

Cardiovascular Diseases

Chairpersons: JK Cruickshank, R Wilks

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Everything with a pinch of salt: What knowledge have adult Barbadians gained from recent salt reduction messages and what impact have the messages had on their dietary choices?

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Objective: To ascertain whether adult Barbadians, 25–55 years, could identify and understand messages contained in phase one of the “Battling the Hidden Enemy” Salt Reduction Campaign, and to assess if these messages impacted dietary choices, particularly salt consumption.

Design and Methods: Purposeful sampling was used to recruit 22 Barbadians from a public and a private clinic to participate in five focus groups. Recorded group sessions were analysed using inductive and deductive reasoning and data were classified and organized according to key themes, concepts and emergent categories using framework analysis, aided by the software programme, ATLAS.ti.

Results: Participants could identify and understood the public service announcement (PSA) messages but did not report an increase in skills and self-efficacy in selecting low-salt food options as they were still unable to read labels and make better food choices. Mainly female participants stated an inability to limit their salt intake and pointed to barriers to changing their behaviours such as heavily advertised products, low-cost foods high in salt, addiction to tasty (salty) foods, inadequate labelling and a lack of nutritional information in food establishments.

Conclusions: Education alone was ineffective in reducing the perceived salt consumption levels of focus group members, who judged the PSAs as educational but not effective. A multipronged approach should be used including a targeted, consistent campaign, supported by interventions that change the food environment in ways that encourage population-wide behaviour change.

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The association between personality types and medication adherence among adult hypertensive patients

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Objective: To investigate the prevalence of adherence to antihypertensive medication and its association with personality types among adult hypertensive patients.

Design and Methods: This was a cross-sectional study, which used the Big Five Inventory to assess personality types and Morisky Medication Adherence Scale (MMAS-8) to measure antihypertensive medication adherence, among a convenience sample of 301 hypertensive primary care patients. Chi-squared tests, *t*-tests, correlations and regression techniques were used to examine associations between variables.

Results: The mean MMAS-8 score was 5.00 ± 1.69 . Most respondents (60%) demonstrated low adherence (score < 6) with only 7% achieving high adherence (score = 8). Persons who scored highly for neuroticism were less likely to be adherent (OR = 0.30 [0.10, 0.88]), as were the employed compared to the unemployed (OR = 0.34 [0.14, 0.86]). In contrast, older persons demonstrated higher adherence levels (OR = 1.06 [1.01, 1.11]). Regression model variables accounted for 13% of variance in antihypertensive adherence.

Conclusions: This sample demonstrated low antihypertensive adherence; lowest for those high on the neuroticism scale, the employed and younger participants. This implies personality type should be considered in managing chronic diseases to identify clients requiring intervention, thereby improving control, reducing morbidity and enhancing efficient use of scarce resources. Efforts are also needed to address other risk factors that impact adherence.

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The distribution of CYP2C19*2 allele in a Trinidadian population: Is clopidogrel the right choice?

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Objective: To determine the distribution of the CYP2C19*2 allele among Trinidadians.

Design and Methods: This is a cross-sectional study among 100 patients attending primary health centres within the north central region of Trinidad. A stratified sampling technique was used in which there were three mutually exclusive subgroups: those of South Asian descent (Indo-Trinidadians), African descent (Afro-Trinidadians) and mixed ethnicity. Subsequently, systematic sampling was applied to each stratum to improve the representativeness of the sample. Hence, the 100 subjects recruited for the study were 40 Indo-Trinidadians, 40 Afro-Trinidadians and 20 of mixed descent. Apart from baseline data which included age, gender and ethnicity, DNA was assessed for the CYP2C19*2 allelic variant using a polymerase chain reaction method.

Results: There was a high allelic frequency (37%) for CYP2C19*2 which was found to be more common among Indo-Trinidadians (47.5%; 95% CI 32.0, 63.0) compared to Afro-Trinidadians (22.5%; 95% CI 9.6, 35.4) or people of mixed origin (45%; 95% CI 23.2, 66.8). There was a significant difference ($p = 0.019$) between CYP2C19*2 frequencies for Indo-Trinidadians and Afro-Trinidadians.

Conclusion: The prevalence of CYP2C19*2 mutation is high in this setting of Trinidadians.

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Impacts of mid to later childhood body build, social circumstance and blood pressure on early-adult arterial stiffness in different ethnic groups

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Objective: Arterial stiffness, measured as aortic pulse wave velocity (PWV), is a powerful prognostic indicator

for cardiovascular events, displacing blood pressure. Little is known of its determinants. We tested how factors measured twice previously in childhood in the Medical Research Council's Determinants of Young Adult Social Well-being and Health (DASH) study, particularly body mass (BMI) components and blood pressure, affected PWV in young adults.

Design and Methods: Of 6643 London children, aged 11–13 years, from 51 schools in samples of about 1000 in six ethnic groups, 4785 (72% of the cohort) were seen again at 14–16 years. In 2013, six hundred and sixty-six (97% of invited) took part in a young-adult pilot (21–23 years). With psychosocial, anthropometric and blood pressure measures, PWV was recorded *via* an upper arm cuff on the calibrated Arteriograph device.

Results: Pulse wave velocity reproducibility was excellent, with mean differences across 3×6 –8 cardiac cycles each of -0.06, 0.03 and 0.06 m/sec. Unadjusted PWVs in Caribbean-origin and white United Kingdom (UK) young men were similar (mean \pm SD: 7.9 ± 0.3 vs 7.6 ± 0.4 m/sec) and lower in other groups at similar systolic blood pressures (120 mmHg), BMIs (24.6 kg/m²) and waist measurements (84.3 cm). In full regression models, while Caribbean (higher BMIs and waists), African and Indian young women had lower PWV (by 0.5–0.8, 95% CI 0.1, 1.1, m/sec) than did white UK women (6.9 ± 0.2), values were still increased by age, blood pressure, a powerful impact from waist/height, with a racism effect (+0.4 m/sec) in women. Childhood effects of waist/hip were also detectable.

Conclusion: Even by young adulthood, increased waist/height ratios, blood pressure and psychosocial variables such as perceived racism were independent determinants of arterial stiffness, likely to increase with age.

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Trends in stroke and acute myocardial infarction in Barbados, 2009–2013

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Objective: To describe trends in incidence, mortality and 28-day case fatality rate (CFR) for stroke and acute myocardial infarction (MI) in Barbados during the first five years of the Barbados National Registry for Chronic Non-communicable Disease (BNR).

Design and Methods: Barbados National Registry data on strokes and acute MIs diagnosed nationwide were collected prospectively from data sources including public and private healthcare providers. Analyses included annual incidence and mortality rates per 100 000 (IR and MR), and 28-day post-event CFR, with 95% CI and trend estimation (fitting models to data using Poisson regression).

Results: Approximately 593 strokes and 349 acute MIs were registered annually with the BNR between 2009 and 2013, with a small five-year decline in acute MI IR and a small five-year increase in stroke IR by 2013. The MR for acute MI showed a small five-year decline, but stroke MR increased significantly over the five years, from 78.9 (95%

CI 68.8, 90.0) in 2009 to 131.7 (118.8, 145.8) in 2013 ($p < 0.03$). Similar trends to MR were seen in CFR for both stroke and acute MI.

Conclusion: We are cautiously optimistic about the (albeit non-significant) decline in IR, MR and CFR for acute MI, which could imply improvements in healthcare service provision. However, despite little change in stroke annual incidence, significant MR increase highlights the need for improved stroke care in Barbados. Thrombolysis for acute ischaemic stroke has only been available since the new stroke unit was implemented in late 2013; continued monitoring will allow assessment of this important initiative.