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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 Anguillan population above 40 years of age. We focused mainly on factors such as sex, 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 sex, BMI , dietary habits, exercise habits as well as family history were collected. Prior history of diabetes and/or hypertension was recorded. Patients' height, weight and waist circumference (at the umbilical level) were obtained as well. The patients were administered a questionnaire adapted from the Canadian Diabetes Risk Assessment Questionnaire (CANRISK) each answer was assigned a value (0-5 points) and added together at the end to obtain a final value for each participant. The sum of points was compared to a standard set of normal values to predict the risk of developing type II diabetes within ten years. The data collected was calculated 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.

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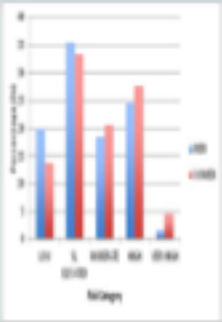
Results

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 53.8% and 54% respectively. The subjects with a family history of diabetes type I or II numbered 83.1% for men and 88.3% for women. Another75.4% of men and 16.1% of women reported taking anti-hypertensive medication on a regular basis. About 24.6% men and 31.0% women reported prior history of high blood glucose determined at a health care examination. Finally around 55.4% men and 52.9% women ate fruits, vegetables or berries on a daily basis.

Categories	Males	Females
Exercise	53.8%	54.0%
Eat fruits/vegetables	55.4%	52.9%
Prior high blood glucose	24.6%	31.0%
Anti hypertensive drug use	75.4%	16.1%
Family members with DM	83.1%	88.3%

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 40 who were at risk for developing diabetes. People over 40 years of age with a high BMI, and a waist size >32 inches for women and >36 inches for men were found to be at a higher risk for developing Type II Diabetes. Family history was found to carry a minimal risk factor for diabetes, whereas weight, BMI and circumference of the waist are far more relevant to determine 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. Among the others:

- *Generate more awareness of diabetes*
- *Better education of risk factors*
- *Tips to prevent type II diabetes such as:*
  - *Lifestyle changes*
  - *Regular exercise*
  - *Early screening for individuals at high risk*
  - *Dietary management*

References:

Anguilla News. 18 July 2012 "Preliminary Data from Anguilla's Census 2011 puts the population at [illegible]" retrieved from the World Wide Web 30 March 2013 from [illegible]

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