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'Family is My Diabetes Savior': A Case Study of Family Support in Reaching Goals of Self-Care Adherence in Diabetic Patient

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Abstract

Background Family as the closest person for Diabetic patients has had an important role in providing good care for a patient. **Objective**: The objective of this study was to explore the meaning of family support in self-care adherence of patients with Diabetes Mellitus. **Method**: This study applied a descriptive qualitative by-case study approach. The data were collected through in-depth interviews. There were fifteen persons with diabetes mellitus as participants. Data consisted of in-depth interview recordings and field notes. Data were transcribed and analyzed using Colaizzi's method. **Result**: Four themes emerged including emotional support, reward support, instrumental support, and informational support. **Conclusion**: Family support is crucial for managing Diabetes Mellitus. It is often overlooked when designing behavioral interventions for type 2 diabetes mellitus. Conclusion: The results obtained from this study can be essential information for nurses to formulate further family-based interventions to increase adherence to self-care in patients with Diabetes Mellitus. Recommendation: **Recommendation**: It is important for a nurse to give standardized information based on the development of knowledge and practice about Diabetes Mellitus. Future studies about the content of health information for a patient with Diabetes Mellitus is needed.

Keywords: diabetes mellitus, family support, qualitative research, self-care

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INTRODUCTION

Diabetes Mellitus is a major problem for public health in many countries (1). It becomes a global public health challenge because of its high prevalence and associated mortality and morbidity (2). The prevalence of Diabetes Mellitus is year to year increasing. It is estimated to be 592 million in 2035 (3).

Diabetes Mellitus is a serious disease characterized by the absolute absence of insulin or a relative decrease in the insensitivity of cells to insulin that cause hyperglycemia. Hyperglycemia that lasts for a long time will cause serious damage, especially to the nerves and blood vessels. Diabetes Mellitus type 2 can lead to serious complications, such as retinopathy, neuropathy, and macrovascular effect (4).

Therefore, it is important to control glucose levels in the blood of Diabetes Mellitus patients. A study from Miller & DiMatteo (2013), stated that the primary goals in treating diabetes are maintaining good metabolic control and reducing the risks of health complications. These complications can be prevented through changes in lifestyle behavior. Strict adherence is required to manage this disease well (5).

Patients with Type 2 Diabetes Mellitus often have problems with adherence. A recent study revealed 1 in 3 patients did not take the medication for Diabetes Mellitus (6). Thompson (2014) stated that the management of Diabetes Mellitus in everyday life is a complex activity. It requires an understanding of self-care therapy management for Diabetic patients. Diet, physical activity, and lifestyle modification hold an important role in preventing diabetes complications (1,7).

These things are the personal responsibility of a diabetic patient. Self-care management is key to preventing complications, hospitalization, and mortality. Family as the closest person for Diabetic patients also have an important role to provide good care for a patient. Family members are considered a significant source of social support for adults with diabetes (8). Like most theories of health behavior change required for diabetes self-care performance include a social support component (9). Those with diabetes and their families assume the bulk of the responsibility for day-to-day management (10).

Family support for patients can be divided into four types: instrumental, information, reward, and emotional (11). Self-care for patients with Diabetes Mellitus is also influenced by family support. Studies about family support in increasing self-care for patients with Diabetes Mellitus were previously conducted. Most of them used the quantitative method. To meet the goal of family exploration about their perception of increasing self-care in patients with Diabetes Mellitus, a qualitative study is needed. As stated by Thompson (2014), managing Diabetes Mellitus is a complex activity. Family as the closest person for Diabetic patients has had an important role in providing good care for a patient. Therefore, it is important to assess and explore the perception of family support to succeed in Diabetes Mellitus self-care adherence. This study aimed to describe the meaning of family support in self-care adherence of patients with Diabetes Mellitus.

OBJECTIVE

This study aimed to explore the meaning of family support in self-care adherence of patients with Diabetes Mellitus

METHODS

Design

This study used a descriptive qualitative design by case study approach. The sampling procedure in this study used purposive sampling techniques with a criteria sampling category. Participants in this study were Diabetes Mellitus patients undergoing outpatient care at X Hospital in East Java, Indonesia. Inclusion criteria have been previously determined.

Sample, sample size, and sampling technique

In this study, participants were selected if they had been diagnosed with Diabetes Mellitus for a minimum of six months because in that period they were able to adjust psychologically to their condition and have been stabilizing their lifestyle after being diagnosed with Diabetes Mellitus. This study also selected participants who were treated at home because participants who undergo

treatment at home will be actively involved in independent diabetes management. Diabetes Mellitus patient who is experiencing acute complications of Diabetes Mellitus was not included as a form of application of ethical justice in research.

Data collection process

The data were collected through in-depth interviews using interview guidelines for 15 patients and also observation of the participants The interview contents included the thoughts and feelings that the patient had specifically about their family support in supporting them to perform good diabetes mellitus self-care.

Each interview took about one hour located in the participant's house and also in a remote area of the hospital while the participant visited the internal medicine outpatient care unit as a form of consideration of their privacy and convenience. Field notes were made during interviews Verbatim reports were made every time, and the credibility and stringency of data/analyzed results were confirmed by each patient.

Data analysis

The data were analyzed using verbatim reports by Collaizi's method which included: (1) Reading the transcript of the interview and field notes to obtain a general picture of the participant's experience with family support in performing Diabetes Mellitus self-care; (2) Read transcript repetitively to find the key or significant statements from participants; (3) Looking for meaning from the participant's key statement; (4) Grouping each meaning obtained into themes. To make it easier to analyze themes, researchers made a theme analysis table consisting of Keywords, Categories, Themes, and Subthemes; (5) Integrating all themes emerged into the full description and checking the transferability data. The themes that emerged from this study have been discussed with two supervisors and two experts to integrate each theme into a full description as a clear statement; (6) the Validation process of the result was done by member checking as a form of confirmability. Researchers showed the result of the analysis to the participants to give feedback about the findings.

Ethical consideration

Ethical approval for this study was obtained from the ethics board of the RSUD dr. H. Slamet Martodirdjo hospital (Date of approval: January, 29th, 2019) and from Health Research Ethics Committee, Faculty of Nursing, Universitas Airlangga (Date of Approval: February, 21st, 2019, No: 1298-KEPK). Before the survey, the participants were given clear explanations of the study protocol, and informed consent was attained using printed instructions and agreement documents. The participants were informed of their rights not to participate and the freedom to withdraw at any time from the study. All of the data were kept confidential and anonymous.

RESULTS

The participant in this study were fifteen people. More than half of them were male, from Madurese ethnic, and attained secondary education. They were all moslem. Participants' occupations varied. Most participants suffer from Diabetes Mellitus for >3 years. Most participants have a family history of Diabetes Mellitus. The lowest last recorded BGA was 112 g/dL while the highest was 455 g/dL. All participants were recorded in the Internal Medicine Polyclinic Ward of RSUD Dr. H. Slamet Martodirdjo, Pamekasan district.

The characteristics of all 15 participants involved in the study are summarized in Table 1. Four main themes emerged from data analysis. They were informational barriers, personal motivation barriers, social motivation barriers, and behavioral skill barriers. The most dominant category factor contributing to adherence to self-care among Diabetes Mellitus patients was family support consisting of emotional support, reward support, instrumental support, and informational support.

Emotional Support

The emotional support given by the family to patients is one of the motivations for the patient in performing self-care. This support includes words of motivation, accompanying, and asking about the condition of patients, as stated in the following patient's statement:

"Yes, my son accompanies me to the hospital every month I have to take my medicine." (P1)

"Family support is very important. It cheers me up. My family is my diabetes savior" (P3)

Reward Support

Reward support given by the family to participants can also be a source of motivation for participants. This form of support is delivered in the form of a reward. Participants revealed the family gave praise to participants because of good glycemic control. The following are some of the statements expressed by participants:

"Whenever my blood glucose level was fine, my wife said 'Good!' and it makes me happy" (P3)

"My family said that I'm healthy enough even though I've been living with Diabetes. They said that I don't look sick. Once, I was told by my son, 'If your blood sugar goes down, let's travel to Kalimantan'" (P4)

Instrumental Support

The form of family support that is also given to participants is instrumental support. This support is manifested in active action to facilitate the needs of participants in carrying out self-care.

"My wife made corn rice instead of white rice. And then I got a less sugar milk. So I can manage my diet well" (P3)

"My daughter buy me this blood sugar checker. She told me to routinely check my blood sugar level." (P4)

Informational Support

Informational support is a form of family support given to participants in the form of recommendations, as expressed by the following participants:

"Coincidentally, my child is a doctor. So I got all kinds of diabetes information from him" (P11)

"My family reminds me that I should go exercise. They said not to be lazy in exercise, because it can reduce blood glucose level." (P4)

DISCUSSION

Diabetes Mellitus can also be called a "Long life" disease because this disease cannot be cured during the life span of the sufferer. So patients need "Long life maintenance" or long-term management (10). Psychological changes are the most notable changes that occur as an impact of Diabetes Mellitus (12). This study managed to uncover several factors that influence patient adherence to performing self-care for Diabetes Mellitus.

Social motivation can affect patients to perform self-care adherence. Our findings showed that one of the supporting factors for patients performing self-care is family support. The result showed that family support became the strongest motivation for a diabetic patient to adhere to treatment. Participants responded positively about their family support. This result is in line with a study conducted by Kristianingrum et al. that stated there is a relationship between family support and self-management, where patients who received family support were likely to be 10 times better at performing self-management (3). Our findings also support a study conducted by Mayberry & Osborn (2012) who said family support is essential in providing adherence effects to Type 2 Diabetes Mellitus patients (8).

We categorized this family support into 4 types, including emotional support, reward support, instrumental support, and informational support. They gained emotional support from a family by encouraging motivational words, companions, and family asking for the patient's condition. Several patients stated that emotional support from family is very important for them to gain spirit. A previous study mentioned that support from friends and family promotes adherence by encouraging optimism and self-esteem, which can buffer the stress of being ill and reduce patient depression (13). Diabetes patient needs their family support. A previous study stated that emotional support includes expressions of empathy, concern, and attention to the person

concerned (14). Emotional support is an expression of affection, trust, attention, and feeling heard. Willingness to hear someone's complaint will have a positive impact as a means of releasing emotions, reducing anxiety, and making individuals feel comfortable, peaceful, cared for, and loved when facing various pressures in their lives.

Reward support given by the family to patients can also be a source of motivation for them. Several patients stated that reward like praises can positively increase their motivation to adhere to Diabetes Mellitus self-care. Most of the participants stated that they got instrumental support from family by helping prepare meals, taking medication, and helping provide blood glucose checkers. These findings are supported by Mayberry & Osborn (2012) who conducted focus groups discussion to explore the relationship between family support and adherence to medication regimens for adults with diabetes (4). Their results revealed that instrumental support (or observable actions that help patients manage their illness) was the most common type of social support. Patient-reported examples of instrumental support included tasks such as spouses maintaining medical appointments and doing the grocery shopping. Our findings also highlighted a study conducted by Halkoaho (2014) who stated that support from close family members, such as spouses, friends, and children, was an important resource in daily living, i.e. cooking low-fat food, participating in appointments with diabetes nurses and creating shared exercise routines (15).

Informational support is a form of family support given to participants in the form of recommendations. Informative support includes giving advice, instructions, suggestions, information, or feedback. This support helps individuals overcome problems by expanding individual insights and understanding of the problem at hand. This information is needed to make decisions and solve problems practically.

This informative support also helps individuals make decisions because it includes a mechanism for providing information, giving advice, and guidance. The information given by the family is a form of controlling behaviour to the patient to improve the patient's adherence to self-care. Pesantes et al. (2018) conducted a study of family support in Diabetic patients. It found that the reaction to controlling behaviours varied. Some participants interpreted controlling actions from family members as expressions of care and found them helpful (16).

This study is in line with a previous study that found people with type 2 diabetes thought the source of coping in the management of diabetes mellitus was self-acceptance of the disease, adherence to self-care, knowledge of the disease, and support from various parties including nurses (17-18).

There are several limitations to this study. Owing to the qualitative design and sample of mostly Madurese ethnic patients, the findings may not adequately represent other populations. This small study was conducted in a single practice and may not fully reflect the opinions of people with diabetes nationwide. The authors recommend that further studies involve other ethnicities to better understand contributing factors to adherence to self-care in Diabetes Mellitus. Second, some participants were interviewed in the hospital. The interview setting may have influenced participants' responses. Information and views expressed may differ if the interview was conducted in an environment where the participant feels more comfortable (such as at home) rather than in the hospital setting. Third, this study did not assess the knowledge levels of participating patients on diabetes mellitus management that may influence their adherence; this should be an area of future study.

Despite these limitations, the greatest strength of this study is the information obtained can be used as a reference to improve the social support for adult people with Diabetes Mellitus. The results obtained from this study are important sources as a content analysis of a module of further family-based interventions to increase adherence to self-care in a patient with Diabetes Mellitus. The study took a fresh approach to self-care practices by choosing a qualitative method from the patient's perspective in their own words; thereby addressing previously unseen sides. There was minimum recall bias due to the chronic nature of the disease. Diabetes self-care

is a relatively non-sensitive issue for patients to freely discuss, and what's more, patients were interested and eager to converse about their conditions which facilitated the generation of rich data.

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REFERENCES

1. Suan MA, Asli SE, Abdullah WM, Shafie Z, Johari NH. Patient Perspective on Factors Contributing to Nonadherence to Dietary Therapy: A Qualitative Study in Multicultural Population of Kedah, Malaysia. Int Q Community Health Educ. 2018;
2. Liu T, Wu D, Wang J, Li C, Yang R, Ge S, et al. Testing the information-motivation-behavioral skills model of diabetes self-management among Chinese adults with type 2 diabetes : a protocol of a 3-month follow-up study. 2018;
3. Kristianingrum ND, Wiarsih W, Nursasi AY. Perceived family support among older persons in diabetes mellitus self-management. BMC Geriatr. 2018;18(Suppl 1):1–5.
4. Centers for Disease Control and Prevention UDept of H and HS. Centers for Disease Control and Prevention. National Diabetes Fact Sheet, 2011. 2011;
5. Stephens MAP, Franks MM, Rook KS, Iida M, Hemphill RC, Salem JK. Spouses' attempts to regulate day-to-day dietary adherence among patients with type 2 diabetes. Health Psychology. 2013;32(10):1029–37.
6. Nelson LA, Wallston KA, Kripalani S, Lauren M, Williamson SE, Mayberry LS. Assessing Barriers to Diabetes Medication Adherence using the Information-Motivation-Behavioral Skills Model. Diabetes Res Clin Pract [Internet]. 2018; Available from: https://doi.org/10.1016/j.diabres.2018.05.046
7. Thompson M. Occupations, habits, and routines : perspectives from persons with diabetes. Scand J Occup Ther. 2014;(September 2013):153–60.
8. Mayberry LS, Osborn CY. Family Support, Medication Adherence, and Glycemic Control Among Adults With Type 2 Diabetes. 2012;35:1239–46.
9. Osborn CY, Egede LE. Validation of an Information-Motivation-Behavioral Skills model of diabetes self-care (IMB-DSC). Patient Educ Couns. 2010;79(1):49–54.
10. Rayman KM, Ellison GC. Home Alone: The Experience of Women With Type 2 Diabetes Who Are New to Intensive Control. 2004;900–15.
11. Friedman M, Bowden V, Jones E. Buku Ajar Keperawatan Keluarga Riset, Teori, Praktik (edisi 5) alih bahasa Achir Yani S. Hamid et al. Jakarta: EGC; 2010.
12. Badriah S, Sahar J. Family support in caring for older people with diabetes mellitus: a phenomenology study. Enferm Clin. 2018;28:245–9.
13. DiMatteo MR. Variations in patients' adherence to medical recommendations: A quantitative review of 50 years of research. Med Care. 2015;42(3):200–9.
14. Tristiana D, Kunanto K, Wahyuni IY, Yusuf A, Fitryasari R. Kesejahteraan psikologis pada pasien diabetes mellitus tipe 2 di puskesmas mulyorejo surabaya (Psychological Well Being In Type 2 Diabetes Mellitus Patients In Mulyorejo Public Health Center Surabaya). Jurnal Ners. 2014.
15. Halkoaho A. Type 2 diabetes patients ' perceptions about counseling elicited by the interview : is it time for a more health-oriented approach ? 2014;13–9.
16. Pesantes MA, Del Valle A, Diez-Canseco F, Bernabé-Ortiz A, Portocarrero J, Trujillo A, et al. Family Support and Diabetes: Patient's Experiences From a Public Hospital in Peru. Qual Health Res. 2018;28(12):1871–82.
17. Pamungkas RA, Chamroonsawasdi K, Vatanasomboon P. A systematic review: family support integrated with

uncontrolled type II diabetes mellitus patients. Behavioral Science. 2017; 7(3): 62
18. Pamungkas RA, Chamroonsawasdi K, Vatanasomboon P. Family functioning integrated with diabetes self-management. A Concept Analysis. Frontiers of Nursing. 2018; 5(3): 199-206

Patient ID	Age (Years)	Gender	Ethnicity	Level of education	Period since diagnosis (Years)	Current treatment	Family history of DM
1	63	Female	Madurese	Secondary	5	Insulin, oral tablet	Yes
2	52	Female	Madurese	Secondary	3	Oral tablet	No
3	67	Male	Madurese	Tertiary	10	Oral tablet	Yes
4	58	Female	Madurese	Tertiary	8	Oral tablet	Yes
5	40	Female	Madurese	Primary	1	Insulin, oral tablet	Yes
6	56	Female	Madurese	Primary	8 months	Oral tablet	Yes
7	54	Male	Madurese	Secondary	4	Insulin, oral tablet	Yes
8	60	Male	Madurese	Tertiary	7	Oral tablet	Yes
9	59	Male	Madurese	Tertiary	8	Oral tablet	Yes
10	35	Male	Madurese	Tertiary	3	Oral tablet	Yes
11	57	Female	Madurese	Tertiary	2	Oral tablet	Yes
12	61	Male	Madurese	Tertiary	4	Oral tablet	No
13	55	Female	Madurese	Tertiary	3	Oral tablet	Yes
14	60	Male	Madurese	Tertiary	2	Oral tablet	No
15	62	Female	Madurese	Tertiary	5	Oral tablet	No

Table 1. Participant's characteristic