

Family Health

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Knowledge and awareness about sickle cell disease in mothers with positive prenatal sickle cell haemoglobinopathy screening test at the Princess Margaret Hospital and prevalence of sickle cell trait in this group

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Objective: To determine the knowledge and awareness about sickle cell disease and implications for their offspring in mothers whose prenatal haemoglobinopathy screen tested positive for sickle cell disease.

Design and Methods: A descriptive study design was used to determine the incidence of sickle cell trait in mothers presenting for prenatal care. From April to October 2012, 183 mothers tested positive for sickle cell haemoglobinopathy of 2056 antenatal records reviewed. Each mother was surveyed using a self-administered questionnaire to assess her understanding about sickle cell disease.

Results: One hundred and eighty-three (8.9%) mothers tested positive for the sickle cell trait. Of these, 89 (56.9%) mothers were unaware of their positive sickle cell status. One hundred and twenty-three (82%) mothers had no idea of their partner's sickle cell status and 77 (50.9%) were unaware of the impact it could have on their infant if results were positive.

Conclusion: Despite routine prenatal screening for sickle cell disease, mothers are still unaware of their sickle cell status and risks to their offspring. Education is essential to allow adequate genetic counselling and early screening, thus permitting identification of infants at risk. This would result in earlier interventions and reduce mortality and morbidity.

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Universal newborn screening for haemoglobinopathies in Guadeloupe (French West Indies): Basis of a collaboration in the Caribbean area

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Objectives: To assess the prevalence of the most frequent haemoglobinopathies in Guadeloupe and to report how this experience was successfully used to develop a close linkage in another Caribbean island, Tobago.

Design and Methods: In Guadeloupe, blood samples, coming from all the birth delivery places, were screened in a single reference diagnosis laboratory for the haemoglobinopathies using the reference methods. In Tobago, neonatal screening was performed at the Scarborough Regional Hospital and the specimens were analysed in Guadeloupe in the same laboratory. Abnormal results were sent back to Tobago. The results of the Guadeloupe neonatal screening from 1984 to 2010 and those of Tobago from 2008 to 2011 are presented.

Results: Between 1984 and 2010, 178 428 newborns were screened at birth for sickle cell disease in Guadeloupe. From the confirmed samples, 0.33% of the infants (585 infants) have been diagnosed with major sickle cell syndromes. The overall incidence of major sickle cell syndromes was one out of 304 newborns. In Tobago, from 2008 to 2011, 2617 specimens were obtained. The overall incidence of major sickle cell syndromes was one out of 238 newborns. As expected, HbS and HbC were the most frequently encountered abnormal haemoglobins in both islands with a difference in allele frequency. Haemoglobins and HbC frequencies were 0.098 and 0.036, respectively in Tobago and 0.042 and 0.013, respectively in Guadeloupe.

Conclusion: This experience has been successfully used to evaluate the prevalence of the most frequent haemoglobinopathies and to develop a close linkage in two Caribbean islands, Guadeloupe and Tobago.

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Attitudes toward receiving blood transfusions among clinic attendees in Trinidad

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Objective: To determine the level of knowledge about receiving blood transfusions in Trinidad and to ascertain the factors that influence attitudes toward receiving blood transfusions in Trinidad.

Design and Methods: A cross-sectional study of adult clinic attendees was conducted using convenience sampling. Four hundred participants were interviewed at health centres throughout Trinidad using a standardized pre-tested questionnaire and data analysed by data, descriptive and inferential techniques.

Results: Among the 400 respondents (M 169, F 231), mean knowledge score out of 16 was 8.1 ± 0.1 and was predicted by education level ($p < 0.001$) and occupation ($p = 0.003$). Eighty-four per cent of participants would agree to a transfusion in Trinidad if necessary but expressed fear of needles (36.4%), medical staff (42.1%), acquiring infections (57.9%) and post-transfusion complications (47.2%). Persons with greater confidence in the donation process expressed less fears, and mean confidence score was higher in those who would agree to a transfusion compared to those who would not ($p < 0.001$). There was a negative correlation between confidence in the donation process and number of fears a participant had about receiving blood ($p < 0.001$). The mean confidence score was lower in persons who identified fear of infections than in persons who did not have that fear and 98.5% were in favour of blood transfusion education programmes.

Conclusion: Low knowledge levels coupled with fear of receiving blood justifies consideration of a new approach to public education about blood transfusions in Trinidad which can ultimately promote increased voluntary blood donation.

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Attitudes toward blood donation: A 10-year follow-up study of residents of Trinidad and Tobago

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Objectives: To assess current attitudes of residents of Central Trinidad toward blood donation and to compare

results to a previous study of the same population conducted 10 years earlier.

Design and Methods: A cross-sectional study was used to survey 896 residents of Central Trinidad, aged 18–65 years. Variables measured included sociodemographic characteristics, knowledge and attitude toward blood donation. Data analysis was conducted using SPSS, version 17, and included Chi-squared tests of association and binary logistic regression.

Results: Data from 816 usable questionnaires showed that respondents were very knowledgeable about blood donation policy and practices; donors were more knowledgeable than non-donors about donor criteria, use of donated blood and donation locations in both studies. Donor respondents were predominantly female, aged '26–50' years, Indo-Trinidadian, Christian and university graduates, while in 2003 they were mainly male, aged '51–65' years, Afro-Trinidadian, Muslim and University graduates. Similar to 2003, the majority of respondents (76.6%) listed family and/or friend as their major reason for donation and non-donors (43.4%) claimed they 'never saw a reason to donate'. In both studies, need of friend/family, increased advertising and more mobile units were highlighted as possible factors that could influence future donation by non-donors; gender, age, religion and education were identified as useful predictors of these factors.

Conclusion: Even in the midst of a severe national blood shortage, the population has maintained its unenthusiastic mindset regarding blood donation. Greater emphasis should be placed on public education to alleviate fears and misunderstandings of the blood donation process, thereby increasing both donor retention and recruitment.

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The health of at-home and abroad Caribbeans

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Objectives: To examine the health status of Caribbeans across three geographic locations, and the contribution of social and environment factors to health disposition.

Design and Methods: Three representative samples collected in the United States of America (USA), Jamaica, and Guyana were used. Face-to-face interviewing and questionnaires were methods of data collection. The samples included 1216 Jamaican, 2068 Guyanese and 1621 Caribbean descendants residing in the USA. The samples used a modified version of the World Health Organization Composite International Diagnostic Interview (WHO CIDI) defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM IV) to assess lifetime mental disorders. We also examined physical

health conditions such as perceived general and dental health, hypertension and diabetes. Descriptive and multi-variate analytic techniques were used to examine rates and contributors of health.

Results: The findings indicated that mental and physical health conditions varied by national context, with higher rates among Caribbeans living in the USA than in Guyana and Jamaica. This was evident for disorders such as alcohol abuse (9.2% vs 3.6% vs 2.2%), drug abuse (5.9% vs 1.4% vs 1.3%), substance abuse (9.6% vs 4.7% vs 2.7%) and depression (14.3% vs 4.1% vs 7.4%). Caribbean's living in the USA also had poorer physical health than Guyanese and Jamaicans particularly in relation to hypertension (27.8% vs 14.6% vs 14.1%), diabetes (8.2% vs 7.5% vs 6.6%) and arthritis (14.1% vs 7.5% vs 6.6%).

Conclusions: The study suggests social context, environmental factors and processes of migration play an important role in the health disposition of individuals with Caribbean roots.

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The impact of exercise on cognitive function in the elderly attending gerontology clinics, New Providence, Bahamas

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Objective: To demonstrate the impact of regular physical activity on cognition and functional capacity in the study population.

Design and Methods: This study was a clinical trial with mixed factorial design where 47 participants were randomly assigned to exercise (EG, n = 28) and no-exercise (NEG, n = 19) groups. Volunteers were assessed on physical and cognitive functions, and functional ability parameters at baseline and repeated intervals.

Results: The mean mini-mental state examination (MMSE) scores in the EG varied from 26.04 at week one to 26.43 at week twelve. For the NEG, mean MMSE scores decreased from 22.84 to 22.74 by week twelve. Variance around the median of 8.0 decreased consistently within the EG from baseline to 12 weeks, $p = 0.060$ compared to the NEG which maintained a wide dispersion around a median of 7.0 over time, $p = 0.593$. Pearson's correlation for the EG of instrumental activities of daily living (IADL) and MMSE at baseline was $r = 0.450$, $p = 0.014$ and after 12 weeks of exercise $r = 0.456$, $p = 0.013$; for the NEG the relationship of IADL and MMSE at baseline was $r = 0.520$, $p = 0.016$ but by twelve weeks was $r = 0.357$, $p = 0.134$.

Conclusions: Regular exercise had positive influences on cognitive function and functional capacity over time. Cognition maintained a strong positive relationship with functional capacity in both study groups over time.