

Social Support And Diabetes Self-Care Activities In Patients With Type 2 Diabetes Mellitus: A Correlational Study

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Abstract:

Background Diabetes Self-Care Activities (DSCA) for people with diabetes mellitus are crucial in preventing the development of type 2 diabetes. These activities include healthy eating, medication, physical activity, blood glucose self-monitoring, and foot care. The patient's inability to perform DSCA will result in various disease complications.

Materials and methods:The purposive sampling technique was used to select 229 respondents for this cross-sectional study. Data collection used the socialsupport subscale of the Diabetes Care Profile (DCP) questionnaire to assess social support and The Summary Diabetes Self-care Activities (SDSCA) questionnaire to assess diabetes self-care activities. Data were analyzed using the chi-square test.

Results: The results showed a relationship between social support and DSCA ($p=0.000$).

Conclusion:Social support benefits patients by assisting with medication adherence and self-care practices in Type 2 Diabetes Mellitus patients. The patient's inability to perform DSCA will result in various disease complications.

Keywords:Social support, Type 2 Diabetes Mellitus, Diabetes self-care activities.

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I. Introduction

Diabetes Mellitus (DM) is a chronic non-communicable disease that occurs when the pancreas cannot produce insulin, or the body cannot use the insulin produced properly. Type 2 diabetes is the leading cause of atraumatic amputations worldwide, as well as chronic kidney disease that requires dialysis and a major cause of blindness, such as diabetic retinopathy [1]. It is estimated that there are currently 537 million adults living with type 2 diabetes, with this number expected to rise to 643 million in 2030 and 783 million in 2045. Over three out of every four adults with type 2 diabetes live in low and middle-income countries [3]. In Southeast Asia, type 2 diabetes affects approximately 90 million people. This figure is expected to rise to 113 million by 2030 and 151 million by 2045. More than one in every two adults with type 2 diabetes is undiagnosed, and up to 747,000 deaths are expected in 2021 [3].

In order to manage Type 2 diabetes, social support from family members or others close to the patient is required. Social support is defined as assistance given to someone in need by family, friends, neighbors, or community organizations [11]. Patients with type 2 diabetes require social support to help them manage their diabetes. Good social support will also help them manage their disease [12].

A study of 257 diabetic patients in four hospitals in western Ethiopia (Ambo General Hospital, Guder Hospital, Gindeberet Hospital, and Gedo Hospital) found that 45.5% of the respondents had poor self-care practices for diabetes patients. [2]. According to research conducted in South Asia using meta-analysis methods and systematic reviews of 1567 articles, the prevalence of self-care behavior in type 2 diabetes patients in South Asia is low [8].

In addition, research conducted on 570 patients with type 2 diabetes found a relationship between social support and DSCA (AOR = 1.9, 95% CI = 1.24-2.85) [9]. Another study conducted in 2021 in Indonesia using the meta-analysis method discovered a correlation between social support and DSCA (AOR = 2.22, 95% CI 1.84-2.68) [4]. A similar study of 257 patients with type 2 diabetes found a relationship between social support and DSCA (AOR = 2.86, 95% CI 1.37-5.96) [2].

Social support from family is essential for people with chronic illnesses, including diabetes, to improve and maintain self-management practices. Although the individual retains primary responsibility, the supportive

actions of other members make the daily tasks required to maintain optimal blood sugar levels much more feasible. [7].

Based on these issues, researchers were conducting this study to investigate if there is a relationship between social support and diabetes self-care activities in Type 2 diabetes and retinopathy patients.

II. Materials and Methods

Study Design: Cross-Sectional Study

Study Location: This research was conducted in a hospital in Aceh.

Study Duration: 6 January to 6 February 2023

Sample size: 229 patients with Type 2 Diabetes Mellitus

Sample size calculation: The sample size in the study was calculated using the Isaac Michele formula with a population of 1552 patients and a confidence level of 90%, resulting in a sample size of 229 respondents.

Subject & sampling technique: The sampling technique used was purposive sampling

Instruments: Data was collected using two questionnaires: the social support subscale of the Diabetes Care Profile (DCP), which included 12 questions on a Likert scale, and the Diabetes Self-care Activities Summary (SDSCA) questionnaire. For Diabetes Care Profile (DCP), a score is assigned if strongly agree = 5, agree = 4, neutral = 3, disagree = 2, and strongly disagree = 1; the social support score is lower if inadequate and higher if adequate. Hence, the Diabetes Self-care Activities Summary (SDSCA) questionnaire with 17 questions was used to assess diabetes self-care activities. The scoring of 17 SDSCA question items, each with eight alternative answers, in which respondents answered questions about diabetes self-care activities in the previous 7 days, with a score of 0 for 0 days, a score of 1 for 1 day, and a score of 2 for 2 days, a score of 3 for 3 days, score 4 for 4 days, score 5 for 5 days, score 6 for 6 days, and score 7 for 7 days. The total score is calculated by adding the number of days the respondent answers each question and dividing by 17. The respondent's final score ranges from 0 to 7. For assessment scores, good is if the score is 3, and poor is if the score is 3. The validity of the two questionnaires was tested using content validity by two experts before conducting the study, with a value of S-CVI = 1. Cronbach Alpha on the social support questionnaire was 0.623, and Cronbach Alpha on the diabetes self-care activities questionnaire was 0.72.

Inclusion criteria:

1. Willingness to participate as a respondent
2. Age \geq 30 years, has been diagnosed with type 2 diabetes for at least a year
3. Make regular medical visits to the Endocrine Polyclinic for at least the last six months.

Exclusion criteria:

1. Suffering from a chronic disease
2. Suffering from mental disorders
3. Have diabetic ulcers
4. Patients with *genue* or *digiti* amputations
5. Inability to provide information independently.

Procedure methodology

The study was carried out after receiving ethical approval from the hospital (Certificate number: 095/ETIK-RSUDZA/2022). At the endocrine polyclinic, the researcher met the respondents in person. They received further information about the research objectives, benefits, and procedures and were asked if they wanted to participate as research participants. Before filling out the questionnaire, patients who wanted to participate in the study were asked to sign an informed consent form.

Statistic analysis

After the data was collected, it was coded and analyzed using a computerized program after checking the completeness of the entries for all parts of the research instrument that were collected separately.

Descriptive statistics were used in the data analysis, including the frequency and percentage of each variable. The Chi-square test was used to determine statistical significance and the existence or absence of a relationship.

III. Results

The study results showed that the proportion of adult patients was 114 (49.8%), and the elderly were 115 respondents (50.2%). There were 75 male respondents (32.8%) and 154 female respondents (67.2%). According to the data, patients who work were 109 respondents (47.6%), and patients who do not work were 120 respondents (52.4%). There were 151 patients (65.9%) who got adequate social support, while those with good diabetes self-care activities were 207 patients (90.4%) (Table 1). The chi-square test results show a significant relationship between social support and diabetes self-care activities in type 2 diabetes mellitus patients (p=0.000) (Table 2).

Table 1. Socio-demographics, social support, and diabetes self-care activities in type 2 diabetes mellitus patients. (n=229)

Variables	F	%
Age		
a. Adult	114	49,8
b. Elderly	115	50,2
Gender		
a. Male	75	32,8
b. Female	154	67,2
Occupation		
a. Working	109	47,6
b. Unemployed	120	52,4
Social support		
a. Adequate	151	65,9
b. Inadequate	78	34,1
Diabetes self-care activities		
a. Good	207	90,4
b. Poor	22	9,6

Table 2. The relationship between social support and diabetes self-care activities in patients with type 2 diabetes mellitus (n = 229)

Variable	Diabetes self-care activities						P
	Good		Poor		Total		
	F	%	F	%	F	%	
Social support							
a. Adequate	146	96,7	5	3,3	151	100	0,000
b. Inadequate	61	78,2	17	21,8	78	100	

IV. Discussion

Social support means having friends and other people, including family, to help when someone is in need. Social support can be in the form of emotional or physical support. The most common forms of social support for people with diabetes include active support and emotional encouragement through medication, blood glucose monitoring, foot care, following a diabetes meal plan, and increasing physical activity [11].

This study finding revealed a significant relationship (p=0.000) between social support and diabetes self-care activities, implying that the better the social support, the better the diabetes self-care activities in Type 2 diabetes mellitus patients.

In this study, diabetes self-care was influenced by family support and social support, with social support playing a critical role in patient medication adherence. According to this study's findings, patients with adequate social support are more likely to engage in good diabetes self-care activities. This result, in line with previous research, stated that type 2 diabetes mellitus patients who receive positive social support are more likely to engage in good diabetes self-care activities [9].

This finding is supported by research that revealed that social support is a psychological factor in promoting healthy behavior. Social support also improves the ability to live a healthy lifestyle, allowing people to adapt to their illness. Social support is also the most crucial factor in diabetes blood glucose control. In patients who self-manage their diabetes, social support is an essential predictor of medication adherence. Therefore, social support is essential in diabetes patients' physical activity, blood glucose control, and weight loss [5].

Social support from family is essential for people with chronic illnesses, including diabetes, to improve and maintain self-management practices. Although the individual retains primary responsibility, the supportive actions of other members make the daily tasks required to maintain optimal blood sugar levels much more

feasible. Better self-care and health outcomes are more likely when family members work together as a cohesive family unit to support the patient actively. Family members' active support and specific supportive actions positively influence the behavior and health management of diabetics [7].

Moreover, social support plays a vital role in diabetes patients and can contribute to the successful management of diabetes. Social support helps control diabetes and supports necessary physical and dietary changes. Family support has been identified as a critical source of support and plays a vital role in lifestyle change and diabetes management. Due to the chronic nature of diabetes, patients visit healthcare providers regularly, which can lead to these healthcare providers becoming part of their social support network. Social support also aids diabetic patients in overcoming disease complications and adhering to treatment [10].

People with diabetes who receive helpful support from family and friends adhere to self-care behaviors more consistently. Communication between patient and family is critical because the family is the basic unit of the social network where one learns behavioral styles. Consequently, family members impact disease control and treatment decisions [6].

Increased social support is associated with decreased emotional distress. Patients who report high levels of social support have better levels of well-being. Most patients indicated that most social support came from their partner or other family members. This suggests that family support plays a vital role in diabetes management and can help patients optimize self-care behavior [10].

Practical support and social support have a strong relationship with compliance. Adherence to diet, medication, and exercise helps with glycemic control. Diabetes treatment aims to achieve tight control of blood sugar levels, delaying or preventing long-term complications. Uncontrolled blood sugar levels can lead to severe diseases affecting the heart, blood vessels, eyes, kidneys, and nerves. Therefore, practical and social support from family and friends in assisting with medication, diet, and exercise adherence is essential to treatment goals for reasonable glycemic control [10].

V. Conclusion

Based on the study results, it can be concluded that there is a relationship between social support ($p=0.000$) and diabetes self-care activities.

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