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Diabetes in sub-Saharan Africa

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Introduction

The current issue of Nutrition News for Africa (NNA) focuses on the epidemiology of diabetes. Diabetes is an important topic for nutritionists, both because of the role of overweight and obesity in the etiology of type-2 diabetes and the need for special dietary and pharmacological treatment of individuals with any form of diabetes. A recent paper in the Lancet seminar series on diabetes, which reviewed current information on its epidemiology and disease burden in sub-Saharan Africa, is discussed in this month's NNA.

Diabetes mellitus, often referred to as diabetes, is a group of disorders characterized by fasting hyperglycemia (high fasting blood glucose concentration) and glucose intolerance (elevated blood glucose concentration following an oral dose of glucose). Most subtypes of diabetes fall into 3 major categories: 1) type-1 diabetes, which is characterized by insulin deficiency; 2) type-2 diabetes, which is characterized by insulin resistance and is frequently associated with overweight or obesity; and 3) gestational diabetes (not discussed in the review article), which is characterized by high blood glucose levels during pregnancy. Diabetes is highly prevalent worldwide, and during the last few decades diabetes has emerged as an increasingly important non-communicable disease in sub-Saharan Africa.

Methods

The authors of the review paper identified relevant articles by searching the PubMed database, using the search terms: diabetes prevalence, urbanization and rural migration, physical activity, and HIV/AIDS. All of the searches were conducted with the terms "diabetes" and "Africa" (and individual names of each country). In addition, the authors accessed publications and websites from the World Health Organization (WHO), the International Diabetes Federation, the World Bank, and the United Nations (UN).

Results and Conclusions

The authors discovered that there is relatively little information on the epidemiology of type-1 diabetes in sub-Saharan Africa, although available data suggest that the prevalence of the disorder is fairly low, ranging from 0.33-0.95 per 1000 in selected Nigerian and Sudanese population sub-groups. Some evidence suggests that the age of onset of type-1 diabetes may be older in African populations than European populations, and one study from South Africa found a relative preponderance of clinical cases in females.

There is also limited information on the epidemiology of type-2 diabetes, but studies suggest that the prevalence may be increasing, especially in urban areas. Research conducted in the period 1960-80 generally found a prevalence of ~1%, whereas more recent studies have found a prevalence of 3% in west, east, and northeast Africa. Investigators working in urban and peri-urban areas of South Africa have reported prevalences as high as 3-10%, which is similar to what is described in more affluent settings. The authors of the review suggested that changes in urbanization and lifestyle in Africa could be driving the overall increase in diabetes prevalence; and they also speculated that the prevalence of undiagnosed diabetes is likely to be high in many African countries, due to poor awareness and limited screening facilities. The authors concluded that a multi-sectoral approach to diabetes screening, control, and care is critical for the success of diabetes programs in this region. The World

Health Organization's STEPwise chronic disease risk factor surveillance program is now beginning to collect information on diabetes more systematically in sub-Saharan Africa to clarify the true burden of disease.

Program and Policy Implications

In the past, diabetes was perceived as a disease that only affects wealthy nations; however, research has now shown that diabetes presents a major problem for poorer nations as well. While data on the prevalence of diabetes in sub-Saharan Africa are limited, it seems likely that the prevalence of diabetes is increasing and will continue to rise as more and more people migrate to urban environments. This represents a considerable public health challenge and likely increasing economic burden for poorer nations already faced with the problems of undernutrition and communicable diseases, such as HIV/AIDS and tuberculosis.

NNA Editors' comments*

The health and nutrition statistics in the sub-Saharan African region are alarming. Infant and under-5 mortality rates are among the highest in the world, as is the prevalence of stunting among pre-school aged children. At the same time, diabetes and other non-communicable diseases related to overweight and obesity appear to be occurring with greater frequency, and these diseases will be placing an increasing burden on the public health sector. Countries should begin to incorporate screening for these diseases in national nutrition assessment surveys, especially in settings where urbanization is increasing. Countries will also need to develop appropriate treatment models for diabetes and implement necessary training programs for nutrition and health personnel, raise public awareness of this problem, ensure that appropriate drugs are made available, and seek ways of financing these programs.

* Note that the comments have been added by the editorial team and are not part of the cited publication.