Chronic Non-communicable Diseases 2

Chairpersons: D Johnson, P Adams

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Associations of social determinants of health with non-communicable disease prevalence in the Trinidad and Tobago population – Exploratory analysis of the STEPS data

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Objective: To examine associations between social determinants of health and the prevalence of chronic non-communicable disease (CNCD) in a population-based health survey in Trinidad and Tobago.
Design and Methods: This study utilized secondary data collected from the 2011 STEPS study – a nationally-representative survey of 2724 persons in the 15−64-years age group in Trinidad and Tobago where questions were asked on risk and protective factors for CNCDs. Anthropometric and biochemical measures were taken. Chi-squared tests were used to assess associations between sociodemographic factors (age, gender, ethnicity, income, and education) and clinically significant measures of CNCD prevalence (elevated blood pressure (BP), cholesterol and glucose).
Results: The prevalence of systolic BP (SBP) > 140 mmHg was 23.1% overall and was higher in men than women (25.1% *vs* 21.7%, $p = 0.043$). Age group ($p < 0.001$), household income ($p = 0.044$) and educational level ($p < 0.001$) were significantly associated with elevated SBP. No association was found between ethnicity and blood pressure. Fasting blood glucose (FBG > 126 mg/dL) was found in 14.9% of subjects and was significantly associated with education level ($p = 0.006$) but not with the other social determinants. Cholesterol levels > 200 mg/dL were present in 41.7% of persons sampled, but were not significantly associated with any of the examined social determinants.
Conclusion: The influence of the social determinants of health on the prevalence of clinically significant derangements in blood pressure, fasting glucose and total cholesterol appears, at first pass, to outweigh the influence of ethnicity, frequently referred to in literature as pertinent to Trinidad and Tobago. The influence of educational level, in particular, warrants further attention.

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Medication adherence and associated glycosylated haemoglobin A_{1c} in Type 2 diabetics in New Providence, Bahamas

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Objective: To assess adherence to oral anti-hyperglycaemic medications and its relationship with glycosylated haemoglobin (HbA_{1c}) levels of Type 2 diabetics in New Providence, The Bahamas.
Design and Methods: A cross-sectional study using a Modified Morisky's questionnaire was undertaken among Type 2 diabetics aged 18 years and older. The Morisky eight-item scale provides a score of 3 or greater, 1 to 2 or 0 which represents an outcome of poor, moderate or good adherence, respectively. The relationship between good glucose control (HbA_{1c}) and Morisky score was evaluated.
Results: Of the total 117 patients, 20.5% were identified as good, 22.2% as moderate and 57.3% as poor adherence to oral anti-hyperglycaemics. The mean HbA_{1c} was found to be 8.5%. There was a significant predictor relationship between HbA_{1c} and adherence ($p = 0.04$).
Conclusion: Adherence to medication in Type 2 diabetics was poor. Patients with good adherence had a lower associated HbA_{1c} level. Better medication knowledge may improve adherence.

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An exploratory investigation into the effectiveness of, and satisfaction with, the Diabetes Association of Barbados' counselling service

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Objective: To investigative the effectiveness of the counselling service offered by the Diabetes Association of Barbados (DAB) on advice received on diabetes care and on diabetes self-care activities.
Design and Methods: The study population was men and women with diabetes aged 18−95 years who joined DAB from 2008 to 2011 inclusive. The sampling frame was the membership database. 'Cases' consisted of a random sample of those who had attended three or more counselling sessions and controls were age and gender matched members who had attended no sessions. Interviews were conducted over the telephone using the revised Summary of Diabetes Self-Care Activities (SDSCA) questionnaire.
Results: Interviews were completed on 93 cases and 86 controls, response rates of 82 and 70%, respectively. Cases were more likely than controls ($p < 0.05$) to report having received advice on several aspects of diet and physical activity. However, the differences in self-care activities were much less marked, limited to a higher proportion of female cases (27.9%) reporting three or more episodes of specific exercise per week compared to 12.3% of controls, $p = 0.04$, and paradoxically controls reporting more frequent daily blood glucose testing (34.9% *vs* 13%), $p = 0.002$. There was much room for improvement of self-care activities in both groups.
Conclusions: In this retrospective study, attending the counselling service was associated with more advice received on diet and physical activity, but there was little evidence that this difference in received advice translated into difference in self-care activities.

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Nutritional knowledge, attitude, and practice of diabetic clients attending an outpatient clinic in Trinidad and Tobago

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Objective: To evaluate the knowledge, attitude and practice (KAP) of diabetic clients attending an outpatient clinic in Trinidad in relation to their disease.
Design and Methods: A purposive sample of 122 diabetic persons aged 30 years or older was interviewed using a structured KAP questionnaire. The questionnaire contained 27 questions (eight nutrition knowledge, five attitude, four practice, seven demographic and three counselling). Correct answers were given a score of "1" and incorrect answers were given a score of "0." Maximum scores for knowledge, attitude and practice questions were eight, 25 and four, respectively. Data were analysed using SPSS, version 21. The level of statistical significance was set at $p < 0.05$.
Results: The means ± SD for knowledge, attitude, and practice before and after counselling were 5.93 ± 0.99, 5.52 ± 1.43, and 12.06 ± 2.49 and 14.53 ± 1.72, respectively. A significant difference was observed between gender and total knowledge percentage ($p = 0.002$). A significant correlation existed between knowledge and those individuals who received counselling ($p = 0.009$). The majority of the respondents had a positive attitude towards diabetes management with over 90% responding in the affirmative. A significant correlation resulted between attitude and those individuals who received counselling ($p = 0.001$). There was a significant correlation between respondents practice before and after nutrition counselling ($p = 0.0001$).
Conclusion: In conclusion, the overall KAP scores of the participants were good. In addition, improvement of the knowledge score, attitude, and dietary practice was associated with frequency of nutrition counselling.

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The burden of sight-threatening diabetic retinopathy

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Objective: To determine the frequency of diabetic retinopathy, its visual impairment and risk factors in diabetic patients attending the Eye Clinic at the University Hospital of the West Indies.
Design and Methods: Prospective cohort study of diabetic outpatients. Data were collected on age, gender, diabetes mellitus Type (DM I/II), diabetic retinopathy, visual acuity, blood glucose and blood pressure.
Results: One hundred and four patients (208 eyes) were recruited. There were 58.6% (61/104) females (mean age 53.6 ± 11.9 years) and 41.4% (43/104) males (mean age 61.7 ± 12.1 years). Type 2 DM (68.3%) was more common than Type I DM (31.7%). The blood glucose ranged from 4.9−27.6 mmol/L (mean 12.7 ± 5.9) in Type I DM and 3.4−23.6 mmol/L (mean 10.7 ± 4.9) in Type 2 DM.

Blood pressure > 130/80 mmHg was present in 82.7% of patients. The mean visual acuity was 20/160 (logMAR 0.95 ± 1.1). Diabetic retinopathy was present in 78%, of which 29.5% had background retinopathy. Proliferative diabetic retinopathy (PDR), which can cause significant visual loss, was present in 50.5% of eyes. The odds ratio of developing PDR was 1.88 (95% CI: 1.02, 3.3) for Type I DM compared to 0.74 (95% CI: 0.55, 0.99) for Type 2 DM. Proliferative diabetic retinopathy was more prevalent in females ($p = 0.009$) in both Type I and II DM.

Conclusions: Jamaica has a high incidence of sight-threatening diabetic retinopathy. This is more common in Type I diabetics and females and is associated with poor glucose and blood pressure control. Early diabetic eye screening and treatment can reduce this morbidity.

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Prevalence of sleep disorders in patients with Type 2 diabetes in Trinidad

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Objective: To determine the prevalence of sleep disorders and sleeping habits in patients with Type 2 diabetes in Trinidad and their associated factors.

Design and Methods: This is a cross-sectional multicentre study in the South health region of Trinidad. We present the results of 115 patients with Type 2 diabetes, seen in four outpatient diabetic clinics over two months (July 9 to August 22, 2013). Sleep habits were assessed by Epworth Sleepiness Scale (ESS) and National Health and Nutrition Examination Survey (NHANES) 2007 sleep disorder questionnaire. Sleep apnoea was defined as ESS score > 10. Short sleep was defined as sleeping < 7 hours of sleep per day. Demographic, anthropometric and biochemical data were also collected.

Results: The sample had a mean age of 58.4 years, 67% were female and 76.5% patients had poor glycaemic control. The mean body mass index (BMI) was 29.1 kg/m^2. The prevalence of sleep apnoea was 14.8%. The percentage of patients with short sleep (< 7 hours) was 60.9%. Body mass index was found to have a statistically significant association with sleep apnoea (OR 1.12, CI 1.02, 1.23). However, there were no other statistically significant association with sleep apnoea or short sleep.

Conclusion: In a random sample of patients with Type 2 diabetes, we found a high prevalence of sleep conditions. There needs to be an increased awareness of sleep conditions by health personnel. Prospective studies are needed to fully understand the mechanisms underlying, and outcomes associated with, sleep apnoea and other sleep conditions in Type 2 diabetes.