

Perceived knowledge about diabetes among personnel in municipal care: a qualitative focus group interview study

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Introduction

With a rapidly ageing population, comorbidities are set to increase. Comorbidities in older people give rise to a number of symptoms and risk factors that are defined as the geriatric syndrome. This syndrome includes well-known and, frequently, atypical symptoms such as physical and cognitive impairment, incontinence, depression, risk of falls, chronic pain and malnutrition.^{1–9} The presence of these comorbidities in the people with diabetes often has an effect on their health status. For example, cognitive impairment or dementia in older people with diabetes could lead to problems in maintaining their insulin treatment.^{2,5,6,10} As a result, enrolled nurses (ENs) need to step in and assist in the provision of diabetes self-care. Furthermore, ENs also need to be involved in the person's treatment goals.¹¹

Summary

The aim of this study was to explore the perceived knowledge of diabetes among personnel practising in municipal care.

The study was conducted using a qualitative approach through focus group interviews. The study included focus group interviews on three occasions, with a total of 22 enrolled nurses (ENs).

The results showed that the ENs' perceived knowledge of diabetes was not optimal. However, the study findings demonstrated that the ENs felt they had sufficient knowledge of nursing interventions, especially in the prevention of foot complications. Nevertheless, they expressed feelings of insecurity about assessing symptoms, treatment, and interventions to be taken with high or low blood glucose levels.

When providing opportunities for educating ENs prior to delegating to them the task of insulin administration, the training sessions should be structured and led by a diabetes nurse with pedagogical skills. It is important that the registered nurses who teach have up-to-date knowledge concerning developments and research in diabetes care.

The results of the study show that ENs employed within municipal health care lack knowledge regarding the care of older people with type 2 diabetes. Therefore, it is essential that ENs receive structured education and training in diabetes in order to ensure good and safe diabetes care.

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Key words

knowledge; diabetes; municipal; personnel

It is evident that, when the older person with diabetes can no longer use their knowledge and lacks the ability to manage their diabetes in everyday life, the same knowledge must be transferred to the EN.¹² This is particularly important when the EN is often the one who administers insulin to the individual with diabetes. Additionally, ENs are often the people who are required to make medical judgements that actually should be made by qualified personnel such as doctors or registered nurses.^{12,13} In order to ensure patient safety, ENs should have at least the same level of knowledge regarding elderly people with diabetes that the health care system requires of doctors or registered nurses.¹³

This study aimed to explore the perceived knowledge of diabetes

among ENs in municipal care. The results of the present study will form the basis for the development of an instrument that can be used to evaluate ENs' level of knowledge before delegating to them the task of administering insulin.

Study design and methods

Design

This study had a qualitative phenomenological approach.¹⁴ The qualitative approach was considered as an appropriate method for exploring ENs' knowledge of type 2 diabetes. In order to collect data, a semi-structured interview guide was used to capture the EN participants' knowledge and experiences of diabetes. The method comprised focus group interviews designed to obtain different views but not for finding

solutions. It is important to create a positive atmosphere for the group of participants so they have the courage to express personal opinions on the subject.^{14,15}

Inclusion criteria

The participants were either permanently employed as ENs or had a temporary placement lasting for at least three months. In terms of the sample, it was necessary that the ENs were in employment on the date of the interview.

Procedure

The participants were recruited from a municipality in the county of Dalarna in Sweden. The municipality where the interviews took place consists of seven municipal home-care groups and five groups from the municipality's nursing homes. Five unit managers selected the ENs from each work group who were in practice on the actual interview date.

Selected ENs were invited to participate in the study by the researchers and were informed both orally and in writing. The ENs were informed that participation was voluntary. An interview guide was developed and tested in a pilot study. Information regarding the study and a request for participation were sent to 25 ENs. A total of 22 ENs agreed to participate in the focus group interviews.

Focus group interviews

Subsequently, the study included focus group interviews on three occasions. According to Kvale and Brinkmann,¹⁴ the number of responders in each interview group should be between six and eight people. This is considered to be a sufficient number in order to capture the different approaches during the interviews.

The participants consisted of 21 women and one man, with an age

Age (years)	≤20	21–40	41–60	61–80
No. of participants	4	5	12	1
Work experience (years)	≤10	11–20	21–30	31–40
No. of participants	6	8	6	2

Table 1. Distribution of participants' age and work experience

range of 18–61 years. They had vocational education and work experience ranging from 1–38 years (Table 1). During the past three years, more than half of the ENs had received training in the treatment of diabetes before being delegated to administer insulin.

All sessions were preceded by a 15-minute briefing. The interviews began with a broad, open question regarding the level of knowledge the ENs perceived they had about older people and diabetes. All interviews were tape recorded.

Data analysis

The recorded interview material was transcribed verbatim and the text was analysed according to Kvale and Brinkmann.¹⁴ The ENs' statements were transformed into meaning units which led to categorisation in the main areas. The synthesis of the meaning units was carried out with the following four steps:

- Review of the entire interview material.
- Development of natural meaning units.
- Determination of categories derived from the natural meaning units.
- Direction of counter-questions to the analysed text.

Based on the four steps, analysis and categorisation were undertaken by the authors. (See Table 2.)

Ethical considerations

The study was approved by the research ethics committee at Dalarna University.

Results

The results of the focus groups interviews were divided into three categories: basic skills, symptoms and causes; intervention; and treatment. These are presented below according to category heading.

Basic skills, symptoms and causes

The interviews revealed that the participants perceived they had knowledge of what caused diabetes. They pointed out that there was a difference between type 1 and type 2 diabetes, but they had difficulty in explaining the differences between them. The ENs were unable to describe the other types of diabetes.

'The pancreas stops functioning.'

'Too much sugar in the blood; yes, then you get a high level in the blood and you need insulin or tablets, or perhaps you can start with food first.'

The participants felt that they had insufficient knowledge about what the normal blood glucose level should be for healthy individuals as well as for people with type 2 diabetes. Furthermore, they even found it difficult to assess at which blood glucose level measures needed to be taken. They expressed uncertainty about when a nurse should be contacted, and felt that they lacked knowledge about when a person with diabetes needed extra glucose or other foods for raising the blood glucose.

'It's a little difficult with what is high. What's the limit? When should you begin to take action?'

Meaning units	Main themes	Categories
'High glucose levels are not as dangerous as low levels, but in the long-run if you have high levels all the time it's dangerous'	A high glucose level is not considered acute	Symptoms and causes
'Check that shoes do not chafe and aren't too tight. See that they receive diabetes foot care'	Observe foot status	Caring intervention
'Observe people prescribed with tablets, if they have low blood sugar levels'	There are risks with low blood glucose levels and diabetes treatment with tablets	Treatment

Table 2. Examples of analysis and categorisation

Intervention

The study participants had good knowledge about self-care and the intervention that older people with type 2 diabetes require. They stressed the importance of caring for the patients' feet through observation and that they received foot care regularly.

The ENs had knowledge about the regularity of meals and snacks, as well as knowledge about night-fasting not being too long. They were well aware of the intervention they needed to take when the patient's blood glucose dropped. On the other hand, the respondents lacked knowledge about how to stabilise blood glucose levels by providing a proper meal.

'When the levels are too low, we try to get something into them. Sugar or glucose, milk or a sandwich. If they can't take it, you can rub the inside of the mouth with something.'

Lack of time was a factor the study participants believed affected the care situation. Other factors influencing care were faulty routines and inadequate reports between the ENs.

Treatment

The study ENs considered that they understood that both tablets and insulin could be used for treatment. However, they felt that they lacked the necessary knowledge

about how and why tablets or insulin were chosen for treatment. The majority (n=19) of respondents were unaware that different types of tablets had different effects. A number of participants (n=9) were not aware that the older people for whom they were providing care were treated with tablets for their diabetes. Furthermore, they felt that they were in need of additional knowledge about insulin treatment. The ENs expressed feelings of uncertainty around the effects of long-term and short-term treatment.

'Noteworthy are those people who are treated with tablets, if their blood glucose drops the tablets stay longer in the system.'

'Some of the older people with type 2 diabetes have both insulin and tablets.'

Discussion

The results showed that the ENs perceived they had good knowledge in certain areas of diabetes. This is gratifying since this knowledge is the basis for good diabetes care among older people. There are studies suggesting that ENs can very effectively influence the care of older people and that this care leads to a better quality of life for older people with diabetes.^{13,16} Therefore, education of ENs is important and should be continuously focused on diabetes care for older people.¹⁷

None of the respondents could account for the different types of insulin and this is consistent with other studies which show a lack of knowledge of antidiabetic medication among ENs.¹⁷ Today, ENs receive training related to the administration of insulin. These educational opportunities vary in content and quality and are provided by registered nurses with varying competence. The registered nurse should have skills in diabetes care and pedagogical knowledge. In addition, it is important that the registered nurses possess adequate knowledge and are familiar with developments and research within diabetes care in order to ensure safe care for older people.^{16,18,19}

The results also showed that the ENs were uncertain about symptoms, treatment, and the intervention needed to be taken with high or low blood glucose levels. Older people often suffer from a comorbidity that produces symptoms which are easily confused with those symptoms seen in abnormal blood glucose levels. Therefore, the authors believe that it is vital that ENs have a good basic knowledge of diabetes in order to identify changes in physical health. This is in accordance with a study by Kirkland.²⁰

In recent years there has been considerable focus on the educational content of information for people with diabetes within primary health care. Likewise, it should be as important to produce good, pedagogically designed information for ENs within municipal care responsible for the assisted self-care of older people with diabetes who no longer manage their own self-care.

A pilot study was conducted to test whether the interview questions were understood by the study participants. The pilot interviews helped strengthen the study's

validity by testing the interview questions and also the interview technique. Reliability is an issue as to whether adequate information was specified enabling the repetition or extension of the study.¹⁴ Detailed and thorough presentation of the results, along with appropriate citations, increased the transferability.²¹ Transferability can be problematic with the chosen approach, as it usually involves a relatively small sample. Rather than stipulating transferability, it is necessary for the qualitative researchers to describe the results in as much detail as possible. This will provide readers with data enabling them to determine whether the results are transferable to other environments.²¹ The same categories emerged during the three interview sessions and suggest that the results could be transferable to other ENs.

A weakness in this study is the use of focus groups instead of interviewing the study participants individually. Some important details might have been missed and there is a risk that the respondents influenced each other.

Conclusion

The results of the study show that ENs employed within municipal health care lack knowledge regarding the care of older people with type 2 diabetes. Therefore, it is paramount that ENs be provided with structured education and training in diabetes, in order to support good and safe diabetes care.

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Declaration of interests

There are no conflicts of interest declared.

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Personal comment

Carrying the torch for diabetes awareness

My name is Melanie Stephenson, I'm 24 and have had type 1 diabetes since I was 13. When I was 17 I started participating in sport and ran for Wales on over 30 occasions. A few years ago I had to exchange insulin injections for a pump and was very unwell and

unable to train, so I volunteered for Diabetes UK. The voluntary work involved speaking to other patients, parents, medical professionals and the press on diabetes awareness. This led to me being nominated to carry the Olympic flame. I carried the

torch from Cardiff castle to the main stage in front of over 30 000 people. The experience was unforgettable for so many reasons. When asked why I wanted to carry the torch I said it was to bring the message of diabetes and sport to more people.