The world is facing a dramatic rise in diabetes prevalence, most of which is occurring in the low- and middle-income countries; it is projected that by 2025, more than 75% of people with diabetes will live in developing countries. This is having a major impact on the quality of life of hundreds of millions people and their families. Furthermore, the negative effects of the obesity-driven diabetes pandemic are being felt in the economy of those countries that are in most need of development.

Fereidoun Azizi reports on the programme in the Islamic Republic of Iran for the control and management of diabetes. This involves a systematic approach for the delivery of health care to people with the condition.

In recent years, type 2 diabetes has claimed the attention of the health authorities of the Islamic Republic of Iran. Current estimates put the number of people with the condition in Iran at around 3.5 million out of a total population of just over 68 million. Since 1991, activities for the prevention and control of diabetes have been initiated in the form of a pilot study in two rural areas. However, due to the lack of practical screening tests and adequately equipped health centres, these initiatives were discontinued in 1993.

Furthermore, in the same year, a new comprehensive national strategy was designed for the prevention and control of type 2 diabetes. The Iranian National Diabetes Committee set up provincial advisory sub-committees for diabetes — with a participating endocrinologist or internist in each — to act as a ‘diabetes focal point’ for each province. Since 1999, the national programme has been piloted in 17 provinces.¹

In 1996, a vital step was taken towards nationwide diabetes prevention when a report covering the diabetes situation was presented to the World Health Organization (WHO).² Indeed, Iran was one of the first countries to respond to the call for action from the Eastern Mediterranean Regional Office of WHO for the prevention and control of diabetes.³ The national programme for the prevention and control of type 2 diabetes was also drafted in 1996.

The aim of this programme is primary, secondary, and tertiary prevention, through community and high-risk screening, and the integration of diabetes care into the primary health-care network. In 1997 and 1998, the Ministry of Health and Medical Education, with the co-ordination of the National Diabetes Advisory Committee, launched comprehensive diabetes workshops for physicians, nurses and nutritionists.
Objectives

The aim of primary prevention, one of the specific objectives of the programme, is to reduce the number of people with type 2 diabetes and the prevalence and incidence of modifiable risk factors for the condition – such as obesity, physical inactivity, and unhealthy diets.

Strategies for achieving these objectives include:

- the modification of lifestyles in high-risk Iranian populations
- the screening of those at risk of type 2 diabetes
- the control and follow up of high-risk populations
- the enhancement of diabetes awareness and knowledge in both the community and health-care personnel.

Secondary prevention aims to prevent and reduce short-term and long-term complications, and to postpone their development. The aim of tertiary prevention is to reduce (and postpone) the number of disabilities and deaths caused by diabetes and its complications.

Health care in Iran

The national programme for the prevention and control of diabetes was adapted to fit the current health-care system. Three sectors are involved in the provision of health; government services, health insurance, and the private sector.

Out of a total population of 68 million, there are around 3.5 million people with diabetes in Iran.
The private health sector plays an important role in the delivery of health-care services, particularly in the urban areas. The public health-care system encompasses the district, provincial and national levels.

**The health house**

‘Health houses’ are located in villages and are the most outlying rural facility in the district health-care network. Each health house is capable of offering primary health-care services to about 1500 people, and often covers up to five villages. The health house is staffed by a male and a female community health worker, chosen preferably from among the local inhabitants. Currently, care is provided for about 20 million people by some 22,000 community health workers in 15,000 health houses.

**The rural health centre**

The rural health centre is a village-based facility which supervises the health house in its own village and a number of other health houses in neighbouring villages – covering around 9000 people. A fully established rural health centre includes on its staff at least one person with training in the following fields: family health, disease control, environmental health, oral health, laboratory technology, nursing assistance and administration. A physician supervises the staff. At present, there are over 2000 operational rural health centres.

**How it works**

Four levels of health care have been designed. At the first level, the community is screened at health houses and urban health centres. At the second level, general physicians and laboratory facilities are made available in the rural and urban health centres in the form of a diabetes team. General physicians treat all people with diabetes according to established protocols.

Specific considerations for the prevention of type 2 diabetes are needed at all levels.

People with diabetes are then referred for screening of complications to the third level, which is located in a district hospital where an internist or endocrinologist, a full-time educational nurse and a part-time nutritionist staff the diabetes unit. People who need more specific facilities for diagnosis and treatment are referred to the fourth level, which is situated in a university hospital, and has a diabetes team consisting of an internist or endocrinologist, a full-time nurse and a part-time nutritionist. The third and fourth levels are responsible for the detection and management of the complications of diabetes.

Conclusions

We have enough evidence to be certain that a reduction in the number of people with diabetes complications – with the resulting major improvements in quality of life – and a reduction in expenditure can be achieved through the establishment of effective mechanisms by health authorities. The appropriate control and management of diabetes, education of the population and use of advanced technology for diabetes health care would all contribute to improved quality of life. However, in spite of the high prevalence of diabetes and its complications and the availability of successful prevention strategies, essential health-care requirements and facilities are still lacking for the control of this chronic health condition.

Specific considerations for the prevention and control of type 2 diabetes are needed at all levels of our health-care systems. The provision of education for health-care teams in the management of diabetes and methods for increasing knowledge in the community are key areas for improvement.

The network for the control and management of type 2 diabetes in Iran represents a systematic approach for the delivery of health care. Evaluation and monitoring has been initiated, and will play an important role in the enhancement of this urgently needed network.

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