

provision for home visits or follow-up counselling. The psychosocial costs of amputations are high. People suffer the societal stigma of losing a limb and face important problems seeking or maintaining employment. These psychosocial traumas in some cases lead to severe depression and suicide.

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Economic costs

The direct economic costs of the diabetic foot in Nigeria are substantial. The average cost of successfully treating foot ulceration has been calculated at about 1000 EUR; in Nigeria, the average monthly wage is about 46 EUR. Given that those who suffer most diabetes complications are at the lower end of the socio-economic spectrum, the economic consequences for people with diabetes and their families are devastating.

Reducing the burden

Independent yet concerted efforts are made by various diabetes centres to provide foot care. Although there are no multidisciplinary diabetes care teams as such, educational talks on diabetes and its complications are offered at a number of clinics. Some appropriate picture-based educational materials, donated by drug companies and non-government organizations, are given to patients.

The Diabetic Association of Nigeria (DAN), whose membership comprises for the most part physicians who are engaged in diabetes care, organizes awareness-raising educational events – sometimes in conjunction with the

more research-centred Nigerian Society of Endocrinology and Metabolism (NSEM). Health talks and practical demonstrations on foot care are routinely offered for people with diabetes and the general public.

NSEM recently established a Diabetes Foot Study Group, whose functions are to conduct research on foot complications, and collect, collate and analyse local data on the causes and characteristics of foot ulcers. Their objective in doing so is to identify affordable and effective local means of treating and preventing diabetic foot disease.

A sub-group of the National Diabetes Working Group that focuses on the diabetic foot is currently in talks with the Government aimed at influencing healthcare policy. Specifically, the group is working to ensure that facilities such as monofilaments (which can detect high risk for ulceration) are made available at all times free of charge.

Countrywide preventive initiatives need to be implemented as a matter of urgency.

Towards prevention

The burden of foot complications can be reduced through enhanced diabetes awareness among the public. Educating and sensitizing people through the mass media, under the auspices of diabetes organizations like DAN and NSEM, should be encouraged. Such preventive initiatives need to be implemented as a matter of urgency; collaboration with the Ministry of Health represents a conduit for the development of effective countrywide diabetes programmes.

The authors of this article are currently working on strategies for screening in children and adolescents.

There is a pressing need for ongoing diabetes training and education for healthcare providers. Routine exposure to modern diabetes- and foot-management techniques will prove beneficial in reducing the incidence of amputations in Nigeria, and thus reduce the human and economic burden to individuals and their families, and the overall direct and indirect costs to the nation.

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In Nigeria, and many African countries, walking barefoot is a strong risk factor for diabetes-related ulceration.

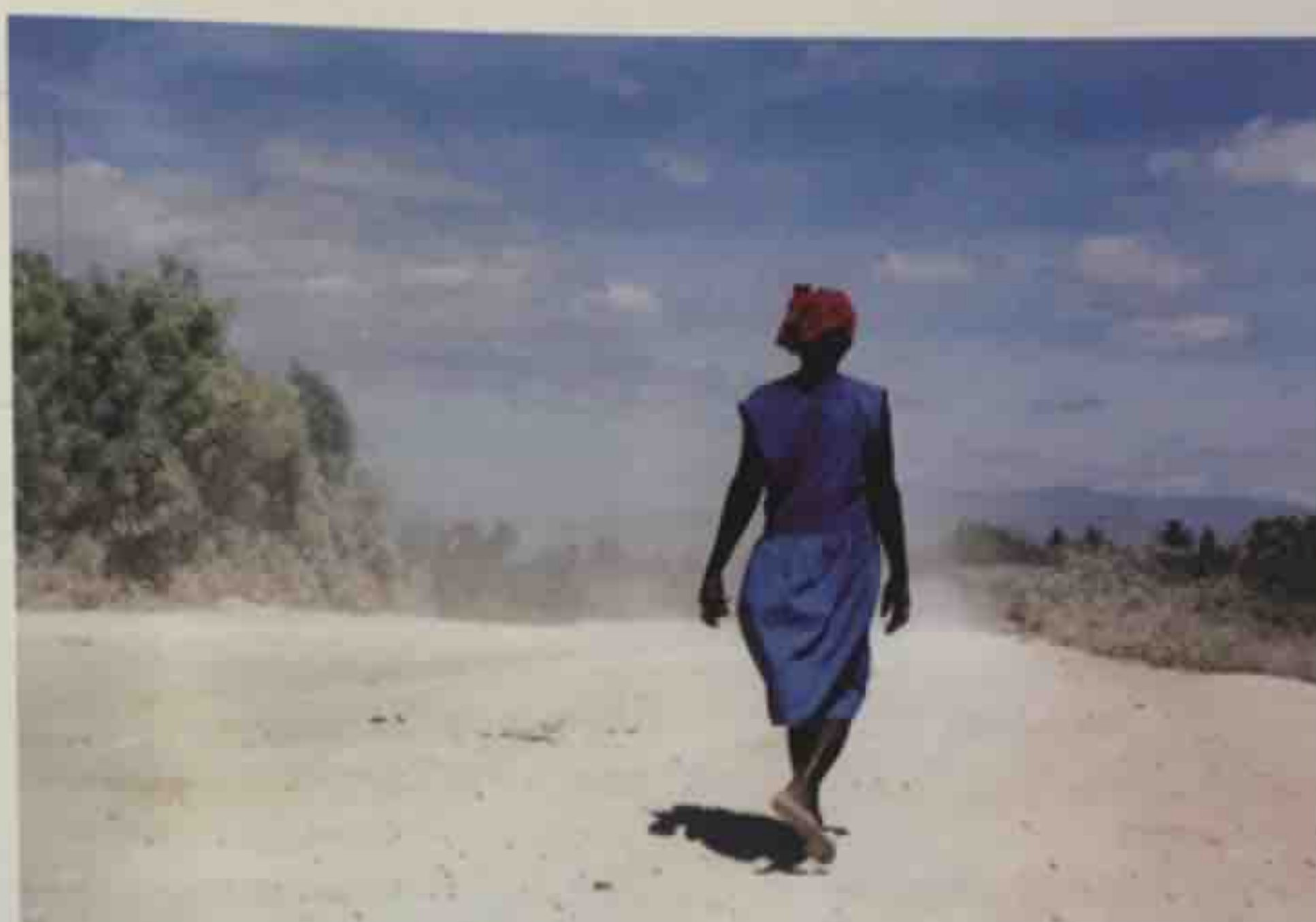
Awareness of diabetes is sadly (and dangerously) low. Widespread illiteracy, particularly among those most at risk of the condition – the urban poor – and chronic shortcomings in healthcare contribute to an ongoing increase in people's reliance on traditional medicine. Indeed, even some medical personnel living with diabetes seek the help of traditional healers. (For more about traditional medicine in Africa, see the article by Paschal Awah in this issue.)

The diabetic foot

Around 10% of people with diabetes in Nigeria suffer lower-limb complications, and the incidence is rising. In 2005, people with diabetes-related foot ulceration made up almost 12% of total hospital admissions.² About a quarter of people in Nigeria with newly diagnosed diabetes already suffer foot ulceration. Nerve damage and vascular disease are compounded by walking barefoot and as a result of fungal infections. Walking barefoot is a particularly strong risk factor in the south and south west, where many people are encouraged by their religious beliefs not to use footwear. Foot care, including preventive health education, is lacking; therapeutic footwear is not available.

Low awareness – high costs

Diabetes awareness is low, and awareness of the danger of foot complications lower still. In many cases,



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people do not have the means to travel to a hospital, let alone pay for the necessary treatment. Often, a 'cure' is first sought from traditional healers. Thus, it is common for people with diabetes foot ulceration to seek medical attention late, when bone damage has already set in. As a result, they often require long periods of hospital care. Sadly, amputation and premature death are not uncommon outcomes. The diabetic foot is the second leading cause of diabetes-related deaths in Nigeria, accounting for 24% of all diabetes mortalities.

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Foot ulceration is a cause of terrible suffering for those with the condition and their loved ones; the costs are high in economic, as well as human terms. In Nigeria, patients are required to pay for medical treatment. Typically, people with foot complications suffer diabetes-related co-morbidities, such as kidney failure or eye damage, which

also require costly treatment. A national health insurance scheme was introduced recently, but is a long way from reaching optimal performance.

Key problems in the healthcare sector include understaffing and poor remuneration, resulting in low levels of motivation and low morale among healthcare providers. In response to understaffing, relatives of people with foot ulcers often assist hospital staff to cover the care needs of family members. These shortcomings in healthcare provision in turn motivate people with foot problems to seek help from traditional healers. This constellation of negative factors further contributes to the high rates of death among people with diabetes foot ulceration.

Psychosocial costs

Two thirds of people with diabetes foot complications require some form of amputation, after which, their care options are minimal. Facilities for prostheses are not accessible – or affordable. There is no

High costs, low awareness

and a lack of care – *the*

diabetic foot in Nigeria

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Nigeria, with a population of about 128 million people, is Africa's most populous country. Life expectancy at birth is 47 years; about 60% of the population live below the poverty line. While healthcare structures and institutions are inadequate, and there is a chronic lack of skilled healthcare personnel, diabetes is on the increase. Uncontrolled urbanization is the driving force behind rising obesity levels and a subsequent boom in levels of type 2 diabetes. Given this scenario, it is not surprising that problems associated with diabetes foot ulceration, quite literally cripple individual sufferers, place a huge strain on the economy of their families, and represent a growing threat to the economy of the country. The authors describe the dimensions of the problem, including provision for foot care, in Nigeria, and propose possible steps for an effective response.

Reliable diabetes data for Nigeria are not available. A 1997 survey reported an overall prevalence of 2.2% (with a higher proportion of people with the condition living in the towns and cities compared with the rural areas).¹ But current figures will be much higher.

Large numbers of people continue to leave their rural community in search of improved quality of life and security in the urban centres. But as urban populations grow dramatically, sweeping changes have occurred in people's diet and lifestyle. Levels of physical activity have dropped sharply and much of the population regularly consumes calorie-dense fast foods and sugar-sweetened drinks. Consequently, the incidence of obesity has risen to worrying levels; overweight and obesity are now commonplace among young people, and, astoundingly, there are cases of type 2 diabetes in children and adolescents.