
Original Articles: Quantitative Research**THE RELATIONSHIP BETWEEN FAMILY SUPPORT AND DIET PROVISION IN
DIABETES PATIENTS**

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Article history:

Received: April, 10, 2023

Accepted: August, 22, 2024

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Keywords:

*Diabetes, Diabetes Diet, Family
Support, Dietary Habit.*

Page Number: 112-121

Abstract

Introduction: Effective diabetes management requires strict adherence to dietary guidelines. Family support plays a critical role in helping patients with diabetes maintain appropriate nutritional practices.

Objective: This study aims to analyze the relationship between family support and the dietary management of diabetes patients.

Methods: This research was conducted at a Community Health Center in East Sumba Regency using a cross-sectional method. The Independent Variable is Family Support with sub-variables of Assessment Support, Instrumental Support, and Informational Support, while the Dependent Variable is the Provision of DM Diet. Thirty-eight respondents were selected randomly from the total population using the N-1 formula. Data were collected using the Family Support questionnaire and analyzed using a correlation test with $\alpha = 5\%$.

Results: Assessment support (42%), instrumental support (61%), and information support (55%) were reflected as family support and categorized as sufficient. Diet provision for diabetic patients is also considered sufficient (53%). However, the correlation test showed no significant relationship between family support and diet provision for diabetic patients (sig 0.462).

Conclusions: Although family support was a sufficient criterion in this study, this support did not significantly affect the diet management of diabetic patients. This result indicates that other factors may influence the patient's diet more.

INTRODUCTION

Diabetes is a chronic metabolic disorder characterized by high blood sugar levels. Many diabetes patients have difficulty following a diet. Therefore, family support is essential for diet management. (Kazi & Blonde, 2019). According to WHO, in 2022, around 8.5% of adults aged 20-70 years throughout the world will have been diagnosed with diabetes, with a prevalence increasing to 422 million people. According to data obtained from the International Diabetes Federation (IDF) in 2021, the number of diabetes sufferers in the world is 19.5 million people aged 20-79 years, and Indonesia is

ranked in the top five countries with the highest diabetes cases in the world (Chan, 2014; Kazi & Blonde, 2019; Shara KurniaTrisnawati dan Soedijono Setyorogo, 2013; WHO, 2023). Diabetes cases are increasing in Indonesia and are ranked third in deadly diseases, with deaths reaching 40.78% of people (Kemkes, 2018). This data is in line with the number of diabetes cases in East Sumba Regency, where in 2022, there will be 1021 diabetes cases with a prevalence reaching 3.21%. Based on the presentation, due to the increase in diabetes, East Sumba is ranked second out of 22 districts in the NTT province (Linandya, 2022). Data obtained from the Kambaniru Community Health Center in the last two years showed that 28 people were diagnosed with diabetes in 2021, and in 2022, this number increased to 39 people (BPS, 2023).

Family support, which consists of emotional, informational, and instrumental support, is essential in diabetes treatment if given entirely. Suppose the family fails to provide adequate support, for example, by not complying with dietary recommendations or ignoring proper care. In that case, it can cause increased blood sugar levels, ultimately triggering complications that reduce the patient's quality of life (Gunawan et al., 2022). Various preliminary studies show a significant relationship between family support and dietary compliance in diabetes patients (Damayanti et al., 2023; Mulidan et al., 2022; Sijabat et al., 2023; Yahya, 2017). However, this study reveals different results that although family support is sufficient it does not significantly affect diet management for diabetic patients.

Objective(s): This study aims to analyze the relationship between family support for diabetes patients and diet provision.

METHODS

Study Design

This research is a quantitative study with a cross-sectional design, a type of study where observation data from study respondents is only measured in one observation. We want to emphasize here that not all research subjects were studied at the same time, but each subject was observed once, and subject variables were measured (LP2M-UMA, 2022). The independent variable in this study is family support, with sub-variables, namely Assessment Support, Instrumental Support, and Informational Support, while the dependent variable is the provision of diet to diabetes patients.

Settings

This research was conducted at the Kambaniru Community Health Center in East Sumba Regency, East Nusa Tenggara Province, in 2023.

Research subject

The population in this study was all families in the Kambaniru Community Health Center Working Area with family members with diabetes, namely 39 people. The number of research samples was determined using the total sampling formula $N-1$ of 38 people. The research sample was chosen

randomly by the researcher according to the research inclusion criteria, namely diabetes patients undergoing diabetes treatment at the Kambaniru Community Health Center.

Instruments

Data were collected using a Family Support questionnaire with a 20-question Likert scale to measure four aspects of family support for diabetic patients: assessment support, instrumental support, informational support, and diet provision. Each aspect is assessed using 5 questions, and scores range from 0 to 3. Higher values indicate better levels of support.

Data collection

The collection was done by distributing questionnaires to respondents. Respondents were asked to complete the questionnaire used in this study.

Data Analysis

The data was then analyzed using univariate and bivariate methods (Chi-Square test) according to the research variables. The study's results are presented in tables and narratives to describe the relationship between factors related to family support and diet provision.

Ethical Consideration

Integrated Service Office of East Sumba Regency with research permission letter no 27/DPMPTSP-IP/III/2023. The researcher has also obtained permission from the Kambaniru Health Center as the research location, marked with a permit letter number 333/PKM-KN/TU/VI/2023. Furthermore, the researcher explained the research procedures to the respondents and provided Informed consent; the researcher did not include the respondents' names on the questionnaire to maintain the confidentiality of their identity (anonymity), and the author also guaranteed the confidentiality of information obtained from respondents during the study (Confidentiality).

RESULTS

The research results are described in the distribution of respondent characteristics (table 1), family support (Table 2 and Table 3), diet provision (Table 4), and the relationship between the two variables (Table 5) as follows:

In Table 1 below, it can be seen that the largest gender of respondents was 27 women (71%), with the largest age range being 45-59, with 24 people (63%). Meanwhile, the highest level of education was elementary school, with 12 people (32%), and the type of work most respondents were doing was farming, with 29 people (76%).

Table 1. Distribution of Respondent Characteristics Based on Gender, Age, Education, and Occupation (n=38).

Variable	Frequency (F)	Percentage (%)
Gender		
Man	11	29
Woman	27	71
Age		
45-59	24	63
60-75	14	37
Education		
No school	5	13
Elementary school	12	32
Junior High School	7	18
Senior High School	10	26
Bachelor	4	11
Work		
Farmer	29	76
Teacher	3	8
Pastor	1	3
Businessman	5	13

Sources: Primary Data Questionnaire, 2023.

Table 2. Characteristics of Respondents Based on Family Support (n=38).

No	Criteria	Frequency (F)	Percentage (%)
1	Assessment support		
	Good	7	18
	Sufficient	16	42
	Less	15	39
2	Instrumental support		
	Good	8	21
	Sufficient	23	61
	Less	7	18
3	Informational support		
	Good	14	37
	Sufficient	21	55
	Less	7	8

Sources: Primary Data Questionnaire, 2023.

In Table 2, it can be seen that of the three types of family support, in terms of sufficient criteria, instrumental support has the highest percentage (61%), followed by informational support (55%), and the least is assessment support (42%). On the other hand, for Less criteria, assessment support has the highest percentage (39%).

Table 3. Characteristics of Respondents Based on Family Support for Diabetes Patients (n=38).

No	Criteria	Frequency	Percentage (%)
1	Good	16	42
2	Sufficient	20	53
3	Less	2	5

Sources: Primary Data Questionnaire, 2023.

Table 3 shows the overall picture of family support where the majority of family support is at sufficient criteria (53%) and there are still 5% of families who do not support diabetes patients, especially in providing diet.

Table 4. Characteristics of Respondents Based on Diet Administration to Diabetes Patients.

No	Criteria	Frequency	Percentage (%)
1	Good	10	26
2	Sufficient	20	53
3	Less	8	21
Total		38	100

Sources: Primary Data Questionnaire, 2023.

In Table 4 above, it can be seen that providing a diet to diabetes patients is in the sufficient category (53%), and there are still 23% of families who are inadequate in providing a diet to diabetes patients.

Table 5. Relationship between Family Support and Diet Provision in DM Patients.

No	Category	Diet provision in DM patients						Family support		Sig
		Good		Sufficient		Sufficient		N	%	
		N	%	N	%	N	%			
1	Good	20	53	16	42	2	5	10	26	0.462
2	Sufficient	0	0	0	0	0	0	20	53	
3	Less	0	0	0	0	0	0	8	21	
Total		20	53	16	42	2	5	38	100	

Sources: Primary Data Questionnaire, 2023.

Based on Table 5 above, it can be seen that of the ten respondents (26%) who received good support, there were 20 respondents (53%) who were in the good category in providing diet for diabetes patients, and there were still 5% who were poor in providing diet. The results of the test with an alpha of 5% obtained a significance coefficient of 0.462, which means there is no significant relationship between family support for diabetes patients and diet provision for diabetes patients.

DISCUSSION

The majority of respondents in this study were women (71%), with the most extensive age range of 45-59 years (63%). Most respondents had the highest elementary school education (32%), and most worked as farmers (76%). These characteristics indicate the dominance of women and older family members in supporting patients in diet management and diabetes treatment. Their involvement is very important in daily activities, especially in managing the diet of diabetes patients at home (Busebaia et al., 2023; Mphasha et al., 2023)

Various social support and public health theories emphasize the important role of the family in influencing individual health, including in the management of diseases such as diabetes (Irma et al., 2023; Wibowo et al., 2024; Yahya, 2017). Research shows that the majority of family support is at sufficient criteria (53%), but there are 5% of less supportive families, especially in providing diets for diabetes patients. In terms of family support, it can be seen that instrumental support has the largest percentage, followed by informational support and assessment support. This shows that families are more likely to provide practical support in the form of helping patients with daily activities compared to providing evaluation or information guidance. However, interestingly, for the less criteria, assessment support has the highest percentage. This may indicate that families are more likely to provide criticism or negative evaluations of diabetes patients' eating habits compared to other aspects. Even though the majority of family support is in the adequate criteria, there are still some less supportive families, especially in terms of providing diet. This reflects the challenges faced by diabetes patients in adhering to a proper diet, which largely relies on family support. Family support is not given, especially to patients, because the family assumes that the patient is used to or independent in managing eating and drinking patterns and does not need to be accompanied. From the research results, there are also families who only occasionally provide support because the family is busy with each other, such as working to meet the needs of all family members. This was revealed by respondents while filling out the questionnaire that their families went to work to support the family's living expenses.

In terms of diet provision, the majority of respondents were in the adequate category (53%). However, 23% of families were less in provide an appropriate diet for diabetes patients. Even though 26% of respondents gave good support, and 53% of them were in a good category in providing diet, there were still 5% who were lacking in providing diet. Public Health Promotion Theory highlights the need for education for families of diabetes patients to increase understanding of the importance of providing an appropriate diet as part of disease management. Regarding diet provision, although the majority of respondents are in the adequate category, there is still a significant percentage of families who do not support the diet of diabetes patients. This shows that there is still room for improvement in efforts to provide better support in terms of dietary management for diabetes patients. Support for DM patients is very important, especially in maintaining blood sugar and eating and drinking patterns. With support from the family in adhering to the diet, the patient will be more enthusiastic about following the diet recommended by health workers. Some efforts need to be conveyed by health workers to the

patient's family so that they can help the patient control eating and drinking to avoid increasing blood sugar levels. Efforts that need to be made by health workers are promoting health to the patient's family and the surrounding community and providing health education to the families of DM patients. The family has a role in DM patients, namely that the family can facilitate success in managing diabetes so that patients can avoid complications and improve the quality of life of diabetes patients who will accompany them throughout life so that it can affect the patient's quality of life (Damayanti et al., 2023; Irma et al., 2023; Mulidan et al., 2022; Priharsiwi & Kurniawati, 2021; Sijabat et al., 2023; Wibowo et al., 2024).

The test results showed no significant relationship between family support for diabetes patients and dietary patterns of diabetes patients. The results of this study are not by previous studies conducted by Damayanti et al. (2023), Mulidan et al. (2022), Sijabat et al. (2023) and (Yahya (2017), which showed a significant relationship between family support and dietary compliance in diabetes patients (Damayanti et al., 2023; Mulidan et al., 2022; Sijabat et al., 2023; Yahya, 2017). This result certainly shows the need for more targeted behavioral interventions and collaboration between health workers and families of diabetes patients to improve understanding and support in disease management, which emphasizes the importance of a holistic approach in caring for diabetes patients, where family support and a good understanding of disease management can play an essential role in improving the quality of life of patients and disease control (Muslim et al., 2023; Priharsiwi & Kurniawati, 2021; Yahmal & Zuraida, 2024).

The research findings showing no significant relationship between family support for diabetes patients and dietary management of diabetes patients are interesting because although family support is considered necessary in diabetes management, there are still other factors that influence the dietary management of people living with diabetes, such as internal patient factors (education and knowledge, beliefs, positive traits, and personality) and external patient factors (patient interaction with health workers, environmental factors, and social activities). This is in line with what was found by Laia et al. (2023), Mulidan et al. (2022), and Friandi (2021) that family support is the attitude, actions, and acceptance of the family toward sick family members so that successful treatment in the hospital or at home will be in vain if not supported by the role and support of the family in maintaining activities, especially the diet of people with diabetes for smooth recovery (Laia et al., 2023; Mulidan et al., 2022; Riris Friandi, 2021). Overall, these findings provide valuable insights into the profile of respondents, the quality of family support, and its relationship to the provision of diet for diabetic patients. However, further research may be needed to understand better the dynamics of the relationship between these factors and the best way to improve diabetes management at the family level.

LIMITATIONS

This research has weaknesses in that the number of samples is still small and no validity testing of the reliability of the instrument was carried out, so even though the results obtained conflict with the

results of other studies that have been carried out previously, retesting and re-examination must still be carried out using additional instruments such as observation sheets.

CONCLUSION

Instrumental support is the most common support families give to diabetic patients, especially in regulating diet, compared to other types of support. Most families have provided sufficient support, although some are still less supportive. This study showed there is no significant relationship between family support and diet provision for diabetic patients.

AUTHOR CONTRIBUTION

Velenia Kahi Timba: Conducting research as a prerequisite for completing the final assignment report, preparing research proposals, conducting research, and data analysis, and preparing final research reports.

Yosephina Elizabeth Sumartini Gunawan: Provides direction and motivation in preparing, and completing the final assignment report, and preparing the manuscript for publication.

Melkisedek Landi: Final assignments who provide input and improvements to students' final assignment reports.

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CONFLICT OF INTEREST

There is no conflict of interest in this research.

ACKNOWLEDGEMENT

The author would like to express his thanks to all parties who have greatly assisted in the research process and preparation of this publication, especially to the Poltekkes Kemenkes Kupang Campus DIII Nursing Waingapu.

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