

THE PREVALENCE OF TYPE 2 DIABETES IN THE MIAMI-HAITIAN COMMUNITY

Background. Type 2 diabetes mellitus (DM2) is a chronic metabolic disease characterized by high blood sugars and disturbances of carbohydrate and fat metabolism. Haitians are considered a high-risk population for the development of DM2. Obesity is also a significant risk factor for diabetes. Currently, there is an epidemic of obesity in the US population, including Haitians.

Objective. To determine the prevalence of DM2 based on fasting blood sugar in the Miami Haitian community and to measure the incidence of the metabolic syndrome, defined by the presence of three of the following: impaired fasting glucose, obesity based on waist circumference, elevated triglycerides, low HDL cholesterol and elevated blood pressure.

Methods. 50–100 subjects will be screened via finger stick for fasting glucose levels and lipids (via cholestec). Historical data including age, past medical history and family history will be obtained and waist circumference and blood pressure will be measured. Based on the information obtained, we will determine the prevalence of type 2 diabetes and metabolic syndrome in the Haitian population.

Results. Fifty-one people had diabetes or impaired fasting glucose (glucose levels between 100 and 125 inclusive). It is important to note that many of the patients with impaired fasting glucose had levels very close to 126. The importance of this stems from the fact that DM2 is a progressive disease. Therefore, the fact that many patients were close to being diabetic means that they are at risk of becoming diabetic. 47% of participants had glucose levels of 99 and below, 20% had glucose levels between 100 and 126, and 33% had glucose levels of 126 and above.

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INTRODUCTION

According to Alberto Barcelo and Swapnil Rajpathak, in their article *Incidence and prevalence of diabetes mellitus in the Americas* published in the *Pan American Journal of Health* in 2001, there are no reports that show the prevalence of type 2 diabetes in the Haitian population. Although research literature includes studies on the prevalence and/or incidence of diabetes in different ethnic groups, we have found little, if any study that measured the prevalence of type 2 diabetes in the Haitian population.

Because of this paucity of data, coupled with the fact that Haitians are considered a high-risk group for DM2 and that Florida has the second largest Haitian population in the United States, we decided to conduct this research. Haitians, like all minority groups, are neglected or under-represented in most medical research. While this research is a pilot study, the results may serve as the basis for a larger study in this population.

METHODS

We recruited patients for this study from the Center for Haitian Studies in Little Haiti, Miami. Prior to recruitment, the study protocol was developed and approved by the Aspire institutional review board. Upon recruitment, each participant read and signed an informed consent form. We measured patients' waist circumference and blood pressure and obtained a sample of blood by the finger prick. The blood was tested for glucose, triglyceride, and HDL cholesterol levels. We used a Cholestec machine to test for the blood component levels.

RESULTS

The majority of the participants were found to have diabetes or impaired fasting glucose (glucose levels between 100 and 125 inclusive). It is important to note that many of the patients with impaired fasting glucose had levels very close to 126. Patients with these high levels of impaired fasting glucose are at risk of becoming diabetic. Forty-seven percent (47%) of the patients had glucose levels of 99 and below, 20% had glucose levels between 100 and 126, and 33% had glucose levels of 126 and above.

In total, 28 women and 23 men participated. The healthy and diabetic subjects had almost a 50-50 split among males and females. However, significantly more females than males (8 vs 2) were found to have impaired fasting glucose levels.

The results also indicated that as the population ages, the prevalence of DM2 increases. The number of patients with normal glucose levels decreased as age increased, whereas diabetes increased as age increased. Impaired fasting glucose vs elevated glucose levels appeared to become less prevalent as the percent of patients with diabetes increased. This supports the notion that impaired fasting glucose is a risk factor for the development of DM2.

The prevalence of metabolic syndrome in this population was similar to that of the prevalence of impaired fasting glucose, ie, 40% of the participants had neither metabolic syndrome nor diabetes, 27% had metabolic syndrome without diabetes, and 33% had diabetes. In summary, 60% of these patients had either metabolic syndrome or diabetes.

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As we found for impaired glucose levels, more women were categorized with metabolic syndrome compared to men in this study population. For those with metabolic syndrome, the prevalence seemed fairly constant across all age groups.

CONCLUSION

In conclusion, the prevalence rate (33%) of diabetes in the American Haitians living in Little Haiti is high compared to the general population and

places American Haitians closer to the risks found among Pima Indians, which has a prevalence rate of 50%. This high rate of diabetes places American Haitians at a high risk for cardiovascular disease and other complications of diabetes.