

Poverty, stress and unmet needs: life with diabetes in the *Gaza Strip*

✉ Panagiotis Tsapogas

The political and social situation in the Gaza Strip remains tense, with considerable disruption of normal economic and social activity. Such an environment is rarely conducive to the delivery of continuing medical care. In this article Panagiotis Tsapogas, Medical Co-ordinator of the Greek section of Médecins Sans Frontières (Doctors Without Borders) in Gaza, 2002-2003, reports on the difficulties faced by Palestinian people with diabetes in Gaza, and makes a call for the provision of improved diabetes care.

The Gaza Strip lies on the south-east coast of the Mediterranean Sea between Israel and Egypt. It is populated by 200 000 original inhabitants, primarily of rural or semi-urban occupation, and 1 300 000 people with refugee status who live in the city of Gaza and the refugee camps dispersed within the Strip. This is a mainly urban population. Many of the people work in Israel or within the Strip, or in the services of the modern city of Gaza and the refugee camps.

Following the outbreak of the Intifada in September 2000, a comprehensive closure was imposed on the Occupied Palestinian Territories. This denied the Palestinians residing in the West Bank and Gaza Strip the right to enter occupied East Jerusalem and Israel. As a result,

unemployment in the Strip rose to 60-80%. Poverty is now a major concern in the city, the villages, and the refugee camps.

Stress and forced urbanization

Palestinian population centres combine several unfortunate features with regard to health care. The typical enemies of war-stricken impoverished people, such as malnutrition and infectious diseases, co-exist with non-communicable health conditions such as obesity and diabetes – aggravated by forced urbanization and the loss of the traditional way of life.¹ In addition, the population remains in a prolonged state of psychological stress due to the ongoing political uncertainty, and the everyday bombing and military violence.

People are in a prolonged state of stress due to the political uncertainty, and the everyday military violence.

The status of diabetes care

Health services to the people with refugee status are provided by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA); the structures of the Palestinian Ministry of Health provide health-care services to the original inhabitants. An important part of the population (100 000 people according to some estimates) has no documents to prove their



identity. The majority of these people are not covered by any medical services or insurance schemes. These people are served by local non-government organizations, such as the Union of Palestinian Medical Relief Committees. These organizations run small diabetes outpatient clinics for people with the condition, which are relatively cheap or free of charge. The same applies for most of the Bedouin populations, formerly nomadic people who now live in their own villages on the outskirts of the urban centres.

The rate of diabetes prevalence in Palestine was estimated to be around 9% in a study conducted in 2000 in co-operation with Al Quds University, Jerusalem. This rate is the same as that reported in Egypt

and Tunisia, and is lower than those in Saudi Arabia (12%) and Oman (13%).^{2,3} People with diabetes in Gaza are diagnosed and followed by UNRWA and Ministry of Health clinics. In the Gaza Strip, by the end of 2002, there were 14 726 Palestinian refugees with diabetes under the supervision of UNRWA; 600 new cases of Type 1 diabetes and 2280 of Type 2 diabetes were registered. The incidence rate of new cases among refugees was 244 per 100 000.

About 19% of newly diagnosed people with diabetes were under 30 years, 27% were between the ages of 40-59 years, and 54% were aged 60 years and above. Ministry of Health data regarding the prevalence of diabetes in Gaza are not available. While 26% of people with diabetes are overweight, the >>

prevalence of obesity among people with diabetes in Gaza is 61%.²

Gestational diabetes is under-reported in the Gaza Strip and perhaps in all of Palestine.

Gestational diabetes is under-reported in the Gaza Strip and perhaps in all of Palestine. In a study conducted under the

NPH stands for neutral protamine Hagedorn. **NPH insulin** is an intermediate-acting insulin; it starts to lower blood glucose within 1-2 hours after injection. It has its strongest effect 4-8 hours after injection but continues working for about 10-12 hours after injection.

Insulin analogues are insulins which have been genetically modified to overcome some of the disadvantages of traditional insulins.

Haemoglobin (Hb) is the protein in the red blood cells which carries oxygen to the cells. **HbA_{1c}** (haemoglobin A_{1c}, or glycated haemoglobin) is haemoglobin which has combined permanently with the glucose present in the blood. Because the amount of the complex

auspices of WHO during 1999 and early 2000, the overall prevalence of diabetes among pregnant women in southern Gaza Strip was 0.5%, which was below the nationally reported prevalence.⁴

The blood-glucose-regulating medications, glibenclamide and metformin, insulin in vials and syringes are provided free both by the Ministry of Health and UNRWA clinics. Regular and **NPH insulins**, as well as a

which forms is proportional to the average glucose concentration in the blood, and because glucose stays attached to the HbA_{1c} for the life of the blood cell (about 3 months), a blood test to measure HbA_{1c} reflects the person's average blood glucose for that period of time, and can therefore be used as a measure of long-term blood glucose control.

The major effect of **statins** is to lower blood LDL-cholesterol (bad cholesterol) levels. Statins inhibit an enzyme which controls the rate of cholesterol production in the body.

Drugs called **ACE-inhibitors** are used to treat high blood pressure (hypertension) and have been shown to reduce the progression of diabetic kidney disease.

30/70 mixture (a mixture of short- and extended-acting insulins) are the available insulins. In general in the Gaza Strip, no other anti-diabetes agents, no other insulin mixtures, no **insulin analogues** and no pen injectors are used by the people with diabetes.

Nevertheless, the minority of people who can afford private health care may buy more advanced treatment from private chemists (pharmacies) or from abroad. In 2003, two people with diabetes used pumps with an insulin analogue.

Health education or lifestyle advice is given hastily and superficially, if at all.

Poverty and lack of resources

Sadly, it is to be expected that adequate standards of health care for people with diabetes and other chronic medical conditions are not met in war zones like the Palestinian Territories. People with diabetes in Gaza do not receive the support of dieticians, foot specialists, psychologists or diabetes educators. In the standard visit, people with diabetes commonly have the opportunity to monitor their body weight and blood pressure level, and undergo fasting or random blood glucose testing using a test strip.



Children and young people with Type 1 diabetes are encouraged towards self-monitoring. However, most of the families are in no position to buy test strips. Self-monitoring is rarely recommended to people with Type 2 diabetes, since very few can afford the necessary supplies. Most of the people with diabetes we met reported that any health education or lifestyle advice is given hastily and superficially, if at all. Most of these people were quite aware of the chronic complications of diabetes – each of them could name a relative or a neighbour who suffered at least one diabetes complication.

Due to the limited funds, the regular follow up of diabetes in the Gaza Strip provided by the UNRWA and Ministry of Health clinics does not include the measurement of glycated haemoglobin (**HbA_{1c}**).

Microalbuminuria testing to screen for diabetes kidney damage is not carried out. There is no provision of **statins** or **ACE-inhibitors**.

Hope and help

A great deal of work must be done to improve diabetes care in Gaza. A large number of people with the condition are served by a disproportionately small number of diabetes clinics. The health-care professionals who treat people with diabetes require initial in-depth training and continuing education. It is important that the young doctors and nurses become familiar with the early diagnosis and prevention of diabetes complications. There appears to be little hope of providing training for specialists, who are also required.

Funds for further testing and the establishment and running of diabetes clinics and the training

of doctors and nurses are difficult to find, mostly because chronic conditions such as diabetes and their complications are not perceived as emergency needs. Nevertheless, we hope that this article reminds the motivated readers that in a war zone like Gaza, there are people living with diabetes, and that these people need help and hope.

☒ Panagiotis Tsapogas

Since 1996, Panagiotis Tsapogas has been a Registrar at the University Clinic of the 1st Department of Propedeutic Medicine, Laiko General Hospital, Athens, Greece. He joined the Greek section of Médecins Sans Frontières (Doctors Without Borders) as the Medical Co-ordinator in Gaza (July 2002-July 2003). He has been a member of the Administrative Council of the Greek Section of Médecins Sans Frontières since July 2003.

References

- 1 Abdul-Rahim HF, Hussein A, Bjertness E, Giacaman R, Gordon NH, Jervell J. The metabolic syndrome in the West Bank population: an urban-rural comparison. *Diabetes Care* 2001; 24: 275-9.
- 2 Palestinian National Authority: Ministry of Health. The Status of Health in Palestine, Annual Report July 2003: 214-26.
- 3 Kishawi S. Diabetes mellitus in Palestine. Abstract Book of the 7th Pan Arab Conference on Diabetes. Cairo: 2003, 1; 1. (http://www.onlinediabetes.net/abstract_76.htm)
- 4 Olfat Shaáth. Diabetes mellitus and pregnancy among Palestinian women in Gaza: risk factors, complications, outcome and quality improvement plan. Special Studies Program of the Pilot Health Project West Bank and Gaza. United States Agency for International Development, 2001. (http://www.dec.org/pdf_docs/PNACN566.pdf)