

Nurse-led management of newly diagnosed type 2 diabetes

Joan Everett and David Kerr

ARTICLE POINTS

1 The diagnosis of diabetes can have a profound psychological impact upon the individual and his/her family.

2 Immediate reassurance, support and information are essential to reduce the anxiety generated by the diagnosis.

3 Traditionally, newly diagnosed type 2 diabetes is managed initially by doctors in primary or secondary care.

4 There is often little systematic education or support.

5 A novel, nurse-led system of care has been developed, where all aspects of therapy, including the initiation of oral agents if necessary, are managed by the DSN for the first 3 months.

KEY WORDS

- Type 2 diabetes
- Newly diagnosed
- Nurse-led care

Introduction

This article describes the establishment of a nurse-led service for people with newly diagnosed type 2 (non-insulin-dependent) diabetes mellitus. In this system, the traditional medical model has been replaced by a structured holistic approach which enables and encourages patients to actively participate in their own care. A cohort of 156 patients who entered the programme between January and July 1994 have been followed up for 3 years. The results have demonstrated that the service is efficient, effective and associated with a high degree of patient compliance and satisfaction.

Traditionally, patients newly diagnosed with type 2 (non-insulin-dependent) diabetes mellitus face a lottery of care, with unplanned, uncertain and uncoordinated pathways. They are either referred to the hospital clinic or are managed solely by their GP. Unfortunately, there are major problems with both approaches.

This article describes the establishment of a nurse-led service for people with newly diagnosed type 2 diabetes. This service represents a change from the traditional medical model to a structured and holistic approach. As Saunders (1995) suggested:

'Nurses are in a good position to empower patients and bring about a change of attitude so that medicine is adapted to suit the patients rather than vice versa.' (Saunders et al, 1995)

We report the progress of 156 patients who entered the programme between January and July 1994 and were followed up for 3 years. The results of follow-up suggest that this novel approach is efficient, effective and associated with a high degree of patient compliance and motivation.

The problem

Mary had been feeling depressed, lethargic and generally unwell for some time. She had persuaded herself that this was due to getting

older, but she went to see her doctor because of vaginal thrush. Diabetes, her doctor had said. Diabetes! An immediate picture of grandma flashed into her mind — she had been almost blind, with continual leg ulcers, and eventually had to inject herself.

Her doctor had tried to reassure her that it was a mild form, and that if she lost some weight and cut out sugar she would be all right. Mary had lots of questions and concerns going round in her head and felt very vulnerable and alone. Her doctor had told her that the hospital would be sending her an appointment to see the consultant, but how long would she have to wait for her questions to be answered?

Before setting up the current service, we used to run diabetes education sessions and met many patients like Mary, but it was usually 3–6 months after diagnosis. A common question asked was 'Why have I not been told this before?' By this time, patients were often demotivated, inappropriately educated with myths by well-meaning friends or relatives, and blasé about their diabetes.

The diagnosis of diabetes has a profound impact on the individual and his/her family. Patients are faced with a crisis situation and develop feelings of vulnerability, fear and anxiety. They are expected to make changes to their lifestyle and cope with a condition that has no promise of a cure, many associated myths and a lifelong treatment process

Problems with the traditional medical model

During the lifetime of a person with diabetes, care is provided by the primary care team or a specialist team, or both. Primary care can and should deliver care when and where possible, but there has been scepticism about its ability to provide diabetes services (Alberti, 1991).

Although there are many examples of good practice, these are not sufficiently widespread to generate universal confidence (Benett and MacKinnon, 1996). In addition, traditional hospital diabetes clinics are notoriously overcrowded, staffed mainly by junior doctors on short contracts, and geared more to the detection and treatment of complications than the prevention, education and promotion of self-care (Ling et al, 1985).

The consensus of the European Study Group (Alberti and Gries, 1988) is that, at the initial visit, newly diagnosed patients require the following:

- Complete physical and medical examination
- Biochemical tests
- Commencement of teaching programme
- Nutritional advice
- Teaching of self-monitoring.

We discussed needs and requirements with a small group of newly diagnosed patients who attended our education programme and asked them: ‘What do you really want?’ It soon became clear that what they needed were reassurance, support, understanding, answers to questions, and information as soon as possible after the shock of being diagnosed diabetic.

The problems

The problems could be summarised as follows:

- Some patients received no education
- Some patients waited up to 3 months to be seen by a hospital doctor and only then were referred for education
- Non-attendance rates at the diabetes clinic and the education sessions were 25%, which suggests that patients were showing their dissatisfaction with the system by ‘voting with their feet’
- No systematic clinical data were being collected

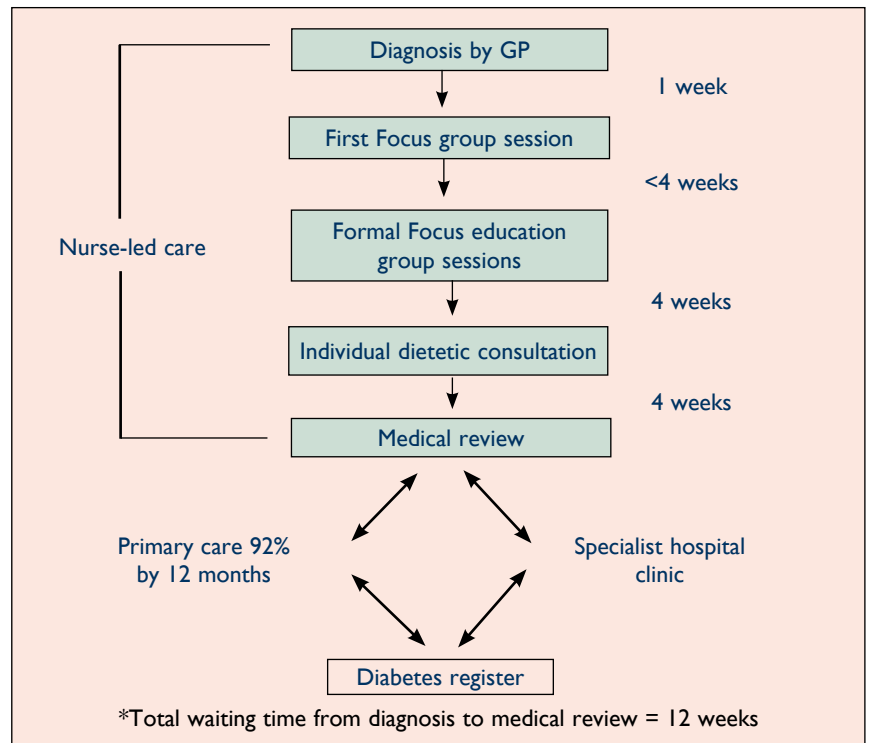


Figure 1. Present model of care at the Royal Bournemouth Hospital.

- Patients were not monitoring their diabetes control and therefore not taking responsibility for their diabetes care.

The solution

It seemed to us that the solution would be to adopt a novel approach to the management of new-onset type 2 diabetes, which would not only link primary and secondary care but also be:

- Integrated
- With identifiable processes
- Measurable outcomes
- Nurse managed.

After the diagnosis of diabetes is made in primary care, patients are seen at our hospital-based, open-access, group education clinic within one week of diagnosis. We named this programme ‘First Focus on Diabetes’.

The programme is led by a diabetes specialist nurse (DSN) who supervises all aspects of care, including the initiation of drug therapy according to protocols, for the next 3 months until patients are assessed by medical staff (Figure 1). The aim of First Focus is to provide reassurance, support and information and to begin the education process as soon as possible after diagnosis.

The initial session consists of a simple

PAGE POINTS

1 The idea is to link primary and secondary care. Following diagnosis by their GP, patients are seen at the First Focus clinic within one week of diagnosis

2 The First Focus system is a hospital-based, open-access group education programme

3 First Focus aims to start educating the patient as soon as possible after diagnosis, to allay any fears

4 Within one month of attendance, patients and relatives attend the first of four group education sessions

5 The four education sessions focus on diabetes, food, monitoring and feet, respectively.

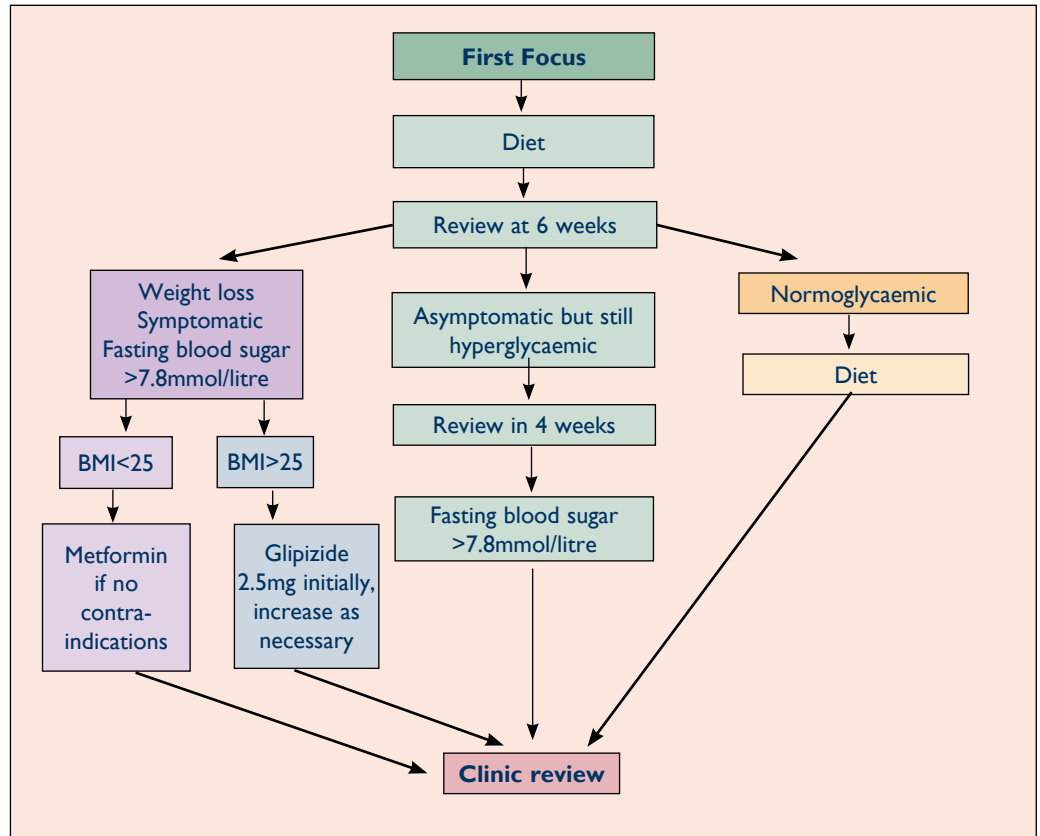


Figure 2. Protocol for management of patients with newly diagnosed type 2 diabetes: First Focus to clinic review (BMI = body mass index).

explanation of diabetes and the symptoms that may be experienced, basic dietary advice, and the teaching of self-monitoring. Patients are encouraged to ask questions and to talk to each other. They are given written information, contact names and telephone numbers, and a personal programme (visits: when, where and with whom) to guide them through the programme. They are also given a 'cooperation book', which is an individualised record of glycaemic control, weight, lipid levels and blood pressure.

Within one month of attendance at First Focus, patients and relatives attend the first of a series of four, structured, group education sessions:

1. Focus on diabetes

Leader: DSN

Topics:

- Diabetes: predisposing factors, symptoms and treatment options
- Complications of diabetes, with the emphasis on prevention
- Explanation of the roles of individual members of the diabetes team
- Emphasis on the patient's role and

responsibility.

2. Focus on food

Leader: Diabetes specialist dietitian

Topics:

- Emphasis on healthy balanced nutrition for the whole family
- Explanation of the absorption of sugars and sugary foods
- Guidelines on low-sugar alternatives, high-fibre, low-fat foods, weight control and alcohol.

3. Focus on monitoring

Leader: DSN

Topics:

- Monitoring of blood glucose, urine and glycated haemoglobin (HbA_{1c})
- Identification and treatment of the symptoms of high and low blood glucose
- Exercise and sick-day rules.

4. Focus on feet

Leader: Diabetes podiatrist

Topics:

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- Explanation of how diabetes affects the feet and the importance of regular foot care
- Examination and prompt reporting of problems
- Specific advice on nail cutting, correct foot wear and foot hygiene.

In addition, all patients have:

- HbA_{1c} and weight recorded at First Focus education sessions
- Telephone contact during the first 2 weeks
- An individual consultation with the specialist diabetes dietitian
- Offer of an individual appointment with the diabetes podiatrist
- Offer of an individual consultation with the DSN
- Encouraged to have an optometrist assessment as part of the Dorset Optical Screening Programme
- Fasting blood glucose, HbA_{1c}, lipid levels, thyroid function and creatinine measured before clinic appointment
- Medical assessment and screening for complications 3 months after diagnosis.

Patients are then transferred back to their GP or to the hospital specialist clinic. The frequency and nature of these reviews are discussed with patients on an individual basis.

All patients are initially tried on diet-only treatment. Any patient who remains symptomatic, with persistent glycosuria or hyperglycaemia, has a fasting blood glucose taken at 6 weeks. If this is higher than 7.8mmol/litre, oral agents are commenced by the DSN, according to an agreed protocol, to prevent glucose toxicity (Figure 2).

The outcome

This programme has proved successful and popular with both primary care colleagues and patients. The referral rate has steadily increased since the start of the programme in April 1993 (Figure 3), with 99% of primary care physicians in this locality using this service. A validated quality of life questionnaire at diagnosis, 3, 6 and 12 months showed that our patients are very happy with the service (the higher the score, the better the quality of life experienced (Figure 4).

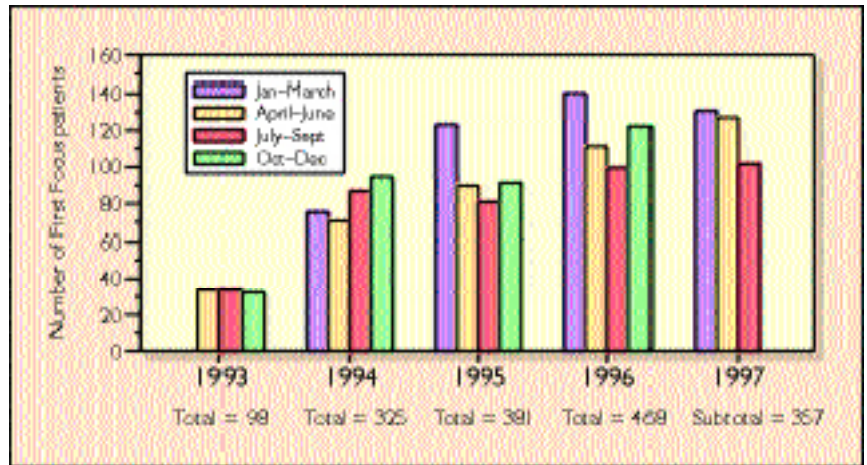


Figure 3. Referral rates of patients with newly diagnosed type 2 diabetes to the First Focus education programme (n = 1629).

Are our patients happy?

In 1994

At 3 months	Mean score = 49 (interquartile range 46–53)
At 6 months	Mean score = 49 (interquartile range 46–53)
At 12 months	Mean score = 51 (interquartile range 47–54)

Compare with a mean score of 41.1 (interquartile range 13–54) for people with type 2 diabetes in a study by Bradley (1994)

Yes!

Figure 4. Results of wellbeing (quality of life) questionnaire.(n = 156).

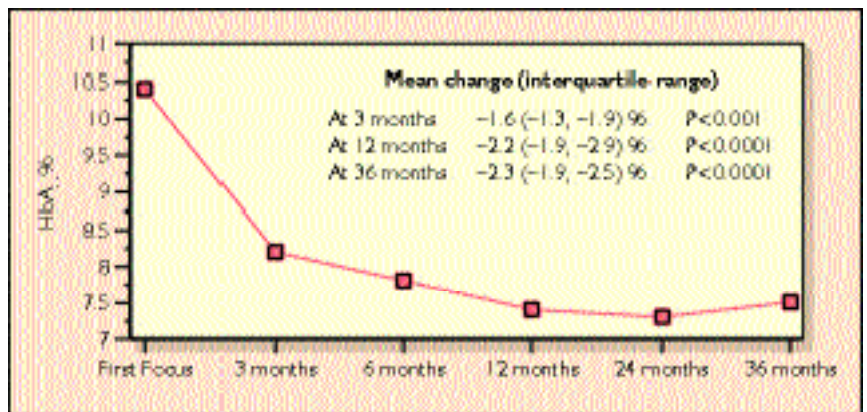


Figure 5. Mean change in glycated haemoglobin (HbA_{1c}) from diagnosis to 3 years (n = 156).

Complication	At diagnosis (%)	1996 (%)	1997 (%)
Retinopathy	8	8	8
Nephropathy	10	12	12
Neuropathy	11	13	11
Macrovascular	17	17	19
Death	0	0	3

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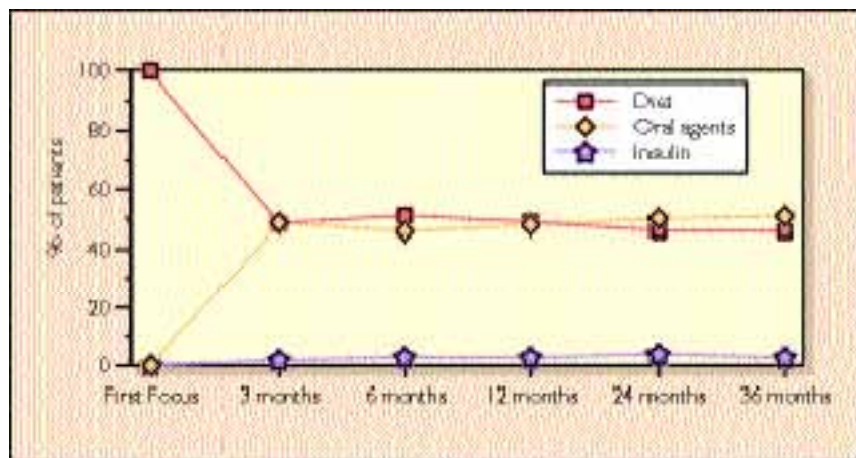


Figure 6. Changes in treatment from diagnosis to 3 years (n = 156)

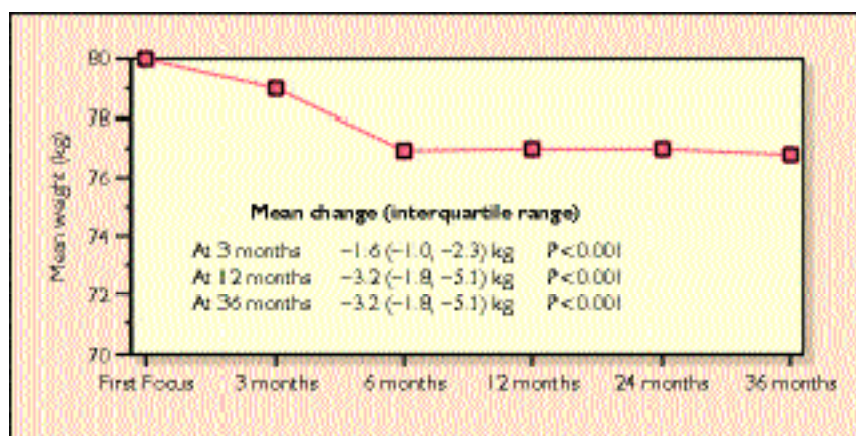


Figure 7. Mean change in weight (kg) from diagnosis to 3 years (n = 156).

A cohort of 156 patients who entered the system between January and July 1994 have had their progress monitored and HbA_{1c}, weight and method of treatment recorded at diagnosis, 3, 6, 12, 24 and 36 months. Mean HbA_{1c} (Figure 5) decreased from 10.4% to 7.4% at 6 months and has remained at this level, indicating good control of diabetes.

The rate of complications was monitored and recorded at diagnosis, 24 and 36 months. The results are given in Table 1 and show that there has been no significant change during this time.

Almost half of our patients have controlled their diabetes by diet alone during the 3-year period (Figure 6).

Mean weight (Figure 7) over the 3-year period reduced by 2 kg. Although this was not clinically significant, it has been maintained, in contrast to the trend in the general population and the UK Prospective

Diabetes Study Group (1991) towards a gradual increase in weight over time.

Only 3% of the cohort failed to complete the programme, demonstrating high motivation in our patients.

Conclusions

The results of follow-up of this cohort demonstrate that this nurse-led programme of care for patients with newly diagnosed type 2 diabetes is clinically effective, efficient and associated with a high level of patient satisfaction, compliance and motivation.

Patients such as Mary now begin the education process within one week of diagnosis. Although education is always ongoing, newly diagnosed patients have immediate access to all the necessary information, which should help to reduce their anxiety. The programme aims to provide reassurance, support and information, in an informal, friendly but professional atmosphere, to enable self-care.

We consider that the person most able to supply this is the DSN. Our role has expanded to include the management of patients with newly diagnosed type 2 diabetes, enabling our medical colleagues to concentrate on managing the complications of diabetes.

Patients are satisfied with the system and highly motivated, as demonstrated by 97% attendance at education and medical appointments.

Our professional colleagues in primary care appreciate and use this service, which has resulted in integrated and improved care for their patients.

The process of setting up, constant review and auditing of this system has cemented working relationships within the hospital diabetes team.

The DSNs at Bournemouth have brought about a change in clinical practice that has resulted in a vastly improved service for patients newly diagnosed with type 2 diabetes.

Reflections on First Focus

In our area the local health authority recommends that the initial education and assessment of newly diagnosed patients should take place in secondary care. In this

setting, First Focus works well owing to the excellent relationships between primary and secondary care.

The programme, led by the DSNs, has evolved over 3 years to its present form by a process of problem solving, audit and review by the whole diabetes team. The benefits of an open-access programme to patients have to be balanced against the disadvantage of large numbers of patients turning up. An ideal group contains between 8 and 10 people, with their partners, but at times as many as 18 patients have attended.

The programme has a group structure, which is the best use of our time; in addition, patients benefit from peer group support. However, we acknowledge that a group setting is not suitable for everyone. Patients with special needs or psychological problems who have difficulty with our system are seen on an individual basis. We also experience difficulties when the group includes 'ill' inpatients, because these patients may have differing needs.

The education programme necessitates several visits to the hospital, with the

accompanying difficulties and costs of public transport or car parking. Another difficulty that has been encountered is tailoring a standard programme of education to individual needs.

Our main problem, however, has been the success of the programme, which has led to an unexpectedly large number of patients entering the system. As a result we have had to increase the group education and individual dietetic, podiatry and medical appointment sessions. ■

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