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Self-consciousness of type 2 diabetes mellitus patients

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Abstract

The characteristics of self-consciousness of people with diabetes mellitus are determined by knowledge about diabetes mellitus, the signs and symptoms of acute and chronic complications, and the side effects of diabetes treatment. Knowledge plays an important role in the consciousness of behavioural change and diabetes self-management skills. People with diabetes recognize diabetes when they have experienced chronic complications, both macrovascular and microvascular. The study aims to explore how diabetics manage their chronic problems and their daily lives through a qualitative description of the experiences of 20 diabetes patients. This study used a descriptive-qualitative method, conducted a semi-structured interview, then transcribed and uploaded it into manual coding for analysis. Respondents were recruited from one of the community health centres in Jakarta, Indonesia. The themes were i) “Realizing diabetes is a health problems that cannot be resolved alone”, paying attention to body signs becomes the beginning of self-consciousness; ii) “Coping with diabetes requires self-consciousness”, having adequate knowledge and growing personally with healthcare providers about early diabetes can prevent chronic complications. This study provides implications that self-consciousness greatly affects the self-management of diabetic patients in the long term.

Introduction

Chronic and progressive hyperglycaemia could cause various organ damage in the body systems. According to the Diabetes Complications Severity Index,¹ poor management of Diabetes Mellitus (DM) causes chronic macrovascular and microvascular complications in cardiovascular disease, cerebrovascular disease, retinopathy, nephropathy, neuropathy, and peripheral arterial disease. Diabetes patients' causes of morbidity and mortality are chronic cardiovascular problems and diabetes that are concurrent.

A person with diabetes has insulin resistance and the body's inability to use insulin efficiently, resulting in elevated blood glucose levels above the standard value that are not curable but can be managed.² Therefore, self-management is required to control blood glucose levels, which patients become active sources of information influenced by self-perception, health behaviour, self-care, and self-management to obtain quality health functions that are influenced by environmental and personal factors.³ Health behaviour at the individual level is described as patients' ability and coordinated care assessed by doctors and nurses.⁴ It is evaluated when patients control their health through health-care services.

Glycaemic management centered on patients' needs requires therapeutic communication. Excellent nurses' communication with people with Type 2 Diabetes Mellitus (T2DM) and their families has an impact on blood glucose control management. Furthermore, caregivers and patients can identify and address a non-compliance, a passive role in diabetes self-management.⁵ This means complications can be prevented and the quality of life optimized.⁵

Szcech discovered a correlation between patients' complaints regarding their illnesses.⁶ It is essential to gaining an integrative understanding of the elements of an illness, namely signs and symptoms, abnormal test results, and personal pain experiences that provide feelings, ideas, health functions, and expectations. This study implies that self-consciousness of T2DM patients with chronic complications has differences between patients that affect the ability to self-manage diabetes in the long term.

Materials and Methods

The design of the research is qualitative with descriptive qualitative method because this design provide clear descriptions of experiences and perceptions and the most appropriate as it recognizes the subjective nature of the problem, the different experiences participants will

present the findings in a way that directly reflects the terminology used in the initial research question.⁷ Participants were recruited from the Community Health Centres in Jakarta, Indonesia because community health centre in Jakarta have collaborated with the academic health system to improve health status. All those registered with the service aged 42 to 77 years were eligible to participate with purposive sampling. The nurse provided verbal and written information about the study to prospective participants as part of routine care. A member of the research team was interviewed for recruitment purposes. We obtained written informed consent from the participants prior to data collection.

A Single semi-structured interview was performed as part of the data collection at the Community Health Centres in Central Jakarta, Indonesia. The interview schedule comprised several key questions and probes that lasted from 60 to 120 minutes to enable in-depth discussions. We stopped recruiting participants when we reached saturation of themes (*i.e.*, the interviews no longer offered new information in relation to the research topic). At the end of the interview, participants were asked to select their own pseudonym for reporting purposes. All participants received a gratuity of Rp250.000 for contributing to the study. This research was conducted between April and May 2022 in Jakarta. The results of the interview are written and transcribed. A thematic analysis method was used to examine the data. All members of the research team contributed to the analytic processes and gave their point of view as experts. This study was approved by the Faculty of Nursing Ethics Committee, University of Indonesia, and a permit was obtained from the Jakarta Health Office and Central Jakarta Health Sub-dept.

Results

We recruited 20 participants. Table 1 provides an overview of the participants.

The two major themes identified from the data were “Realizing diabetes is a health problems that cannot be resolved alone” and “Coping with diabetes requires self-consciousness”.

“Realizing diabetes is a health problem that cannot be resolved alone” contained the two sub-themes of “Recognizing unstable body conditions” and “Paying attention to physical and emotional signs which are increasingly disturbing”. “Coping with diabetes requires self-consciousness” contained the two sub-themes of “Improving knowledge about diabetes and chronic complications” and “Expanding self-care capabilities with the assistance of professional health workers”.

Theme 1. Realizing diabetes is a health problem that cannot be resolved alone

Realizing diabetes is a health problem that cannot be resolved alone. Experience of health problems caused by diabetes with high and uncontrolled blood glucose which translates into the lives of people with diabetes that they have identified. “Recognizing unstable body conditions” examines their overall understanding of how they realized that diabetes was a disease due to unstable body conditions. “Paying attention to physical and emotional signs which are increasingly disturbing” explores what physical and emotional symptoms that are increasingly disturbing day by day become the beginning of self-consciousness that these symptoms are caused by high blood glucose due to diabetes.

Recognizing unstable body conditions

All diabetic patients realize that diabetes is a disease when they are hospitalized or brought to the emergency room, such as when a non-healing wound is planned for amputation or shortness of breath is getting worse. Mr. T described,

“At first, my foot tingles, then gradually went numb, and a wound appeared on the toe. I treated it myself, but the wound grew bigger, festered, and was later amputated. It was then that I learned the cause of my foot amputation was diabetes.”

Mrs. Mt summarized the situation when she said,

“I have been diabetic for more than 10 years. Starting 5 years ago, I went to the health center because my eyes were getting blurry, I couldn't see, and my legs hurt when I walked. When I wanted cataract surgery, the doctor said I could not be operated on because my blood glucose was still high due to diabetes.”

Unstable conditions related to physical changes show the most realized by people with diabetes with chronic complications. While diabetes is a progressive disease, self-consciousness is needed early to prevent worse complications from occurring.

This plays a key role in recognizing diabetes as a disease and high blood glucose can lead to chronic complications in various organs such as the heart, eyes, and leg amputation. Mrs. Sr explained that

“I developed diabetes 3 years ago, starting with symptoms of frequent urination, cold and numb feet. I have sought treatment when I feel unwell. I take glimepiride, but not regularly. Now I know that diabetes can affect the eyes and heart because now my eyes are foggy and my breathing is getting more difficult, I'm already running out of breath, then I was also rushed to the emergency room because I was infected with covid during the pandemic.”

Mrs. Nw explained that

“I was diagnosed with diabetes 10 years ago, but I still feel normal. Then, in the last few years, I was often dizzy, then had stroke symptoms such as a partially weak body and I was hospitalized because my blood glucose was high.”

Some of the participants reported that they found itchy skin, then scratched, and wounds occurred. The wound made his body feverish, and he was taken to the hospital for sepsis. Mr. M explained that

“Yes, my skin often itches, then I scratch it until it doesn't itch, and then there are wounds. The wound got bigger and then I had a fever and was taken to the hospital for sepsis.”

Mrs. Ay expresses similar feelings when she said,

“Yes, I only found out about diabetes 2 years ago when I wanted to get vaccinated against Covid, my blood glucose was 271 mg/dl. I often drink more than 8 glasses of sweet tea a day. Last year, I was hospitalized because I was short of breath and swollen, my skin was dry and itchy, and there was already protein in my urine.”

This was a particular problem when they were unwell, as Mrs. Rt explained:

“I was diagnosed with diabetes 2 years ago when I was screening for the Covid vaccine. I have no complaints about anything, just frequent stomach heartburn. Yesterday I was hospitalized because my legs were swollen, fever, itching of the whole body, and there was already protein in my urine with my A1C level of 10.2%.”

Several participants made specific references to reveal that diabetes and high blood glucose can interfere with preparation for surgery as the body becomes unstable. Mrs. Su said,

“Oh. I don't know, my sugar at that time was 285. I was finally delayed; it didn't become an operation because there was a bump. Then the internal medicine doctor said that I took the medicine first, then I was given metformin, 500 mg.”

In some cases, this translated into concerns keeping themselves aware that an unstable body condition cannot be resolved alone. Mrs. S asked,

“That time, how could I not be traumatized, when my eyes had to be operated on because I couldn't see anymore, I couldn't handle this myself, but I couldn't get surgery because my blood glucose was high because of diabetes.”

and Mrs. Ne expressed similar concerns when she explained,

“At first, I felt frequent thirst and itching of the feet. It was getting longer, and my legs were sore to walk and at that time I vomited blood and was hospitalized with blood glucose above 200 mg/dl.”

Paying attention to physical and emotional signs which are increasingly disturbing

People with diabetes realized in advance that to know the development of the self-response from diabetes is obtained by conveying changes in physical and emotional conditions. Wong could *“At that time, I felt fatigue all day long, numbness in the legs, changes in walking due to swollen legs, wounds that did not heal”*. Mrs. S explained that *“At that time, what I felt*

most was swelling in my legs and coughing at night". Emotional conditions such as often feeling sad, angry, and stressed are signs that blood glucose seems to be high. Mrs. Mt explained that

"Yes, I am sad, anything around me makes me stressed, want not to think about it, but my health feels declining... well, most of the ones that feel really like these are legs, tired when walking, and often tingling. Yes, this leg often aches because there is rheumatism also, so it feels more tired."

Mrs. Su highlighted the emotional feelings such as losing self-control in controlling hunger but anger and feeling like being alone, explaining that

"I started thinking that diabetes has a long effect because the more days my emotions are like going up and down, especially because I have to lower my blood glucose in order for me to have surgery."

Mrs. Ay made a similar point, linking it to the extra attention: *"I feel cold sweats constantly, so I feel difficult to sleep, and I also feel bored and tired from taking medications"*.

Physical and emotional symptoms that have disturbed and made the patient depressed give attention, which is then addressed by taking himself to the health service. In primary health services, there are elderly examinations, non-communicable disease examinations, and examinations for brides-to-be. People with diabetes come to the health service for a variety of reasons. In general, they go to the health center to take diabetes medicine, but there are also those who submit old complaints that are not cured and are increasingly disturbing. Mr. M reported that he was diagnosed with diabetes 4 years ago. However, he returned to the health center because he had erectile dysfunction, and he checked into the examination room of the bride and groom because he wanted to remarry. At that time, he knew that his blood glucose was still above 300 mg/dL. He explained,

"The thing that bothers me with diabetes complications is premature ejaculation, which is getting worse, even though I still want to get married again... Yes, there was a change in my physical condition. I am easily flabby, tired, and sleepy quickly".

Theme 2. Coping with diabetes requires self-consciousness

This theme explores two aspects of how people with diabetes cope with diabetes by raising their awareness to carry out diabetes self-management. Firstly, diabetes patients' overall consciousness and improving their knowledge about diabetes and chronic complications, and secondly, how they were assuming expanding self-care capabilities needed the assistance of professional health workers.

Improving knowledge about diabetes and chronic complications

To maintain health from diabetes, people with diabetes need knowledge about diabetes and self-care skills to be more confident. Mr. P, Mrs. Su, Mrs. Yn, Mr. St, and Mr. W identified diabetes as very complex because insulin disorders and body organs become limited in carrying out their functions. Mr. M said,

“I don't know the symptoms of hands and feet often tingling, legs feel weak, pain in the muscles and legs feel weak, premature ejaculation occurs due to high blood glucose for a long time. I didn't know diabetes could cause this all”

while Mr. Su explained,

“Yes, I still smoke, but I don't know yet that smoking can be a risk factor for kidney complications. All I know about diabetes is high blood glucose and taking medication for life. As long as I take the medicine to drop blood glucose, then I can eat anything and also smoke.”

The majority said, *“I already knew I should avoid sugary foods and drinks, but the detailed information I still need so that I don't eat wrong and also don't feel weak”* (Mrs. N). Some, including Mr. T, highlighted the dilemma this presented for them in terms of balanced information:

“Yes, the doctor said, people with diabetes can eat anything, but you must pay attention to the amount. I still don't understand which portion of the meal is appropriate for me. If I am a native Betawi, if you don't eat rice and salted fish fritters, it doesn't taste good to eat”.

Most of the early self-consciousness of people with diabetes is to maintain blood glucose should be less than 200 mg/dL, but things related to the increase of blood glucose from unhealthy living behaviors are not yet known and applied in daily life. Some recalled their families explaining it to them, including Mrs. F whose daughter had

“We did go to the health center to check the health progress, but as long as blood glucose and blood pressure were controlled, there was no further explanation as to whether there should be new program changes from previous lifestyles, such as eating portions and types of exercise. In the past, the doctor's consultation explained the medicine more, and the nurse explained the schedule for the next consultation plan.”

While some participants' understanding of their conditions was limited to basic dietary and exercise requirements, most older participants who were out of work wanted information appropriate to limited economic conditions. Mrs. Rs explained,

“So far, I am old and no longer working, plus I have sugar disease. I did what I could do by myself because I was worried that it would trouble my children and grandchildren. I couldn't buy the food I needed because there was no money. I just walked and cleaned up the house as my sport.”

Mrs. Mt's explanation offered diabetes and chronic complication information:

“In the past, what I knew was that diabetes could not be cured and blood glucose had to be controlled with diet and physical activity. I have eaten well, eaten 3 times and eaten 2 snacks, and exercised too, but my A1C is still high. Does every before and after meal I must check my blood glucose? Because I am no longer working, I check my blood glucose at most if there is a free checkup. I don't have a special budget to buy self-contained sugar strips and regular laboratory examinations, so I don't know that my sugar has damaged various organs in my body”.

This level of understanding was most commonly attributed to regular explanations by healthcare professionals who can deliver diabetes material and chronic complications with therapeutic communication according to the needs and obstacles that have been experienced by people with diabetes in carrying out diabetes self-management. This enabled understanding to develop over time, as Mrs. Su and Mrs. Ne explained;

“I didn't know that stroke can be caused by high and uncontrolled blood glucose. Even then, I also don't know my cholesterol levels at the moment, I don't remember the last time I was checked, and yes, I still enjoy eating greasy fritters and I'm still overweight”. (Mrs. Su)

“I have had diabetes for a long time. I rarely eat fruit for fear that my blood glucose level will rise, as a result of which I have difficulty defecating. If I want to defecate, I drink Vegetta first, one day I can drink five sachets”. (Mrs. Ne)

Expanding self-care capabilities needs the assistance of professional health workers

All people with diabetes have a process of self-adaptation to carry out a healthier lifestyle than ever before to achieve good metabolic control. Self-adaptation in diabetes mellitus involves a combination of physiological processes, lifestyle modifications, medication management, and self-monitoring to help maintain stable blood sugar levels and minimize the impact of diabetes on overall health and well-being. People with diabetes need help outside of themselves to inform them about the disorder and how to deal with it. Mrs. Ne explained,

“I rarely check my blood glucose levels independently because I am not confident and I am afraid of injections. I checked my blood glucose at the health center, checked by doctors and nurses.”

Mrs. Rs said,

“My physical condition is out of shape, I feel exhausted, and I am unable to exercise as directed by the doctor. I was also afraid to exercise myself because I was worried about injuries and my blood glucose dropped.”

It also includes finding ways to control stress and psychological changes so that they have a good quality of life. Mr. Mh identified the challenges of handling physical and psychic stress so that it can adapt to current health conditions:

“I’ve had diabetes for 5 years, my legs at this time often tingle, even hurt if made to walk long distances. This makes me sad and stressed about not being able to meet with friends in the neighborhood. I want to get better and be able to walk back without pain in my legs. I try to regularly go to the health center and take medicine.”

Awareness of body functions realized by people with diabetes is related to tolerance for exercise, having the energy to exercise, and overcoming fatigue throughout the day. Mrs. St explained that

“In my opinion, I have exercised for 2 hours a week and walked 4 kilometers. However, that’s all if I’m fit. I really want, even though I am not healthy, I can still exercise, but if there is no one to accompany me (someone who is an expert in their field), I am afraid that if something unexpected happens, such as joints getting sicker”.

Discussion

This research found the two themes. The themes were i) Realizing diabetes is a health problems that cannot be resolved alone that has two categories a) Recognizing unstable body conditions, and b) Paying attention to physical and emotional signs which are increasingly disturbing. The second theme was ii) Coping with diabetes requires self-consciousness that has two categories a) Improving knowledge about diabetes and chronic complications, and b) Expanding self-care capabilities needs the assistance of professional health workers.

Research conducted by Joensen states that the psychological burden experienced by diabetic patients is related to several factors, including female gender, young age, having chronic diseases other than diabetes, low diabetes-related social support, low diabetes empowerment, and high A1C levels.⁸ Low diabetes empowerment, quality of life, and social support are the main causes of the emotional burden that diabetic patients endure. The theme of the research indicates that physical changes due to DM complications might lower patients’ quality of life,

so family and environmental support are necessary to maintain physical and psychological conditions. It is also supported by expanded understanding from doctors and nurses.

The study's findings offer an in-depth and comprehensive overview of the experience of DM patients with complications in maintaining their quality of life due to self-consciousness. The overall themes and categories identified represent the client's experience, feelings, and perspective. The study's findings highlight the difficulties faced by diabetes mellitus patients. This study also implies that nurses know the patient as a whole person. Through qualitative research, nurses need to explore the experiences of patients in depth in order to obtain comprehensive information and education on both physical and emotional aspects. The goal is to monitor and evaluate the development of complications.

The findings showed that while treatment adherence was excellent, education adherence was low in T2DM patients. The initial things that diabetes mellitus patients need to know are the course of diabetes mellitus and its complications, control of diabetes mellitus, monitoring pharmacological and non-pharmacological therapies, interactions between food intake and physical activity, how to monitor blood glucose levels, and the importance of exercise using existing health facilities. People with T2DM who lack knowledge about the disease may find it harder to manage their condition since self-management is effective in improving diabetes mellitus control.⁹

Chronic complications can lead to two or more diseases, with one disease not always more central than the other. It can affect quality of life, ability to work, disability, and death. There is a lack of data on chronic complications in Indonesia. Since people with T2DM essentially still have the full right to live a healthy life and remain productive, this data is crucial to understanding the quality of life of Indonesia's elderly population. Given that T2DM is a chronic and incurable condition, consideration of the patient's quality of life is crucial and should be taken during treatment. Physical problems resulting from acute or chronic issues can be avoided if blood glucose levels are appropriately managed. Additionally, psychological issues and a poor quality of life can exacerbate metabolic illnesses directly through hormonal stress reactions or indirectly through further complications.¹⁰

Self-consciousness is the concept that an individual needs attention by being the object of thought in order to reflect themselves. Whereas, from a social approach, self-consciousness is the act of adopting another's perspective on oneself, which can be influenced by aspects of one's own or other's self-consciousness, adaptive or maladaptive self-consciousness, and current or past-focused experiences.¹⁰ This study provides implications that self-consciousness greatly affects the self-management of diabetic patients in the long term. The

limitation of this study is that self-awareness of diabetic patients was obtained in primary health care patients and has not been explored in diabetic patients at home.

Self-consciousness of health status has a general understanding of diabetic patients with chronic complications based on the experiences that have occurred. When the participants started requiring emergency care and hospitalization, they recognized they had symptoms of chronic complications.

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Table 1. Details of study participants.

Pseudonym	Sex	Age (years)	Length of time of diabetes (years)	Random Blood Glucose (mg/dl)
Mr. T	Male	75	2	215
Mrs. A	Female	68	7	315
Mrs. S	Female	77	20	258
Mrs. F	Female	66	3	111
Mr. M	Male	53	4	342
Mrs. Sr	Female	55	3	112
Mrs. N	Female	60	5	121
Mrs. Nw	Female	52	11	185
Mrs. Mt	Female	70	10	170
Mrs. Rs	Female	76	2	193
Mrs. So	Female	62	4	157
Mr. Mh	Male	63	5	104
Mrs. Ay	Female	56	2	271
Mr. Pd	Male	62	4	148
Mrs. Sm	Female	64	20	194
Mrs. Yn	Female	42	14	166
Mts. Rt	Female	56	2	211
Mrs. Ne	Female	61	15	275
Mr. Su	Male	62	1	300
Mr. W	Female	69	10	218