Alessandra Ferrario and Panos Kanavos

Progress in addressing the growing diabetes epidemic is lagging behind due to poor control of the disease

Blog entry

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Alessandra Ferrario and Panos Kanavos discuss the evidence emerging from the first three country papers published in a special issue on diabetes management coordinated by the Medical Technology Research Group (MTRG) based at LSE Health and Social Care.

Poor control of diabetes rather than access to treatment is currently hampering countries' efforts in managing the disease. And this is true not only in emerging countries like Mexico, Thailand and Turkey but has been confirmed by findings from previous research conducted by the MTRG on diabetes in five European countries with well established healthcare systems.

High levels of sugar in the blood can damage blood vessels with negative impact on the heart, eyes, foot, renal and nerve system. If not properly managed, diabetes complications can lead to heath attack, stroke, blindness, lower limb amputation and renal failure. This is why it is important for diabetes patients to undergo regular checks for glucose, blood pressure, cholesterol levels and screening for early signs of complications.

A study in Mexico found that only 6.6% diagnosed diabetics had good glycaemic control (defined as HbA_{1c}<7%) interestingly there was no association between poor outcomes and access to care, type of healthcare institution or health insurance (Aguilar-Salinas *et al.* 2010 cited in Barquera *et al.* 2013).

In Thailand, the percentage of diabetes patients who were treated with a glucose-lowering medication and had good glycaemic control (defined as fasting blood glucose <7.2 mmol/L) increased between 2004 and 2009. Despite almost doubling, this percentage remained low and showed a two-fold gender gap (men 7.7% in 2004 and 17.5% in 2009, women 15.8% in 2004 and 33.9% in 2009) (Aekplakorn *et al.* 2011). Again, access to treatment does not seem to be main driver of poor outcomes given that only 5.6% men and 1.9% diagnosed women remained without treatment (Aekplakorn *et al.* 2011).

In France and Spain, two countries with a long established system of universal access to health care, only 20% and 48% of patients with diabetes underwent the recommended annual foot examination respectively and only 57% underwent annual eye examination in Spain (LSE diabetes report 2012) despite diabetes being one of the leading causes worldwide of amputation and blindness (WHO).

Implications of poor diabetes control

Poor control of diabetes is particularly problematic as it can lead to hospitalisation and complications. In addition to the health burden, there is also an important financial component to consider. A study in Turkey found that the cost per hospitalised case was US$ 1,581 for insulin dependent diabetes and US$ 449 for insulin independent diabetes in 2001 (Ministry of Health of Turkey and Başkent University, 2004). This, in a country where the average health care spending per capita in 2001 was US$ 155 (WHO GHED).

So what can we do to tackle the growing diabetes epidemic, reduce incidence and improve patients' outcomes?

In response to these challenges, health systems worldwide are implementing a number of programmes and policies in an attempt to prevent diabetes type 2 (primary prevention), improve outcomes and reduce the incidence of complications for both type 1 and 2 diabetes (secondary prevention) and thus improving patients' quality of life and reducing costs. These include the introduction of primary health clinics focusing on non-communicable disease health units (UNEMES cronicas in Mexico) to improve the management and outcomes of diabetes, better data collection to generate evidence needed to inform diabetes policies (e.g. National health examination surveys in Thailand), introduction of health promotion activities and development of national diabetes plans in a number of countries.

However, important challenges remain. Despite having developed national diabetes plans, not all countries have set clear targets in terms of both process but most importantly outcome indicators linked with timelines and data. The reasons behind poor health outcomes are not yet fully understood and despite a number of interventions exists, not all are equally effective. There is therefore an urgent need to identify the most cost-effective ones which are feasible to implement given a particular country social, economic and geographical context.

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Additional papers on diabetes management in Algeria, Argentina, Brazil, India, Indonesia and Vietnam will be published in the following months. These will be complemented by a series of papers focusing on EU-5 countries, France, Italy, Germany, Spain, and the UK.