The role of diabetes mellitus in the Gulf region

Background
Diabetes mellitus (DM) is a global health-care problem affecting millions of people worldwide. There are two major types of DM. Type 1 DM (T1DM) is caused by a viral, chemical or physical destruction of the pancreatic beta cells leading to suboptimal blood level of insulin. T1DM constitutes approximately 10% of the total number of diabetics. Type 2 DM (T2DM) is, however, more prevalent, affecting about 90% of people with DM. It is a genetically predisposed disease and often precipitated by unhealthy diet and physical inactivity, resulting in insulin resistance with hyperinsulinaemia and hyperglycaemia.1,2

Worldwide epidemiology
The prevalence of DM continues to increase in many parts of the world, especially in developing countries.3 The projected increase in the prevalence of DM was put at a staggering figure, from 138 million people in 2010 to 330 million in the year 2025.4–6 The increase in the prevalence of T2DM is projected to be higher in developing countries, where many more people are tending to acquire a more sedentary lifestyle and inappropriate diet.

Epidemiology in the Gulf region
As in many parts of the world, the prevalence of T2DM in the Gulf region has risen from a mere 6% in 19957 to a staggering 25% in 2005.8 The prevalence of DM has reached 40% in population aged 55 years and older.8 This indicates that DM affects more than a one-quarter of the 42.1 million people living in this part of the world. This figure is even higher if people with impaired glucose tolerance (IGT) are included.

Some of the Gulf states are currently included in the world’s top 10 countries with the highest prevalence of DM.9 According to the International Diabetes Federation > 26.6 million people in the Middle East and North Africa aged 20–79 years have DM.9 This amounts to 9.3% of the total number of people with DM in the world. This number is projected to double in the next 20 years.

The reason for the significant increase in the prevalence of type DM in developing world and the Middle East is not completely clear. However, the impact of motorization and inappropriate consumption of unhealthy food has been linked to the development of DM. Epigenetic studies have also shown that generations born during the second world war, and during a period of starvation, are now contracting T2DM. This is known as the ‘thrifty gene’ phenomenon.10

Economic burden
According to International Diabetes Federation estimates,9 > US$5.5 billion is spent annually on DM in the Middle East and Africa region, amounting to almost 14% of the health budget. For example, it was reported that about US$2960 is spent annually on each DM patient in Qatar. This is a significant burden on health-care system.11 The direct financial cost of a DM patient in Al Ain, UAE was put at US$1605, but several-fold more if the DM patient has chronic complications.12 It is well known that increased morbidity results in low economic productivity.

Social impact
The social impact of DM is enormous. It is a burden not just to the health-care system but also on the family, especially when the DM patient is an aged member of the family. Severe late complications of DM may result in blindness, amputation and cardiovascular disease, all of which have debilitating effects on the patients and their immediate family members.

Efforts by governments to combat the disease
Member states and the Gulf region have been making significant efforts to stem the ever increasing prevalence of DM. DM has now become one the more important research priority areas across the Gulf region. In addition, Diabetes Research Centres and Hospitals dedicated to the care of diabetic patients have been established in many Gulf
Cooperation Council (GCC) states. There are specialized Departments for the control of diabetes in the Ministry of Health of GCC countries.

Secondary prevention programmes target people with T2DM. Specialized DM clinics have also designed a variety of programmes that help prevent the exacerbation of both acute and chronic complications of DM (nephropathy, retinopathy and neuropathy), thereby improving the well-being of the patient.

Future perspective

Diabetes mellitus will continue to impact on the health of people in many regions of the world including the Gulf states. Prevention rather than cure will be a hallmark of the struggle against DM. Primary prevention that will reduce the incidence and prevalence of the disease is likely to include more patient education about the importance of lifestyle changes and the consumption of a healthy diet. Mass media will continue to be used to draw the attention of the population to the facilities the governments have put in place, including recreation parks, bicycle tracks, public swimming pools and many other amenities.

As the onset of T2DM can be delayed, it is therefore worthwhile to do what we can to beat this chronic and debilitating metabolic disorder.

References

10 Lindsay RS, Peter H Bennett PH. Type 2 diabetes, the thrifty phenotype – an overview. Br Med Bull 2001; 60:21–32. http://dx.doi.org/10.1093/bmb/60.1.21

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