The prevention of type 2 diabetes: general practitioner and practice nurse opinions

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SUMMARY

Background: *Primary prevention of type 2 diabetes is now possible with lifestyle or pharmacological interventions in people who are at risk. Primary care would seem to be the legitimate setting for this to take place.*

Aim: *To explore the views of general practitioners and practice nurses about the detection and management of people at risk of developing type 2 diabetes.*

Design of study: *Qualitative study.*

Setting: *One local health board area in Wales.*

Method: *General practitioners and practice nurses participated in multi-professional focus groups, and opinions of participants were analysed into themes and sub-themes according to focus group content analysis methodology to search for 'markers of text'.*

Results: *Participants from 21 practices were involved. Participants' opinions on the detection and management of individuals at risk of developing type 2 diabetes were polarised into those who considered these activities inappropriate for primary care and those who were already engaged in the detection, management and follow-up of these individuals. For the former, existing workload, the questionable role of primary care as a 'screening service', lack of resources, and conflict and concern about increasing specialisation were given as justification. Those already engaged in these activities emphasised their importance but were also concerned with the lack of available resources. Other concerns were the perceived low motivation of patients to modify their lifestyle and the unnecessary medicalisation of the precursor conditions of impaired glucose tolerance and impaired fasting glycaemia. The prevention of type 2 diabetes was seen as largely the responsibility of other agencies such as health promotion and education.*

Conclusion: *The often strongly held views about this topic are at least partly influenced by current pressures on primary care. To make the primary prevention of type 2 diabetes a reality, either practitioners need to be motivated and resourced to carry out preventive strategies or alternative methods must be identified.*

Keywords: *diabetes mellitus, type II; primary prevention; nurses; qualitative research; focus groups.*

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Introduction

IMPAIRED glucose tolerance and impaired fasting glycaemia are recognised as precursor conditions that signal which individuals are at an increased risk of developing type 2 diabetes.[1] There is now considerable evidence from randomised controlled trials that in obese individuals with impaired glucose tolerance, the transition to type 2 diabetes can be prevented, or at least delayed, by increasing physical activity, modest weight loss, or pharmacological intervention with medications such as metformin or acarbose.[2] The largest of these randomised controlled trials is the Diabetes Prevention Program,[3] which showed that weight loss and increased physical activity or therapy with metformin significantly reduced the proportion of people with impaired glucose tolerance developing type 2 diabetes over 4 years. The question of the cost effectiveness of screening for 'pre-diabetes' has been addressed,[4] although not yet within the context of the United Kingdom (UK) National Health Service (NHS). An estimate for the number needed to treat of 22 has been given for the Finnish Prevention Study.[5]

If the results of these trials are to be implemented, people at increased risk of developing type 2 diabetes will need to be identified; for example, through targeted screening. It is not at all certain, however, whether practitioners in primary care, in the UK context at least, despite being best placed in terms of longitudinal care, are willing to incorporate another screening process into their clinical work. Even if they are willing to do so, there is no evidence that they feel confident of success in inducing the lifestyle changes or implementing the pharmacological interventions that would be required for successful outcomes outside the confines of explanatory randomised controlled trials.

Recent work with general practitioners (GPs)[6] has shown that, although they are aware of impaired glucose tolerance, they do not understand its significance in relation to the risk of coronary heart disease and subsequent diabetes, and that they considerably underestimate its prevalence in their practice. They also want guidance as to what, if anything, they should do about its detection and management. Views of GPs and practice nurses have also been described for screening for type 2 diabetes,[7] but their views about the identification of individuals 'at risk' and interventions based in primary care have not yet been reported.

This study addressed these questions:

- What do GPs and practice nurses know about the detection of people who are at risk of developing type 2 diabetes?
- What sort of guidance (if any) do they need about the management, in their practices, of these individuals, particularly those with impaired glucose tolerance and

HOW THIS FITS IN

What do we know?

Awareness of the clinical significance of impaired glucose tolerance among general practitioners is low. They are uncertain how best to manage and follow up patients with established impaired glucose tolerance, and they are reluctant, for a variety of reasons, to screen patients.

What this piece adds

A few practices have identified pragmatic means to begin to identify and follow up these patients. To deliver the promise of the primary prevention of type 2 diabetes, steps need to be taken to enable primary care to do this, or else radical alternative strategies involving other components of the National Health Service and/or the participation of other agencies need to be developed.

impaired fasting glycaemia, and how should this guidance be prepared and disseminated?
- What resources and support would they need to be able to play their part in the primary prevention of type 2 diabetes?

The study employed a focus group approach and content analysis methodology that looks for 'markers of text' or 'context units' to encourage an in-depth examination of these questions with GPs and practice nurses.[8,9]

Method

All 41 practices in one local health board area in Wales were sent a letter addressed to the diabetes lead GP or the senior partner, inviting one GP and one practice nurse to attend one of three focus groups. These were to be held at local venues chosen for their central position and ease of access for all participants involved. Practices were offered remuneration of £100 for attending.

Three hour-long focus groups were facilitated by three of the research team members during a 2-week period in March 2003. Two members of the research team gave a brief introduction to the topic. As part of this introduction, participants were reminded that recently published randomised controlled trials had demonstrated that interventions leading to weight reduction and increased physical activity in people with impaired glucose tolerance who were also overweight or obese had shown that progression to type 2 diabetes could be prevented or at least delayed.

The lead facilitator directed questions and prompted for responses where necessary. The discussion was recorded, and two other members of the team took notes and recorded group dynamics and non-verbal information, such as body language and emotive elements. At the end of the focus groups, practices were provided with an information pack containing the latest literature on precursor conditions and relevant randomised controlled trials.

Recorded data from all three focus groups were transcribed, checked for queries and errors, and notations were made against written text regarding who was speaking at any given time (doctors and nurses were identified by numbers). Analysis followed a content analysis framework.[9] Content analysis, 'a research technique for making replicable and valid inferences from data to their context',[10] ensures that meaning and its particular implications for research questions can be discovered. Content analysis took place in two stages: first by all six researchers individually analysing transcripts, then through two detailed group analysis sessions involving all six researchers.[11] Individual analysis involved reading and re-reading texts for aspects of harmony or disharmony, incongruence in speech, and points of interest. Individuals concentrated on patterns of speech as well as unusual phraseology, surprises, turns of phrase, anger, disassociation from a topic, repetition of issues, and disagreements. These are defined as markers of texts or context units.[8,9] Notes were taken and important quotations marked on individual transcripts. Emergent patterns in the data were noted, and each analyst wrote a brief overview against each transcript identifying essential characteristics of the focus group, as well as any messages contradicting the text. The group work explored themes, sub-themes and categories to substantiate individual observations until consensus of opinion was reached on the major messages developing.[8,11]

Ethical approval for the study was given by the lechyd Morgannwg Health (now Swansea) Local Research Ethics Committee.

Results

Practice participation

Twenty-two practices accepted the invitation, and, of these, 21 (51%) practices were represented at the sessions. The three sessions were attended by 21 GPs and 22 nurses. The first session involved 15 people (8 GPs and 7 practice nurses), the second 21 and the third 7. Practice nurses attended the same focus groups as the doctors with whom they worked.

Major themes and sub-themes

Four major themes and 13 sub-themes were identified in the analysis. The main themes were: 'detection of those at high risk' and 'primary care activities (in relation to detection and management of those at risk)', 'patient factors' and 'responsibility for prevention'.

'Detection of those at high risk' and 'primary care activities'. These are two closely inter-related themes. There are 'pessimistic' views of primary care activities in relation to the detection of those at risk and the more 'optimistic' view ('pessimistic' and 'optimistic' are our own shorthand terms and were not used by the participants).

Part of the 'pessimism' was related to the existing workload in managing those who already have diabetes:

> *'I have been involved in a diabetic clinic which has been less than 3 years.* [Numbers] *have gone up from 170 to 245 diabetics, you know we are really sort of stretched in handling them.'* (Focus group 2, GP 3.)

Considerable frustration and some anger was expressed about primary care not being the appropriate setting for the detection and management of those at risk of developing type 2 diabetes — primary care being regarded as a 'treatment' and not a 'screening' service:

'The biggest thing in this is ... we are being expected to be a screening service which we have never been funded to be, we are a treatment service and all of a sudden society is expecting us to put virtually everyone who comes through the door of the surgery through some kind of scanning mechanism for every single part of their body and you happen to be looking at diabetes and coronary artery disease, which is a separately funded subject, but we have got all the rest of it as well, all the renal stuff, the orthopaedics, the eye stuff and the GI [gastrointestinal] *stuff … '* (Focus group 1, GP 9.)

The required resources were not available (and never would be) for these additional activities:

'I just don't think we have got the resources to add these precursors to the already known diabetics.' (Focus group 2, GP 19.)

'We will never have the resources, it's total pie in the sky if you will, then you're down to prioritisation level, you can go in to our waiting room and, what, 33% of the British population's fat. It's about 55% in [local place]*!'* (Focus group 1, GP 9.)

There was also concern that primary care would be abandoning its generalist role, with increasing emphasis on specialisation. There was clear tension between wishing to remain generalists and the pressure to become primary care specialists in topics such as diabetes:

'We [nurses in primary care] *are going to become specialised in chronic disease management. You're going to have your respiratory care nurses, your diabetic nurses and CHD* [coronary heart disease] *nurses … I think the role of the practice nurse is limited I think that it is eventually going to be phased out.'* (Focus group 1, nurse 16.)

The more 'optimistic' view (held by a minority of those who attended the sessions) was that this was a problem that primary care should tackle, although the issue of resource should not be ignored:

'Yes, this is an important group, the impaired fasting glycaemias, and so we need to put more resources into those really to screen them and pick them up more quickly but as you say it is a question of finances and resources to do that really.' (Focus group 3, nurse 6.)

An additional point in favour was that people at high risk of type 2 diabetes were often identified as a result of their comorbidity, particularly in relation to their cardiovascular risk, and that they should be followed up:

'You should be seeing them anyhow early because they are hypertensive or become hypertensive and that is how they get picked up as being impaired glucose tolerance, so they are already a population that we are probably seeing.' (Focus group 3, GP 3.)

'A lot of them are being seen … as you say in the other clinics, in the hypertensive clinic, coronary heart disease …' (Focus group 3, nurse 8.)

Incorporating patients into the existing diabetes clinic was a pragmatic way to following them up. However, this 'optimistic' attitude was coupled with a concern that there were insufficient resources available to accomplish these activities and that, once identified, these individuals would 'invariably' develop diabetes.

'Once they are picked up we then incorporate them into our diabetic clinic and [they] *get seen routinely, then as follow-up after that, and invariably they then become diabetic in due course.'* (Focus group 3, nurse 6.)

'Patient factors'. There was a sympathetic but cynical attitude to the perception of low motivation of patients to modify lifestyle behaviour to reduce risk, especially in relation to weight loss:

'I mean you are talking about asking them [patients] *to change their dietary habits and everyone who has ever had a weight problem knows how incredibly difficult that is, they need to be very, very motivated to do it or that's not going to happen so if they haven't got motivation we might as well save our breath really, but how you motivate them … you can try but I don't know.'* (Focus group 1, GP 9.)

Creating motivation in patients is likely to be time consuming:

'Motivation is a big factor, I find that with my patients and sometimes if they want to lose weight they want to come to me every week to be weighed and that is very time consuming.' (Focus group 1, nurse 12.)

Motivating asymptomatic patients is particularly difficult:

'It is very difficult to motivate asymptomatic patients, someone that is symptomatic, you get them on board and [can] *be very successful in the management.'* (Focus group 2, GP 3.)

It was also observed that, although intense interventions in randomised controlled trials had been shown to be effective, there was no evidence to support this in relation to interventions delivered through primary care:

'The evidence for actually preventing these people going on to develop diabetes involves very intensive, expensive lifestyle intervention regimes, so the evidence that the little bit that we do is actually making an impact probably is not there.' (Focus Group 2, Doctor 7.)

'Responsibility for prevention'. Given the above, it is unsurprising that the majority opinion was that impaired glucose tolerance and impaired fasting glycaemia should not be 'medicalised' and that they were social, rather than medical problems:

> *'It* [asking primary care to take on the identification and management of patients with impaired glucose tolerance and impaired fasting glycaemia] *almost medicalises something which actually is a social problem.'* (Focus group 1, nurse 10.)

> *'These people* [those with impaired glucose tolerance and impaired fasting glycaemia] *are not ill. Should we make them ill?'* (Focus group 1, GP 15.)

Moreover, the primary prevention of type 2 diabetes was the responsibility of individuals and agencies other than primary care — indeed, of agencies outside the health sector:

> *'I also think they* [the patients] *have responsibility, maybe it is the government's responsibility.'* (Focus group 2, nurse 6.)

> *'These issues should be dealt with through education and political pressure.'* (Focus group 2, GP 21.)

> *'Schools. Education in schools is a huge, huge part of it.'* (Focus group 1, GP 9.)

> *'What used to happen in schools — you used to get the school meals ...* [with] *veg and something else and some fruit and they had playing fields — they used to go running around and do gym and PE and kids were safe to walk to school. What has happened* [is] *they've sold off all the ... playing fields, give them a ... lunch. It's all chips and pizza and this. They are not safe to walk to school because there are enough idiots around trying to do things to them and they* [children] *are getting fatter and fatter and fatter.'* (Focus group 1, GP 15.)

Discussion

The results of this study clearly demonstrate that, among GPs and practice nurses working in one local health board area in Wales, there are contrasting views about their role in the identification and management of people known to be at risk of developing type 2 diabetes by virtue of having impaired glucose tolerance or impaired fasting glycaemia. For the majority, who consider that this is not appropriate for primary care, their main reasons are limited time and resources and a sceptical attitude to the likelihood of successful outcomes. These views are clearly strongly held (although often expressed with some humour). There is also a strong sense of anger and resentment that more and more is being expected of primary care, with the resources not forthcoming to enable current responsibilities to be fulfilled, let alone increased. The minority view is that it is appropriate for primary care to take on this role and that there are practical ways of accomplishing this.

Strengths of the study

One of the strengths of this study is that it sought both doctors' and nurses' views about these issues. Further strengths were the facilitation of the sessions by researchers who were well versed in qualitative methods, and the time that was spent, both individually and as a group, in analysing the data and identifying themes and sub-themes. Using a content analysis approach that emphasises markers of text (or context units),[8] the researchers were encouraged to work as a team towards group understanding of what might otherwise have been a set of expansive, generic data around precursor conditions to diabetes. By using a clear analysis framework, the team was able to define totality of context units representing the broad structure of information available, hone down the data to search for those interactions most relevant to the research questions on detection, guidance and resources, consider frequently or vociferously presented information, and cross-link parts and wholes of transcripts to draw out themes most pertinent to the aims of the study.

Limitations of the study

The first of the study questions 'What do GPs and practice nurses know about the detection of people who are at risk of developing type 2 diabetes?' would, on reflection, have been better assessed using a knowledge assessment scale rather than the qualitative approach adopted here. Also, the participating practices are not necessarily representative of the views of all practices in this local health board area, so the findings of the study are not necessarily generalisable. However, the views expressed in the sessions illustrate the likely range of opinions and the strength with which some of these are held. The design of the study does not permit GPs' and nurses' views to be contrasted, and the way in which the discussion tended to be dominated by the doctors may have suppressed some of the individual nurses' views despite careful facilitation of the sessions. It is unknown whether the expression of the nurses' views was influenced by this. Nurse-only focus groups or individual interviews might have clarified this.

The decision was taken not to start each session with a summary of the evidence relating to screening for diabetes or interventions in impaired glucose tolerance because the project aimed at recording the views of the GPs and practice nurses in their then current state of knowledge about the topic.

Our interpretation of these findings is that it is likely that the primary prevention of type 2 diabetes is merely one specific issue that highlights the more general frustration, low morale and confusion within primary care, both for the medical and the nursing professions. Part of the context within which these views are being formulated was the uncertainty surrounding the new General Medical Services contract,[12] the expectations raised by the issuing of National Institute for Clinical Excellence (NICE) guidelines, the emergence of primary care organisations, and other changes. Previous reports have also highlighted the concerns of general practice staff in relation, for example, to educational support for the care of established diabetes[13]

and the roles of the GP in child protection,[14] in the early diagnosis of dementia,[15] and in the general improvement of health through the population (as opposed to the high-risk individual approach).[16]

There is clearly tension between wishing to remain generalists and the pressure to become primary care specialists in the care of people with diabetes or coronary heart disease. This, coupled with a cynicism about the likelihood of successful behavioural change occurring as a result of primary care intervention, particularly in overweight patients, has led to the view that these issues are the responsibility of other sectors — education, health promotion, the government — anybody but primary care. Unlike the practitioners interviewed by Wylie *et al*,[6] those involved in this study do not see pharmacological intervention as a more positive alternative.

This study and that of Wylie *et al* raise concerns regarding the primary prevention of type 2 diabetes. The randomised controlled trial evidence is clear — primary prevention is possible. However, the willingness and ability to deliver on this promise without clear policy guidance and without the required resources is very much in question. Primary care is currently at the limits of what it can deliver without radical changes in how society addresses the prevention of type 2 diabetes and other serious chronic conditions attributable to our current lifestyles. Although the randomised controlled trials carried out in this field have internal validity, any attempt to translate this evidence into practice will require either the enabling of primary care to carry this out or the development of radical alternative strategies involving other components of the NHS and/or the participation of other agencies.

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