

ORIGINAL ARTICLE

FACTORS ASSOCIATED WITH PATIENTS' ADHERENCE TO SELF-CARE BEHAVIORS AMONG PATIENTS WITH DIABETES MELLITUS: A LITERATURE REVIEW

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Abstract

Diabetes Mellitus is a major public health problem. Adherence to self-care behaviors become one of the factors on diabetes severity. This literature review aimed to identify factors associated with patients' adherence to self-care behaviors among patients with type 2 diabetes mellitus. Articles reviewed in this study were searched using several databases including SCOPUS, EBSCO, Science Direct, SAGE, and CINAHL. Keywords used were "Adherence", "Diabetes Mellitus", "Self-Care", and "Qualitative Research". The results found that several factors indicated as the major of self-care adherence as follows: 1) prominent supporting factor including financial support, and emotional support; and 2) inhibiting support such as patients' understanding, individual preference, patient's conception, and social and cultural activities. The findings are important sources to formulate the suitable nursing intervention to increase adherence to self-care among patient with Diabetes Mellitus.

Keywords: diabetes mellitus, adherence, self-care.

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Introduction

Diabetes Mellitus is a major public health problem, and its incidence increases with age (1). In study of Yamashita et al. mentioned that based on International Diabetes Foundation (IDF) in 2009 showed the increasing number of people with DM reached from 7 million in 2009 to be 12 million by 2030 (2). Diabetes Mellitus is a hyperglycemia disease characterized by the absolute absence of insulin or a relative decrease in the insensitivity of cells to insulin. Diabetes mellitus were associated with severe complications especially nerves system and blood vessels. Moreover, this diabetes also effected the long term complications, including heart disease, vision loss, and neuropathy (3).

Type 2 Diabetes Mellitus patients often have problems with adherence to the treatment of Diabetes Mellitus. A recent study revealed 1 in 3 patients did not take the prescribed Diabetes Mellitus drug (4). Thompson (2014) stated that the management of Diabetes Mellitus in everyday life is a complex activity and requires an understanding of self-care therapy regimens for people with Diabetes Mellitus. A combination of dietary therapy, physical activity, and lifestyle modification plays a major role in glycemic control and diabetes complication prevention (5,6). These things are the personal responsibility of a person with Diabetes Mellitus. But most Diabetes Mellitus patients do not adhere to the therapeutic regimen (6). Factors related to adherence among type 2 diabetes mellitus was varied. Limited study conducted in Indonesia to explore factors associated with adherence in self-care behaviors. This information is essential for healthcare services to develop a nursing intervention to improve adherence among patients with Diabetes Mellitus.

Objectives

The study aimed to identify factors associated with patient's adherence self-care behaviors among type 2 diabetes mellitus.

Methods

A literature review was conducted to extract and describe the factors associated with adherence in self-care behaviors. Several data bases were included SCOPUS, EBSCO, Science Direct, SAGE, and CINAHL to extract relevant articles. To obtain the up-to-date information regarding factors linked to self-care adherence, the researcher limited published articles from 2010 to 2019.

Keywords used were "Adherence", "Diabetes Mellitus", "Self-Care", factors associated with self-care". The inclusion criteria of this study published articles in English and Indonesian language, studies focused on self-care behaviors among diabetes mellitus type 2 patients. A qualitative Study, and case study also included in this review. Articles were reviewed based on the title and abstract. When the abstract was fit with the goals, those articles reviewed by the researchers.

Results

Study Characteristics

Ten qualitative studies were reviewed in this study to identify factors associated with adherence in self-care behaviors among patients with Type 2 diabetes mellitus. This study focused only on studies that used the qualitative approach. The selected articles in this review were 3 from Asia, 3 from Europe, and 4 from America. Table 1 showed a summary table.

Changes in daily life

Diabetes is a chronic condition that requires patients to perform self-care activities by modifying their lifestyle on a long-term basis (7). The crux of self-care is that it almost always requires individuals to change behavior to either take on new activities or to alter established routines such as dietary modification and regular exercise (7). Rayman and Ellison in their study said that there were 2 phases experienced by women with type 2 diabetes, such as engagement and preengagement. Engagement means patients followed the rules of self-care and were consistent in carrying out self-care as a lifestyle. Preengagement was a phase where patients did not consider diabetes to be dangerous, so they are not serious in

performing self-care, they assume that management of diabetes care is not difficult (8). A study stated that psychological change was found to be one of the most prominent subthemes of the changes experienced by older people with DM, including depression, anger, and acceptance (9).

Changes in daily life mostly occurred in eating, exercise, and medication routine. Changes over time from the beginning point of diagnosis to their current status came together as a theme. Following diagnosis, all of the participants made lifestyle changes in eating, exercise, and medication routines. They were sent to dietitians, nurse educators, and other professionals for diabetes self-management education (DSME) to learn how to care for their health. They were taught self-management activities including how to eat a healthy diet, checking blood glucose levels, and exercise routines (5). Habits and routines were primarily related to changes in cooking, eating, exercise, blood glucose monitoring, and medication/insulin management. Changes to, or additions of, habits and routines around these activities were necessary for the management of blood glucose levels. Participants expressed distress when things were out of the routine (5).

Supporting Factors

Family support is important factors in self-care behaviors. The support can be divided into 2 types of support such as optimum family support and suboptimum family support (9). Family can provide the adequate information, facilitate to perform self-care behaviors, and provide an emotional support when faced emotional problem. A previous study also showed that family could provide support in terms of daily activity assistance, assistance with health services, food preparation, financial support, attention, guidance, and problem-solving (10).

Emotional support becomes most prominent support from family members especially when faced with emotional distress. Patients may express their feelings when distress and hopelessness stemming from challenges of self-management practices, their diabetes prognosis and/or from emergency care events related to their illness. In these situations, family members played an important role in uplifting the patient's spirits, showing empathy and trying to alleviate their distress (11). The patient gained emotional support from a family by encouraging motivation 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 a spirit. Besides emotional support given by family, vigilance and control found as one of family support. Depending on the circumstance, these types of actions could be perceived as helpful or not helpful for participants' Type 2 Diabetes Mellitus self-management practices (11).

Inhibiting Factors

Individual preference is inhibiting factor linked to patients adherence in self-care behaviors. Previous study reported that older patients with diabetes mellitus have problems to control diet due to wrong attitude on controlling the diet. Their perception on difficulties to manage and control of diet is difficult to do (6).

Patients' understanding on diabetes mellitus and self-care behaviors are an important factor to self-care adherence. Woodcock *et al* mentioned that patients' understanding, and personal care could improve patients' adherence. However, some barriers were noted certain gaps were identified regarding misunderstandings of diabetes

mellitus and self-care behaviors. Educational input attenuated over time and patients did not actively seek to update. Personal care was appreciated, but many patients expressed a desire to be kept better informed about their treatment (12).

Misconception about Diabetes Mellitus management also stated by Dias *et al* study whose findings were about misconception in how to use hypoglycemic drugs, diet, and activities. It was found that some participants know how to use drugs correctly as prescribed but some participants, despite knowing the importance of properly using the medication, sometimes do not take it as they do not find it available at the health unit, showing they exclusively depend on the free acquisition and when it is not available, they stop using it until they have free access again (13).

Social and cultural activities considered as inhibiting factors that hinder patient with Diabetes Mellitus perform good self-care. Patients found that managing diet included the activities of carbohydrate counting, monitoring portion size, and making healthy food choices were very difficult. They experienced occupations of eating varied tremendously with the cultural issues of eating outside the home, unhealthy foods brought into the home, and the desire to eat favorite foods (5). Another study also stated that cultural issues affect a patient's adherence. Other challenges to adhere to dietary therapy were linked to the social role of food in the local community. Cultural values and religious practices shaped the food and eating habits in Malaysia (6).

Discussion

The review highlighted previous studies about family support in self-care adherence in a patient with Diabetes Mellitus. Family support is essential on self-care adherence (14-15). Costa (2012) in his research mentioned that partner and social-cognitive support is essential to adherence to SMBG in diabetic patients Mellitus Type 2 (16). Halkoaho (2014) study found that people with type 2 diabetes thought the source of coping in the management of diabetes mellitus was self-acceptance of disease, adherence to self-care, knowledge of the disease, and support from various parties including nurses (17). According to research by DiMatteo (2015) 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 (18).

A review of ineffective coping in managing Diabetes Mellitus affects adherence was also in line with previous studies (19). Many factors influence patients with Type 2 Diabetes Mellitus who do not adhere to self-care. Based on the results of research Schwennesen, Henriksen, & Head (2016) obtained the results of personal reasons for the absence of Diabetes patients in Diabetes Self-Management Education (DSME) because of the disease and they feel this activity is less useful (20). While for external factors that affect Diabetes Type 2 patients do not follow Diabetes Self-Management Education is the location, time, and duration of Diabetes Self-Management Education (21).

In consistent with previous studies found that inconsistent to follow the recommendation of diabetes self-management was one of importance factors to self-care behaviors (20-22). Research of Woodcock, Gillam, & Frpc gets the results that patients knowing about the condition of the illness and the complications that will be experienced. Most say they are afraid of comatose complications. Also, most have received adequate information about Diabetes Mellitus Type 2 from doctors and nurses, but there was still a misperception about the information so that patients do not undergo self-care well (12). Angelica et al. mention Diabetes Mellitus patients

know Diabetes management. However, the knowledge possessed is very superficial and not applicative in their routines (13).

Conclusion

This review found that factors associated with patients' adherence to self-care including family support, individual preference, patient's conception, and social and cultural activities..

Strength and Limitation

This literature review add-up information regard the factors associated with patients' adherence in self-care behaviors. However, some limitation encountered since this study only describe the factors narratively rather than systematic review or met-analysis.

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Table 1. Summary of Article Analysis

No	Title, Authors, & Time	N	Design	Data Collection	Main Result
1	'It's not a disease, it's a nuisance': Controlling diabetes and achieving goals in the context of men with Type 1 diabetes (20) UK	15	Qualitative (Grounded theory)	Interview	Three categories emerged from the analysis of the data, these were: 'Reducing the seriousness of diabetes'; 'Reaching goals and mis/managing illness'; and 'Reassessing the relationship with diabetes'
2.	Patient Explanations for Non-Attendance at Type 2 Diabetes Self-Management Education: A Qualitative Study (18) Denmark	15	Qualitative (Phenomenological approach)	Interview by telephone	Four categories were found and organized under an individual (illness, lack of perceived benefit) and organizational factors (schedule and content).
3.	'A one-to-one thing is better than a thousand books': views and understanding of older people with diabetes (12) UK	13	Qualitative	Interview	Responses were analyzed within three main themes relating to patient understanding, information, and quality of care.
4	Family support in caring for older people with diabetes mellitus: a phenomenology study (9) Indonesia	8	Qualitative (Phenomenological Approach)	Interview	Three themes were identified about family support toward older people with DM such as the changes in older people with DM, optimum family support, and suboptimal family support.
5	Family Support and Diabetes: Patient's Experiences From a Public Hospital in Peru (11) Peru	20	Qualitative (Deductive analysis _& Phenomenological Approach)	Interview	Type of support that was given and the perception of such help from the patients was: encouragement and care, walking side by side, vigilance and control, social exclusion and isolation

6	Home Alone: The Experience of Women with Type 2 Diabetes who Are New to Intensive Control (8) USA	14	Qualitative	Interview	There were 2 phase experienced by women with type 2 diabetes, such as engagement and preengaged
7	Occupations, habits, and routines: perspectives from persons with diabetes (5) USA	8	Qualitative	Interview and Observation by using participant-generated photographs	There are four themes inferred: "Changes over time"; "What to eat"; "Habits and routines"; and "Family: Occupational impacts"
8	Diabetes Mellitus Client's Conceptions about The Treatment (13) Portugal	11	Qualitative	Interview	There were five empirical categories such as correct use of hypoglycemic drugs, adoption of a proper diet, physical activities, use of phytotherapy, and adoption of preventive attitudes.
9	Patient Perspective on Factors Contributing to Nonadherence to Dietary Therapy: A Qualitative Study in Multicultural Population of Kedah, Malaysia (6) Malaysia	17	Qualitative	Interview	Three main themes emerged. The main factors that affect diabetes patients' dietary adherence were "individual preference," "family support," and "social and cultural activities."
10	Perceived family support among older persons in diabetes mellitus self-management (10) Indonesia	9	Qualitative (Phenomenological Approach)	Interview	The family support included daily activity assistance, assistance with health services, food preparation, financial support, attention, guidance, and problem-solving.