Challenges to diabetes self-management in developing countries

Xavier Debussche, Maryvette Balcou-Debussche, Stéphane Besançon, Sidibé Assa Traoré

In developing countries, financial and human resources are limited despite serious needs and multiple health challenges. More than three-quarters of the people with diabetes worldwide live in developing countries. Between 2000 and 2025, the rise in the number of people with the condition in these countries will be around 170%. In the developing world, diabetes, like other chronic diseases, is often ignored in terms of healthcare priorities; the focus remains largely on immediate and acute care rather than on prevention. The challenges involved in providing education to enable people to self-manage their chronic condition exist at three levels: patients, healthcare providers, healthcare systems.

Challenges for people with diabetes

There is a great deal of evidence to support the idea that difficulties relating to adherence to therapy have a range of causes: therapeutic interventions in chronic diseases are multiple, simultaneous or sequential. These interventions are based on causal perceptions, on the stage and severity of the disease, on the social and economic context, and on access to resources and healthcare. It is common in developing countries for people with a chronic disease to seek the help of a traditional or faith healer. However, in all cases, people with diabetes will ultimately need the help of biomedicine, whatever their social or economic status.1 The various interactions and influences at social, cultural and material levels in a person’s environment make the relationship between knowledge, attitudes and behaviours complex.2 On a practical level, it is important to take into account the limits of therapeutic education initiatives in relation to accessibility, the lack of social support and the cost for the individual – particularly in low-resource settings in developing regions.
Challenges for healthcare professionals
Healthcare providers face real difficulties in managing people with diabetes in the long term. Access to oral diabetes medications and insulin are limited and these are costly. People with diabetes often have to pay for their treatment in full. Moreover, many developing countries suffer a lack of doctors and other healthcare providers. Often, the lack of screening and access to check-ups means that diabetes is discovered only when severe complications have developed. Blood glucose control is very seldom available. HbA1c testing is available only in large cities. Analyses are very costly and done mostly by private laboratories. In Mali and Burundi, where the average monthly salary is 60 EUR, an HbA1c test costs 15 EUR. In this context, more than 70% of people never undergo long-term blood glucose testing and have to settle for monthly urine or capillary blood glucose monitoring. A blood glucose testing device costs around 100 EUR; the price of test strips varies between 25 EUR and 40 EUR per box of 50.

Educational activities for people with diabetes are practically non-existent. The barriers include lack of time, cultural and economic constraints, the lack of availability of treatments, the cost of food, and the lack of training for healthcare providers. In an environment dominated by infectious diseases, healthcare professionals often forgo the investment required for the effective management of chronic diseases.

Challenges for healthcare systems
In developing countries, healthcare policies are focused on the threat posed by acute diseases. Guidelines and national policies on diabetes are largely missing; there is no structured policy to buy generic medications at low cost, contrary to what is being done for HIV/AIDS. Public health systems face major challenges while the costs of healthcare, treatment and screening are met by people with diabetes.

Some solutions
Despite the problems relating to insufficient numbers of healthcare providers and minimal access to treatment and screening, several potential solutions could be explored:

- Educational initiatives can be combined with screening, prevention and follow-up, and adapted to local circumstances. This structure facilitates the identification of people who are in real need of medical advice, based on simple clinical indicators and realistic thresholds (BMI, waist circumference, smoking, blood glucose levels, duration of diabetes, clinical signs of complications), and reduces the need for medications through simultaneous action on the various risk factors.
Peers and healthcare providers other than doctors can be used in follow-up, prevention and education. With adequate training, and supported by the medical expertise required to treat diabetes and its complications, these people can take responsibility for follow-up. This approach would allow doctors to spend time in their field of expertise.

In each country, at least one diabetes specialist centre should be identified as a country-wide reference for diabetes.

Some examples

Mali and Tanzania
In Mali and in Tanzania, decentralization has enabled simultaneous access to treatment and basic diabetes education. In Mali, admissions for serious emergencies due to hypoglycaemia have decreased. The presence of doctors at the lowest level of the healthcare pyramid has facilitated the provision of patient education on injecting insulin. This has resulted in a reduction in risks linked to insulin injection.

In many developing countries, self-monitoring is not recommended by healthcare professionals because it is too expensive. The example of Mali, however, demonstrates that the decentralization of care, and initiatives on test strips can lead to a two- to three-fold reduction in the cost of blood glucose control and a sharp increase in its availability.

The structure of care is complementary to the establishment of education. The ‘Step by Step’ approach5, which has been tried out in India, Tanzania and Mali, optimized the prevention and management of foot lesions – with spectacular results in Tanzania. In Mali, the results achieved by the foot unit in the Bamako district are also very impressive.6

Burundi
Following the military conflicts in Burundi, the frailty of the healthcare system made the implementation of preventive initiatives a priority. In 2007, a structured programme of education and prevention was put in place in Bujumbura. With the combined efforts of healthcare centres, NGOs and patient associations, free blood glucose testing was made available. In less than 2 years, more than 2000 people initiated an educational cycle. Precise indicators collected during educational sessions provided a view of population health status and enabled healthcare services to focus on those in most need of treatment. Educational programmes took into account problems of accessibility for people with low literacy.7 From June 2007 to March 2009, 27 doctors, 44 nurses and 22 health educators received training.

Conclusion
Access to diabetes self-management is a major challenge in developing countries. In order for existing initiatives to be sustainable, a diabetes care system needs to be established with human resources trained at the central and peripheral levels. Geographical and financial access to treatment are key factors. Equally, access to education must be made a priority. These investments will engender long-term reductions in the high costs generated by diabetes complications.

References