

# A nurse-led clinic for women with IGT following gestational diabetes

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## Introduction

From audit of their diabetic antenatal clinic over several years, the authors identified a group of women with residual impaired glucose tolerance following gestational diabetes mellitus (GDM). This suggests that these women have a higher than normal risk of developing type 2 diabetes. In October 1997, therefore, the authors set up an annual, nurse-led clinic for these women. The aim of the clinic is to provide a screening and education service from the same diabetes team who cared for these women during their pregnancies.

The Central Middlesex Hospital is situated in Brent and Harrow Health Authority. This area contains a mix of ethnic groups (Table 1), many of which are known to be at increased risk of developing type 2 diabetes. Indo-Asian women, for example, have an 11-fold increased risk of developing gestational diabetes mellitus (GDM) compared with caucasian women (Dornhost et al, 1992). Also, the prevalence of impaired glucose tolerance (IGT) and of type 2 diabetes is known to be increased in migrant populations (Alberti, 1996).

### Importance of screening a multi-ethnic population

In view of this demography, the departmental team at the Jeffrey Kelson Diabetes Centre, Central Middlesex Hospital, do a lot of work on screening, education and prevention of type 2 diabetes within the local community. In such a high-risk local population, this investment of resources is both justified and important. This strategy is supported by Yue et al (1996), who argue that where resources are limited, screening should be concentrated in areas with a large, non-Anglo-Celtic population.

We have a strong screening programme for GDM. All women with GDM are given a 75 g oral glucose tolerance test (OGTT) at 6 weeks postpartum to identify those with residual IGT. As IGT is known to predict an increased risk of developing type

2 diabetes (Rossi and Dornhost, 1996), we felt that an annual clinic for this group would be an appropriate addition to our programme of screening and education.

However, despite years of debate, it is still unclear how often the interventions need to be made to maintain improvements in knowledge and changes in behaviour. Day et al (1992) obtained significant improvements in some clinical indicators after increasing the educational input of their diabetes specialist nurses (DSNs) during annual review appointments, and Roberts et al (1991) found that patients' knowledge scores improved after annual visits with a similar increase in educational input from the DSN.

**Table 1. Ethnic groups as a percentage of the population of Brent**

Ethnic group	Percentage
White	55.2
Afro-Caribbean	10.2
Black African	4.1
Indian	17.2
Pakistani	3.0
Chinese	1.1

From OPCS (1993)

## ARTICLE POINTS

**1** Women with impaired glucose tolerance following gestational diabetes are at increased risk of developing type 2 diabetes.

**2** Resources for screening and education are best concentrated in areas of high risk.

**3** Education can promote earlier diagnosis and delay the onset of type 2 diabetes.

**4** The diabetes specialist nurse is ideally qualified to provide this education.

**5** Realistic weight loss combined with sensible diet and exercise underpins our approach to prevention.

## KEY WORDS

- Gestational diabetes
- Impaired glucose tolerance
- Screening
- Education

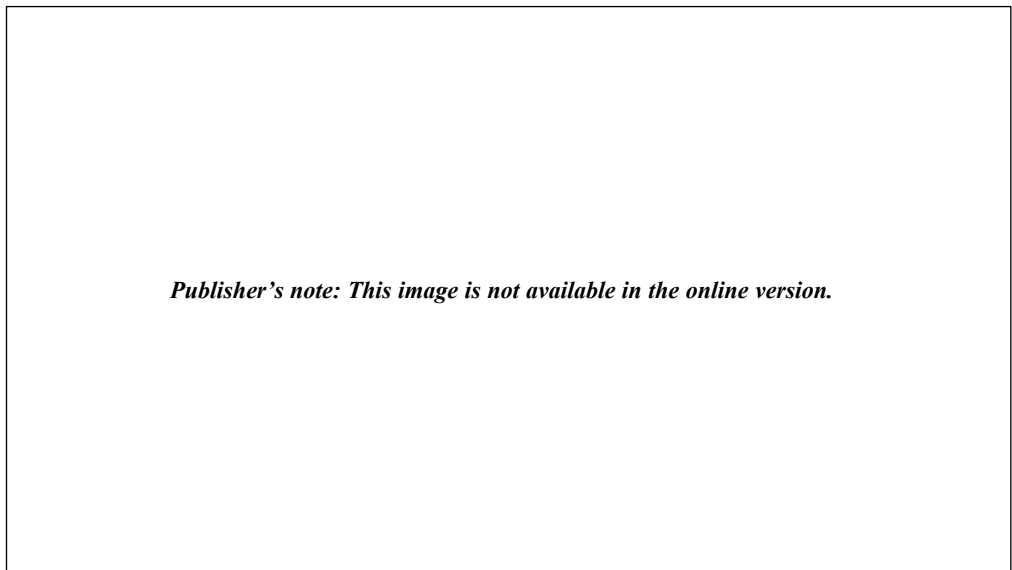
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**PAGE POINTS**

- 1 The future role of the DSN will include increasing input as a specialist educator.
- 2 Women with impaired glucose tolerance received screening and education from both the DSN and the dietitian in the annual clinic.
- 3 Education from the DSN focused on the importance of early diagnosis of diabetes and how to prevent or delay its onset.
- 4 Patients are taught that they can reduce their risk of developing diabetes by realistic weight loss and sensible diet and exercise.

**Table 2. Screening procedure during the impaired glucose tolerance clinic**

On arrival		At 2 hours
Weight		Patient advised of her body mass index
Height		
Fasting lipid profile		
Fasting capillary blood glucose	354ml Lucozade given	Capillary blood glucose
Fasting venous plasma glucose		Venous plasma glucose



*Figure 1. A diabetes specialist nurse giving a talk on diabetes to Asian women.*

**A nurse-led clinic**

Once women with GDM are identified in the screening process, they are transferred from the general antenatal clinic to a diabetic antenatal clinic in the diabetes centre. Their care is supervised by both an obstetrician and a diabetologist. Some of the women attend almost weekly and are seen by the midwife and a DSN; this allows the women to build up a trusting relationship with the staff, and good continuity of care is achieved.

The role of the DSN as an educator has been emphasised in many papers, e.g. Day et al, 1992. Sue Higgins (1997), when Chair of the RCN Diabetes Nursing Forum, predicted that the role of the DSN in the future would include increasing input as a specialist educator.

In order to draw upon existing relationships the DSN was therefore the ideal person to continue to educate the women returning with IGT. She was the

person most familiar with each woman's knowledge base.

The clinic was structured in three parts:

- Screening
- Education from the DSN
- Education from the dietitian.

We designed a leaflet summarising the educational input, which the women could take home with them, and so reinforced our message. The screening carried out during the clinic is summarised in Table 2.

**Education from the DSN**

The 2-hour period between the OGTT blood samples was used for the group teaching sessions. Within these sessions there was opportunity for questions and discussion. In our clinic the DSN involved speaks several of the languages that are common among the non-English-speaking patients in our area. The education from

the DSN concentrated on two areas: an understanding of the importance of early diagnosis of type 2 diabetes and measures to prevent or delay its onset (*Figure 1*).

#### Early diagnosis

As some understanding of the potential complications of diabetes is necessary for appreciation of the importance of prevention and early diagnosis, the emphasis of the first part of this session was on the recognition of symptoms and the importance of screening.

The women will be offered annual screening at the Central Middlesex Hospital, but were encouraged as a minimum to take a specimen of urine to their GP once or twice a year to check for glycosuria. They were also taught the common signs of the onset of diabetes such as nocturia, thirst, blurred vision, infections and tiredness. It was emphasised that these symptoms do not always accompany the onset of diabetes.

#### Prevention or delay of onset

Although some risk factors, such as ethnicity and age, cannot be influenced, the patient does have influence over factors such as diet, weight and exercise. The approach adopted by the DSN in this part of the session, and by the dietitian following on, was to combine realistic weight loss where necessary with a sensible diet and exercise.

Obesity is associated with insulin resistance. Patients were encouraged to lose a realistic amount of weight, usually about 10% of their body weight, and to maintain this rather than trying to lose more weight. As 45% of the women at this clinic had a body mass index (BMI) below 25, we simply emphasised the importance of maintaining this weight.

Exercise is important for all women with IGT as it can improve insulin sensitivity and secretion. We suggested that they aim for 30 minutes three to five times a week (Health Education Authority, 1996), aiming to become slightly out of breath. We pointed out to them that often this can be incorporated into their lifestyle quite easily. It could mean taking up activities such as swimming or gardening, but might also

be achieved by just walking more quickly than usual, especially if pushing a pram! Obviously this has to be considered with each woman individually as circumstances and opportunities vary.

The DSN also included a quick word about smoking cessation and the extra risk of cardiovascular disease in diabetes. She handed out a leaflet on preconception health for any of the women planning a further pregnancy.

#### Education from the dietitian

Our dietitian is also based in the diabetes department and had already met most of these women individually during their pregnancies. The group session for this clinic was designed to promote a normal healthy diet in a practical and culturally appropriate way.

The dietitian provided samples of various ethnic foods to demonstrate portion sizes and the proportions of the various food types to aim for. The basic education we are giving now is as follows:

- Eat sensible regular meals and avoid snacking between meals
- Take advantage of all the diet drinks available, and be aware of the amount of sugar in fruit juice
- Eat more fruit, vegetables and starchy foods, but cut back on fats and proteins.

Again, we gave the women leaflets to take away and summarised this information in bullet points in our own leaflet.

#### Outcome of screening

Our audit identified all women with IGT following GDM attending our clinic since 1994. Fourteen women were identified, but two could not be contacted and were presumed to have moved out of the health authority.

All of the remaining 12 women attended the IGT clinic. They were given the choice of two clinic sessions, and one woman was seen individually. She was not given the full teaching sessions but was given information in leaflet form.

Of these 12 women, one (8.3%) was diagnosed with type 2 diabetes from a fasting glucose of 14.9 mmol/litre, although she presented asymptotically. She was sent an appointment at our new patient clinic.

#### PAGE POINTS

**1** Exercise can improve insulin sensitivity and secretion.

**2** Thirty minutes exercise three to five times a week is suggested.

**3** Education from the dietitian aimed to promote a normal healthy diet in a practical and culturally acceptable way.

**4** Patients were advised to eat sensible regular meals and avoid snacks between meals.

**5** Verbal information was always backed up by written information in the form of leaflets which patients took away with them.

**PAGE POINTS**

**1** The IGT clinic allows resources to be invested to prevent or delay the onset of type 2 diabetes in women known to be at high risk.

**2** The clinic will be run annually and expanded as part of a wider screening programme.

**3** The clinic will be assessed more formally using attendance rates and a knowledge questionnaire before and after the teaching sessions.

Four (33.3%) appeared to have reverted back to normal glucose tolerance. These women will be invited back next year; if their OGTT is still normal they will be dropped from the clinic list.

Four (33.3%) of the women still had IGT.

When we contacted the women we found that three had already been diagnosed with type 2 diabetes and were being treated by their GPs.

One woman was found to have raised triglyceride levels with a normal cholesterol level.

Each woman was asked informally if she had found the morning useful and all gave positive replies which seemed enthusiastic.

**Conclusion**

Our IGT clinic allows us to invest some of our resources in an effort to prevent or delay the onset of type 2 diabetes in women known to be at high risk. We will continue to run the IGT clinic annually as part of a wider screening programme and expand it to cover new women each year.

We would like to assess it more formally next year using attendance and non-attendance rates and a knowledge

questionnaire before and after the teaching sessions. We would also like to look in more detail at the effect of the clinic on clinical parameters such as BMI. We will continue to collect data on these women for analysis as our sample size grows. ■

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