

Nurses' recognition and registration of depression, anxiety and diabetes-specific emotional problems in outpatients with diabetes mellitus

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Abstract

Objective: The aim of this study was to investigate how often emotional problems were recognized and registered by diabetes nurses.
Methods: We studied medical charts and questionnaire data of 112 diabetes patients. The hospital anxiety, depression scale and the problem areas in diabetes survey were used to measure anxiety, depression and diabetes-specific emotional distress.
Results: In patients with moderate to severe levels of anxiety or depression, the presence of an emotional problem was recorded in the medical chart in 20–25% of the cases. The registration-rate of diabetes-specific emotional distress was also found to be low, ranging from 0% (treatment-related problems) to 29% (diabetes-related emotional problems).
Conclusion: Registration-rates of emotional problems by diabetes nurses were found to be low, but quite similar to detection rates of physicians and nurses in studies with non-diabetic samples.
Practice implications: These findings suggest that recognition-rates of emotional problems in diabetes patients need to be increased. Future studies should investigate whether recognition and subsequent treatment of emotional problems in diabetes patients can be facilitated by utilizing validated, standardized self-report questionnaires.

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1. Introduction

Co-morbid emotional problems such as depression and anxiety are associated with decreased quality of life in diabetes patients, impaired self-care behaviors and diminished glycaemic control [1–4]. The management of diabetes can also be hindered by the presence of diabetes-specific emotional problems, such as fear of hypoglycaemia, worries regarding complications or not accepting diabetes [5–7]. Although effective behavioral or pharmacological treatments are available for most emotional problems in patients with diabetes [5,8,9], the detection-rates of emotional problems are generally found to be low. For example,

primary care physicians fail to recognize and treat depression in about 35–70% of the cases [10]. It was found that diabetologists recognized psychiatric disorders and/or initiate anti-depressant therapy in only one-third of their patients who had clinical depression [11]. Diabetes nurses (DNs) often spend more time with patients than doctors do, and they also have different responsibilities in the diabetes team, and we believe that DN's may play, therefore a helpful role in the detection of emotional problems.

However, nurses also recognized only 29% of the depressed cases in nursing home residents [12], while practice nurses detected 16% of patients with increased levels of psychological distress [13]. Finally, only 38–56% of internal medical inpatients with a mental disorder were recognized by both medical doctors and nurses and only 20% received mental health treatment [14].

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We did not find any studies regarding the recognition of depression, anxiety and/or diabetes-specific distress by diabetes nurses. Therefore, the aim of the present observational study was to investigate whether DNs recognize and record the presence of emotional problems in outpatients with diabetes with high levels of depression, anxiety and/or diabetes-specific distress. Furthermore, we have explored the associations between recognition and subsequent registration of emotional problems and patient characteristics such as age, sex and type of diabetes.

2. Methods

2.1. Setting

Between May 1997 and December 1999, a randomized controlled trial was conducted at the outpatient diabetes clinic of the VU University Medical Center, which serves about 1200 diabetes patients. The Medical Ethics Committee of the VUmc approved this study. Main aim of that trial was to investigate whether monitoring and discussing of psychological well-being in outpatients with diabetes improves the outcomes of diabetes outpatient care. Patients of the present study participated in control group and were receiving standard care. These patients completed several self-report questionnaires at home after a first visit to the DN. A detailed description of the trial can be found elsewhere [15].

2.2. Diabetes nursing in the VUmc Amsterdam and in general in The Netherlands

All four DNs of the VUmc participated in the present study. These nurses were females, and their ages were 31, 43, 44 and 51 years. They had, respectively, 2, 10, 3 and 8 years of experience as a DN. In The Netherlands, to be registered as a DN, one must be officially registered as a nurse and have then completed the specialised postgraduate diabetes course of the Foundation for Specific Postgraduate Education for Nurses (Stichting Specifieke Scholing Verpleegkundigen) in Bunnik, The Netherlands. For example, a 3 h lesson on “psychological aspects of diabetes”, a 3 h workshop on “communication skills for diabetes nurses” and a 3 h lesson on “diabetes-education” are three standard, obligatory elements of this course.

2.3. Assessment of demographics, clinical data and questionnaires

Paper and pencil questionnaires were used to assess data concerning marital status, years of education, height, weight and history of treatment for emotional problems. Age, type of diabetes, type of treatment for diabetes, complications and current treatment for emotional

problems were collected from the medical chart of the patient.

The hospital anxiety and depression scale (HADS) were used to assess levels of anxiety and depression [16]. The HADS has been developed for use in a hospital setting and contains 14 self-report items, using a four-point Likert Response Scale. All items focus on cognitive symptoms of anxiety and depression, in order to avoid contamination by somatic symptoms of anxiety and depression (e.g. weight loss or insomnia), which can have a physical cause, and are therefore not necessarily a symptom of depression [17,18]. Scores of 11 or more on the HADS anxiety or HADS depression subscale are described as indicative of clinical anxiety or depression [17].

The problem areas in diabetes scale (PAID) is a 20-item, self-report scale that can measure diabetes-specific emotional distress [6,7]. The PAID scores are summed and transformed to a 0–100 scale, with higher scores indicating higher emotional distress. In addition to the general diabetes-specific distress measure, the PAID can be used to generate four subscales, treatment-related problems (3 items), food-related problems (3 items), social support-related problems (2 items) and diabetes-related emotional problems (12 items) [19].

In the present study, scores of 40 or more on the PAID subscales were regarded as high [19].

2.4. Recognition and registration of emotional problems by the diabetes nurses

A common method to determine detection-rates of emotional problems is to ask health care providers to judge the psychological health of participants. However, this method has an important disadvantage: it can be regarded as an (unintended) intervention that may actually increase the health care provider’s detection and registration rates as they are more focused on psychological problems of patients (Hawthorne Effect). We aimed to avoid such a bias, and have therefore conducted an observational study. We counted for each of the patients whether the DNs had reported in the post-visit patient chart that an emotional problem had been discussed with the patient.

2.5. Statistical analyses

SPSS 7.5 for Windows was used to carry out statistical analyses. Differences between two subgroups with different levels of psychological well-being in the percentage of patients who were registered as having an emotional problem in the medical chart of the DN were determined using χ^2 test for percentages. The associations between recognition and registration of emotional problems and patient characteristics (such as age, sex type of diabetes) were investigated with χ^2 test for percentages and *t*-tests for means.

3. Results

3.1. Participation rate

During randomization of the randomized controlled trial, 122 patients were assigned to control group that was asked to complete a set of questionnaires at baseline [15]. The baseline data of that control group are studied in the present paper. Of the group of 122 patients in the control group, 10 were not able to participate due to language and reading and/or vision problems. Of the 112 remaining patients, subscale scores could be calculated for only 90–94 patients (PAID) and 97/98 patients (HADS), as a result of missing values on questionnaire items.

3.2. Demographic and physiological indices

Mean age was 52 ± 18 years, 54% (61/112) of the patients were male, most patients (57%, 56/98) had a partner. On average patients had 11 ± 3 years of education (Table 1). The majority of the patients had type 2 diabetes (56%, 63/112). Of all patients with type 2 diabetes, 87% (55/63) were treated with insulin. Most prevalent complica-

tions were hypertension (50%, 54/108) and background or proliferative retinopathy (36%, 40/112). About one-quarter of the patients had cardiovascular disease (26/112), nephropathy (30/112) and/or neuropathy (25/112).

3.3. Recognition and registration of emotional problems

In the charts of the DNs, it was recorded for 22 of 97 (23%) patients in the control group that an emotional problem had been discussed with the patient. Patients with a self-reported history of professional mental health care utilization (psychologist/ psychiatrist) tended to discuss emotional problems more often (39%, 5/13) than those without such a history (18%, 13/72, $p = 0.10$). For three of the six patients (50%) who indicated that they were currently under treatment of a mental health specialist, it was recorded in their medical chart that the DN had discussed an emotional problem with this patient, compared with 19% (15/79) of those who were currently not under such a treatment ($p = 0.07$).

For only 3 of the 12 (25%) patients with a high level of anxiety, the DN recorded that the patient had an emotional problem. In the medical charts of two of the eight (20%) patients with a likely depression (as indicated by their score on the HADS depression scale), the nurses recorded that the patient had an emotional problem (Table 2). Furthermore, in the group of patients with a high level of diabetes-specific emotional problems, the registration rate was 29% (5/17); in patients with high levels of food-related emotional problems this was 27% (4/15). Of the 10 patients with high levels of emotional problems that are related to social support and diabetes 2 (20%) were described in the medical charts as having an emotional problem. Five patients had relatively high levels of emotional problems related to the treatment of diabetes, but for none of these five patients an emotional problem was recorded.

In all the comparisons in this paragraph, registration-rates of emotional distress did not differ significantly between the groups who reported low versus high levels of emotional distress on the two self-report questionnaires (Table 2).

3.4. Associations between patient characteristics and registration of emotional problems

In two final sets of analyses, we have studied two specific subgroups: (1) 17 patients with a score of 11 or higher on at least one of both HADS subscales and (2) 22 patients with a score of 40 or more on the 20-item PAID total scale. In both subgroups, we compared patients who did versus did not discuss their emotional problems with the DN for the variables that are described in Table 1 (sex, partner (yes/no) and HbA_{1c} etc.). In the group of patients with a high HADS-score, both groups (discussion versus no discussion) did not differ significantly on any of the variables described in Table 1. In the groups of patients with a high PAID score, patients with type 2 diabetes significantly more often

Table 1

Baseline characteristics of participants in standard care group of the monitoring study, who completed the HADS and the PAID survey at baseline

	Standard diabetes care ($n = 112$)
Demographics	
Mean (S.D.) age (years)	52 ± 18
Female sex (%)	46 (51/112)
Having partner ^a (%)	57 (56/98)
Mean (S.D.) years of education ^a	11 ± 3.0
Clinical values	
Mean (S.D.) HbA _{1c}	7.8 ± 1.2
Mean (S.D.) BMI (kg/m ²) ^a	28 ± 6.2
Type 2 diabetes (%)	56 (63/112)
Type 2 treated with insulin n (%)	87 (55/63)
Retinopathy (%)	36 (40/112)
Hypertension (%)	50 (54/108)
Cardiovascular disease (%)	23 (26/112)
Nephropathy (%)	27 (30/112)
Neuropathy (%)	22 (25/112)
Emotional well-being^a	
HADS anxiety	6.1 ± 4.4
HADS depression	4.4 ± 3.9
History of treatment by psychologist/psychiatrist (%)	16 (15/95)
Current treatment by psychologist/psychiatrist (%)	6 (6/95)
Diabetes-related emotional problems^a	
PAID total score	44 ± 22
PAID diabetes-related emotional problems	29 ± 15
PAID social support-related problems	3.6 ± 2.6
PAID food-related problems	6.8 ± 4.3
PAID treatment-related problems	5.1 ± 3.0

Data are obtained from medical status (unless stated otherwise).

^a Data obtained by means of a questionnaire at baseline.

Table 2
Registration of psychological problems of diabetes outpatients, in the medical records, by the DN specialist

	% (n/n total)	Registration in the patients' medical record that an emotional problem of the patient has been discussed with the patient (%)
HADS anxiety low (0–10)	85 (81/95)	22 (16/72)
HADS anxiety high (11–21)	15 (14/95)	25 (3/12)
HADS depression low (0–10)	92 (89/97)	22 (17/78)
HADS depression high (11–21)	8 (8/97)	25 (2/8)
PAID total low (0–39)	75 (67/89)	22 (13/60)
PAID total high (40–100)	25 (22/89)	28 (5/18)
PAID diabetes-specific emotional problems low (0–39)	77 (69/90)	21 (13/62)
PAID diabetes-specific emotional problems high (40–100)	23 (21/90)	29 (5/17)
PAID problems related to diabetes and social support (0–39)	87 (83/95)	23 (17/74)
PAID problems related to diabetes and social support (40–100)	13 (12/95)	20 (2/10)
PAID problems related to diabetes and food low (0–39)	81 (76/94)	22 (15/68)
PAID problems related to diabetes and food high (40–100)	19 (18/94)	27 (4/15)
PAID problems related to treatment of diabetes (0–39)	94 (86/92)	25 (19/76)
PAID problems related to treatment of diabetes (40–100)	6 (6/92)	0 (0/5)

discussed emotional problems with the DN (57%, 4/7) than those with type 1 diabetes (9%, 1/11, $p = 0.04$). In this group with a high PAID score, patients who discussed emotional problems tended to be older (54 ± 5.6 versus 41.1 ± 14.2 , not significant) and had a higher BMI (33 ± 4.1 versus 25.9 ± 3.6 , $p = 0.05$) than those who did not discuss emotional problems.

4. Discussion and conclusion

4.1. Discussion

The aim of the present study was to investigate whether DNs recognize and record the presence of emotional problems in outpatients with diabetes that have high levels of depression, anxiety and/or diabetes-specific distress. We have found that the majority of the diabetes outpatients with high levels of emotional problems are not recognized and described as such in their medical charts. In fact, the presence of emotional problems was recorded in only 20–30% of the patients with high scores on the HADS or the PAID survey.

A major threat to the validity of our results may be the notion that emotional problems may have been discussed with the patient, while this discussion was not reported in the medical chart. If that is indeed the case, our detection-rates are an underestimation of the actual detection rates. On the other hand, the results of our study are quite similar to the findings of other research groups, who concluded, for example, that 35–70% of primary care patients with a clinical depression do not receive a diagnosis or receive inadequate treatment for depression [10]. McDonald et al. concluded that nurses had a marked tendency underestimate the level of depressive symptoms in patients who were more

severely depressed [14]. Nurses' ratings were most influenced by symptoms such as crying, depressed mood and medical factors that are useful, but perhaps not the most reliable indicators of depression in this population [14]. Moreover, Hansen et al. found that about 50% of internal medical inpatients with a psychiatric disease were recognized as such by medical doctors and nurses, and only about 20% were in mental health treatment [20].

What are the potential causes of under detection of emotional problems? One may hypothesize that some patients are reluctant to speak about their emotional problems, for example, because they feel ashamed as they regard these problems as a sign of weakness. Others, especially older patients, may hold the opinion or expect that the focus of the consultation with a DN should be on diabetes, in particular the practical, physical and technical aspects related to diabetes and its management. Others may think: "what has my depression to do with my diabetes?" Moreover, some patients may simply wish not to discuss emotional problems with the DN (for other specific reasons).

Chew-Graham et al. found that primary care physicians stated that they were reluctant to diagnose depression in patients, as they felt that the depressed symptoms were a normal reaction to environmental stressors and true illness [21]. Discussion of the patients' emotional problems requires time, good communication skills and sufficient knowledge about emotional problems in diabetes. Health care providers with a high workload, poor communication skills or inadequate knowledge about emotional problems may, therefore avoid a dialogue about the emotional well-being of the patient. However, we would like to stress that a good consultation does not take more time than an insufficient consultation. Hence, lack of time is not a good enough reason for not discussing emotional problems.

In The Netherlands, the role of DNs has grown in importance in the last decade and in many hospitals they are the central person(s) in the diabetes team [22]. The four DNs who participated in the present study were all very interested in psychological aspects of having diabetes and agreed that detection and discussion of these problems is important. We also believe that these nurses had been well educated regarding these topics. Moreover, they participated in a diabetes team where there is traditionally a relatively strong focus on emotional aspects related to diabetes and its complications. For example, a psychologist has been a standard member of this team since 1989.

How can we improve the detection rates of emotional problems in diabetes patients by DNs? One might postulate that improving training for health care providers could lead to improved diagnosis, management and clinical outcomes. However, in The Netherlands, the training of nurses, and also the training of DNs by the Foundation for Specific Postgraduate Education for Nurses (SSSV), already has a strong focus on dealing with and attention for emotional aspects of diabetes. Moreover, a recent large study showed that educating general practitioners in detecting and treating depression had disappointing results on recognition and subsequent treatment [23]. Another way to improve detection rates of emotional problems may be the use of short, validated self-report questionnaires such as the HADS or the PAID, which can be used to assess anxiety, depression and diabetes-specific emotional problems. Such questionnaires can be completed by patients in a few minutes. Routine assessment of emotional well-being can be facilitated by using computerized versions of questionnaires [24]. Another approach might be to organise group education and study circles for patients, where they can emotionally support each other.

4.2. Conclusion

The results of our study suggest that the majority of the diabetes outpatients with high levels of emotional problems are not recognized as such and then recorded in their medical charts. In fact, the presence of emotional problems was recorded in only 20–30% of the patients with high scores on the HADS or the PAID survey.

4.3. Practice implications

The results of the present study support the idea that emotional problems such as anxiety, depression and diabetes-related distress are often not recognized and registered by DNs, and may therefore remain untreated. The recognition and subsequent, adequate treatment of emotional problems such as anxiety, depression or diabetes-specific emotional problems may also be regarded as an important element of high quality diabetes care, since emotional problems can impede appropriate self-care behaviors, and thus reduce the likelihood of good glycemic

control. Moreover, emotional problems such as depression were found to be associated with poor knowledge of diabetes [25], and decreased readiness to change, and may thus hamper successful diabetes education [26]. The routine use of self-report questionnaires to monitor emotional well-being, with subsequent treatment of emotional problems if warranted, may help to facilitate diabetes educational interventions and to improve the quality of life of patients.

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