SJSM Science

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Risk markers for Type II Diabetes in Anguilla

Non-insulin-dependent diabetes is an emerging public health problem. Its pathogenesis is poorly understood and its etiology appears to involve complex interactions between environmental and genetic factors. Genetic factors influence insulin release and responsiveness. Environmental factors are “diabetogenic” lifestyle (i.e., excessive caloric intake, inadequate caloric expenditure, obesity).

SJSM students wanted to assess the presence of certain risk factors for developing non-insulin-dependent diabetes mellitus, to find out which ones are the most important and to propose measures to reduce the incidence of diabetes in Anguilla.

By reducing modifiable risk factors, the magnitude and impact of non-insulin-dependent diabetes mellitus can be reduced.

Let’s see what they found after a few years...
Risk markers for Type II Diabetes in Anguilla

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Objective

The purpose of this study was to estimate the prevalence of diabetes and its risk markers in the Anguillian population above 45 years of age. We focused mainly on factors such as age, BMI, waist circumference, diet, exercise habits, family history and use of hypertension medications.

Material and Methods

A total of 152 people (40 to 90 years of age) were screened, 65 males and 87 females. The patients were divided into two groups based on their BMI: healthy and overweight. Waist circumference, dietary habits, exercise habits as well as family history were collected. BMI, dietary habits, exercise habits, and family history were assessed using a questionnaire adapted from the Canadian Diabetes Risk Assessment Questionnaire (CDRAQ). Each question was assigned a value (0-6 points) and added together to obtain a final score for each participant. The sum of points was compared to a standard set of values to predict the risk of developing type 2 diabetes within 10 years. The data was collected using Microsoft Excel. To test for significance of the data, a chi-squared test was used. For values less than 5, a Fisher exact test was applied.

Results

The average waist circumference for males and females in the high risk category was 38.6 inches and 32 inches respectively. Men and women who engaged in at least thirty minutes of physical activity numbered 53.9% and 54%, respectively. The subjects with a family history of diabetes type 1 or 2 numbered 63.1% for men and 58.3% for women. Another 16.1% of men and 16.1% of women reported taking anti-hypertensive medication on a regular basis. About 24.6% men and 23.8% women reported prior history of high blood glucose determined at a health care examination. Finally, around 55.4% men and 59.3% women ate fruits, vegetables or berries on a daily basis.

Degree of Risk:

24.6% Men and 27.6% Women have a high risk of developing Type 2 Diabetes

Discussion

The research reflected an adequate representation of the population of Anguillans over 45 who were at risk for developing diabetes. People over 40 years of age with a high BMI, and a waist circumference >52 inches for women and >46 inches for men were found to be at a higher risk for developing Type 2 Diabetes. Family history was found to carry a minimal risk factor for diabetes, whereas weight and BMI were more significant in determining an individual's risk for the development of the disease.

Conclusion & Recommendations

Prevention strategies are urgently needed to reduce incidence of diabetes in this population. The strategies are:

1. Regular exercise
2. Early screening for individuals at high risk

Reference:

Anguilla News 19 July 2012 "Preliminary Data from Anguilla Census 2011 shows the population as 15,827" retrieved from the website of Anguilla. 19 March 2014


Poster by B.F. Banes