

4th Annual Research Day: 9th September 2010 “The Social Determinants of Healthcare”

The Social Determinants of Healthcare in the Caribbean: Moving Forwards or Backwards

P Figueroa

Financial Burden of Diabetes Mellitus in Adult Patients in The Bahamas: A Prospective Review of Princess Margaret Hospital Patients Treated Between June 1, 2008 and August 31, 2008

S Smith-Wallace

Objective: This descriptive study, done from June 1, 2008 to August 31, 2008, aimed to determine financial burdens of diabetes mellitus (DM) in the Princess Margaret Hospital (PMH's) admitted patients, including those with chronic kidney disease and DM on dialysis.

Design and Methods: Under advice from the Pan American Health Organization (PAHO), study methodology involved a prospective medical records review including gleaning data on direct complications of DM and high risk co-morbidities associated, then using the human capital method to present costs of an illness to assess annual costs. The Princess Margaret Hospital business office supplied average cost per patient based on actual charge for service. Patients were > 13 years old, general clinic and private care patients were excluded. Ethics approval was obtained.

Results: One thousand seven hundred and forty patients were admitted to the public wards in the 13.1 weeks, adjusted amount admitted in a 52-week period being 6886 patients, 30.5% (407 patients: 15 with end-stage renal disease and requiring regular dialysis, 14 requiring haemodialysis, one had peritoneal dialysis and 42 had a diabetic foot problem) of the patients were diabetic, and 61.9% of with DM were female (38.1% were males). Sixteen non-diabetic patients required regular dialysis and 12 required haemodialysis. Patients mean age was 59.3 years and average duration of DM was 11 years in females and 10.1 years in males. Less than six per cent (25) of the diabetic patients were diagnosed on admission. Four diabetics admitted were in the 13–19-year age group, 55 in the 20–39-year age group, 134 in the 40–59-year age group and 210 in the above 60 years age group. Total average cost for patients admitted to hospital over the 13.1 week period was \$3 041 682.84 hence the adjusted total cost of admissions to the adult public wards was \$12 166 731.36,

not including the cost of dialysis. Average cost per discharge of non-diabetic patients admitted to the public wards was \$1 326.61. Average cost per discharge of patients admitted without diabetes was \$1 273 311.71 over a 13.1 week period and \$5 093 264.84 adjusted for the 52-week period, while adding a cost of \$1 140 000.00 for the cost of haemodialysis for non-diabetics raised the total to \$6 233 264.84. Average cost per discharge of patients admitted with diabetes was \$3 128.53, hence the estimated total cost of diabetic admissions was \$1 768 371.13 for a 13.1 week period and adjusting for care for 52 weeks was \$7 073 484.52. Adding the cost of \$1 425 000.00 for those requiring haemodialysis changed the total cost to \$8 498 484.52. Cost per discharge of diabetics accounted for 58.14% of total expenditure.

Conclusion: It is very significant that although accounting for 58.14% of total expenditure, diabetic patients only accounted for 30.5% of total admissions and thus the burden of this disease is indeed both pathologically and financially marked underscoring the need for effective preventative care for diabetes in The Bahamas.

The Attitudes of Medical Practitioners towards Patients with Mental Illness in Barbados

R Brown, M Campbell, P Gaskin

Queen Elizabeth Hospital, St Michael Barbados and The University of the West Indies, St Michael, Barbados

E-mail: brown.rashida@gmail.com

Objective: To assess attitudes of stigmatization among medical practitioners in Barbados and to determine whether there are differences between psychiatrists and practitioners in other disciplines.

Design and Methods: The attitudes to mental illness questionnaire were distributed to 365 registered medical practitioners in Barbados with e-mail contacts using Survey Monkey.com and paper questionnaires. Nonparametric tests were used to analyse the data.

Results: A total of 43.3% of the target population completed the survey. Of the medical practitioners who completed the survey (n = 158), only 144 identified their area of specialty. Seven per cent practised in the area of psychiatry, 33.5% were general practice/family medicine practitioners, 28.5% practised in medical specialties and 22.2% practised

in surgical specialties. The attitudes of medical practitioners were predominantly negative towards substance use disorders and schizophrenia, and neutral towards the hypothetical patient with depression and self-harm. There was no difference in the attitudes of psychiatrists when compared to those of practitioners in other disciplines.

Conclusions: Medical practitioners in Barbados have predominantly negative attitudes towards schizophrenia and substance use disorders and there was no difference in attitudes between psychiatrists and medical practitioners in other disciplines. Medical education and antistigma campaigns are needed to address these predominantly negative attitudes of medical practitioners.

The Use of Misoprostol for First Time Spontaneous Abortion

R Braham

Aims/objectives: To determine the effectiveness of oral Misoprostol in the management of first trimester miscarriage thus eliminating the need for surgical evacuation.

Background: Surgical evacuation is the standard treatment for first trimester incomplete miscarriage. However, it is an invasive procedure associated with complications, inconvenience, long-wait and cost. If emptying of the uterus can be completed medically then unnecessary exposure to surgical evacuation can be avoided. This study was designed to evaluate the efficacy of oral Misoprostol in an outpatient setting.

Subjects and methods: Sixty haemodynamically stable patients who had first trimester miscarriage visiting the Accident and Emergency department of Princess Margaret Hospital, Nassau, The Bahamas, between April and October 2007 were randomized to either misoprostol or surgical evacuation group after initial evaluation and informed consent. Misoprostol was administered in the dose of 1200 micrograms in three divided doses four hours apart to Group 1 patients. Group 2 received standard surgical evacuation treatment. All patients were reassessed on day seven both clinically and by trans-vaginal ultrasound.

Results: The misoprostol treatment was successful in 25/30 (83.3%) patients. Other results are summarized below.

Conclusion: Pain score, duration of bleeding and endometrial thickness was slightly more with oral miso-

prostil use. However, with patient satisfaction similar in both groups, misoprostol can be used as a first line of treatment in first trimester miscarriage in selected cases.

Spot Test for Proteinuria for Hypertension during Pregnancy

L Charles

The specific objective of this study was to investigate the extent of correlation between the 24-hour urine collection and the spot urine protein to creatinine (P: C) ratio in quantification of proteinuria in the hypertensive disorders of pregnancy and the ability of this ratio to function as an effective screen for significant proteinuria in affected patients. A total of 127 patients with hypertensive disease in pregnancy were selected from the maternity unit at The Princess Margaret hospital May 2008 to November 2008, in whom both 24-hour urine collection and protein: creatinine (P: C) ratios were simultaneously performed. The Pearson's correlation coefficient was 0.83 (95%CI 0.773, 0.881) affirming a good linear correlation between the two testing methods.

Furthermore, a receiver operator characteristics curve (ROC) analysis was used to determine an optimized P: C ratio cut-off of 0.16 for detection of significant proteinuria greater than 300 mg/24 hour at a sensitivity of 89.41% and specificity of 73.81%. When considered for detection of proteinuria greater than 500 mg/24 hour the optimized P: C ratio was 0.3 with sensitivity of 93.15% and specificity of 92.59%.

Conclusion: Protein-to-creatinine ratio offers an accurate and less cumbersome alternative to the 24-hour collection for evaluating significant proteinuria in pregnancy.

Depression Screening of Patients in the Family Medicine Outpatient Clinics at Princess Margaret Hospital, Nassau, The Bahamas

J Thompson, J Rodgers, T Dorsett-Johnson, I Minus-Grimes, L Rolle-Smith, D Smith-Rolle, E Armour-Laville, MAC Frankson

Department of Family Medicine, Princess Margaret Hospital, Public Hospitals Authority, Nassau, The Bahamas

E-mail: indiragrimes@yahoo.com

Secondary outcome of misoprostol vs surgical evacuation

Outcome	Misoprostol group	Evacuation group	Significance
Pain score Mean ± SD	4.84 ± 2.7	2.67 ± 1.2	$p < 0.05$
Duration of bleeding Mean ± SD	3.68 ± 1.8	2.67 ± 1.2	$p = 0.04$
Day 7 haemoglobin (g/dL) Mean ± SD	12.0 ± 1.24	11.6 ± 1.4	Not significant
Day 7 WBC count Mean ± SD	6.2 ± 2.15	5.4 ± 1.6	Not significant
Day 7 endometrial thickness (mm) Mean ± SD	7.8 ± 2.8	6.2 ± 2.8	$p = 0.044$

Objective: To determine the prevalence of depression in the primary care setting and examine the predictors associated with depression.

Design and Methods: This was a cross-sectional study of a convenience sample of adult patients surveyed utilizing modified self-administered PHQ-9 questionnaires to detect depression. Data for a sub-sample of adults aged 18–86 years were analysed.

Results: The sub-sample included 372 persons (66 men and 206 women) with a mean age of 48.23 years. The prevalence of depression was 5.1%. Chi-squared analysis revealed statistically significant associations between depression and gender and education ($p = 0.006$). Similar findings were observed for respondents who had sickle cell disease, seizures, HIV and pain syndromes. Logistic regression indicated that females were four times more likely to be depressed when compared to males (odds ratio 4.63). Respondents who were noncompliant with medical care were twice as likely to be depressed as those who were.

Conclusions: One out of every twenty family medicine patients was found to have significant depression. The occurrence of depression was greater in females over males. There were associations between depression and education, compliance with medications as well as a few specific co-morbidities.

Variations in Venous Anatomy and Venous Reflux in a Bahamian Cohort Using Venous Duplex Scanning

D Farquharson

Objective: To evaluate the frequency and distribution of reflux disease and document variations seen in venous anatomy using duplex ultrasonography.

Subject and Method: Two hundred and ninety-eight limbs were evaluated in two hundred and three consecutive patients having lower extremity venous duplex ultrasonography. The sonograms were done as per ICAVAL protocol for examination of the lower extremity veins. Anatomical findings and demographic data were evaluated.

Results: Between April 2008 and December 2009, 259 patients had duplex venous scan investigation. Two hundred and twenty-nine patients had investigation of the lower extremity. A total of 298 limbs out of 334 limbs were included in the analysis. There were 183 females and 45 males. The mean age \pm SD was 52.03 ± 12.52 years with a range between 26 years and 81 years. Superficial reflux

was identified 27% (79) of limbs and deep venous reflux was identified in 11.4% (34) limbs. Perforator incompetence was present in 8.3% (25) of 112 limbs where calf perforators were identified. Deep venous thrombi were identified in eight (0.3%) limbs. There was one duplicated femoral vein and one duplicated great saphenous vein. There were seven accessory saphenous veins identified.

Conclusion: Venous insufficiency especially, in the superficial system, is a common occurrence. Deep venous reflux and perforator incompetence occurred with similar frequency. Deep venous thrombosis and anatomical variations were uncommon.

Rate of Central Venous Catheter-related Bloodstream Infections at the Princess Margaret Hospital, Nassau, The Bahamas

DA Hunt

Background: Use of central venous catheters (CVCs) places patients at increased risk of catheter-related bloodstream infection (CRBSI). By virtue of the large numbers of ICU patients requiring in-dwelling CVCs, this population is at increased risk for CRBSI. The infection rate in the Princess Margaret Hospital (PMH) Intensive Care Unit (ICU) a Medical-surgical unit in a major teaching hospital, is not known.

Methods: A retrospective cohort study of patients in the Princess Margaret Hospital intensive Care Unit was conducted. For the period, January 2007 to December 31, 2007 using chart review and Infection control surveillance data, the number of central venous catheter-related bloodstream infections was determined, a rate per 1000 catheter-days was calculated.

Results: A total of one hundred and twenty-nine patients were eligible for the study based on inclusion criteria. Fifty-five of these patients were further evaluated for CRBSI criteria. Three patients met criteria for CRBSI. The total catheter-days was one thousand nine hundred and twenty-two. The calculated rate per 1000 catheter-days was 1.6.

Conclusion: The calculated rate per 1000 catheter-days for 1.6, is lower than the 10th percentile (or the median range rate in this type of ICU- (Medical/Surgical ICU at a teaching hospital). This may reflect inadequate infection detection. Institution of protocols for diagnosis of CRBSI would facilitate accurate determination for rates and improved objective comparison to recognized benchmark rates.