

Type 2 diabetes: the emerging epidemic

Rheeder P, PhD, MMed (Internal Med) FCP (SA)

Division of Clinical Epidemiology, Medihelp Chair in Clinical Epidemiology, Faculty of Health Sciences, University of Pretoria

Correspondence to: Prof Paul Rheeder, e-mail: paul.rheeder@up.ac.za

Abstract

This article reports on the prevalence of diabetes in South Africa and gives projections for the epidemic proportions that this disease may take by the year 2030.

SA Fam Pract 2006;48(10): 20

Background

It is feared that diabetes and obesity will reach epidemic proportions, in future affecting the developing world to a greater extent than the developed world.

The prevalence of diabetes among all age groups worldwide was estimated to be 2.8% in 2000 and to be 4.4% by 2030. The total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030. The prevalence of diabetes is higher in men than in women, but there are more women with diabetes than men. The urban population in developing countries is projected to double between 2000 and 2030. The most important demographic change to diabetes prevalence across the world appears to be the increase in the proportion of people older than 65 years of age. The developing world accounted for 141 million people with diabetes (72.5% of the world total) in 2003. During this period (2000-2030), the number of people with diabetes is projected to double in three of the six developing regions: the Middle East and North Africa, South Asia, and Sub-Saharan Africa.¹

There is limited data on the epidemiology of diabetes in Africa. A recent review found that the prevalence of type 2 diabetes mellitus in Africa has increased over the past decade, with reported rates varying from low (in some rural areas) to moderate (some countries in North and North East Africa and South Africa) and high (among urban communities in Cairo and populations of mixed Egyptian ancestry in Northern Sudan).² Very little data is available on type 1 diabetes mellitus in Africa.

Data from South Africa show estimates of type 2 diabetes varying between 3 and 28.7%.³ The greatest prevalence was found in the Indian community of Durban (13%)⁴ and the elderly Coloured community of Cape Town (28.7%).⁵

The International Diabetes Federation (IDF) Diabetes Atlas reports a

prevalence figure of 3.4% for the 24 million South Africans between the ages of 20 and 79 (2003), with an expected increase to 3.9% by 2025.⁶

The increase in diabetes is linked to the worldwide increase in obesity. The World Health Organization reports the following: "Currently more than 1 billion adults are overweight – and at least 300 million of them are clinically obese. Current obesity levels range from below 5% in China, Japan and certain African nations, to over 75% in urban Samoa. But even in relatively low prevalence countries like China, rates are almost 20% in some cities. Childhood obesity is already epidemic in some areas and on the rise in others. An estimated 17.6 million children under five are estimated to be overweight worldwide."⁷

According to the US Surgeon General, the number of overweight children in the USA has doubled and the number of overweight adolescents has trebled since 1980. The prevalence of obese children aged six to 11 years has more than doubled since the 1960s. Obesity prevalence in youths aged 12 to 17 has increased dramatically – from 5% to 13% in boys and from 5% to 9% in girls – between 1966 and 1970 and 1988 and 1991 in the USA. The problem is global and increasingly extends into the developing world. For example, in Thailand, the prevalence of obesity in 5 to 12-year-old children rose from 12.2% to 15.6% in just two years.

South Africans are not far behind the rest of the world in this regard, and figures from the South African Demographics and Health Survey published in 2002, show that 29.2% of men were overweight or obese ($\geq 25\text{kg/m}^2$) compared to 56.6% of South African women.⁸

Similar to information on prevalence and incidence, information on diabetes outcomes specific to South Africa is lacking. We know that patients with diabetes are at increased risk of cardiovascular disease, blindness and renal failure, for


example. It is therefore not surprising that the costs associated with diabetes are estimated to mushroom worldwide by between 213 and 396 billion international dollars a year by 2025 (international dollar is a currency that takes into account the differences in the relative purchasing powers of various currencies), using up as much as 40% of some countries' health budgets.⁹

The South African National Burden of Disease study recently estimated the provincial estimates of age-standardised deaths due to various diseases, including cardiovascular and metabolic disorders. These vary little between provinces and the age-standardised death rate for diabetes is from 40 to 80/100 000 people.¹⁰

Conclusion

It is clear that, in addition to the HIV epidemic, South Africa will also be affected by the rise in obesity and subsequent diabetes mellitus. It is critical that a concerted effort involving all parties concerned be made to stem this advancing tide. 🙏

See CPD Questionnaire, page 48

 This article has been peer reviewed

References

1. Wild S, Roglic G, Green A, Sicree R, King H. Global prevalence of diabetes: estimates for the year 2000 and projections for 2030. *Diabetes Care* 2004;7:1047-53.
2. Motala AA, Omar MA, Pirie FJ. Diabetes in Africa. *Epidemiology of type 1 and type 2 diabetes in Africa. J Cardiovasc Risk* 2003;10:77-83.
3. <http://www.semidsa.org.za/prevalencedata.htm> (accessed 4/06/2006).
4. Omar MA, Seedat MA, Dyer RB, Motala AA, Knight LT, Becker PJ. South African Indians show a high prevalence of NIDDM and bimodality in plasma glucose distribution patterns. *Diabetes Care* 1994;17:70-3.
5. Charlton KE, Levitt NS, Lombard CJ. The prevalence of diabetes mellitus and associated risk factors in elderly coloured South Africans. *S Afr Med J* 1997;87 (suppl 3):364-7.
6. <http://www.eatlas.idf.org/Prevalence/index.cfm?data=table&tableid=7> (accessed 4/06/2006).
7. http://www.who.int/hpr/NPH/docs/gs_obesity.pdf (accessed 25/06/2005).
8. Puoane T, Steyn K, Bradshaw D, et al. Obesity in South Africa: the South African demographic and health survey. *Obes Res* 2002;10:1038-48.
9. Björk S. Economical aspects of diabetes care. *Global Forum For Health Research. Forum 8, Mexico City, November 2004.* <http://www.mrc.ac.za/bod/estimate.pdf> (accessed 6/07/2006).
10. <http://www.mrc.ac.za/bod/estimate.pdf> (accessed 6/07/2006).