

---

## Diabetes Mellitus in Bahrain

---

By Salwa Al Mahroos

---

Consultant Physician, Medical Dept.  
Salmaniya Medical Centre  
State of Bahrain

---

Diabetes affects a large number of people of all social classes. The majority of diabetics are non-insulin dependent.

The increase in the number of diabetics during the past 15 years in Bahrain is associated with the change in life style of the populace, mainly food patterns, widespread obesity and reduced physical activity.

Insulin dependent diabetics are generally susceptible to the disease and under the influence of some environmental trigger, develop diabetes. They have defective immunological mechanisms. They are usually symptomatic and are often admitted to hospital with ketoacidosis. They depend on insulin for survival. Some of these patients develop complications such as retinopathy and nephropathy not infrequently before the age of 25 years. This disease has a great psychological and social impact. The majority of patients depend on health centre staff to give them twice-daily injections and this results in poor control of diabetic status. Health education is very important and is usually undertaken by the treating doctor. At Salmaniya Medical Centre, we have 3 trained nurses in diabetic education who hold group discussions, teach patients to test their blood sugar and to inject themselves with insulin.

The majority of non-insulin dependent diabetics are obese and constitute the largest number of the diabetic population. It is possible for most of these patients to be controlled by diet and exercise but few observe these two points, mainly due to lack of intense education which needs a personal interest in the matter and visits to the patient at home. A number of these patients need oral hypoglycaemic together with diet and exercise, they may develop cardiovascular, renal, neurological and ophthalmic complications.

Patients with impaired glucose tolerance, diagnosed by O.GTT at 2 hours glucose 120-180 mg%, are liable to develop complications more frequently than others especially neuropathy and cardiovascular. This type of diabetes can be controlled by diet only.

Gestational diabetes diagnosed during pregnancy. These patients are managed at the combined ante-natal medical clinic held at Salmaniya Medical Centre. This type of diabetes is controlled by diet and insulin. The majority of these patients will require small doses of insulin and follow up at the medical clinic after delivery. Some will continue to

have diabetes after delivery and some will be normoglycaemic after delivery but become hyperglycaemic on subsequent pregnancy.

In female patients who are pregnant, diabetes is diagnosed by fasting blood glucose and estimating blood glucose one hour after ingestion of 50 gm glucose. A value of over 150 mg% shall be diagnosed as gestational diabetes. If the patient is diagnosed as having gestational diabetes after screening a GTT will be arranged as a confirmatory procedure.

At this time, we screen all female patients who are pregnant. However, for the general population, blood glucose estimation carried out routinely for every patient admitted to hospital for screening is important because early detection and effective control of hyperglycaemia in asymptomatic diabetics reduces morbidity and mortality. Screening programmes are important for studying the prevalence and the natural history of diabetes in our population. Screening will make the public more aware of the disease.

The services that are available include a diabetic clinic at Salmaniya Medical Centre where health education is undertaken and a dietitian is stationed in the outpatients department. Also, screening for retinopathy and referral of the patients to diabetic retinopathy clinic and screening for nephropathy by regular urine estimation of proteinuria. Currently we test the urine for proteinuria and when this is present, the changes are usually irreversible. Ideally the urine should be tested for microalbumin and if microalbumin is present, the kidney changes may be reversible. Unfortunately, this test is not available in our laboratory.

Primary prevention of Insulin Dependent Diabetes Mellitus is not feasible on the basis of current knowledge. Secondary prevention through attempts to arrest the autoimmune beta cell destruction by using cyclosporin A have been tried in several centres.<sup>1</sup> We have not attempted this as its widespread use as a preventive measure should await the results of prospective studies.

In non-insulin dependent diabetics there is a strong association between obesity and lack of physical activity with diabetes. I have noticed an improvement in glucose tolerance when the patient is engaged in regular exercise, also when food patterns are changed from refined carbohydrate, high fat diet to high fibre, low fat diet.

Education and training of patients and their families are the most important aspects of good diabetic care. Education of the general population is an integral part of a prevention oriented approach to diabetes mellitus. Diabetes is still not perceived by the community or the health services as a public health problem.

An epidemiological research programme is needed to determine the prevalence and incidence of different forms of diabetes in Bahrain. Local environmental factors that may be diabetogenic should be investigated. Mortality and morbidity data of various types of diabetes should be studied.

## REFERENCE

1. Stiller C R, et al. Cyclosporine for treatment of early type I diabetes: preliminary results. *New Engl J Med* 1983;308: 1126-1230.