and the means for each pair was higher for the amended values (0.64 vs 0.39). The mean within-pair difference for the glucose measurements was 1.37 (95% CI = 1.21, 1.53) while correlation between the differences and the means was 0.43. For cholesterol, the limits of agreement – -0.98 to 1.66 and -.43 to 1.49 – enclosed more than 95% of the differences but, for glucose the limits – -0.15 to 2.90 – enclosed fewer than 95% of the differences.

Conclusions: High overall bias and high correlation between the differences and the mean for both cholesterol and glucose levels indicate that the interchangeable use of the methods is not a robust inference.

Obstetrics, Community Health and Psychiatry

Chairpersons: *WD Abel and S Kulkarni*

(O – 21)

Maternal mortality in Jamaica: challenges for the 21st century.

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Objective: This study aimed to determine the maternal mortality ratio and causes of these deaths for Jamaica for 1998–2000 and 2001–3, and whether there have been any improvements in light of interventions aimed at reducing deaths from gestational hypertension and improving access to referral obstetric care.

Method: The study team visited all public hospitals (n = 20) and public sector pathologists and independently identified deaths in women 10–50 years with evidence of pregnancy within one year of death. Cases were reviewed by a team (epidemiologist, pathologist, obstetrician) to determine the underlying cause of death.

Results: The maternal mortality ratio remained unchanged (2001–3: 95/100 000 compared to 1993–95: 96/100 000) however, direct deaths declined, but were negated by a significant increase in indirect deaths ($p = 0.025$). Direct deaths now account for 69% of maternal deaths compared to 83% in 1993–1995. Gestational hypertension, the leading cause of death, declined by 24% following introduction of clinical guidelines and improved access to referral obstetric care. Embolism is now ranked second, haemorrhage third (36% decrease) and abortion fifth. HIV/AIDS is the leading cause of indirect obstetric mortality and the fourth leading cause of maternal death.

Conclusion: The decline in direct obstetric deaths suggests that policies aimed at improving quality of care and access to referral obstetric care is reaping rewards. The growing contribution of indirect causes such as HIV/AIDS, cardiac disease, sickle cell disease, diabetes mellitus and asthma suggest the need for clinical guidelines and improved collaboration with medical teams to care for women with chronic diseases who become pregnant.

(O – 22)

To study the competence of community midwives as skilled birth attendants in Jamaica

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Objective: To determine the competency of community midwives as skilled birth attendants in Jamaica and to relate their competence to current experience as birth attendants to inform continued education for this group.

Method: A 25% stratified random sample of community midwives from the four health regions had knowledge and skills in emergency obstetric and newborn care evaluated using a questionnaire, anatomical models with checklists and a self-assessment survey to document perceived abilities at these skills. Data were analysed using SPSS version 7.5.

Results: Forty-three midwives completed the study. Eighty per cent were over 50 years of age and 57% lived in the community they served. The mean overall knowledge score was 51.6% (95% CI 49.0, 54.3). Knowledge scores were highest for pregnancy induced hypertension (PIH), 65.8% (95% CI 59.4–72.1) and lowest for antiseptic delivery, sepsis and HIV. In the skills test, they scored 65.2% and 69.5% in two neonatal resuscitation procedures, 50.7% in IV-insertion. However, for the two procedures in management of post-partum haemorrhage, they only scored 16.6% and 19.3%. Western region midwives had consistently poorer scores. There was only consistent correlation between knowledge, skill and perception in the area of IV insertion.

Conclusions: Competency of midwives was evaluated based on their management of obstetric and neonatal emergencies. With decreasing numbers of deliveries, the maintenance of their skills as birth attendants will require alternative approaches. Their demonstrated good knowledge in management of PIH, which they see routinely in their antenatal clinics, is encouraging. However, their poor perform-

ance regarding aseptic practices may require immediate attention.

(O – 23)

A retrospective analysis of breech deliveries at the Victoria Jubilee Hospital in the year 2002

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Objective: To compare and analyze the difference in outcome between vaginal breech deliveries and Caesarean breech deliveries.

Method: A retrospective cohort study was conducted on patients delivered with breech presentation during the 12-month period of January to December 2002. The database was created by identifying patients with breech presentation from their delivery records. Breech presentation was verified and details of maternal age, parity, gestational age, birthweight, APGAR scores, duration of hospitalization, estimated blood loss and complications were abstracted.

Results: There were 124 identified cases. Seventy-one (57.2%) were *via* Caesarean section (C/S) and 52 (42.0%) were *via* the vaginal route. The mean birthweight for the abdominal route was 3.008kg (95% C.I. 2.87, 3.15) and for the vaginal route 2.467kg (95% C.I. 2.23, 2.20). There were 4 deaths in the abdominal group and 10 deaths in the vaginal group. The majority of nulliparae 49.2% *vs* 14.8% were delivered *via* the operational route. Thirteen (10.5%) of all breech deliveries occurred before 33 weeks gestation. There were seven associated deaths of which one was a macerated stillbirth, hence 46.5% in this group died. The main complication in both groups was premature rupture of membranes (PROM) (49% C/S *vs* 47% vaginal).

A low APGAR score (5) was encountered in 6 (11.3%) of the vaginal group, all of whom died. There was none in the operative group.

Conclusion: The international trend of increased operative delivery was reflected in this study. The management of preterm and low birthweight breech deliveries need improvement.

(O – 24)

Healthcare workers in St James: how prepared are they for a hurricane?

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Objective: To assess the ability of healthcare workers in St James to respond appropriately to natural disasters.

Method: Three hundred and seven persons from the St James health team (Cornwall Regional Hospital and St

James Health Department) were surveyed. Awareness and attitudes to Disaster Management policies, plans and training and how these influenced their response in Hurricane Ivan (Sept 2004) were evaluated. Qualitative data were collected and analyzed manually while SPSS 11.5 was used for the quantitative component.

Results: Most respondents (67%) were aware of the Disaster Plan but only 40% reported being trained in Disaster Management. More nurses (68%) and paramedics (51%) had been trained than ancillary/auxillaries (33%), doctors (21%) or administrative/clerical (18%) staff. Most health workers (96%) had participated in at least one disaster preparedness drill, usually a fire drill but none had occurred in the last two years. Having defined roles was positively correlated with age, years of service and occupation ($p < 0.01$). Health workers have a positive attitude towards disaster management (99% insisted that training should be compulsory and 95% agreed that they should help in a hurricane). Most (86%) reported being available at any time to work and 77% worked as scheduled during Hurricane Ivan. Transportation and personal responsibility (to children, elderly or property) were the main limiting factors. Provisions made for staff welfare (*eg* transportation, protective gear and media updates while at work) were perceived to be inadequate.

Conclusion: Health workers in St James have positive attitudes to disaster management but require training. More attention must be given to staff welfare during disasters.

(O – 25)

Early age of onset of substance abuse in clients treated in an adolescent substance abuse clinic in a general hospital in Jamaica

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Objective: To describe the demographic characteristics, age of onset and pattern of alcohol, tobacco and illicit drug misuse in adolescents presenting to a substance abuse clinic.

Method: Data from adolescents attending a Drug Free Outpatient Clinic at the University Hospital of the West Indies between January 2004 and January 2005 were disaggregated using retrospective chart extractions. Data analysis was done using the Statistical Package for the Social Sciences, Version 13.0 (SPSS 13.0).

Results: A total of 103 adolescents received treatment, with 96 (93.2%) males and 7(6.8%) females. The mean age was 15.4 ± 1.74 years (range 10 – 18 years). Most clients were from Kingston and St Andrew (73, 70.9%), followed by St Catherine (28, 27.2%). The majority lived with their mother only (38, 35.8%), ($p < 0.001$) and was referred to the clinic by their school (51, 51.0%), followed by mothers

(30, 30.0%). Most clients were introduced to substance abuse by a friend (71, 78.96%), ($p < 0.001$), with 67 (65.0%) clients giving a history of some identifiable stressor in their lives, ($p < 0.001$). The mean age of onset was 13 years \pm 1.8 years (range 7–16 years. All (103, 100%) were diagnosed with cannabis abuse. The majority of clients abused cannabis only (55, 54.5%), followed by a combination of cannabis and alcohol (21, 20.8%) ($p < 0.001$).

Conclusion: There is an early age of onset in this cohort of adolescents. There are implications for early prevention messages and identification and treatment of adolescent substance abusers in Jamaica.

(O – 26)

Consultation – liaison psychiatric services in an urban general hospital in Jamaica

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Objective: To study the pattern of referrals to a psychiatric liaison service in a large general hospital in Kingston, Jamaica.

Method: A retrospective analysis was made of all patients referred to the psychiatric consultation-liaison service at

the Kingston Public and Victoria Jubilee Hospitals over a twelve-month period. Data were gathered by chart extraction and analyzed using SPSS version 11.

Results: Of the 35 649 patients admitted, 360 (1.01%) were referred to psychiatry. This rate of referral was similar to rates at the University Hospital of the West Indies (1.03% and 0.6%). There were 165 (47.7%) males and 181 (52.3%) females. The mean age was 36.72 \pm 16.63 years. Approximately twice as many persons were referred from Medicine, 202 (58.4%), when compared with Surgery, 112 (32.4%), and six times as many when compared with Obstetrics and Gynaecology, 32 (9.3%). Disruptive behaviours, 145 (41.9%), and suicidal attempt, 86 (24.9%), were the commonest reasons for referral. Drug overdose, 51 (58.6%) was the most frequent method of suicide attempt. The most frequent psychiatric diagnoses were psychotic disorders, 93 (26.9%). Most patients, 215 (62.1%), were referred to a psychiatric clinic for follow up, while 23 (6.3%) were transferred to a mental hospital. Women were more commonly referred from the Department of Medicine ($p < 0.001$), for depression ($p < 0.05$), suicidality ($p < 0.05$) and psychotherapy ($p < 0.01$). Males were referred more frequently following trauma ($p < 0.001$), for disruptive and violent behaviour ($p < 0.001$), and were more frequently diagnosed with schizophrenia ($p < 0.01$).

Conclusion: Psychiatric consultation-liaison service referral rates are similar in major hospitals in Kingston.

Poster Abstracts

(P – 1)

The use and impact of the introduction of the partogram at the Cornwall Regional Hospital

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Objective: To determine the use and impact of the partogram at the Cornwall Regional Hospital.

Method: An observational study on 91 women who presented to the labour ward with singleton pregnancies of at least 37 weeks gestation presenting by vertex and without any complications was conducted to evaluate the effect of the partogram on the duration of labour, intervention methods and perinatal outcome. Data were analyzed, using the statistical package of the social sciences (SPSS version 11.0).

Results: The study population comprised 91 patients, forty-five (49.5%) of whom had the partogram utilized in their management. Augmentation with oxytocin was higher in the partogram group, but this was not statistically significant ($p = 0.174$). The combined intervention rate with oxytocin and artificial rupture of membranes was significantly higher in the partogram group than that in those patients without partogram utilization (88.1% vs 61.5%; $p = 0.036$). There was no significant impact on neonatal outcome with the use of the partogram.

Conclusion: The average use of the partogram provided no significant benefits. However, the partogram is a useful tool for monitoring the progress of labour.

(P – 2)

Factors influencing the mode of delivery in pregnant diabetics at the University Hospital of the West Indies

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Objective: To ascertain the factors influencing the mode of delivery in pregnant diabetics.

Methods: During the study period January 1 to December 31, 2003, fifty-nine patients who had diabetes mellitus and who were eligible for analysis were identified. Of these patients 32 had gestational diabetes (GDM), 7 had pre-gestational diabetes (PGDM) and 20 had gestational impaired glucose tolerance (GIGT). Information extracted for analysis included age, parity, booking weight, body mass index, final weight, total weight gain, method of induction, method of treatment (diet vs insulin), gestational age at delivery, glucose control at delivery, and birthweight.

Results: For the study period, there were 2272 deliveries of which 681 (30%) patients were delivered by Caesarean section and 1591 (70%) were delivered *via* vaginal delivery. Patients enrolled in the study ($n = 59$) accounted for 2.6% of the total delivery. The Caesarean section rate for the study population was 23.7% and vaginal delivery rate was 76.2%. Most patients were delivered close to term. The two most common indications for Caesarean section were fetal distress (35.7%) and failure to progress (21.4%). After controlling for multiple risk factors, excess booking weight ($p = 0.034$), excess final weight ($p = 0.026$), and poor glucose control ($p = 0.034$) were independent risk factors for Caesarean section.

Conclusion: A population based strategy must be implemented to address pre-pregnancy weight and maternal weight gain in pregnancy as excessive weight gain in pregnancy has been associated with other adverse outcomes including future obesity. Good diabetic control needs to be more stringent.

(P – 3)

A comparative study of the knowledge, attitude and practice of adolescents and adults attending the Victoria Jubilee Hospital for the Papanicolaou (Pap) smear

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Objective: To determine the knowledge, attitude and practice of patients attending the VJH for the pap smear.

Method: The study was conducted using a self-administered close-ended questionnaire. Each arm had 100 participants. The questionnaire sought to determine general demographic data, sexual history, knowledge, attitude and practice of participants regarding the Pap smear. Attitude was assessed using a five-point system (strongly agree, agree, not sure, disagree and strongly disagree). An exit interview was conducted at the end and the participants issued an educational pamphlet. Responses were analyzed using the Pearson Chi Squared method with $p < 0.05$ taken as significant.

Results: The average age of the teenagers was 15.8 years and the adults 31.8 years. The teenagers attained sexual debut on average at 13.9 years and the adults at 16.9 years with a $p < 0.002$. Thirty-seven (37%) of teens vs 73% of adults identified the Pap smear as a screening test $p < 0.001$. Forty-six (46%) teens vs 76% of adults $p < 0.007$ identified the Pap smear as a test for cancer cells. The majority, 88% of teens, had never had a Pap smear and 12% indicated they would never have the test done. In contrast, 39% of adults never had a smear done however, none was unwilling to do the test although 46% needed prompting. The media and medical personnel were the main sources of information for both cohort.

Conclusion: This study indicated that both cohorts needed to be educated about the Pap smear and to be vigilant in practice.

(P – 4)

The risk factors and outcomes of pregnancies complicated by shoulder dystocia at the University Hospital of the West Indies between 2000 – 2004: A case-controlled review

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Objective: To assess the incidence, risk factors and perinatal mortality of shoulder dystocia at the University Hospital of the West Indies (UHWI).

Methods: A 5-year retrospective review of records from the labour ward from January, 2000 to December, 2004 was conducted. Of the 8 267 vaginal deliveries for this period, 69 cases of shoulder dystocia were identified. The controls were determined by using the first neonate delivered vaginally after a case of shoulder dystocia which was closest in weight by ± 100 g. Maternal, neonatal and parturition related factors were analyzed using univariate logistic regression analysis and odds ratios (OR) to determine statistically significant antecedents of shoulder dystocia. One and five-minute apgar scores were compared between the cases and controls to determine the influence of shoulder dystocia on neonatal outcome.

Results: The incidence of shoulder dystocia was 0.83% at the UHWI. The perinatal mortality rate due to shoulder

dystocia was 48.5 per 1000 compared 27.5 per 1000 for all deliveries for this period. Nulliparity (OR = 2.72, 95% CI 1.15, 6.43), first stage longer than 7 hours (OR = 2.08, 95% CI 0.97, 4.44), second stage of labour longer than 60 minutes (OR = 3.51, 95% CI 0.29, 41.99) and the use of oxytocin (OR of 1.60, 95% CI 0.79, 3.25) incurred an increased risk for shoulder dystocia. Shoulder dystocia resulted in statistically significantly lower apgar scores at one and five minutes.

Conclusion: Shoulder dystocia at the UHWI significantly increases perinatal mortality. Nulliparity, oxytocin use, prolonged first and second stages of labour incur increased risks of shoulder dystocia.

(P – 5)

Female sexual dysfunction in women attending the colposcopy and family planning clinics at the University Hospital of the West Indies: the prevalence, demographics and risk factors

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Objective: Female sexual dysfunction (FSD) has been recognized as a common health problem worldwide. This study aimed to determine the prevalence, types and risk factors of FSD in a cohort of women attending the Family Planning Unit (FPU) clinic and the Colposcopy clinic at the University Hospital of the West Indies (UHWI).

Method: Members of the FPU and Colposcopy clinics were asked to complete a modified, self-administered version of the Index of Female Sexual Function (IFSF). The questionnaire was used to quantify sexual dysfunction in the specific areas of desire, lubrication, orgasm, pain and satisfaction with overall sex-life. Demographic data regarding age, education, union status, and number of depressive symptoms experienced was elicited in the questionnaire. These trends were compared between the various groups.

Results: Eighty-three respondents correctly completed the questionnaire, all of which were premenopausal, and sixty-three (75.9%) of which were sexually active. Of the 63 sexually active patients, 42.9% had a disorder in at least one area of sexual function. Disorders of desire and difficulty in achieving orgasm were the commonest reported disorders and were found in 38.1% of respondents each. Female sexual dysfunction decreased in the older age group and increased as number of depressive symptoms increased. Twenty-nine respondents (34.9%) indicated willingness to participate in a study involving pharmacotherapy for FSD.

Conclusion: Sexual dysfunction is highly prevalent in premenopausal Jamaican women in the study population. Increasing symptoms of depression and younger age group in this sample were risk factors for FSD. Great interest exists

amongst women to receive treatment for sexual dysfunction.

(P – 6)

An assessment of counselling on clients in the *in vitro* fertilization programme at the Fertility Management Unit, The University of the West Indies, Kingston, Jamaica

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Objective: The present study seeks to evaluate the effectiveness of counselling in *in vivo* fertility clients.

Method: Investigation was done using the purposive sampling technique, which selected participants if they were seeking treatment for their infertility and were willing to participate. A total of forty-five participants were selected from the Fertility Management Unit at the University of the West Indies, Jamaica, thirty-two of whom received counselling (experimental group) and thirteen did not (control group). Each participant was required to respond to a Standard Questionnaire, The General Health Questionnaire and a Post Evaluation Questionnaire, which consisted of demographic information, information on stressors, coping strategies, support system and perceptions of infertility.

Results: Findings revealed that the majority of the experimental group benefited from the counselling sessions at the Fertility Unit. In that it prepared them for the impact of IVF (92.3%), helped to explore their overall perception about infertility (100%), and provided them with coping mechanisms. Although not statistically significant, the t-test did find a difference between the groups, where the control group showed more symptoms of depression than the experimental group after treatment.

Conclusion: The results of the present study support the literature, that counselling is effective in helping clients to deal with their infertility. Given its successes in other countries and the paucity of research in the area of infertility in Jamaica it is strongly recommended that further research be done in this area.

(P – 7)

Longitudinal assessment of plasma choline and metabolites in pregnant women attending the antenatal clinic at University Hospital of the West Indies

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Objective: Choline is an essential nutrient with several physiological functions including the formation of cells, memory formation and retention. Both choline and its oxidized metabolite, betaine, serve as methyl donors in the liver. Choline is also used for hepatic synthesis of phosphatidylcholine (PtdCho) and spingomyelin (SM) in the liver. The supply of all four compounds is critical for maternal and fetal health. The aim of this investigation was to examine the effect of pregnancy on the plasma concentrations of these compounds.

Method: We conducted a longitudinal study in 12 pregnant women with normal pregnancies attending the antenatal clinic of the UHWI, collecting fasting blood samples at trimester 1 (11–15 weeks gestation), trimester 2 (19–23 weeks gestation) and trimester 3 (34–37 weeks gestation) and assayed for choline, betaine, SM, PtdCho using liquid chromatography electrospray ionization isotopic dilution mass spectrometry. Repeated measures analysis of variance was used to assess changes in each of the compounds.

Results: We found the mean (\pm SEM) plasma choline concentration in trimester 1 was 7.93 ± 1.10 mmol/L and plasma choline concentrations increased gradually attaining significance ($p < 0.001$) during trimester 3. Plasma PtdCho concentration during trimester 1 was 1635.29 ± 266.44 mmol/L and increased significantly by trimester 2 ($p < 0.05$). Plasma betaine during trimester 1 was 15.86 ± 1.21 mmol/L while SM was 450.73 ± 68.08 mmol/L and both significantly decreased ($p < 0.01$ and $p < 0.001$ respectively) by trimester 3.

Conclusion: This is the first study in this population to assess the plasma concentration of choline and some of its metabolites and although we report similar findings to other populations some differences were recorded. These comparisons are explored.

(P – 8)

Reproductive factors associated with abnormal Papanicolaou smear and the value of Pap smears in diagnosing cervical pathologies

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Objective: To determine the reproductive factors associated with abnormal Pap smears and to determine the value of Pap smears in diagnosing cervical pathologies.

Method: A retrospective cohort study was conducted in 67 patients between the ages of 16–70 years who attended the Cornwall Regional Hospital Colposcopy Unit between February 1, 2004 and January 31, 2005 and who had abnormal Pap smears. The influence of reproductive factors such as age, parity, coitarche, number of sexual partners and prior history of sexually transmitted diseases on abnormal Pap smear in addition to the sensitivity of Pap smears for diagnosing cervical pathologies was studied. Analyses

were performed with the Stata statistical analysis package version 8 for Windows™.

Results: Pap smear had a sensitivity of 83.3% and a specificity of 60% in diagnosing cervical disease. This was in contrast to colposcopic evaluation which was more sensitive (93.9%), but less specific (55.6%) than Pap smear in detecting cervical pathologies. There was moderate agreement between Pap smear and colposcopic diagnoses (52.63), but the agreement between Pap smear and histological diagnoses was fair (39.13). Except for a significant difference between the mean age of patients according to Pap smear diagnostic category ($p < 0.0032$), there were no significant association between other reproductive factors and abnormal Pap smear.

Conclusion: Pap smear is an effective screening tool for detecting abnormal cellular changes on the cervix, and as such its use should be encouraged in an effort to reduce the impact and incidence of cervical carcinoma.

(P – 9)

Is follicle stimulating hormone levels on cycle day 3 a good predictor of assisted reproductive technology outcome in women of advanced age in the Jamaican population?

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Objective: To determine if women of advanced age undergoing Assisted Reproductive Technology (ART) with serum day 3 FSH concentrations less than 12 have a poorer outcome relative to younger women with similar FSH values.

Method: In a retrospective study, outcome measures such as the number of follicles aspirated per retrieval, the number of oocytes retrieved per patient, the clinical pregnancy rate, the spontaneous abortion rate and the cancellation rate – were looked at in 76 women who underwent 84 ART cycles at the fertility centre of the University Hospital of the West Indies. Thirty patients were in the 20–34-year age group and 36 patients in the 35–47-year age group. The outcome measures of the women in the older group were compared with that of the younger group.

Results: Women of advanced age with similar day 3 serum FSH values, when compared with their younger counterparts had a lower response to stimulation. Fewer oocytes were retrieved per patient and there was a lower pregnancy rate obtained per attempt in the older group. The miscarriage rate was noted to be higher in the older group and the cancellation rate per cycle was higher in the older group of women compared to the younger group.

Conclusion: Women of advanced age with similar day 3 FSH values, as their younger counterparts, have a poorer outcome in ART cycles. This demonstrates therefore that

day 3 FSH levels is not a good predictor of ART outcome in advanced aged women. Some other modality of predicting outcome should therefore be considered in this group of patients in the population studied.

(P – 10)

Eclampsia at the University Hospital of the West Indies: A 13-year review 1992–2004

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Objective: To study the epidemiology of eclampsia and the maternal and fetal outcome of the disease.

Method: In a retrospective study, descriptive statistics for perinatal data – age, parity, gestational age, marital status, booking status, premonitory symptoms of eclampsia, blood pressure, proteinuria, mode of delivery, fetal outcome, maternal complications and outcome – were looked at for patients admitted to the University Hospital of the West Indies (UHWI), with a diagnosis of eclampsia for the period January 1992 to December 2004.

Results: Out of 36 398 women delivered, 78 had eclampsia (1:466 deliveries). The mean maternal age was 26 years and 64.8% of patients were nulliparous and the mean gestational age of mothers who delivered prematurely was 31 weeks and one day. (This comprised 64.8% of patients). In 72% of patients, eclampsia occurred in the antepartum, in 9%, it was intrapartum, while it occurred post partum in 19% of cases. Approximately 7.4% of patients were normotensive, 7.4% had mild hypertension, 20.3% had moderate hypertension, 38.8% had severe hypertension and 26% had very severe hypertension. The Caesarean section rate was 59.2%. The perinatal mortality rate was 363 per 1 000. 18 of the 20 cases of perinatal mortality occurred prior to 34 weeks gestation, while there were only two perinatal losses with delivery after 34 weeks. Maternal morbidity was higher among those who developed antepartum eclampsia and mainly affected mothers who had completed less than 37 weeks gestation.

Conclusion: Eclampsia occurred predominantly in the nulliparous patient, with the majority of cases having its onset in the antepartum period. Few patients were noted to develop eclampsia despite having a normal blood pressure or only mild hypertension. The Caesarean section rate for these patients was increased (59.2%) compared with a rate (29.1%) for the general population at the institution of 29.1% for the year 2004. There were no cases of maternal mortality, however both perinatal mortality and maternal morbidity were greater the earlier the gestational age. The perinatal mortality rate was 363 per 1 000, compared with a rate of 25 per 1 000 for the general population at the institution for the year 2004.

(P – 11)

Outcome of extremely low birthweight infants at the University Hospital of The West Indies

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Objective: To describe the early outcome of extremely low birthweight infants delivered at the University Hospital of the West Indies.

Methods: A two-year retrospective review of the docketts of all live, inborn extremely low birth weight infants admitted to the neonatal unit between January 1, 2002 and December 31, 2003 was conducted. Descriptive analyses were performed. Differences between survivors and non-survivors were determined using analysis of variance.

Results: During the study period, there was a total of 4 648 live births, 47 (1%) were extremely low birthweight and were admitted to the neonatal unit. The mean birthweight and gestational age of these infants were $780 \pm 137\text{g}$ and 27 ± 2 weeks respectively. Twenty (43%) infants survived and 27 (57%) died, the mean birthweight and gestational age of the survivors were significantly higher $856 \pm 93\text{g}$ and 28.7 ± 2 weeks than those of the non-survivors $724 \pm 139\text{g}$ and 26 ± 1.6 weeks respectively ($p < 0.001$). There were 27 (57%) females and 20 (43%) males; there was no difference in outcome by gender. Thirty-six (86%) mothers received prenatal steroids, 26 (55%) infants were delivered by Caesarean section and 21 (45%) infants received mechanical ventilation. Four babies received surfactant, three of whose mothers also received prenatal steroids. Nineteen (40%) mothers had pregnancy induced hypertension, of these 18 (95%) were delivered by Caesarean section. Babies of gestational age ≥ 27 weeks had increased survival: 19 (58%) compared to those < 27 weeks, 1 (7%), $p = 0.001$. Those weighing $\geq 750\text{g}$ had increased survival 17 (65%) compared to those weighing $< 750\text{g}$, 3 (14%), $p < 0.000$. Infants delivered by Caesarean section had improved survival 15 (58%) over those delivered vaginally 5 (24%) $p = 0.02$. All six (100%) infants whose mothers did not receive prenatal steroids died while 18 (50%) infants whose mothers received prenatal steroids died ($p = 0.02$). Forty-six (98%) infants had some evidence of Respiratory Distress Syndrome at birth. The most common complications seen were sepsis 5 (10%), pulmonary haemorrhage 3 (6%) and intraventricular haemorrhage 2 (4%).

Conclusion: The heavier, more mature infants, the infants who were delivered abdominally and those whose mothers received prenatal steroids had an improved outcome.

(P – 12)

Predictors of outcome in very low birthweight infants at the University Hospital of the West Indies

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Objective: To determine the predictors of outcome in very low birthweight infants delivered at the University Hospital of the West Indies.

Methods: A two-year retrospective review of the docketts of all live, inborn, very low birthweight infants admitted to the neonatal unit between January 1, 2002 and December 31, 2003 was conducted. Differences between survivors and non-survivors were determined using analysis of variance, and predictors of outcome determined using logistic regression models.

Results: During the study period there was a total of 4 648 live births, 118 (3%) were very low birthweight and were admitted to the neonatal unit. The mean birthweight and gestational age of these infants were $1067 \pm 272\text{g}$ and 29 ± 2.6 weeks respectively. Eighty-one (69%) infants survived and 37 (31%) died. There were 62 (53%) females and 56 (47%) males; there was no difference in outcome by gender. Babies who weighed $< 1000\text{g}$ or had a gestational age < 30 weeks had a higher mortality 27 (57%) and 32 (57%), respectively than those who weighed $\geq 1000\text{g}$ or had a gestational age ≥ 30 weeks 10 (14%) and 4 (7%) respectively $p < 0.000$. Babies delivered by LSCS had a lower mortality 16 (21%) than those delivered vaginally 21 (50%), $p = 0.001$ and those who had a vertex presentation at the time of delivery had a lower mortality 19 (24%) than those who had a non-vertex presentation 16 (43%) $p = 0.03$. Babies whose mothers received prenatal steroids and babies who were not depressed at birth had a lower mortality 24 (28%) and 19 (20%) respectively than those whose mothers did not receive steroids and those babies who were depressed at birth 10 (63%) and 10 (58%) respectively $p < 0.05$. Babies who required mechanical ventilation had a higher mortality 18 (47%) than those who did not require ventilation 19 (24%) $p = 0.01$. Bivariate regression analyses controlling for gender showed birthweight and gestational age of the infant, use of prenatal steroids, mode of delivery, presentation at time of delivery, 5 minute Apgar score and the need for mechanical ventilation of the infant to be predictors of outcome. When these variables were entered into multiple logistic regression models birthweight, gestational age and Apgar score remained independent predictors of outcome. **Conclusion:** Birthweight, gestational age and the five-minute Apgar score were predictors of outcome in very low birthweight infants at the University Hospital of the West Indies.

(P – 13)

A study of the health seeking behaviour of medical professionals at the University Hospital of the West Indies, Mona

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Objective: To study the health-seeking behaviour of medical professionals at the University Hospital of the West Indies (UHWI), Mona.

Methods: Incidental sampling was used to select doctors and medical students, to whom a thirty-seven item questionnaire was administered.

Results: Two-hundred and fifty (144 students, 105 doctors) of 285 administered questionnaires were collected and 46.6% of the sample were male and 53.4% female. Only 46% (113) had a personal healthcare provider, of these 70.9% visited only when sick. This was more evident in the students as the vast majority of them (81.5%) only visited the doctor when sick. The main responses to illness were seeking medical attention (32.1%) and self-diagnosing and treating (31.7%). Approximately, 69.4% of the sample believed they could treat their illness as well as anyone else either sometimes, most of the time or all the times. Only 67.4% of the total sample considered visiting the doctor beneficial to them. The majority (80%) of doctors said that most of the time a busy schedule made it difficult for them to see a doctor. Also, 25.6% of the sample visited the dentist every six months, 33.3% yearly and 13.8% only visit when they have a toothache.

Conclusion: A high proportion of medical students and doctors in this sample population showed less than recommended health-seeking behaviour. This could compromise their role-model status. Intervention should be implemented within the profession to improve these behaviours.

(P – 14)

Drug use among adolescents in Jamaica

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Objective: This study seeks to determine the prevalence of drug use and to identify factors associated with drug use among adolescents in Jamaica.

Method: This study utilized data collected in a cross-sectional study of adolescents 10–18 years old, in schools in

19 Caribbean countries by the Pan American Health Organization. In Jamaica, a randomized cluster sample consisting of 2 635 students was chosen. An 87-item forced choice questionnaire was administered. Using uni-variate, bi-variate and multi-variate analysis, the relationship between drug use and a number of socio-demographic variables was evaluated. This was done using SPSS version 11.

Results: Analysis revealed that 38.5% of respondents reported never having used drugs. Use in the past year was 47.8% for liquor, 6.5% steroids, 6% marijuana and 1.2% cocaine. Approximately 11% of students reported that parents had problems drinking and 2.9% reported problem with parental drug abuse. The majority, 72% reported that they tried hard to do their best in school. Factors significantly associated with drug use included, gender – males were more likely to use drugs than females ($t = 5.2, p < 0.001$), relationship with teacher ($t = 3.2, p < 0.001$), relationship with father ($t = 2.6, p < 0.01$) and religious affiliation ($t = 2.0, p < 0.05$). Living with one or more parents, relationship with mother and emotional status were not significant.

Conclusion: The study demonstrates high use of liquor among adolescents and confirms the association of gender, relationship with teachers, relationship with father and religious attendance with drug use.

(P – 15)

Perinatal factors and academic ability: An analysis of students at the University of the West Indies

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Objective: To demonstrate the association of certain perinatal factors with long-term educational attainment.

Method: In a pilot study, descriptive statistics for perinatal data – geographical distribution, age, union status, parity and education of mothers, antenatal care, apgar scores, gestational age and birthweight of infants – for the University of the West Indies students recruited to the Jamaican Perinatal Survey of September and October 1986 were compared with those of the entire cohort.

Results: Maternal information on 24 UWI students who gave informed consent was successfully merged with perinatal data. Comparison of students with the entire cohort revealed the following differences in maternal characteristics: 87% vs 45% resided in Kingston, St Andrew and St Catherine at time of birth; 6.7% vs 27%, teenagers, 6.7% vs 33%, 20–24 year-olds; 40% vs 7%, 35 years and over; none vs 10%, grandmultiparae; 64% vs 5% had post-sec-

ondary education; 52.2% vs 15%, formally married; 17.4% vs 36%, common-law unions; 30.4% vs 44%, visiting relationships. Comparison of UWI students with the entire cohort revealed the following differences in infant characteristics: 71% vs 30% attended antenatal care in trimester 1; none vs 10% delayed until the third trimester; 20% vs 15% were pre-term babies; 80% vs 82% were term babies; none vs 4% <1500g; 13% vs 12% < 2500g. 1 and 5-minute mean apgar scores for the students were 8.6 (S.D. = 1.20) and 9.6 (SD = 0.58), respectively.

Conclusion: Between-group differences when UWI students are compared with the entire cohort suggest that maternal and infant characteristics may influence long-term educational attainment.

(P – 16)

A study of preventive related practices in primary healthcare for seniors

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Objective: The aim was to examine health systems in promoting healthcare to senior citizens with a focus on primary healthcare.

Method: Seven hundred and thirty-eight senior citizens attending eleven Type III health centres in St Catherine were interviewed over a six week period July – August, 2003 using a structured questionnaire to assess what services were given to them. Two focus groups were held with health centre staff to probe attitudes to delivering healthcare to the older population. An environmental survey was done to assess the physical environment.

Results: Seventy-five per cent of the seniors interviewed were female and the age ranged from 50–92 years. The main reason for visiting the health centre was for management of a chronic condition. Clinical practice was good, 95% had their blood pressure tested and in 75% urine glucose was tested. All patients saw both the nurse and doctor. Prevention related activities were significantly less. 5.1% were asked about smoking, 56.5% about diet and 24.5% about physical exercise. Results from the focus group discussions provided reasons as health centre staff indicated lack of time, stubbornness and unwillingness of seniors to change, and disinterest as reasons for not using prevention strategies.

Conclusion: The study highlighted good clinical practice of primary healthcare staff with seniors but inadequate prevention despite the importance of prevention strategies in the management of chronic disease.

(P – 17)

Stalking at The University of the West Indies, Mona: The locally unrecognized phenomenon

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Objective: To determine the prevalence of stalking of students attending The University of the West Indies, Mona Campus. To identify risk factors that predispose to stalking. To examine the relationship between the stalker and the victim. To determine the methods of stalking used.

Method: A stratified random sampling method was employed to select a total of 250 students from The University of the West Indies (UWI), Mona campus, with a total student population of approximately 11 000. A 29-item questionnaire evaluating victim and offender demographic data and risk factors was prepared by the authors. The definition of stalking used was coined by Mullen *et al*, 1999: “A constellation of behaviours involving repeated and persistent attempts to impose on another person unwanted communication and/or contact”. Two types of stalking have been described by Groves and Salfati, 2004, as controlling and infatuation. Data collection was performed between February 4 and 7, 2005. Data were analyzed using SPSS Version 11.01.

Results: Of the 250 students, 25.4% were males and 74.4% were females. Mean age was 21.5 ± 3.7 years. Overall prevalence of stalking was 42.4%. The demographics, namely gender, faculty and hall of residence were not found to be statistically significant risk factors. Of those who had experienced stalking, 55.7% were stalked by strangers, with fewer being stalked by acquaintances, ex-boyfriend/girlfriend, colleagues, and close family friends. The most common method of infatuative stalking was phone-calling (58.5%), and the most common type of controlling method was following/trailing (70.8%). Smaller percentages reported e-mailing, letters, and collecting of objects as infatuative methods and unwanted visits, spying, and kidnapping as the controlling methods.

Conclusion: This study highlights the high prevalence of stalking experience by students of the UWI, Mona campus, and eliminates demographic variables as significant risk factors. It also identifies the importance of the stalker-victim relationship as well as common stalking methodology. Further evaluations are needed to explore the adverse social and psychological impact of such acts on victims locally, which are well recognized in international studies. We believe that such studies will better enable the medical and legal bodies to appropriately respond to this problem.

(P – 18)

An examination of the alcohol drinking patterns of students living on halls of residence at The University of the West Indies, Mona Campus

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Objective: To determine the levels and patterns of alcohol use among students living on the Halls of residence at The University of the West Indies (UWI), Mona Campus.

Method: A total of 287 students were randomly selected from all the halls of residence at the UWI Mona Campus. A cross-sectional survey was done by a self-administered questionnaire. In depth interviews were also conducted among key informants to explore the practice of alcohol use among students. Quantitative data were analyzed using SPSS version 10.0.

Results: Of the 287 students, 39% were males and 59.2% were females and 1.8% did not state gender. The mean age was 29.59 ± 4.59 years. Over 50% of the sample had more than one drink of alcohol in a day ($p = 0.231$). Of those who have had one or more drink in a day 62.3% had binged before ($p = 0.007$). Length of attendance at university and alcohol use were positively correlated with hangovers ($r = 0.0001$) and unplanned sexual activity. Second hand effects of alcohol abuse included taking care of other students who drank too much alcohol (50.4%) and sleep interruption (37.9%). The most popular alcoholic drink was beer (39.7%). Most persons had a negative attitude towards alcohol use ($p = 0.010$). Persons who started drinking before age ten were influenced by family members; those who started drinking over age ten did so out of curiosity ($p = 0.001$). The later the students started to drink the more alcohol they drank ($p = 0.002$).

Conclusion: This study clearly highlights some levels of alcohol abuse among resident students at the Mona Campus of the UWI.

(P – 19)

Risk factors and involvement in criminal activities: A study of Belizean male inmates

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Objective: To identify the factors and combination of factors that may have contributed to involvement of Belizean male inmates in criminal activities within four broad domains – family, school, community and spirituality.

Method: The cross sectional study utilized a mixed methods approach with a survey and case studies. Data were collected from a convenience sample of forty-two inmates of the Hattieville Detention Centre, Belize, during June

2004. The quantitative data was analysed using the SPSS version 11.0. Case study material was organized into broad themes allowing for identification of patterns.

Results: Generally, the results support the hypotheses on correlates for involvement in criminal activities. However, the findings for some factors, such as child abuse, did not support previous literature. Important findings in each domain included the following: 77% were from homes with six or more children; 75% from homes with absentee fathers; 87% reported personal use of illicit drugs and alcohol; 62% did not attend high school; 62% were from communities known for high levels of criminal activity; 5.4% reported the availability of counselling services within their community and 75% reported not being influenced by the principles of a spiritual belief system.

Conclusion: The findings highlight some of the more critical risk factors relevant to the Belizean situation and have implications for intervention strategies. Counselling may be an integral part of such interventions.

(P – 20)

Anxiety symptoms among a cohort of students post Hurricane Ivan

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Objective: This study seeks to investigate the prevalence and identify factors associated with anxiety following Hurricane Ivan among a cohort of tertiary-level students ($n = 183$) in Jamaica.

Method: A 22-item, self-administered questionnaire, constructed by the researcher, was administered to a non-random sample ($n = 183$) of tertiary-level students. Using bivariate and multi-variate analysis, the relationship between anxiety symptoms and a number of possible predictor factors was examined.

Results: Of the 183 students, there were 121 (66.1%) females and 62 (33.9%) males. The overall mean age was 22.8 years ($SD = 9.7$); 153 (83.6%) were single and 165 students (90.2%) were Jamaican residents. Sixty-three students (34.4%) reported between one and five anxiety symptoms. Students feeling anxious, worried or fearful and/or experiencing loss and injury during the hurricane were more likely to report anxiety symptoms ($p < 0.01$) than those who did not experience these factors during the hurricane. However, social support, gender and previous trauma were not statistically significant ($p > 0.01$) in this analysis.

Conclusion: Factors associated with the development of anxiety symptoms after Hurricane Ivan are feeling anxious, worried or fearful and experiencing loss of property and/or death or injury of a family member during the hurricane.

(P – 21)

The development of post-traumatic stress disorder following Hurricane Ivan

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Objective: This study seeks to investigate the prevalence and identify factors associated with post-traumatic stress disorder (PTSD) among a cohort of tertiary-level students (n = 183) in Jamaica following Hurricane Ivan.

Method: A 22-item, self-administered questionnaire, constructed by the researcher, was administered to a non-random sample (n = 183) of tertiary-level students. Using bivariate and multi-variate analysis, the relationship between PTSD and a number of possible predictor factors was examined.

Results: Of the 183 students, there were 121 (66.1%) females and 62 (33.9%) males. The overall mean age was 22.8 years (S.D. = 9.7); 153 (83.6%) were single and 165 students (90.2%) were Jamaican residents. Sixty-eight students (37.2%) reported between one and eight PTSD symptoms. Feeling anxious, worried or fearful and/or experiencing loss and injury during the hurricane were significant ($p < 0.01$) predictors for PTSD symptoms. However, social support, gender and previous trauma were not statistically significant ($p > 0.01$) in this analysis.

Conclusion: Factors predicting the development of PTSD symptoms after Hurricane Ivan are feeling anxious, worried or fearful and experiencing loss of property and/or death or injury of a family member during the hurricane.

(P – 22)

The impact of ganja use among adolescents in Jamaica

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Objective: This study seeks to determine the prevalence of drug use and to identify factors associated with drug use among adolescents in Jamaica.

Method: This study utilized data collected in a cross-sectional study of adolescents 10–18 years, in schools in 19 Caribbean countries by the Pan American Health Organization. In Jamaica, a randomized cluster sample consisting of 2 635 students was chosen. A 87-item forced choice questionnaire was administered. Using uni-variate, bi-variate and multi-variate analysis, the relationship between drug use and a number of socio-demographic variables was evaluated. This was done using SPSS version 11.

Results: Analysis revealed that 6% of students reported using ganja within the year previous to the conduct of the study. Of those who admitted to ganja use 15% gave self reports of emotional and behavioural problems associated with ganja use, 12% of students reported problems in school compared to 88% who did not report any school problem and 17% reported problems with friends. These results were all statistically significant.

Conclusion: The study demonstrates that 6% of students reported using ganja within the year previous to the conduct of the study. Students admitted to emotional, behavioural and interpersonal problems associated with ganja use.

(P – 23)

Stigma and attitude to mental illness in Jamaica

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Objective: To ascertain the stigma to and attitude towards mental illness in Jamaica.

Method: Trained moderators culled the expressions of stigma to and attitudes towards mental illness from 136 participants in 20 focus groups carried out in rural and urban settings in Jamaica. These were recorded and transcribed by court stenographers and were coded in hermeneutic trees in Atlas Ti5 software. Comments about stigma and the attitude towards the mentally ill were then subjected to factor analysis.

Results: Focus groups were conducted with caregivers of patients with mental illness; patients with mental illness, and males and females of varying socio-economic and geographic backgrounds. Participants from different social classes expressed different levels of stigmatization to the mentally ill. Three major attitudes emerged: (1) The term 'mental illness' is equated to 'madness' and is reserved for people who exhibit abnormal and often violent behaviour; (2) Stigma towards persons with mental illness is related to fear, scorn and the belief that mental illness is contagious; (3) Stigma is very positively correlated with persons admitted to the Bellevue Mental Hospital and specialized psychiatric units such as Ward 21 (University Hospital of the West Indies) and the 10th Floor (Cornwall Regional Hospital). Radio talk-shows on psychiatry helped to reduce the stigma of mental illness.

Conclusions: Public policy practices to reduce stigma to mental illness must include public education programmes, psychiatric de-institutionalization, and the treatment of all categories of patients with mental illness in the community at home or in open medical wards of general hospitals.

(P – 24)

Evaluation of a mobile emergency mental health services

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Objective: A Mobile Emergency Mental Health Service was developed in the Western Health Region, Jamaica, to treat the mentally ill patients at home and on the streets who had dropped out of the psychiatric clinic. The aim of this study was to determine the knowledge and satisfaction levels of family members and health staff with the Mobile Emergency Mental Health Service and to determine the re-admission of drop-out patients, the number of crises and number of patient contacts.

Method: A structured interviewer questionnaire was utilized for sixty family members and a structured questionnaire was used for ninety health workers in the parish of St James. A structured audit instrument was used to collect crisis visits, mobile visits and patient readmission to hospital. Knowledge and satisfaction levels were calculated for family members and healthcare workers. The number of readmission of patients to the hospital was calculated over a two-year period. In addition, the number of mobile visits and the number of crisis responses made by the team was calculated over the same period. Data were analyzed using parametric and non-parametric tests.

Results: Of the families interviewed, females accounted for 78% of participants and males 22%. Eighty-four per cent of families interviewed had knowledge of the service and eighty per cent were satisfied with the service. Forty-nine per cent of primary health care staff had no knowledge of the service and fifty per cent of those who had knowledge, were not satisfied with the service. Six per cent of the drop patients were re-admitted. Mobile visits accounted for seven per cent of patient-contacts and crisis visits accounted for sixty-five per cent of the patients visited.

Conclusion: The results indicated a high level of knowledge and satisfaction among family members and inadequate knowledge and satisfaction of the primary healthcare group. The readmission to hospital was low and there was corresponding increase in the number of crisis intervention visits.

(P – 25)

Socio-demographic and clinical profile of persons attending a dementia clinic at the University Hospital of the West Indies

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Objective: To identify demographic and clinical profiles of patients attending the Dementia Clinic at the University Hospital of the West Indies (UHWI), over the period 2001 to 2005.

Method: Available patient records were examined. The age, gender, marital status, schooling and occupation were examined, as well as the existence of medical or psychiatric illnesses (including dementia) in the patient or family. Routine and special investigations, including CT scans, were checked. Diagnosis and progress were assessed, using Folstein's Mini Mental Status Examination and the patient's and care-giver's subjective impression of change. Data analysis utilized the Statistical Package for the Social Sciences (SPSS).

Results: Seventy-five persons, 52% female (n = 39) and 48% male (n = 36) were studied. Their age range was 53–94 years with a mean of 74 ± 9.74 . The majority of patients (44%, n = 33) was married; 16.0% (n = 12) were widows/widowers; 10.7% (n = 8) single; 8.0% (n = 6) in common-law relationships, and 2.7% (n = 2) divorced. Alzheimer's dementia was diagnosed in 42.7% (n = 32), mixed dementia in 9.3% (n = 7), Parkinson's in 2.7% (n = 2) and unspecified dementia in 20% (n = 15) of persons. Significant associations were found between age and diagnosis (Pearson $\chi^2 = 0.005$) and between educational level and diagnosis (Pearson $\chi^2 = 0.010$). No significant association was found between family history of dementia and diagnosis of dementia. Analysis of improvement and number of follow-up visits revealed $t = 10.476$, $df = 57$, and $t = 6.279$, $df = 69$ respectively, with 2-tailed significance 0.0001 in both.

Conclusion: Significant associations were found between age, educational level and the diagnosis of dementia.

(P – 26)

Validation of the brief screen for depression in a Jamaican cohort

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Objective: Research on depression using West Indians or Jamaicans has been limited by the absence of a psychometrically sound measure of depression. This project attempts to rectify this problem by exploring the concurrent and discriminant validity of the Brief Screen for Depression (BSD) using a sample of 244 students attending The University of the West Indies (UWI), Mona Campus.

Method: Participants were administered the BSD along with the Beck Depression Inventory (BDI), the Center for Epidemiological Studies – Depression Scale (CES-D), the UCLA Loneliness Scale – Revised, and the Responding Desirably on Attitudes and Opinions Scale (RD16).

Results: Overall, the BSD was found to have concurrent validity as evidenced by high correlations with scores on the BDI ($r = 0.64$) and the CES-D ($r = 0.62$), and discriminant validity as demonstrated through moderate correlations with the UCLA Loneliness Scale ($r = 0.40$). In addition, the BSD was found to possess a moderate degree of sensitivity and selectivity in identifying individuals who may be experiencing clinically significant symptoms of depression (1.6% false positives and 27.5% false negatives).

Conclusion: The BSD is an effective screening tool for depression in the Jamaican population.

(P – 27)

Conduct disorder in children and adolescents in urban Jamaica

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Objective: To determine the clinical characteristics and risk factors for Conduct Disorder (CD) in children and adolescents in urban Jamaica.

Method: The standard intake forms of 843 patients seen at the Child Guidance Clinics in Kingston and St Andrew were examined retrospectively. The cohort was divided into an index group with a DSM-IV diagnosis of Conduct Disorder ($n = 92$) and a control group, ($n = 751$). Data were analyzed using the SPSS Version 10.

Results: Of the 843 patients, 489 (58%) were male and 354 (42%) were female. The diagnosis of conduct disorder was found in 92 (11%) of the cohort. The index group presented with significantly different clinical features compared with the control group. These were: aggression to people and animals ($p < 0.001$), destruction of property ($p < 0.001$), deceitfulness and theft ($p < 0.001$), serious rule violation ($p < 0.001$), and oppositional symptoms ($p < 0.001$). The index group was more commonly referred through the Family Court ($p < 0.05$). The patients with CD received a caregiver disciplinary style characterized by threats ($p < 0.005$), and verbal abuse ($p < 0.001$); were more exposed to violent events ($p < 0.005$); and had poor relations with family members ($p < 0.005$). They were also at greater risk of their parents never having lived together ($p < 0.001$); of never having lived with both parents ($p < 0.001$); and of having a single mother ($p < 0.001$). The index group also had a greater history of having abused drugs ($p < 0.001$).

Conclusions: Conduct disorder was a discrete clinical entity in urban Jamaican children and adolescents, characterized by single mother parenting, inter-family conflict, parental verbal abuse and threats, drug abuse, and exposure to episodes of major violent events.

(P – 28)

Psychohistoriographic cultural therapy: The case study of Montreal

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Objective: To test the transfer of technology of Psychohistoriographic Cultural Therapy (PCT) to a first world context.

Method: The PCT psychological decolonization conflict resolution methodology developed in Bellevue Hospital Jamaica in 1978 was tested at a one-day workshop held at Concordia University, Montreal, on April 24, 2005. The workshop was advertised with flyers and posters. Attendance was voluntary and for a fee. The workshop had five stages: the psychohistoriographic group analysis, creating the scripts, staging the drama, performance and evaluation

Results: There were 18 participants including the PCT analyst, and PCT co-therapists from the University of the West Indies and Concordia. There were 15 females and 3 males, 15 participants from Canada, two from Jamaica and one from Holland. There were 11 of European-Canadian origin, 4 African-Canadian, 2 Indo-Canadian- and 1 Hispanic Canadian. The group analysis unearthed a burning psychopolitical conflict that saw the local Francophone hegemony challenging Anglophone, Aboriginal Canadian challenging European and a migratory minority demanding a multicultural/intercultural identity. This analysis produced 8 poems, and a dramatic script entitled “*Mite des la Laine*” (or “*Moth hole in the Wool*”). The script was staged into a 30-minute dramatic production and performed at the McGill Advanced Institute in Cultural Psychiatry four days later to an audience of nearly 100 international mental health professionals. The two-hour evaluation that followed the performance discussed the conflicts of decolonization and post-colonialism in Canada, the multicultural Canadian identity, and the effects of these on the mental health of the participants, Canada and the international body politic, portrayed in the drama.

Conclusions: Psychohistoriographic Cultural Therapy is a large group psychotherapeutic methodology facilitating psychological decolonization and conflict resolution, that can cross from its third world origin with applicability to first world environments.

(P – 29)

Self report of suicidal behaviour among adolescents in Jamaica

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Objective: This study seeks to determine the prevalence of drug use and to identify factors associated with drug use among adolescents in Jamaica.

Method: This study utilized data collected in a cross-sectional study of adolescents 10–18 years old, in schools in 19 Caribbean countries by the Pan American Health Organization (PAHO). In Jamaica, a randomized cluster sample consisting of 2 635 students was chosen. An 87-item forced choice questionnaire was administered. Using univariate, bi-variate and multi-variate analysis, the relationship between drug use and a number of socio-demographic variables was evaluated. This was done using SPSS version 11.

Results: Analysis revealed that 12% of respondents reported attempting suicide. Of those who tried suicide, 68% admitted to drug use, 18% described their mood as sad and 11% described their mood as irritable ($\chi^2=104.6$, df 3, $p < 0.001$). Of those who did not try suicide, 86% described their mood as happy compared 14% who did not. Of those who did not report suicide, 86% reported having a caring dad ($\chi^2 = 60.1$, df 2, $p < 0.001$) and 93% reported having a caring mom ($\chi^2 = 92.5$, df 2, $p < 0.001$).

Conclusion: Twelve per cent of students reported ever attempting suicide. Drug use was an important risk factor. Having a caring mom and a caring dad were protective factors.

(P – 30)

The impact of the creative arts in the treatment of maladaptive behaviour at a community-based mental health institution in Kingston, Jamaica

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Objective: To study the impact of the creative arts, modalities of visual art and drama on the treatment of residential patients at a community-based mental health institution in Kingston, Jamaica.

Method: The case study approach was used to gather data on the impact of the creative arts on the emotional, behavioural and cognitive domains in the treatment of a group of eight residents of a community group home. Data were gathered through the implementation of the triangulation method involving the use of structured and unstructured

interviews, art and drama activities and observation. Data were analyzed through open, axial and selective coding.

Results: Despite their ineffectiveness in treating most of the maladaptive behaviours manifested by some participants, the creative arts modalities were effective in providing the opportunity for self expression and ventilation of feelings as the most common effect. Other effects included the building of confidence and self-esteem, the development of teamwork skills and the clarification of issues.

Conclusion: Specific elements of the art and drama process indicate that these creative arts modalities are viable as therapeutic tools in the treatment of the mentally ill.

(P – 31)

Prevalence of HIV and other sexually transmitted infections among urban street substance abusers in Kingston, Jamaica

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Objective: To describe the demographic characteristics, pattern of substance misuse and self-reported HIV and other STI status among a sample of urban street substance abusers.

Method: A modified targeted sampling method was used to obtain information from consenting street substance abusers in “The Gulf”, New Kingston, Jamaica, between November 2004 and February 2005. Interviewers administered structured questionnaires in anonymous interviews.

Results: A total of 44 respondents were interviewed, 31 (70.5%) males and 13 (29.5%) females. Of 42 (95.5%) who reported on living arrangement, 39 (92.8%) reported being homeless; 43 responders (97.7%) reported being unemployed. A total of 42 (95.5%) respondents reported smoking crack cocaine in the last 30 days, with three individuals reporting a lifetime history of injecting drug use, but none in the last year. There were 11 (25%) reports of having had an STI in the last year, 8 (72.7%) males and three (27.3%) females, with eight (72.7%) reports of gonorrhoea, two (18.2%) reports of syphilis and one (0.09%) “other” STI. Twenty-two (50%) reported previous HIV testing, of which 14 (63.6%) were males. A total of three (13.6%) respondents reported being HIV positive, all of whom were females, comprising 37.5% of females who were previously tested. Of 41 responders, 17 (41.5%) reported not having a good understanding of HIV/AIDS, with 36 (85.7%) reporting that they would like more information about HIV/AIDS.

Conclusion: Female street crack cocaine abusers are at particularly high risk for HIV acquisition. HIV education

messages must be included in intervention programmes targeting street substance abusers in Jamaica.

(P – 32)

Centers for Disease Control defined diseases in pregnant HIV-infected Jamaican women

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Objective: To determine, using the CDC classification for adult HIV/AIDS, the spectrum of disease seen in pregnant HIV positive women, attending antenatal clinics in Greater Kingston and St Catherine, Jamaica.

Method: Records of all pregnant HIV positive women, registered in the KPAIDS Programme between September 2002 and August 2004 were reviewed. Demographic, clinical and laboratory data were documented and analyzed using Microsoft Excel.

Results: During the two year period, 251 HIV infected women were enrolled; 141 (56%) at the Victoria Jubilee Hospital; 76 (30%) at Spanish Town Hospital; 34 (14%) at the University Hospital of the West Indies. Mean age was 27 years (range 15 – 42 years); median parity 2 (range 0 – 9); 68% were unemployed. Ninety-three per cent had live births. CDC categories of illnesses were; A (mild disease) 188 (75%); B (moderate disease) 12 (5%); C (severe disease) 5 (2%). Forty-six (18%) could not be categorized due to insufficient clinical data. CD4 counts were evaluated in only six patients; median 344 (range 5 – 625). No patient had viral load assessment. Antiretroviral (ARV) medication for prevention of vertical transmission was given to 208 women (83%); two received triple therapy for their own health; 29 (11%) received neither intervention. One maternal death of unknown cause occurred antepartum and 10 women died within two years of delivery, from complications of HIV/AIDS.

Conclusions: A comprehensive system of care involving internists, obstetricians and public health specialists needs to be implemented. Detailed medical evaluation during pregnancy, along with opportunistic infection prophylaxis and triple ARV therapy as indicated, is paramount. Care should continue postpartum.

(P – 33)

An evaluation of the pro-apoptotic effect of fluvastatin on human prostatic adenocarcinomas

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Objective: To determine whether fluvastatin (LESCOL®) causes apoptosis in human prostatic adenocarcinoma cells.

Method: Prostatic biopsies were taken from patients aged 59 to 84 years with PSA levels of 6 to 80 ng/ml. Samples were subsequently graded by the Department of Pathology, the University Hospital of the West Indies (UHWI), as benign, or assigned a Gleason grade if malignant. After removal from the patient, the tissues were treated for 48 hours at room temperature in a solution of fluvastatin 0.5 mg/ml with phosphate-buffered saline as the control. Cell suspensions were prepared using collagenase and subjected to an array of apoptosis-detection assays: human cytochrome c enzyme immunometric assay, Caspase-3 cellular activity assay and Tumor TACS® light microscopy assay, which served as a non-statistical comparison between treated benign and malignant cells. Results were expressed as means ± SEM (n = 6) and analyzed by ANOVA, with a level of significance of $p < 0.05$.

Results: In all tests, fluvastatin showed an increase in the levels of various cellular proteins specific to apoptotic cell death when compared to malignant and benign untreated controls ($p < 0.05$). Light microscopy also provided morphological verification of apoptosis in treated but not untreated cells.

Conclusions: The results of this study strongly indicate that fluvastatin is a mild inducer of apoptosis in human prostatic adenocarcinomas and may prove useful in the treatment of these tumours *in vivo*.

(P – 34)

Bronchogenic carcinoma at the National Chest Hospital Kingston Jamaica: A comparative analysis of two periods: 1987 – 1991 and 1999 – 2003

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Objective: To determine trends in admission rates for bronchogenic carcinoma (BC) at the National Chest Hospital (NCH), Kingston, Jamaica, over two periods between 1987 and 2003.

Method: A review was conducted of records for all admissions to National Chest Hospital (NCH) for the periods 1987–1991 and 1999–2003 with a systematic sample of 1 in 5 patients obtained for assessment of demographic and clinical features. A comparison of trends in number of cases admitted and clinical presentations was done.

Results: Five thousand and thirty-seven patients were admitted between 1987–1991, and 3 703 between 1999–2003. There was a significant increase ($p < 0.05$) in bronchogenic carcinoma (BC) admissions between the two periods (20.4% vs 44.6%). The age range of patients was 20 to 80 years with a modal group of 60 to 69 years. This was similar for both periods. The proportion of women with BC between the periods increased from 17 per cent to 20 per cent. With regard to smoking history, males showed a higher prevalence in both periods (72% and 74%). Female smokers increased from 4.8% to 14% between the periods. The most common clinical features over the periods were cough (62.4%; 85.1%), shortness of breath (57.6%; 74.4%) and chest pain (57.6%; 63.3%) while the least common were hypertrophic pulmonary osteoarthropathy (3.2%, 1.5%), Horner's syndrome (4.0%; 1.7%) and rib erosion (5.6%; 3.0%).

Conclusions: There has been a significant increase in the proportion of admissions for bronchogenic carcinoma at the NCH between 1987–1991 and 1999–2003. Most cases were presenting in the seventh decade of life. Smoking history increased significantly among women with bronchogenic carcinoma between the periods.

(P – 35)

Screening histories of incident cases of in-situ and invasive cervical cancer at the University Hospital of the West Indies, from 2002 to 2004

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Objective: To analyze the cytologic history of patients diagnosed with in-situ (CIN III) and invasive cervical cancer at the University Hospital of the West Indies (UHWI) between 2002 and 2004.

Methods: All cases of cervical cancer diagnosed at UHWI between January 2002 and December 2004 were identified from the Jamaican Cancer Registry. The cytology reports for those patients who had Pap smears reported in the Department of Pathology, UHWI, within the five years prior to diagnosis, were analyzed retrospectively.

Results: Cytologic histories were obtained for 59 (22.2%) of the 266 cases of cervical cancer diagnosed over the 3-year study period, (50 cases of CIN III; 9 cases of invasive cancer). The age range was 19 to 75 years (mean of 37.1 ± 13.0 years; median 33 years). Forty-four patients had only

one Pap smear and 15 had multiple smears (range 2 – 4, mean 2.3). Cytologic-histologic correlation was present in 26 (44.1%) cases (22 CIN III, 4 invasive cancer). Negative/reactive Pap smears accounted for 45.4% of non-correlating diagnoses, followed by CIN I and atypical squamous cells of uncertain significance (ASCUS), accounting for 27.3% each. For patients with multiple smears cytologic abnormalities were detected by at least one Pap smear over the period under review in 12 (80%) patients.

Conclusion: In this cohort of patients diagnosed with cervical cancer at UHWI with a corresponding screening history, malignant cells were not identified cytologically in the majority of cases. The reasons for the lack of cytologic-histologic correlation should be investigated further to elucidate the possible influence of both clinical and laboratory factors.

(P – 36)

The pathology of ovarian tumours at the University Hospital of the West Indies, Jamaica, 2000–2002

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Objectives: To describe the pathological features of ovarian neoplasms diagnosed at The University Hospital of the West Indies (UHWI), Kingston, Jamaica.

Methods: A retrospective analysis was conducted of all cases of ovarian neoplasms diagnosed in the Department of Pathology, UHWI, between January 2000 and December 2002. All relevant pathologic features were recorded.

Results: A total of 190 tumours were identified in 188 females. The mean age of the patients was 40.9 ± 16.4 years (range 14–93 years). The age group most commonly represented was 30–39 years (27.7%) followed by 20–29 years (23.4%) and 40–49 years (20.2%). The majority of the lesions were unilateral in distribution (82.5%). There was no significant difference in the occurrence of the lesions in the right (77 tumours) or left (78 tumours) ovaries ($p > 0.05$). The average tumour size was 8.9 ± 5.7 cm (range 0.5 – 40 cm), the majority being cystic (72.9%) followed by solid-cystic lesions (14.4%) and solid lesions (12.8%). Most of the tumours were benign (77.4%); malignant (14.2%) and borderline (6.8%) cases were much less frequent. Mature cystic teratoma was the most common neoplasm overall (54.7% of neoplasms, 69.8% of benign tumours). Serous adenocarcinoma was the most common malignant tumour (19.2% of malignant tumours).

Conclusions: The majority of tumours seen in this series were benign, as described elsewhere in the literature. Another notable feature was the absence of ovarian neoplasms in the early childhood age group.

(P – 37)

The coping strategies used by family caregivers dealing with relatives diagnosed with terminal cancer: home-care versus palliative care

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Objectives: A quantitative study was conducted to determine whether there are differences in coping strategies used by family caregivers dealing with a relative who has terminal cancer. The comparative investigation looked at caregivers providing homecare versus those receiving palliative care. The study assessed three coping styles: problem-focused, emotion-focused and avoidant coping (cognitive and behavioural) and sought to determine how social support impacted on the coping strategies employed by the family caregivers.

Method: A sample of 30 caregivers of patients who were receiving home-based care (H) from the KPH outpatient Radiotherapy Clinic was weighed against a comparative sample of 30 subjects taken from the Hope Institute, Mona and receiving palliative care. A questionnaire based on the COPE inventory to assess coping styles was administered. A measure for social support was included to determine any correlation to coping strategies.

Results: Data suggests no statistical significance between the (P) sample and the (H) sample in coping. However, there was a slightly higher than average mean score for problem-focused coping in the (P) sample. The (P) sample had a lower emotion-focused type score ($p = 0.053$). Results found male caregivers more likely to use behaviour avoidant coping techniques ($p = 0.044$). There is evidence that caregivers with high social support had low cognitive avoidant and behaviour avoidant coping styles.

(P – 38)

Hyperparathyroidism: Where are we now?

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Objective: To review the recent experience with hyperparathyroidism at the University Hospital of the West Indies (UHWI) and to compare this with the previously reported experience.

Methods: This is a retrospective, descriptive analytical study of all patients with hyperparathyroidism who presented to UHWI during the study period, January 1999 to June 2005. Clinical data were extracted from docketts obtained from medical records and histopathologic data from pathology reports, and analyzed statistically.

Results: Twenty patients underwent twenty-one explorations for hyperparathyroidism during the study period, with three of these patients having End Stage Renal Disease and likely secondary/tertiary hyperparathyroidism. Detailed clinical data could be retrieved for seventeen patients (eighteen explorations). The average age was 49 and the female to male ratio 4:1. Symptomatic urolithiasis was the most common presentation. Parathyroid hormone levels were available for 13/18 cases (72%) and were elevated in all cases. Sestamibi scanning was utilized preoperatively in ten cases (55%) and ultrasound in seven cases (39%). Unilateral exploration was undertaken in eight cases (44%) when directed by pre-operative localization studies. Seventy per cent (14/20) of cases were adenomas. Initial surgery was successful for cure in 16/17 (94%) cases with one re-exploration necessary to achieve normocalcaemia. There were two cases of recurrent laryngeal nerve neuropraxia. Comparison of this data to the previously reported experience (1966–1977 and 1978–1998) yielded an increase in incidence, urological symptomatology (61% vs 45%), and utilization of localization studies (ultrasound: 39% vs 27%, technetium sestamibi: 55% vs 7%) to guide unilateral exploration.

Conclusions: Primary and secondary/tertiary hyperparathyroidism remain relatively uncommon in our patient population but the incidence appears to be increasing. With the use of newer localization techniques, there has been a paradigm shift in operative strategies. Secondary/tertiary hyperparathyroidism is infrequently treated surgically at UHWI but we report favourable outcomes with subtotal parathyroidectomy in such patients.

(P – 39)

Urinary fractionated normetanephrine and metanephrine measured by high pressure liquid chromatography with amperometric detection for the diagnosis of pheochromocytoma

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Objective: The aim of the study was to evaluate the use of high pressure liquid chromatography with amperometric detection in the determination of fractionated catecholamines and metanephrines.

Methods: Urinary fractionated normetanephrine (NM) and metanephrine (M) in 27 normal subjects and 112 inpatient and outpatients with essential hypertension suspected of pheochromocytoma were compared with 4 patients with histologically confirmed pheochromocytoma at the Royal Brompton Hospital.

Results: Recoveries of fractionated normetanephrine and metanephrine from urine averaged 80 – 88%, and results

varied linearly with the quantity injected over the range of 27 – 27 300 nmol/L for normetanephrine and 30 – 30 000 nmol/L for metanephrine. Intra-assay CV for normetanephrine and metanephrine were < 6%, while inter-assay CVs for both were < 12%. Patients with phaeochromocytomas had significantly elevated urinary concentrations of normetanephrine and metanephrine that were greater than the urinary catecholamine concentrations. None of the four patients with phaeochromocytoma had normal urinary concentrations of normetanephrine and metanephrine giving a sensitivity of 100%. The mean urinary excretion of fractionated normetanephrine (16389.25 ± 1295.22 nmol/24 hour) and metanephrine (21484.25 ± 3882.60 nmol/24 hour) were significantly elevated above that of the hypertensive patients suspected of phaeochromocytoma ($p < 0.005$). Twenty-three of the 112 hypertensive patients had increased urinary normetanephrine concentrations ranging from 2 982 – 7 472 nmol/24 hour, while 19 of the 112 hypertensive patients had increased urinary metanephrine concentrations ranging from 1 040 – 4 272 nmol/24 hour.

Conclusions: The assay method is reliable, sensitive with acceptable CV for the routine determination of fractionated metanephrines, and may be useful in the diagnosis of phaeochromocytoma.

(P – 40)

Blood glucose lowering effect of vanadium dipicolinate {VO (NH₄ [Dipic-Cl]. H₂O)} on normal and streptozotocin-induced diabetic rats.

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Objective: To determine if vanadium dipicolinate causes hypoglycemia in normal and Type 1 streptozotocin-induced diabetic rats.

Methods: Initially diabetes mellitus was induced and a dose dependency test was carried out using VO (NH₄ [dipic-Cl] H₂O) at three different dosages on both normal and Type 1 diabetic rats. Rats were made Type 1 diabetic by administering intraperitoneally 65 mg/kg body weight (BW) of streptozotocin (STZ). After one week, the blood glucose concentration of the rats was tested indicating the hyperglycemic condition. Normal and Type 1 diabetic rats were then treated with doses of 0, 2, 5 and 10 mg/kg BW of VO (NH₄ [dipic-Cl]. H₂O) using the oral glucose tolerance test (OGTT). The best dosage of administration was determined for each type and four groups of 6 rats each were used: normal treated and untreated and Type 1 diabetic rats treated and untreated, where treated implied administration of the drug, VO (NH₄ [dipic-Cl]. H₄O). The treatment was carried out for 21 days and the blood glucose concentration was monitored every other day using an automated Accu-

Chek glucose machine. All the animals were fed a restricted diet of 15 g of rat food daily due to results from preliminary investigation. Results are expressed as means \pm SEM with $p < 0.05$ as statistically significant.

Results: In comparing the blood glucose levels of the normal treated and untreated rats, at all three dosages, there was no significant decrease or increase in blood glucose levels observed. However, the Type 1 treated animals at a dosage of 5 mg/kg BW showed the most significant decrease in blood glucose concentration of 18.9 ± 3.6 mM at the 120 minute time interval compared with that of the untreated of 23.1 ± 0.6 mM. At all three dosages, the blood glucose concentrations were below that of the control indicating some blood glucose lowering effect. During the 21 days of testing, the normal treated and untreated rats showed fluctuations in their blood glucose concentration between 4.2 mM and 5.2 mM. In performing the ANOVA statistical test, this was not found to be significant. However, analysis of the Type 1 treated animals showed a significant decrease at day 14 from 21.6 ± 1.1 mM to 10 ± 2.4 mM ($p = 0.03$) in blood glucose levels. However, two of the six treated animals had blood glucose concentrations in the hypoglycemic range (2.35 mm and 3.8 mm).

Conclusion: VO (NH₄ [dipic-Cl].H₂O) showed no significant effect on the blood glucose levels of normal rats, however, there was significant lowering in the Type 1-diabetic rats.

(P – 41)

Clinical audit of management of patients with hypertension and diabetes mellitus at The University of the West Indies Health Centre, Mona Campus – 2002

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Objective: To assess hypertension and diabetes mellitus management at the University Health Centre, Mona in 2002.

Methods: Patients attending from January 1 to March 31 2002 were noted. A convenience sample of 100 docketts was reviewed and management for the year assessed using a clinical audit instrument.

Results: Of 73 females and 27 males, 54 persons had hypertension only (42 females, 12 males), 14 diabetes mellitus only (7:7) and 32 had both hypertension and diabetes mellitus (24 female, 8 males). Minimum age was 38 years, maximum 92 years (mean 63.13 ± 11.93 years). Mean duration of hypertension was 12.9 years and diabetes mellitus 8.4 years. Only 26 patients had smoking/alcohol habits recorded; 46 dietary advice and 16 exercise advice. Height was noted in eight. Thirty-four persons had no physical examination recorded. There was no fundoscopy findings in 87; 38 of 46 diabetics had no foot examination;

62 persons had previous ECG and 34 had chest X-rays. Blood pressure control – systolic # 140 mmHg/diastolic # 90 mm Hg was attained in 53.4% of hypertensives; (males: females – 48.1% vs 21.9%; age < 65 years more than # 65 years – 36.4% vs 20%; hypertension # 10 years more than > 10 years – 30% vs 19.6%). Seventy-three (84%) of the hypertensives had a diastolic # 90 mm Hg (no gender and age differences were seen); shorter duration hypertension was more controlled 90% vs 80.4%). Most diabetics (54.3%) had blood sugar # 10 mmol/l. Serum cholesterol was checked in 69 persons. Medications were fully documented.

Conclusions: Management deficiencies were noted, corrective measures implemented and a repeat audit scheduled.

(P – 42)

Cognitive rehabilitation in traumatic brain injury: A case study

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Objectives: To evaluate the neuropsychological assessment and rehabilitation of a 54-year-old male who sustained a head injury as a result of a cycling accident in 2003.

Method: A neuropsychological evaluation of a single case was conducted at three six month intervals from September 2003 to June 2005. The tests included Wechsler Adult Intelligence Scale – III (WAIS-III), Wechsler Memory Scale (WMS), Wisconsin Card Sort Test (WCST), and Rey-Osterith Complex Drawing Test (Rey-O). From these reports, a thorough work plan dependent on the specific needs of the individual was developed and followed. This plan included a description of a practical framework for intervention and its underlying principles up to the different training processes, learning techniques and tools.

Results: There was marked improvement in overall intelligence at each assessment, as well as memory, and problem solving indicative of positive improvement in encoding and retrieval.

Conclusion: The efficacy and safety of the different strategies and tools used are demonstrated by the short and long term results of the different neuropsychological examinations carried out, which at the same time proved the effectiveness of the work plan.

(P – 43)

Utilization of computer assisted stereotactic biopsy – A comparison with free hand biopsy

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Objective: The results of Stereotactic brain biopsy at the University Hospital of the West Indies (UHWI) were reviewed since its introduction in August 2002 and spanning the period to October 2004.

Patients and Methods: All patients treated at the UHWI during the review period were retrieved from the section of surgery database and cross referenced using the operating room logbook, the medical records department charts and the division of neurosurgery stereotactic database. Demographic data, diagnosis, operative procedures, operative reports and patient outcome was extracted and analyzed.

Results: A total of 15 procedures were performed during the study period. There were nine females and six males with a median age of 52 years (range 3–79 years). Eight patients had high grade glioma, three patients had low grade glioma, and two had metastases. The diagnostic yield was 100% and there were no complications from the procedure. A group of matched controls from the two previous years prior to the introduction of stereotaxy and during the period of CRW localization were reviewed for comparison. In all of these cases, intraoperative pathological consultation was needed prior to closure, increasing the operating time. Of those patients, four complications were recorded. One patient with a high grade glioma died in the perioperative period.

Conclusions: The use of stereotaxy leads to more efficient utilization of premium operating time and is associated with a higher level of accuracy and lower complication rate.

(P – 44)

Ocular anomalies and genetics syndromes

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Objective: To describe the main ocular anomalies and accompanying genetic syndromes.

Method: A descriptive study was carried out with 150 patients with ocular anomalies with possible genetic origin at the National Center of Retinitis Pigmentosa, Salvador Allende Hospital and "Camilo Cienfuegos" International Ophthalmological Clinic in Havana, Cuba, during the years 2000 to 2004. Clinical history that included interrogation, physical examination, genealogical tree and special studies (ultrasounds, X-rays, karyotype, biochemical tests, molecular studies), if necessary, for the diagnosis of some genetic illness were done for all the patients. Data were processed during statistically descriptive technique (frequency distributions) and then plotted on charts.

Results: Different genetic syndromes were diagnosed. The most frequently was Usher Syndrome 74.66% (type II was the more frequent) followed by Bardet Biedl Syndrome 16.66%. Other syndromes such as Marfan, Hunter, Hurler, Ehler Danlos, Elasticum Pseudoxantoma and Down were found. Ocular anomalies with the greatest frequency was retinitis pigmentosa, followed by glaucoma and myopia. Other ocular anomalies were found.

Conclusions: The genetic-family study in ocular anomalies is very important since through them it is possible to identify genetic illnesses in the families, and hence genetic counselling may be used to prevent further manifestation in the line of family trait.

(P – 45)

Surgical waiting times and outcomes of long bone fractures treated by open intramedullary nailing at the St Ann's Bay Hospital

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Objective: To assess surgical waiting times and outcomes of long bone fractures treated by open nailing between May 2001 and November 2004.

Methods: A retrospective analysis of open nailing was performed using patient's hospital notes and radiographs.

Results: Between May 2001 and November 2004, 35 patients with 40 fractures had open nailing. There were 25 femurs, 11 tibias and 4 humeri. There were 33 closed and seven open fractures. Of seven open fractures, there were two Grade I, two Grade II and three Grade IIIB. All the closed fractures healed uneventfully. Of seven open fractures there was one non-union, three delayed unions and two infections. Two patients had persistent pains and one patient had early nail removal. Seven patients were lost to follow-up. Mean time from injury to surgery for femur was 15.5 days; tibia 24.4 days and humerus 41.5 days. The mean hospital stay was 18.9 days for fractured femur; tibia 20.5 days and humerus 22.7 days. The mean post-operative stay was 4.1 days for femur, 4.5 days for tibia and 4.0 days

for humerus. The mean time to healing (consolidation) was 5.0 months for femur, 5.2 months for tibia and 7.0 months for humerus.

Conclusions: The open nailing of long bones is an acceptable method of treatment. There is a significant complication rate when used to treat open fractures. There is varied waiting timing to surgery and successful strategies need to be devised to reduce preoperative waiting.

(P – 46)

The mercury concentration in seafood in Jamaica (A preliminary analysis)

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Objectives: To determine the concentration of mercury in the seafood from readily available sources in Jamaica.

Methods: This preliminary prospective study was conducted by obtaining seafood of different types from all across the island. These were bought from fish vendors as well as supermarkets. These were frozen, stored and analyzed at the International Centre for Nuclear Sciences using neutron activation analysis.

Results: A total of 13 types of seafood were analyzed using Neutron activation analysis. Fresh weight mercury concentration in these samples ranged from 0.02 µg/G to 5.57 µg/G with a mean of 0.66 µg/G. The highest level of mercury was found in a sample of marlin bought in a Kingston Supermarket. The lowest level of mercury was in octopus from the same supermarket.

Conclusion: The findings are in keeping with previous studies done in other countries. Based on those studies, it was recognized that the large predatory fish like marlin and shark have potentially toxic levels of mercury. Smaller fish have lower levels and may be safe to eat if moderate amounts of fish are consumed.

(P – 47)

Vocational counselling intervention in high schools and the effect on career choices

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Objective: To determine the need for vocational counselling intervention in high schools and the conditions contributing positively or negatively to career choices through the schools' counselling process.

Method: A total of 170 high school students in three specific high schools in Spanish Town, St Catherine, participated in this research project between December 2004 and

March 2005, using a cross-sectional survey. Questionnaires were developed with four parts including a demographic section. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 10.5.

Results: Of 170 students, male 36.5% and female 63.5%, median age for the mixed groups and forms were 14 years for third formers, and 16 years for fourth and fifth formers. While some students received vocational counselling in high school, a significant amount, 43.53% received no vocational counselling. At the same time only 38.8% of the population received vocational counselling from the guidance counsellors in the schools. Comparison of variables showed that 53.8% of fifth form students leaving school did not discuss career preparation. Students living with unemployed parents showed that 68.9% concurred that unemployment rate was high. Career ability and career choice cross-tabulated with role model were found to be significantly related, 48.3%. Of those who did not choose any career, 77.8% concurred that unemployment rate was high. Influences on career choices such as by parents, family members, external persons, role models, did not play a very significant role in the career selection of the students although to some extent they served to influence their choices. Career interventions such as discussions on career choices, marketability and subject selection, access to career publications and information, and setting of educational goals, helped students in their career choices and were more satisfied than those who had very little or no intervention. Significant career intervention in high schools through the most appropriate persons and medium could be used to better prepare students for their career choices in the school to work transition.

Conclusions: This study clearly reveals that vocational counselling interventions in high schools have effect on student's career choices. However, the proportion of students receiving formal vocational counselling is in the minority. Careful implementation of appropriate programmes through suitable individuals (vocational counsellors), could change the frustrating trend of subject selection, education challenges, low values and attitude, and lead to better career choices for the world of work.

(P – 48)

What can a 1.5 day practicum in family medicine teach third year medical students?

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Objective: To obtain medical students' views on a family medicine exposure and assess whether instructional objectives were realized.

Methods: Seventy students participated in the family medicine experience in a third year community health clerkship at the University of the West Indies, Mona, between July

and December 2004. They were assigned to spend a total of 1.5 days of contact time with a general practitioner (GP) in his/her private office observing the process of care. The exposure was evaluated using a Likert scale and open-ended questions.

Results: Students spent between 3.5 to 12 hours with a general practitioner during the 1.5 day practicum. Most students (81%) were satisfied with the experience, with 19% feeling only somewhat satisfied. The following was what they liked best about the visit: GP's personality; observing the rapport between GP and patient; observing interviewing techniques; GP's interpersonal skills; observing how a medical practice is run and observing the patients' role in their management. When asked "what they liked least?" responses were: time was too short; few patients and inadequate office spacing for doctor, patient and student. Regarding the aim of the experience, 67% felt that aims were clear and 83% of this subgroup felt that the GP achieved these aims. Forty-seven students agreed that the specific objectives were met.

Conclusions: Despite the variation in experiences and actual length of the experience, the objectives of this 1.5 day family medicine practicum were being met and most students found the experience satisfying.

(P – 49)

Lecturers' views on special study modules in community health and psychiatry

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Objectives: To determine how lecturers who have developed Special Study Modules (SSMs) in the Department of Community Health and Psychiatry (DCHP) feel about their development, delivery and student impact.

Methods: Nine lecturers in DCHP completed a 24 item questionnaire for each SSM developed since the revision of the curriculum in 2001. The questionnaire included a 15-item Likert scale to assess their views and perceptions on the conduct of respective SSMs. A score of 5 indicated the most favourable perception and 1 the most unfavourable. Thirteen different SSMs were assessed.

Results: Nine lecturers were involved in developing 13 SSMs covering 6 distinct themes: historical aspects of medicine, public health and primary health care delivery, religion and spiritual health issues, education and learning, ageing and gender. To date, these SSMs have been delivered 1 to 4 times with a mean of 2.3 times. The mean scores on the Likert items for lecturers' perception on development of SSMs ranged from 3.4 to 4.5; for delivery between 2.9 to 4.1 and student impact between 3.8 and 4.4 (a score of 5 is most favourable). There was strong agreement among lecturers regarding more ideas for SSMs (3.9;

standard deviation 0.3), however there was relative hesitancy with regard to actually developing more modules (3.25; SD 0.9).

Conclusions: Lecturers who have developed SSMs in the Department of Community Health and Psychiatry appear quite satisfied with their development, delivery and impact. Although more ideas exist for SSMs, there does not appear to be strong impetus in this group to develop additional modules.

(P – 50)

Impact of teaching method on children's memory: exploring the use of reggae music in learning

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Objective: Music has been found to be valuable in many respects as demonstrated by previous research findings. More specifically, Wallace (1992) demonstrated that music can have favourable effects on memory and learning.

Methods: In order to determine the impact of teaching method on immediate recall, delayed recall and recognition, 157 children from grades five and six between the ages of 10 and 12 were randomly assigned to one of four experimental conditions. They were told a story that was either sung with music, sung without music, spoken with music or spoken without music.

Results: The findings in this experiment were not statistically significant. However, the trends observed were comparable in some respects to previous research findings. Melody facilitated recall more effectively than speech, except when melody was accompanied by music. Grade six children recalled more words from the story than grade five children with only one exception; grade five males recalled more words from the story than grade six males when the story is spoken without music.

Conclusions: No gender difference was found between males and females for the number of words recalled. However, while the teaching method that is most conducive to learning for males and females is the same, the method that is least effective for each is different. Finally, this study is

valuable as it has implications for the incorporation of music as a teaching method in the classroom, which could provide a richer learning experience. Also, it is valuable because it stimulates further research in the area of music, memory and learning.

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The synthesis and pharmacological activity of some novel 1, 3-diazepinium chlorides

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Objective: The 1,4-benzodiazepines *eg* diazepam are the most important group of anxiolytics and sedative-hypnotics. The novel tetracyclic salts, 13-dihydro-3-methoxy-6-oxo-[1]-benzofuran[2,3-e]-pyrido[1,2-a]-3H-[1,3]-diazepinium chloride (salt 1) and 13-dihydro-3-methoxy-9-methyl-6,-oxo-[1]-benzofuran[2,3-e]-pyrido[1,2-a]-3H-[1,3]-diazepinium chloride (salt 2), which exhibited structural similarities to the 1,4-benzodiazepines were synthesized. These salts may have sedative actions since they have chemical similarities to diazepam. The aim of this investigation was therefore to examine the effect of these salts on the central nervous system.

Methods: The salts were examined for effect on motor activity and screen grip using mice. Mice were divided into groups, given salt 1 (0.2 mL/10 g), salt 2 (0.2 mL/10 g), diazepam (0.2 mL/10 g) and control (corn oil- 0.2 mL/10 g) intraperitoneally and observed over a period of two hours.

Results: While diazepam produced depression of motor activity and loss of screen grip over two hours, the salts did not have any significant effect on the activity of the animals. In a second set of experiments, the salts were given 15 minutes before administering diazepam (0.2 mL/10 g) and compared to giving diazepam only. In the presence of salt 1, diazepam produced greater depression of motor activity and greater loss of screen grip, while in the presence of salt 2 the diazepam-induced depression of motor activity and screen grip were reduced.

Conclusions: Therefore, salt 1 potentiates the sedative effect by diazepam and salt 2 attenuates the sedative effect of diazepam.

Investigations continue into the pharmacological activity of salts of this type.

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