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Do diabetologists recognise self-management problems in their patients?☆

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Abstract

Objective: The aim of this study was to determine whether diabetologists recognise patients' needs for additional intensive multidisciplinary care due to glycaemic and diabetes-related psychosocial difficulties. **Research design and methods:** We compared 114 participants in a diabetes intervention programme with 201 as yet non-referred outpatients, of whom 54 outpatients were considered eligible for the intervention by their diabetologists; thus, 147 outpatients were considered non-eligible. **Results:** Analysis revealed that the eligible patients had poorer glycaemic control but all other parameters were similar to non-eligible patients. Significantly, 22 (15%) of the 147 non-eligible patients clearly had diabetes distress and could potentially benefit from the intervention. **Conclusion:** The results suggest that in regular care, patients' needs with respect to glycaemic control are recognised by their diabetologists, but patients with high psychosocial diabetes-related distress are often overlooked, though they also may be in need of additional care. Integrated monitoring of diabetes-related distress in outpatients could improve this area of diabetes care.

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Keywords: Diabetologists; Distress; Medical decision-making; Referral

1. Introduction

Diabetes self-management is demanding and many patients have difficulties in maintaining adequate self-management, revealed by poor glycaemic control or diabetes-related psychosocial problems [1,2]. Guidelines formulated in the St. Vincent Declaration [3] state that healthcare providers should not only focus on monitoring medical aspects, such as glycaemic control, but also on psychosocial functioning.

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However, psychosocial functioning is often poorly monitored in standard diabetes care [4]. The result is that self-management problems not directly revealed by poor glycaemic control can easily be overlooked. This implies that a number of patients with self-management problems may not receive optimal treatment. Diabetologists are the main practitioners in diabetes care, and are expected to survey patients' needs and to refer them for additional clinical or psychosocial care when necessary.

Depending on their intensity, duration and focus, interventions for patients with self-management difficulties successfully improve glycaemic control, lifestyle behaviours and health-related quality of life (HRQoL) [4–6]. However, for these programmes to be truly effective, they have to reach the patients in greatest need of them [7]. Using their 'RE-AIM' framework, Glasgow et al. [8] emphasised that intervention studies often primarily focus on efficacy in controlled situations, thereby, neglecting other factors contributing to the eventual effect of the intervention in the "real world" [9,10]. For example, little research concentrates on the extent to which diabetes interventions reach their target group [9], or whether health care providers in diabetes clinics adequately refer to additional care when available. In this paper we particularly focus on the reach of an intervention programme for patients with prolonged self-management difficulties. The aim of this study is to determine whether diabetologists in daily practice recognise those patients who need additional care on the basis of glycaemic control as well as psychosocial diabetes-related distress.

2. Material and methods

2.1. Programme

At the Groningen University Hospital, additional diabetes care for patients with prolonged self-management difficulties is offered by means of a Multidisciplinary Intensive Education Programme (MIEP) [11]. Inclusion criteria for MIEP are poor HbA_{1c} that could not be improved by optimising medical treatment and/or diabetes-related distress. Exclusion criteria are age <18 or >70 years, pregnancy, or having severe psychiatric or other co-morbidity. MIEP is based on the empowerment approach [12] and aims

to empower patients in their self-management in order to improve HbA_{1c} and diabetes-related psychosocial distress. MIEP is conducted by a multidisciplinary education team and it comprises 10 whole days of group sessions and some individual support over a 10-week period. There are three subsequent follow-up sessions. Diabetologists refer patients from outpatient clinics throughout the northern region of the Netherlands and these patients enrol in MIEP after an admission interview with an internist, a diabetes nurse specialist, a dietician and a psychologist from the education team. Participants in MIEP actually enrol in MIEP in two steps: first they are referred by their diabetologist and then they have an admission interview to consider their appropriateness for MIEP. Participants enrol in MIEP on the basis of both psychosocial and glycaemic problems.

2.2. Participants and recruitment

We compared two groups of non-referred outpatients with participants in MIEP to study the referral behaviour of diabetologists. After excluding outpatients who did not meet the MIEP criteria and patients who had already participated in MIEP, 231 consecutive patients from the diabetes outpatient clinic at the Groningen University Hospital participated in the study. All patients gave informed consent and the local ethics committee approved the study.

The diabetologists ($N = 10$; 5–25 years experience in diabetes care) assessed whether they considered their patients eligible for MIEP and gave their rationale for this decision. The diabetologists could be expected to be familiar with MIEP because they work in the same organisation, though at different locations. Furthermore, they are informed about MIEP regularly by a newsletter about the study and brochures including the referring guidelines. We repeated this preceding the study. The diabetologists were well acquainted with 201 (87%) of the patients, 54 of whom they considered eligible and 147 non-eligible for MIEP. The two groups of eligible ($N = 54$) and non-eligible ($N = 147$) outpatients were compared with data from 114 participants in MIEP just before they started the programme and before possible self-selection of MIEP participants could have occurred by declining participation. Thirty outpatients who were not assessed for eligibility for MIEP because the diabetologist replaced

a colleague, or the patients were new at the clinic, were analysed separately.

2.3. Measures and statistical analysis

We assessed glycaemic control with HbA_{1c} (Bio-Rad, 4.0–6.1%; Munich, Germany) and the self-reported number of (severe) episodes of hypoglycaemia. HbA_{1c} was determined in the same laboratory for both participants in MIEP and the outpatients. Diabetes-related distress was measured using the Problem Areas in Diabetes scale (PAID) [13,14]. The PAID consists of 20 Likert scale items and has subscales for ‘diabetes-related emotional problems’, ‘treatment-related problems’, ‘food-related problems’, and ‘social support-related problems’. A total distress score of all 20 items can also be calculated. Health-related Quality of Life (HRQoL) was measured with the Rand-36 item health survey [15,16], of which we used subscales for ‘physical functioning’, ‘mental health’, ‘social functioning’ and ‘vitality’. To determine whether outpatients potentially in need of MIEP had been overlooked, we calculated percent-

ages of non-eligible patients with poor glycaemic control (HbA_{1c} $\geq$ 9.0%) and high diabetes-related distress (PAID $\geq$ 40) [13].

We used ANOVA analyses with Bonferroni post-hoc tests to compare the three groups. Logistic regression analysis indicated which patient characteristics predicted the physicians’ decision to consider patients eligible for MIEP.

3. Results

The diabetologists considered 54 (27%) outpatients eligible for MIEP because of poor glycaemic control ($N = 31$), psychosocial problems ($N = 8$), or a combination of both ($N = 15$). One hundred and forty-seven (73%) patients were considered non-eligible, because of not meeting inclusion criteria ($N = 121$), MIEP does not fit into the patient’s personal situation ($N = 10$), lack of motivation ($N = 8$) or other treatment preferred ($N = 8$). Table 1 shows that both participants and eligible outpatients were younger, had higher HbA_{1c} and poorer social func-

Table 1
Comparison between participants, eligible outpatients and non-eligible outpatients

	Participants ($N = 114$)	Eligible outpatients ($N = 54$)	Non-eligible outpatients ($N = 147$)
Age (years)	44.1 (13.1)	44.3 (14.3)	49.0 (12.6) ^{a/b}
Gender (% f/m)	52/48	54/46	54/46
Type of diabetes (% 1/2)	64/36	67/33	69/31
Duration of diabetes (years)	13.1 (10.9)	17.7 (12.5) ^a	18.9 (13.3) ^a
HbA _{1c} (%)/% HbA _{1c} $\geq$ 9.0%	8.4 (1.3)/33%	8.8 (1.5)/46%	7.7 (1.0) ^{a/b} /6%
Hypoglycaemia (N /4 weeks)	7.7 (7.4)	6.2 (6.4)	5.5 (7.2)
Severe hypoglycaemia (% 0 times in previous 4 weeks)	84%	77%	90%
PAID ^c			
Diabetes-related emotional problems	43 (25)	31 (24) ^a	26 (19) ^a
Treatment-related problems	33 (24)	23 (24) ^a	18 (22) ^a
Food-related problems	33 (23)	27 (23)	20 (20) ^a
Social support-related problems	24 (27)	16 (25)	12 (20) ^a
PAID total/% PAID $\geq$ 40	39 (21)/49%	30 (21) ^a /32%	23 (17) ^a /17%
Rand-36 ^d			
Mental health	63 (19)	69 (18) ^a	75 (16) ^a
Vitality	49 (22)	57 (20) ^a	62 (20) ^a
Social functioning	68 (26)	72 (25)	83 (21) ^{a/b}
Physical functioning	77 (24)	78 (21)	82 (21)

Mean (S.D.).

^a Significant difference with participants ($P < 0.05$).

^b Significant difference with eligible outpatients ($P < 0.05$).

^c PAID: range 0–100, with higher scores indicating more diabetes-related distress.

^d Rand-36: range 0–100, with higher scores indicating better HRQoL (four of the original nine sub-scales were used).

tioning than non-eligible patients. As expected, participants in MIEP scored worse than the non-eligible outpatients on all four PAID sub-scales and its total score, and also on the Rand-36 subscales for vitality and mental health, but eligible and non-eligible patients did not differ on these variables. Apart from social functioning, eligible patients did not differ from non-eligible patients in the psychosocial variables.

Logistic regression analysis showed that the diabetologists' decision was predicted ($\chi^2 = 45.9$, $P < 0.001$) by HbA_{1c} (Exp (B) = 2.42, $P < 0.001$), age (Exp (B) = 0.97, $P = 0.027$) and social functioning (Exp (B) = 0.98, $P = 0.010$). Patients with higher HbA_{1c}, younger age and poorer social functioning were more likely to be considered eligible for MIEP. The Odds Ratios (Exp (B)) for age and social functioning were statistically significant but, nevertheless, very close to one, indicating no clinically relevant effect of these variables in considering additional diabetes care. These findings are in accordance with the physicians' own rationale; poor glycaemic control was their main reason for considering MIEP.

Thirty-three (22%) of the non-eligible patients showed either poor glycaemic control and/or high diabetes-related distress (see Table 1). Significantly, in 29 of these patients their diabetologists did not give a rationale, such as lack of motivation, for not considering referral and these patients could be considered overlooked. Seven of these non-eligible outpatients had HbA_{1c} $\geq 9.0\%$. However, 20 of the non-eligible outpatients with HbA_{1c} $< 9.0\%$ had high diabetes-related distress and another two had HbA_{1c} $\geq 9.0\%$ combined with high distress. It should be mentioned that only eight patients were considered eligible exclusively because of diabetes-related psychosocial problems, though MIEP is particularly suitable for distressed patients. Of the 30 outpatients not assessed by a diabetologist, 9 (30%) could be considered eligible for MIEP. Three of these patients had HbA_{1c} $\geq 9.0\%$, four had PAID ≥ 40 but acceptable HbA_{1c}, and two had PAID ≥ 40 combined with poor glycaemic control.

4. Conclusions

This study clearly illustrates that high HbA_{1c} is the main trigger for physicians when considering ad-

ditional diabetes care. This conclusion is supported by the proportions of different reasons for considering patients eligible for MIEP, as reported by the diabetologists themselves, and also by patient factors, revealed by logistic regression analysis, that contributed to considering patients eligible or not. In addition to poor HbA_{1c}, participants in MIEP selected by the four key members of the multidisciplinary team showed a wider variety of diabetes-related difficulties. It must be kept in mind that the eligible outpatients were only considered for MIEP. This data reflects a first step only, and when actually referring patients, diabetologists probably pay attention to a wider range of diabetes-related problems. In a second step in the process of referring, it might appear that patients do not need or want additional care, but the first step in noticing difficulties remains essential.

Importantly, the results clearly show that in regular care a considerable number of patients needing additional care are missed in the initial selection for MIEP. Patients with diabetes-related psychosocial distress but with reasonable glycaemic control probably would not receive care for their self-management difficulties. Diabetes-related psychosocial problems are not sufficiently recognised as problems that need extra attention. Moreover, some patients were not assessed at all, some of whom were eligible for additional care. A practice implication of this study is that although interventions might have good results in controlled research settings, they will only be effective if they also reach their target group [10] in daily practice.

We acknowledge that the current system of diabetes care [17], with only a few time-limited check-ups a year, offers few opportunities to pay sufficient attention to patients' psychosocial functioning. To improve psychosocial diabetes care, we advise using more integrated screening methods (e.g. Pouwer et al. [18]) in which trained diabetes nurse specialists could play a central role. In addition to medical care, treatment of a demanding disease like diabetes should also pay attention to patient-oriented outcomes. Adequate treatment for diabetic patients with psychosocial problems starts with a good multidimensional diagnosis, an aspect that, thus far, has not received enough attention in either diabetes research or practice.

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