

Lifestyle and complementary therapies

A new perspective on blood glucose monitoring in type 2 diabetes



Maggie Watkinson, Diabetes Clinical Nurse Specialist, Taunton and Somerset Hospital

Blood glucose monitoring is a highly relevant topic at the moment. Following the publication of the National Institute for Clinical Excellence guidelines on the management of blood glucose in type 2 diabetes (2002) the National Diabetes Support Team have issued a factsheet about blood glucose monitoring, describing potential benefits for people with diabetes (2003) for instance. Diabetes UK (2004) has reported discussions in the House of Lords about the recent trend in primary care to restrict the use of blood glucose monitoring equipment in people with type 2 diabetes.

The results of the qualitative study by Peel and colleagues add further information to the debate as they concentrate on patients' perspectives of blood glucose monitoring. However, many diabetes specialist healthcare professionals will probably read the report and wonder what new information has been made available. I suggest that this is because

many of the comments made by the study respondents are likely to mirror those of their own patients, which demonstrates the generalisability of the results.

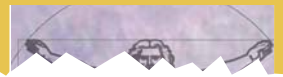
What is clearly shown is the importance of providing education about how to use blood glucose monitoring equipment, in addition to information about the purpose of testing and strategies for dealing with the results, as advocated in the NICE guidelines. It is also suggested that discussion about whether individuals perceive blood glucose monitoring as beneficial to them occurs before they are issued with the equipment, which probably does not happen in routine clinical practice.

This article is most likely to be useful for non-specialist healthcare professionals by informing them of a different perspective on the thorny issue of monitoring blood glucose in people with type 2 diabetes.

Diabetes UK (2004) <http://www.diabetes.org.uk/news/mar04/testing.htm>
National Diabetes Support Team (2003) Factsheet No. 1: Glucose self Monitoring in Diabetes.

National Institute for Clinical Excellence (2002) Clinical Guideline G. Management of type 2 diabetes. Management of blood glucose. NICE, London

BRITISH JOURNAL OF GENERAL PRACTICE



Blood glucose monitoring in type 2 can lead to anxiety

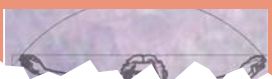
Readability	✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓

- 1 Blood glucose self-monitoring in type 2 diabetes is an area of current controversy.
- 2 This qualitative repeat-interview study explored the pros and cons of blood glucose monitoring from the perspective of the person with diabetes.
- 3 Participants comprised 40 people diagnosed with type 2 diabetes within the previous 6 months.
- 4 Thematic analysis informed by grounded theory was used to analyse the participants.
- 5 Findings from round 1 and round 2 interviews were that glucose monitoring can heighten patients' awareness of the impact of lifestyle on their blood glucose levels.

- 6 A sense of success and failure was amplified by blood glucose monitoring, which often resulted in self-blame if the readings were consistently high.
- 7 It was found that monitoring can negatively effect self-management when the readings are counter-intuitive.
- 8 The importance of understanding the meanings that people newly diagnosed with type 2 diabetes attach to blood glucose self-monitoring was highlighted by the study.
- 9 Healthcare professionals must ensure that people understand the reasoning of why and how blood glucose monitoring should be used.

Peel E, Parry O, Douglas M, Lawton J (2004) Blood glucose self-monitoring in non-insulin-treated type 2 diabetes: a qualitative study of patients' perspectives. *British Journal of General Practice* 54: 183-88

POSTGRADUATE MEDICAL JOURNAL



People with diabetes exercise at low levels of intensity

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓

- 1 The aim of this study was to address how much physical activity people with diabetes perform, and what the perceived factors are that prevent them from doing more.
- 2 Over a period of 5 months 406 interview-based questionnaires were completed by people attending a

diabetes clinic in Dundee.

- 3 Physical activity was taken by 34% of people with diabetes and only 9% of this group exercised enough to achieve a large change in breathing or heart rate.
- 4 Reasons for inactivity included perceived difficulty in partaking in exercise, being tired, being distracted by television, lack of time and lack of facilities.
- 5 Few people with diabetes take part in physical activity, and those who do exercise do so at a low level of intensity.
- 6 Many factors that distract people with diabetes from exercising are modifiable.

Thomas N, Alder E, Leese GP (2004) Barriers to physical activity in patients with diabetes. *Postgraduate Medical Journal* 80: 287-91

FAMILY PRACTICE

Health service input vital on type 2 diagnosis

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓✓

- 1 The purpose of this study was to examine how people with newly diagnosed type 2 diabetes perceive diagnosis.
- 2 A total of 40 people newly diagnosed with type 2 diabetes were interviewed.
- 3 It was found that timing, clarity and authority of diagnosis delivery were highly salient for the study group.
- 4 People who had not been referred to hospital were not clear why referral had not occurred.
- 5 The wait for a hospital appointment posed a problem for the group; largely, the group wanted confirmation of diagnosis prior to making lifestyle changes.
- 6 The group valued input from health services prior to the hospital visit.
- 7 Adequate input from healthcare professionals is needed to ensure that on diagnosis of type 2 diabetes people learn to adapt to their condition.

Parry O, Peel E, Douglas M, Lawton J (2004) Patients in waiting: a qualitative study of type 2 diabetes patients' perceptions of diagnosis. *Family Practice* **21**: 131–36

QUALITY OF LIFE RESEARCH

A new measure for type 2 diabetes dietary satisfaction

Readability	✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓

- 1 The researchers who conducted this study aimed to develop an instrument to assess people's experience in following a meal plan for the treatment of type 2 diabetes – the diabetes dietary satisfaction and outcomes measure.
- 2 Preliminary focus group data and a theoretical framework were used to design a questionnaire administered to 239 people with type 2 diabetes.
- 3 Medical file data were obtained on 180 of the participants: 54% were women aged 64 ± 12 years with diabetes duration of 10 ± 8 years.
- 4 Scores for the satisfaction and other outcome measures discriminated between patient groups by age, gender, medication use, meal plan status, depression and employment status.
- 5 Significant correlations occurred with number of comorbidities, dietary adherence and glycaemic control.

Ahlgren SS, Shultz JA, Massey LK, Hicks BD, Wysham C (2004) Development of a preliminary diabetes dietary satisfaction and outcomes measure for patients with type 2 diabetes. *Quality of Life Research* **13**: 819–32

HEALTH TECHNOLOGY ASSESSMENT

Wanted: systematic review of treatments to prevent obesity

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

- 1 This article reviewed systematically the long-term effects and financial consequences of obesity treatments, and assessed their implications for health improvements.
- 2 Studies of different durations, type and topics were used for the systematic review of obesity treatments, the systematic epidemiological review and the systematic economic review.
- 3 Orlistat and sibutramine were associated with weight change of -3.26 kg after 2 years and -3.40 kg after 18 months, respectively.
- 4 Low-fat diets were associated with the prevention of type 2 diabetes and improved control of hypertension.
- 5 Other results included the effects of exercise, weight loss and blood pressure and drugs and surgery.
- 6 Economic modelling of diet and exercise was assessed; the cost of diet and exercise together seem comparable to treatments (drugs) in obese people with risk factors such as IGT.
- 7 The article outlines nine recommendations for research.
- 8 Drug trials should include lifestyle interventions as well as dietary advice, and there is a need for a systematic review of treatments to prevent obesity.

Avenall A, Broom J, Brown TJ (2004) Systematic review of the long-term effects and economic consequences of treatments for obesity and implications for health improvement. *Health Technology Assessment* **8**: 1–194

- 7 Physical activity and weight control are critical in the prevention of diabetes in people with normal glucose regulation and IGT.
- Hu G, Lindstrom J, Valle TT et al (2004) Physical activity, body mass index, and risk of type 2 diabetes in patients with normal or impaired glucose regulation (2004) *Archives of Internal Medicine* **26**: 892–96

‘Low-fat diets were associated with the prevention of type 2 diabetes and improved control of hypertension.’

ARCHIVES OF INTERNAL MEDICINE

Physical activity and weight control key to prevention

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓

- 1 The joint association of obesity, sedentary lifestyle and impaired glucose regulation (IGR) as risk factors for type 2 diabetes are not currently known.
- 2 A total of 2017 men and 2352 women aged 45–64 years with no history of diabetes at baseline were followed-up.

- 3 Single and joint associations of physical activity, blood glucose levels and BMI with risk of type 2 diabetes were examined.
- 4 There were 120 incident cases of type 2 diabetes throughout the mean follow-up of 9.4 years.
- 5 Physical activity was inversely associated with risk of type 2 diabetes in people with: obesity and IGR; obesity or IGR; and a normal BMI and glucose regulation.
- 6 Obesity in people who were inactive and had normal glucose levels was associated with an increased risk of diabetes compared with normal BMI in people who were inactive and had IGR.

‘Physical activity and weight control are critical in the prevention of diabetes in people with normal glucose regulation and impaired glucose tolerance.’