Identifying and Prioritizing Diabetes Care Issues Among Mental Health Professionals of a Multi-Ethnic, State Psychiatric Hospital

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Abstract

Objective. The purpose of this study was to identify and prioritize diabetes care issues in a multi-ethnic, state psychiatric hospital.

Research design and methods. The nominal group technique (NGT) was used to gather qualitative and quantitative data. Three NGT groups were conducted with various mental health professionals from the hospital.

Results and conclusions. The overall results indicated that the primary concerns relating to diabetes care among hospital staff included *1*) lack of knowledge of diabetes care by both patients and staff; *2*) lack of proper training in diabetes care among staff; *3*) poor communication between hospital units and mental health disciplines; and *4*) need for a multi-modal and cross-cultural approach to diabetes care.

INTRODUCTION

Diabetes is the sixth leading cause of death in the United States.[1] The Centers for Disease Control and Prevention estimated that 11.1 million people have a diagnosis of diabetes, and another 5.9 million people have undiagnosed diabetes.[2] The economic cost of diabetes in the United States was estimated to be $132 billion, of which $40 billion (indirect costs) resulted from disability, work loss, and premature mortality.[3]

Nearly half of all expenditures were attributed to diabetes-related complications alone,[4] such as kidney and eye disease and cardiovascular problems. Diabetes-related complications are associated with poor blood glucose control.[5] However, adherence to a diabetes self-care regimen (i.e., diet modification, increased physical activity, oral hypoglycemic drugs, and insulin injections) to maintain blood glucose at an optimal level (hemoglobin A_{1c} < 7%) remains a challenge for many people living with diabetes.[6]

The effective management of diabetes involves many lifestyle changes (i.e., diet modifications and increased physical activity) and the acquisition of complex behavioral skills (i.e., daily medication use, insulin injection, daily blood glucose testing and monitoring, and time management and problem-solving). Many of these important lifestyle changes and skills can be difficult for people to perform and maintain over time. Furthermore, people with diabetes may experience many interpersonal (e.g., poor physician-patient communication), sociocultural (e.g., poor access to health care), and psychosocial (e.g., depression, low self-efficacy, and poor social support) challenges to effective diabetes care.[7,8] Managing diabetes is particularly challenging for people with a comorbid severe mental illness (e.g., schizophrenia, schizoaffective disorder, and bipolar disorder). The challenges associated with managing a comorbid severe mental illness, such as dealing with side effects of psychoactive medications and psychotic symptoms, can complicate diabetes care for both individuals and their behavioral health care providers.

Diabetes and Severe Mental Illness

People diagnosed with schizophrenia and other severe mental illnesses

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(e.g., bipolar disorder, schizoaffective disorder) are at an increased risk for developing type 2 diabetes.[9,10] A 14.9% lifetime prevalence and a 10.8% current prevalence of diabetes in people with comorbid schizophrenia have been reported, each of which is about two times greater than those of the population at large.[11] A study observed that the prevalence of type 2 diabetes in an inpatient population with bipolar I disorder and schizoaffective disorder was 26% and 50%, respectively.[9] It has been reported that people with schizophrenia and comorbid diabetes are more likely to also have other medical problems, such as hypertension, heart problems, seizures, and hearing and vision problems than are people with schizophrenia, but without a diabetes diagnosis.[11]

Many of the atypical neuroleptics (e.g., clozapine, olanzapine, and quetiapine) prescribed for people with a severe psychotic mental illness have been found to be associated with impaired glucose tolerance and insulin resistance.[9,11] For example, patients using olanzapine were found to be at an increased risk for diabetes compared with patients who were nonusers of anti-psychotics (odds ratio: 5.8) and patients taking conventional anti-psychotics (odds ratio: 4.2).[12]

One study of inpatients with a diagnosis of schizoaffective and bipolar I disorders, however, found that the psychiatric diagnosis and BMI were better predictors of diabetes diagnosis than were the use of atypical neuroleptics,[9] whereas other studies reported a significant association between diabetes and the use of atypical neuroleptics in patients with schizophrenia.[13,14] It has also been found that abdominal adiposity, ethnicity, age, and some neuropsychiatric disorders also increase the risk for type 2 diabetes in people using anti-psychotic medications.[15] Therefore, the reason for the increased prevalence of diabetes observed among patients with a severe mental illness appears to be complex, possibly involving both biochemical effects associated with the use of atypical neuroleptics (e.g., potential for weight gain and dysregulation of metabolic pathways)[12,13] and psychosocial factors (e.g., sedentary lifestyle, poor social support) associated with a severe mental illness.

Rationale for and Goals of the Present Study

Given the high prevalence of diabetes among psychiatric inpatients, the authors were interested in gathering information about barriers to diabetes care in a psychiatric inpatient setting. The information gathered was to be used to guide the development of a diabetes management program specifically designed for psychiatric inpatients with a comorbid diabetes diagnosis. Therefore, the goal of this study was to identify and prioritize diabetes care issues among health professionals of a state psychiatric inpatient hospital using the nominal group technique (NGT) described by Delbecq et al.[16]

The NGT is a qualitative method that has several advantages over the traditional focus-group approach. For example, no one individual is allowed to monopolize the discussion; all participants' ideas can be expressed; a larger pool of ideas can be obtained in the least amount of time; ideas can be numerically prioritized; and facilitation is made easier using the NGT. It has been used successfully to identify diabetes care issues among patients and caregivers,[17,18] to establish national clinical and health service research priorities,[19,20] and in problem-solving concerns among psychiatric nurses in providing health care needs.[21,22]

METHODS

Participants

Participants were direct-care, mental health professionals (e.g., any hospital staff member who had direct contact with patients) from a state-run, psychiatric hospital in Hawaii. All participants provided mental health care to inpatients from various ethnocultural groups (i.e., Hawaiian, Filipino, Japanese, Chinese, and white).

The participants were from various disciplines, including physicians, psychologists, social workers, nurses, recreational therapists, and psychiatric technicians (e.g., psychiatric paraprofessionals). They were solicited via hospital e-mail, staff meetings, flyers, hospital newsletters, and face-to-face contact. Solicitation of participants lasted for approximately 1 month. Interested individuals were placed into a group based on their schedules, which determined the composition of each group.

Based on the number of individuals who were able to participate, three NGT groups were scheduled. The total sample consisted of 17 mental health professionals from various disciplines. Table 1 summarizes sample characteristics.

Procedure

A facilitator's manual was developed for the NGT groups based on the approach to NGT of Delbecq et al.[16] and Carney et al.[21] The manual was developed to provide a standardized means of conducting the NGT groups across facilitators and settings. All three NGT groups were facilitated by the first author and co-facilitated by the second author. The facilitator's manual outlined the specific steps to be followed:

1. Silent generation of ideas
2. Round robin
3. Group clarification of ideas
4. Voting and ranking of ideas
5. Discussion of results

These steps are described in more detail in Delbecq et al.[16] and Carney et al.[21]

The three NGT groups were held between 9:00 and 10:30 a.m. on three different dates in a conference room on hospital grounds. Refreshments and snacks were offered to participants as an incentive. The same procedure was used for all three NGT groups.

First, all participants were informed of the purpose of the meeting, which was to identify and prioritize diabetes care issues at the hospital. A brief explanation of diabetes and associated self-management issues among people with a severe mental illness was given, followed by an overview of group rules and format. The group rules were as follows:

- Each participant was expected to provide at least one idea.
- Each participant was allowed to nominate all of his or her ideas without comments from other group members.
- Group members were asked not to make any evaluative or censoring statements about others' ideas.

The participants were then given an overview of the five steps involved in the NGT.

After the overview of group rules and format, the following question was asked: What are the barriers to providing diabetes care to patients here at the hospital? The participants were asked to think about this question from three

Table 1. Demographic Characteristics of Three NGT Groups

Characteristic	NGT Group 1 (*n* = 6)	NGT Group 2 (*n* = 6)	NGT Group 3 (*n* = 5)	NGT Total (*n* = 17)
Sex:				
Male	1	0	1	2
Female	5	6	4	15
Age range (years):	29–60	33–52	25–64	25–64
Ethnicity:				
African American	1	0	0	1
White	3	2	4	9
Chinese	0	1	0	1
Filipino	0	0	1	1
Hawaiian	0	1	0	1
Hispanic	1	0	0	1
Japanese	1	1	0	2
Mixed ancestry	0	1	0	1
Discipline/job title:				
Medical doctor	0	1	0	1
Psychologist	1	0	1	2
Registered nurse	2	3	2	7
Licensed practical nurse	0	1	0	1
Social worker	1	1	0	2
Psychiatric technician	1	0	0	1
Coordination specialist	1	0	0	1
Nurse practitioner	0	0	1	1
Occupational therapist	0	0	1	1
Years working with an inpatient psychiatric population (range)	1–13	2–16	0–35	0–35
Years working at hospital (range)	1–11	0–10	1–14	0–14

levels or perspectives: *1*) hospital-wide, *2*) staff, and *3*) patients. The question was written on a flipchart, and participants were given blank sheets of paper and pencils with which to write down their ideas in single words or short phrases. They were asked to work independently and to generate as many ideas as possible within 10 minutes, without making any evaluative or censoring judgments that would limit the number of ideas written down.

After the initial step, the group proceeded through the phases of the NGT in order. Participants verbally nominated ideas one at a time to be recorded by the co-facilitator, clarified and combined ideas within the group, and voted and ranked individual ideas based on importance and relevance to the study question. The facilitators then collected the votes and tallied the numbers to obtain a quantified ranking of the top seven ideas.

RESULTS

Participant Characteristics

A summary of the demographic characteristics of the NGT groups is presented in Table 1. Each of the three NGT groups consisted of at least one medical doctor or doctorate-level psychologist. Psychiatric nurses constituted a majority of the group participants. Two of the three groups contained one social worker each, and the remaining group participants were from other mental health professions, which included recreational therapists and psychiatric technicians. A majority of the participants were female. The overall participant distribution by discipline in this study was comparable to the hospital-wide distribution.

NGT Group 1

NGT Group 1 nominated 16 distinct ideas regarding proper diabetes care. A summary of the highest-ranking seven ideas is presented in Table 2. The results of the ranking process indicated that the most significant barrier to appropriate diabetes treatment is a lack of patient-focused diabetes assessment and treatment. As shown in Table 2, the score for this idea was 22 out of a maximum of 42 points. In descending order, the remainder of the top seven issues were: coordination and continuity of services and competing mental and physical health problems; lack of knowledge by patients about nutrition, diabetes, and benefits of diabetes care; identifying and tracking patients at risk for diabetes; no protocols for treating mental illness and comorbid medical illness and need for multi-modal treatment that addresses different learning styles; need to focus on diabetes prevention; and staff difficulty in reinforcing proper diabetes self-care behaviors.

NGT Group 2

NGT Group 2 nominated 20 distinct ideas regarding proper diabetes care. A

Table 2. NGT Group 1: Top Seven Participant Ideas

Number*	Idea	Votes	Score
1	Patient-focused assessment and treatment	6-6-5-3-2	22
7/31	Coordination and continuity of services/ Competing mental health and physical health problems (tie)	7-7-4-2-1/ 5-5-4-4-3	21
2	Lack of knowledge by patients about nutrition, diabetes, and benefits	7-5-3-2-1	18
25	Identifying and tracking patients at risk	7-4-4-1-1	17
16/22	No protocols for treating mental illness and comorbid physical illness/Modality of treatment, address different learning styles (tie)	7-3-2/ 6-4-2	12
32	Prevention focus	6-5	11
33	Difficulty reinforcing proper behavior	5-3-1-1	10

*The number of each idea indicates the number assigned to the idea based on order of nomination in the group. The ideas are presented above, starting with the most important idea selected by the group.

summary of the highest-ranked seven ideas is presented in Table 3. The results of the ranking process indicated that the number one barrier for proper diabetes management was poor communication between units, programs, and disciplines concerning diabetes care. This idea received a score of 24 points out of a maximum of 42 points. In descending order, the remainder of the top seven ideas were: lack of focus on physical health; unhealthy food choices; lack of knowledge of diabetes by staff and patients; lack of motivation by patients to follow diet and treatment plans; dietary constraints and visitors bringing in unhealthy items; and noncompliance with medical treatment and a lack of staff training in diabetes care.

Table 3. NGT Group 2: Top Seven Participant Ideas

Number*	Idea	Votes	Score
33	Poor communication between units, programs, and disciplines	7-6-6-1-4	24
24	Lack of focus on physical health	6-6-5-3	20
23	Unhealthy food choices	7-5-5-2	19
20/2	Lack of knowledge of disease by staff/Lack of knowledge of disease by patients (tie)	7-6-3/ 6-5-4-1	16
4	Motivation	7-5	12
10	Dietary constraints, visitors bring food	4-3-2-2	11
6/21	Noncompliance with medical treatment/Staff lack of training (tie)	7-3/ 4-4-2	10

*The number of each idea indicates the number assigned to the idea based on order of nomination in the group. The ideas are presented above, starting with the most important idea selected by the group.

NGT Group 3

NGT Group 3 nominated 28 distinct issues regarding proper diabetes care. A summary of the highest-ranking seven ideas is presented in Table 4. The number one barrier was a lack of training concerning different modalities of diabetes treatment and education. This idea received a score of 19 out of a maximum of 35 points. In descending order, the remainder of the top seven ideas were: lack of communication between staff, units, programs, and shifts; a lack of a multimodal approach to diabetes education, including social and support groups; no priority given to diabetes policy and continuity of care; inconsistent follow-through on special diets and a culture based on food and valuing of unhealthy food choices; denial of the disease; and patients' inability to control their eating habits.

Table 4. NGT Group 3: Top Seven Participant Ideas

Number*	Idea	Votes	Score
7	Lack of training concerning modalities of treatment and education	6-6-4-3	19
2	Lack of communication between staff, units, programs, and shifts	7-5-3-3	18
40	Multi-modal approach to education, including social and support groups	5-5-4-3	17
17	Diabetes not a priority concerning policy and continuity	7-7	14
2/12	Inconsistent follow-through on special diets/Food culture, valuing of unhealthy food choices (tie)	6-5-2/ 7-4-2	13
28	Denial of disease	6-5	11
21	Inability to control eating habits	7-2	9

*The number of each idea indicates the number assigned to the idea based on order of nomination in the group. The ideas are presented above, starting with the most important idea selected by the group.

Aggregated Results of NGT Groups

Several overlapping ideas were ranked in the top seven by at least two of the three NGT groups. These were:

1. lack of knowledge of diabetes and its care by both patients and staff
2. lack of proper training in diabetes care among staff
3. poor communication between hospital units and mental health disciplines
4. need for a multi-modal (e.g., diabetes support groups, focus on diabetes-specific behavioral skills, addressing attitude toward disease) and cross-cultural (e.g., awareness of the relationship of food and health to different cultures) approach to diabetes care

An aggregated list of all ideas nominated by the three NGT groups is presented in Table 5.

DISCUSSION

The goal of this study was to identify and prioritize diabetes care issues among mental health professionals in a multi-ethnic, psychiatric inpatient hospital using the NGT described by Delbecq et al.[16] The information gathered from this study was to be used in the development of a diabetes management program for an inpatient psychiatric facility. This study was the first to examine diabetes care issues among mental health professionals of a multi-ethnic, psychiatric hospital using the NGT. Given the high prevalence of diabetes in people with a severe mental illness, it is important to elucidate the specific barriers to, and concerns about, proper diabetes care in this population.

In understanding the results of this study, it is important to keep in mind that the inferences that can be made are limited because of a small sample size and a possible self-selection bias in the recruitment of participants. Only about 9% of all direct care hospital staff participated. Furthermore, most participants expressed a strong interest in, and understanding of, diabetes care. Therefore, the concerns presented may not be representative

Table 5. Aggregated List of Ideas Nominated in the Three NGT Groups

- Realistic versus idealistic treatment, patient-focused
- Lack of knowledge by patients about nutrition, diabetes, and benefits
- Coordination of services for continuity
- Poor role-modeling by staff
- No protocol for treating comorbid illnesses
- Limited opportunities for exercise
- Limited opportunities for self-care
- Side effects of anti-psychotic medications
- Modality of treatment information, address different learning styles
- No peer support group
- Identifying patients at risk
- Selection of food
- Rehabilitation focus
- Competing mental health problems
- Prevention vs. intervention
- Difficulties reinforcing proper behavior
- Denial of diabetes
- Lack of knowledge of disease
- Cultural differences related to food and attitude toward disease
- Motivation
- Real-world issues, compliance, generalizability of diabetes treatment
- Lack of culturally relevant literature
- Visitors bring food, dietary constraints
- Psychiatric illness
- Poor memory
- Staff boundaries, bringing in food
- Staff doesn't care, doesn't follow treatment plan
- Staff lack of knowledge
- Staff lack of training
- Unhealthy food choices at Snack Shop, cafeteria, and recreational activities
- Lack of focus on physical health
- Openness to discussion
- Unable to see long-term, no broad focus on quality of life
- Poor communication between units, programs, disciplines, and shifts
- Inconsistent follow-through on special diets
- Staff's negative attitudes
- Confusion of role
- Lack of training concerning modalities of education and treatment
- Medical problems not a priority, not on Master Treatment Plan
- Food culture, valuing of unhealthy food choices
- Lack of knowledge of illness
- Poor self-esteem
- Continuity of policies not a priority
- Inability to control eating
- Mental stability to understand consequences
- Food as reward, Snack Shop
- Resistance to physical activity
- Lack of awareness by hospital of need for diabetes management
- Poor coping skills
- Few opportunities for diabetes role models
- Poor educational background
- Needle sticks
- Training of care home operators
- Lack of supervision by staff
- Mental capacity to learn diabetes management
- Lack of analytical skills to interpret results of blood tests
- Multi-modal approach to education, including social and support groups
- Lack of insurance coverage for follow-up checks
- Patients believe they can treat themselves
- No glucometers available for patient use

of all mental health professionals in similar settings.

The overlapping themes identified by the NGT groups listed above suggested that many of the concerns regarding diabetes care for mental health professionals in a psychiatric hospital are training-related. Participants believed that the hospital staff lacked sufficient knowledge (i.e., of associated medical complications, of effects of anti-psychotic medication on diabetes) and skills (e.g., integration of medical and psychiatric illness in treatment planning) to provide proper diabetes care of psychiatric inpatients.

Another identified concern related to diabetes care involved communication among hospital staff, units, and programs. Effective communication among treatment team members, which includes patients, is crucial to effective goal setting and successful implementation of any medical or psychiatric treatment. This is an important issue given that a multidisciplinary team (e.g., physician, nutritionist, behavioral health specialist, and diabetes educator) is needed for effective diabetes care. Studies have reported on the importance of good patient-physician communication in proper diabetes self-care;[7] however, no study to date has examined the effects of the communication styles among health care professionals on effective diabetes care.

The final overlapping theme identified in the NGT groups was a broad statement about the need for a multimodal and cross-cultural approach (e.g., treatments that address the medical, behavioral, cognitive, social, and cultural aspects) to diabetes care. Such an approach values the input of a variety of health professionals and seeks to promote healthy behavior changes. A multi-modal approach would involve health professionals from various disciplines; address specific diabetes-management skills, attitudes, and beliefs about illness; and address areas of social support needed for effective management. Additionally, in a facility with such great cultural diversity as the setting of the current study, an understanding of health- and food-related beliefs specific to various cultures is essential.

Many of the ideas expressed by the three NGT groups demonstrated the need for hospital policies and staff

training that emphasize the treatment of comorbid diabetes among people with a severe mental illness. This concern among staff reflects the primary focus of many psychiatric hospitals, which is psychiatric care. In addition, the low number of hospital staff who participated in the groups further exemplifies the current priorities of a psychiatric hospital. Many of the hospital staff expressed an interest in participating but could not make the time to attend because of other responsibilities related to patient care. However, given the high prevalence of diabetes among people with a severe mental illness, its treatment needs to be integrated into the policies and treatment protocols of psychiatric hospitals.

Interestingly, attributes related to patients' psychiatric illnesses were not considered a major barrier to proper diabetes self-care in any of the three NGT groups. For example, symptoms of schizophrenia, such as delusions and hallucinations, or symptoms of depression, such as lack of motivation or increased appetite, would seem to interfere with patients' abilities to properly monitor and care for their diabetes. Only three of the total ideas discussed in the three groups alluded to this topic: "competing mental health problems," "psychiatric illness," and "mental stability to understand consequences." None of those were voted to be among the top seven concerns in any group. Perhaps these concerns were discounted in the final analysis because of the overall focus on psychiatric illness within the institution. Participants in the groups chose to focus more on process-oriented and food-specific barriers.

In summary, many barriers exist to proper diabetes care for inpatients of a multi-ethnic state psychiatric hospital from the perspective of mental health professionals. These barriers primarily involved a lack of knowledge and training about the disease and available treatment modalities. Additional barriers may result from poor communication among mental health professionals, cultural variation in health beliefs and help-seeking behaviors, and unhealthy food choices that may be related to socio-cultural factors. This qualitative research was the first step in understanding and addressing these barriers.

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References

[1]Agency for Healthcare Research and Quality: Diabetes disparities among racial and ethnic minorities. Washington, D.C., U.S. Department of Health and Human Services, 2001 (AHRQ publ. no. 02-P007)

[2]Centers for Disease Control and Prevention: National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2000. Atlanta, Ga, U.S. Department of Health and Human Services, 2002

[3]American Diabetes Association: Economic cost of diabetes in the U.S. in 2002. *Diabetes Care* 26:917–932, 2003

[4]Herman WH, Eastman RC: The effects of treatment on the direct costs of diabetes. *Diabetes Care* 21 (Suppl. 3):C19–C24, 1998

[5]Clark CM: The burden of chronic hyperglycemia. *Diabetes Care* 21 (Suppl. 3):C32–C34, 1998

[6]Roter DL, Hall JA, Merisca R, Nordstrom B, Cretin D, Svarstad B: Effectiveness of interventions to improve patient compliance: a meta-analysis. *Med Care* 36:1138–1161, 1998

[7]Shultz JA, Sprague MA, Branen LJ, Lambeth S: A comparison of views of individuals with type 2 diabetes mellitus and diabetes educators about barriers to diet and exercise. *J Health Commun* 6:99–115, 2001

[8]Tellez-Zenteno JF, Cardiel MH: Risk factors associated with depression in patients with type 2 diabetes mellitus. *Arch Med Res* 33:53–60, 2002

[9]Regenold WT, Thapar RK, Marano C, Gavirneni S, Kondapavuluru PV: Increased prevalence of type 2 diabetes mellitus among psychiatric inpatients with bipolar I affective and schizoaffective disorders independent of psychotropic drug use. *J Affect Disord* 70:19–26, 2002

[10]Jeste DV, Gladsjo JA, Lindamer LA, Lacro JP: Medical comorbidity in schizophrenia. *Schizophr Bull* 22:413–430, 1996

[11]Dixon L, Weiden P, Delahanty J, Goldberg R, Postrado L, Lucksted A, Lehman A: Prevalence and correlates of diabetes in national schizophrenia samples. *Schizophr Bull* 26:903–912, 2000

[12]Koro CE, Fedder DO, L'Italien GJ, Weiss, SS, Magder LS, Kreyenbuhl J, Revicki DA, Buchanan RW: Assessment of independent effect of olanzapine and risperidone on risk of diabetes among patients with schizophrenia: population based nested case-control study. *BMJ* 325:243–246, 2002

[13]Seryak MJ, Leslie DL, Alarcon RD, Losonczy MF, Rosenheck R: Association of diabetes mellitus with use of atypical neuroleptics in the treatment of schizoprehnia. *Am J Psychiatry* 159:561–566, 2002

[14]Haupt DW, Newcomer JW: Hyperglycemia and antipsychotic medications. *J Clin Psychiatry* 62 (Suppl. 27):15–26, 2001

[15]Hägg S, Lars J, Mjörndal T, Spigset O, Oja S, Dahlqvist R: Prevalence of diabetes and impaired glucose tolerance in patients treated with clozapine compared with patients treated with conventional depot neuroleptic medications. *J Clin Psychiatry* 59:294–299, 1998

[16]Delbecq A, Van de Ven AH, Gustafson DH: Group techniques for program planning: a guide to nominal group and Delphi processes. Glenview, Ill., Scott Foresman, 1975

[17]Hares T, Spencer J, Gallagher M, Bradshaw C, Webb I: Diabetes care: who are the experts? *Qual Health Care* 1:219–224, 1992

[18]Miller D, Shewchuk R, Elliot TR, Richards S: Nominal group technique: a process for identifying diabetes self-care issues among patients and caregivers. *Diabetes Educ* 26:305–310, 312, 314, 2000

[19]Redman S, Carrick S, Cockburn J, Hirst S: Consulting about priorities for the NHMRC national breast cancer centre: how good is the nominal group technique. *Aust N Z J Public Health* 21:250–256, 1997

[20]Vella K, Goldfrad C, Rowan K, Bion J, Black N: Use of consensus development to establish national research priorities in critical care. *BMJ* 320:976–980, 2000

[21]Carney O, McIntosh J, Worth A: The use of the nominal group technique in research with community nurses. *J Adv Nurs* 23:1024–1029, 1996

[22]Cawthorpe D, Harris D: Nominal group technique: assessing staff concerns. *J Nurs Adm* 29:11,18,37,42, 1999

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