

## Diabetes among the African poor on the rise

A warning has been issued about the high level of diabetes in Africa, especially the number of cases that remain undetected in the continent. With the prevalence of the disease now standing at an estimated 7.7% in Africa, the South African Health Minister Aaron Motsoaledi has underlined the danger that most cases are still going undetected.

The Minister was addressing the Diabetes Leadership Forum Africa 2010 held in Johannesburg, South Africa from 30th September to 1st October. Motsoaledi said, 'If critical changes are not introduced soon, non-communicable diseases (NCDs) will increase by a further 19% in developing countries by 2015. The greatest increases will be in Africa where it is anticipated NCDs will rise by 24%.'

With NCDs now making up 59% of global deaths and 46% of diseases, figures show that as much as 80% of these occur in low- and middle-income countries. It has also been reported that Africans aged between 30 and 59 that live in and low- and middle-income countries die from NCDs at twice the rate of people in high-income countries. The main reasons for this young age bracket seem to lie in diet and the quality of healthcare.

Motsoaledi added 'In low- and middle-income countries 8 million people die prematurely annually from preventable causes. Currently more than 70% of people with diabetes live in low and middle income countries.'

## Screening for type 2 diabetes

The optimum ages for screening for type 2 diabetes and best intervals between screening episodes are not known. The results of mathematical modelling using US data have been reported.

Person-specific data from a representative sample of the US population were used to create a simulated population of 325 000 people aged 30 years without diabetes. Eight screening strategies differing in age at first screening and screening intervals were compared in the mathematical model. All of these strategies would reduce myocardial infarctions and the microvascular complications of diabetes and increase quality-adjusted life-years (QALYs).

Most strategies would reduce mortality but there would be little effect on stroke incidence. The least expensive strategies in terms of cost per QALY were: start at age 30, screen every 3 years (US\$10 512); and at 45, every 3 years (\$9731) or every 5 years (\$9786). More expensive strategies would be: at 45, every year (\$15 509); at 60, every 3 years (\$25 738); and at 30, every 6 months to age 75 (\$40 778).

It is concluded that in the USA screening would be cost-effective when including the whole population, started at age 30-45, and repeated every 3-5 years.

## Diabetes, blood glucose, and vascular disease: meta-analysis

The link between diabetes and vascular disease is well established but many details of the association have yet to be established.

A meta-analysis published in the *Lancet* has provided more detail. The analysis included 698 782 people with 8.49 million person-years of risk, from 102 prospective studies.

After adjustment for age, sex, smoking, systolic blood pressure, and BMI, diabetes was associated with hazard ratios of 2.0 for coronary disease, 2.3 for ischaemic stroke, 1.6 for haemorrhagic stroke, 1.8 for unclassified stroke, and 1.7 for other vascular deaths. Further adjustment for lipid, inflammatory, or renal markers made little difference.

For coronary disease the effects were more marked in women, in younger adults, and for fatal rather than non-fatal disease. It was estimated that diabetes accounted for 11% of vascular deaths. A fasting blood glucose of 5.6 mmol/L or higher significantly increased the risk of coronary disease. Among people without diabetes fasting blood glucose measurement did not improve prediction of vascular disease more than the use of several conventional risk factors.

The conclusion reached was that diabetes increases vascular risk independently of other conventional risk factors.

## Physical exercise helps reduce the risk of gestational diabetes

Doing some physical activity both before and during pregnancy can really help lower the risk of gestational diabetes, says a new study from the US.

Research from the Harvard School of Public Health has revealed that physical exercise undertaken before pregnancy can cut the chances of gestational diabetes by up to half, while exercise during the early stages of pregnancy can also reduce the risk by a quarter.

The research team looked at studies of the physical activity of nearly 35 000 patients before pregnancy and the resultant rate of gestational diabetes, with a total of 2813 cases of gestational diabetes being reported. They also did a similar analysis of 4401 patients in early pregnancy, of which 361 developed the condition.

It was found that women who did the most exercise before pregnancy were 55% less likely to develop gestational diabetes later than those who did the least exercise. The benefit of this went down to 24% for those exercising during early pregnancy.

Based on their evidence, the study recommends that any physical activity could help prevent gestational diabetes and its complications. The study also advises that pregnant women should undertake half an hour of moderately intense exercise every day.