

Family Support in Caring for Diabetes Mellitus Family Members with Blood Sugar Level Problems in Karangrejo Village Tulungagung Regency

Farida^{1*}, Yitno², Poppy Farasari³

^{1,2,3} STIKES Hutama Abdi Husada Tulungagung, Indonesia

*Corresponding author: poprimf@gmail.com

ABSTRACT

Background: Diabetes mellitus (DM) is a chronic disease that requires care from family members. Care for diabetes mellitus clients in the family can be influenced, among other things, by support and participation from other family members so that blood sugar levels can be controlled.

Purpose: The aim of this research is to determine family support in caring for family members with diabetes mellitus with problems with blood sugar levels in Karangrejo Village, Tulungagung Regency.

Method: The research design used Correlational Analytics with a cross-sectional approach. The research population was diabetes sufferers in Karangrejo Village, Tulungagung Regency, totaling 92 people and the research sample was diabetes sufferers in Karangrejo Village, Tulungagung Regency with a total of 92 respondents selected using total sampling techniques. The research instrument is a questionnaire and data processing is carried out through editing, coding, scoring, tabulation, while data analysis uses the Spearman rho test.

Results: The results of the study showed that the majority of respondents with good family support had normal blood sugar levels, namely 60 respondents (76%), while respondents with less family support had high blood sugar levels, namely 28 people (63%). The statistical test results showed that the ρ value was 0.002 with α 0.05, meaning that there was a relationship between family support in caring for family members suffering from diabetes mellitus in Karangrejo Village, Tulungagung District.

Conclusion: Family members need to be aware of and provide support for family members who suffer from diabetes mellitus to reduce blood sugar levels, so that blood sugar levels are controlled.

Keywords: diabetes mellitus, family support, treatment

Received February 10, 2024; Revised March 12, 2024; Accepted April 3, 2024

DOI: <https://doi.org/10.30994/jnp.v7i2.500>



The Journal of Nursing Practice, its website, and the articles published there are licensed under a Creative Commons Attribution-Non Commercial-ShareAlike 4.0 International License.

BACKGROUND

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia due to abnormalities in insulin secretion, insulin action, or both. The increasing number of diabetes sufferers is caused by a lack of knowledge about diabetes management (ADA, 2020). Knowledge about diabetes management is important for controlling blood sugar levels. Diabetics who have knowledge about diabetes will be able to control their condition (Siti Langga Lubis, Gamy Tri Utami, 2018). Diabetes is a lifestyle disease, so whether diabetes control is successful or not really depends on changes in patient behavior. Diabetes management includes education, diet, exercise, medication and regular blood sugar control. Globally, the incidence and prevalence of diabetes mellitus (DM) continues to increase (PERKENI, 2019).

Diabetes mellitus (DM) is also widely known as the most complex disease to treat. This is caused by an increase in blood sugar levels, causing the risk of microvascular damage and decreased quality of life (Petersen, 2016). The disease is often prolonged due to abnormalities in insulin secretion, insulin action, or both.

According to the International Diabetes Federation, the global number of diabetes sufferers in 2018 was 8.3% of the world's population and in 2019 it increased to 387 million cases. Therefore, diabetes has become a serious threat to human health in the 21st century (Federation, 2019). The incidence of diabetes in Indonesia will continue to increase every year. In 2019, the number of diabetes sufferers increased by 8.4 million people in Indonesia. According to 2018 Rikesdas data, the prevalence of diabetes in Indonesia is 6.9%, with blood sugar disorders (DGT) at 29.9% and fasting blood sugar disorders (FBG) being very high at 36.6% or equivalent to 176,689,336 diabetics (RISKESDAS, 2018). India is the fourth largest country in the world with 8.4 million diabetes sufferers, after the United States, China and India (Federation, 2019).

In East Java Province, data regarding the increase in the incidence of diabetes reached 152,075 cases. Figures from the Indonesian Ministry of Health in 2018 show that the average number of diabetes sufferers in East Java was 4,216 cases. Data from the Tulungagung District Health Service in 2018 shows that the number of diabetes cases was 12,448 cases consisting of 3,532 cases of type I diabetes and 8,916 cases of type 2 diabetes (Kemenkes RI, 2019).

Based on data from a preliminary study conducted by researchers in Karangrejo village, Tulungagung, the health information provided by health workers has so far only been aimed at diabetes patients and not the families of diabetes mellitus patients. Most diabetes mellitus sufferers (92%) said they did not have a clear understanding regarding caring for family members who suffer from diabetes mellitus, such as diet to maintain stable blood sugar levels.

Diabetes mellitus sufferers require long-term and lifelong treatment, so family support really helps patients improve their control while undergoing the treatment program. Uncontrolled blood sugar levels can cause various health complications that can occur in the short and long term, such as heart disease and other metabolic diseases, which can increase the death rate in diabetes patients (Nursalam, Rondhianto, Kusnanto, & Melaniani, 2021).

Diet is one of the treatments for diabetes, with the aim of helping patients improve their eating habits, so they can control blood sugar levels. The main obstacle in treating diabetes with diet is that patients become bored with diet therapy which is important for its success (Yahya & Nadjibah, 2018). The role of the family greatly influences dietary compliance. Failure to comply with the diet of diabetics can also cause complications that

will make the disease worse, and can even lead to death. The results of research entitled the relationship between stress and family support in caring for diabetes mellitus clients with blood glucose levels in diabetes mellitus patients conducted by Chaidir, R., Wahyuni, A.S., & Furkhani (2017) shows a relationship between family support and blood sugar levels.

Therefore, medical personnel need to play an active role in providing information about diabetes to patients and their families so that families can motivate diabetes patients to always adhere to dietary restrictions for diabetes sufferers (Farida, Yitno, Nizar, 2021). Based on this background, researchers conducted research on Family Support in the Care of Diabetes Mellitus Family Members with Blood Sugar Level Problems in Karangrejo Village, Tulungagung Regency.

METHODS

This research is analytical in nature with a Correlational Analytic research design with a cross-sectional approach. The aim of this research is to determine family support in caring for diabetes mellitus family members with problems with blood sugar levels in Karangrejo Village, Tulungagung Regency. The population in this study were all Diabetes Mellitus sufferers in Karangrejo Village, Tulungagung Regency totaling 92 people. The sample in this study were all diabetes mellitus sufferers in Karangrejo Village, Tulungagung Regency with a total of 92 respondents who were selected using total sampling techniques, beforehand the respondents signed an informed consent sheet as an agreement to become respondents. The data collection tool uses a questionnaire sheet to assess the level of family support in caring for family members with diabetes mellitus and an observation sheet to record the results of checking respondents' blood sugar levels, while checking blood sugar levels is carried out using an easy touch tool complete with a lancet.

RESULTS

Table 1. Distribution of general data characteristics of research respondents

General Data	F	%
Gender		
Male	46	50
Female	46	50
Age		
<36 year	20	24
36-45 year	42	45
>45 year	30	31
Level of Education		
Elementary School	25	21
Junior High School	22	13
Senior High School	30	45
College	15	21

Based on research data, of the total 92 respondents, 46 respondents (50%) were female and the remaining 46 respondents (50%) were male. Most of the respondents were aged 36-45 years with a total of 42 respondents (45%). Most of the respondents had completed high school education with 30 respondents (45%).

Table 2. Distribution of Family Support in the Care of Family Members with Diabetes Mellitus

Family support	Frequency	Percentage
Good	35	34
Currently	37	45
Not enough	20	21
Total	92	100%

Based on table 2, it shows that of the 92 respondents, the majority received moderate family support with 37 respondents (45%).

Table 3. Frequency Distribution of Blood Sugar Levels in Diabetes Mellitus Patients

Sugar level	Frequency	Percentage
Normal	59	76
High	33	24
Total	92	100%

Based on table 3, it was found that 59 respondents (76%) had normal blood sugar levels and the remaining 33 respondents (24%) had high blood sugar levels.

Table 4. Cross tabulation of General Data with Family Support

General Data	Family Support						Total	
	Good		Currently		Not Enough		F	%
	F	%	F	%	F	%		
Age								
< 36 year	3	11	7	22	10	67	20	100
36-45 year	12	18	18	77	3	6	32	100
> 45 year	21	75	7	17	2	8	30	100
Gender								
Laki-laki	13	26	22	42	15	32	46	100
Perempuan	18	42	20	47	8	11	46	100
Level of Education								
Elementary School	0	0	5	25	20	75	25	100
Junior High School	6	40	13	40	3	20	22	100
Senior High School	4	18	20	76	2	6	30	100
PT	15	100	0	0	0	0	15	100

From table 4 it is found that of the 92 respondents over 45 years of age, most of them have good family support with 21 respondents (75%), while the remaining 7 respondents (17%), and 2 respondents (8%) each have support. medium and low-income families. Of the 46 respondents who were male, most of them had moderate family support with 22 respondents (42%). Of the 25 respondents who had elementary school education, the majority had less family support with 20 respondents (75%), and the remaining 5 respondents (25%) had moderate family support.

Table 5. Cross Tabulation of Family Support in the Treatment of Family Members with Diabetes Mellitus and Blood Sugar Levels in Karangrejo Village, Tulungagung Regency

Family Support	Sugar Level				Total	
	Normal		High		F	%
	F	%	F	%		
Good	27	76	8	23	35	100
Currently	32	94	5	6	37	100
Not Enough	7	37	13	63	20	100

Based on table 5, it was found that of the 35 respondents who had good family support, the majority had normal blood sugar levels with a total of 27 respondents (76%), while of the 20 respondents who had less family support, the majority had high blood sugar levels with a total of 13 respondents (63%).

DISCUSSION

Based on research data, it shows that of the 92 respondents, the majority received moderate family support with 37 respondents (45%). Family is an important factor for everyone, a family where we share happiness and sadness, as well as for diabetes mellitus patients. Those who suffer from DM will have low self-esteem, despair, and irritability. So, controlling diabetes mellitus requires family assistance, both moral and spiritual support. Based on the results of research conducted by Pangribowo (2020) The results showed that the majority of family support for DM sufferers was in the poor category.

According to Astuti (2013), The support provided by the family can be in the form of emotional support by making individuals feel comfortable, confident, accepted by family members in the form of expressions of empathy, care, attention, love, trust, a sense of security and always accompanying the patient in treatment. Appraisal and appreciation support where the family acts as a feedback guide, guiding and mediating solutions and validating the identity of family members. Instrumental support in the form of arranging and providing eating and drinking patterns according to the diet menu, taking clients for treatment to health service facilities. Informational support in the form of providing information and advice from family members to clients (Nursalam, Rondhianto, Kusnanto, & Melaniani, 2021).

Most of the respondents in the study found moderate or poor family support. According to researchers, this is because most families do not understand that family support is an important aspect in successfully controlling blood sugar levels in DM clients. Providing support to family members who suffer from DM is carried out by the family based on the 4 dimensions of support above, namely starting from instrumental support in the form of preparing a daily meal menu according to the diet program, emotional support to provide a feeling of safety and comfort to the client, assessment support which is the role of family in providing recommendations and mediators when making decisions and informational support where the family plays a role in providing advice and information to clients to always regulate their diet, increase physical activity and exercise, check blood sugar levels routinely and take medication in an orderly and regular manner.

Based on research data, the majority of those aged >45 years have good family support with 21 respondents (75%), while the remaining 7 respondents (17%), and 2 respondents (8%) each have moderate and poor family support.

Family support is influenced by the level of maturity of the family which is reflected in age, several psychological characteristics with a more mature age, depicting a person who is more accepting of support and input from other family members (Fatriona, 2016). Family support is also influenced by the level of maturity and maturity of the family which is reflected in the age level, so that DM sufferers who are older have a more mature attitude and character in responding to their illness, and are more open to receiving support from their family members (Batubara & Tat, 2015).

According to researchers, the higher the age level, the better the family support provided. According to researchers, this is because family members who are more mature and play an active role in caring for the DM patient have a higher level of maturity compared to family members who are still relatively young, who are influenced by emotional factors.

Based on research data, most of the 46 respondents who were male had moderate family support with 22 respondents (42%). Of the 25 respondents who had elementary school education, the majority had less family support with 20 respondents (75%), and the remaining 5 respondents (25%) had moderate family support.

A person's gender describes their psychological status and maturity. Women tend to have an open mind with other family members, besides the characteristic that women prefer to talk about and complain about their health status. This is different from men who have a tendency not to appear weak, which will result in being more closed off about their illnesses. Research conducted by Chaidir, R., Wahyuni, A.S., & Furkhani (2017) stated that the majority of male respondents received support from their families in the good category.

Based on these results, the researcher believes that a man is one of the driving forces in the family, where if a family member of the male gender is sick, the other family members will try to work together so that the sick person gets a speedy recovery. and can return to work as a motorbike in his family.

The level of education describes a person's thinking and rationalization power. Respondents with a low level of education generally find it difficult to accept change, especially in changing lifestyles to improve regulation and control blood sugar. On the other hand, respondents with a high level of education find it easier and more sensitive to new things, including openness and the use of family support. to increase the success of diabetes mellitus treatment (Septiawan et al., 2018).

Researchers found that the majority of respondents with elementary school education had poor family support. According to researchers, this is due to a lack of understanding and information provided by respondents and makes families less active in providing support and participation to support the recovery of families suffering from diabetes mellitus.

Based on research data, it was found that of the 35 respondents who had good family support, the majority had normal blood sugar levels with a total of 27 respondents (76%), while of the 20 respondents who had less family support, the majority had high blood sugar levels with a total of 13 respondents (63%). Based on the Spearman-Rho test, the ρ value was obtained (0.002) with α (0.05), because $\rho < \alpha$, H_0 was rejected, meaning that there was a relationship between family support in treating family members with diabetes mellitus and problems with blood sugar levels in Karangrejo Village, Tulungagung Regency.

Family is the most important part for everyone, including Diabetes Mellitus sufferers. Whether they realize it or not, when someone experiences diabetes mellitus they will experience difficult times, they have to start improving themselves, start controlling their diet and activity patterns. This definitely requires help from the people around you, especially the family, by telling the people closest to you about the condition of diabetes mellitus, it will help in diet control and treatment programs (Nursalam, Rondhianto, Kusnanto, & Melaniani,

2021). Environmental and family factors are influential factors in fostering patient compliance. From this statement it can be seen that the closest people, in this case the family, have a role in helping Diabetes mellitus sufferers in making efforts to prevent Diabetes mellitus complications (Siti Langga Lubis, Gamy Tri Utami, 2018).

Most respondents who received good family support had normal blood sugar levels. According to researchers, family support has an important role in controlling blood sugar levels. Families who play an active role, families who play an active role will care and always give more attention to clients who suffer from DM, to adhere to diet menus, physical activity programs, take regular medication, check blood sugar and consult health service facilities properly and in an orderly manner.

Based on these facts and theories, researchers believe that adequate family support helps increase the success of diabetes mellitus management programs. The family support provided can be done in various ways, including instrumental support, namely the family is a source of practical and concrete help, including direct help from people they rely on, such as materials, energy and facilities. According to researchers, the benefits of emotional family support guarantee individual values (both men and women) will improve the quality of care given to family members who suffer from diabetes mellitus, so that every family with family members who suffer from diabetes mellitus is expected to have active involvement in providing care to diabetes mellitus clients. Family efforts are needed to find various information on good family care methods in order to provide optimal support so that the blood sugar of families with DM sufferers can always be controlled.

CONCLUSION

Based on the results of research conducted by researchers on the topic of Family Support in the Care of Family Members with Diabetes Mellitus with Blood Sugar Level Problems in Karangrejo Village, Tulungagung Regency, it shows that of the 92 respondents studied, the majority received moderate family support with 37 respondents (45%). Of the 92 respondents studied, 59 respondents (76%) had normal blood sugar levels and the remaining 33 respondents (24%) had high blood sugar levels. There is a relationship between family support in caring for diabetes mellitus clients and blood sugar levels in diabetes mellitus sufferers in Karangrejo Village, Tulungagung Regency with a Spearman rho test value of 0.002 at a significance level of 0.05.

ACKNOWLEDGE

The researcher would like to thank the residents of Karangrejo village, Tulungagung Regency for their valuable assistance in carrying out the research. We also thank all Posbindu cadres who took part in the research process.

CONFLICT OF INTEREST

The authors declare no conflict of interest in this research.

REFERENCES

- ADA. (2020). Introduction:Standars of medical care in diabets-2021. *Diabetes Care*, 44, 1–2. <https://doi.org/https://doi.org/10.2337/dc21-Sint>.
- Astuti, T. (2013). Hubungan tingkat pengetahuan keluarga dengan tugas kesehatan keluarga dalam merawat lansia penderita diabetes melitus di Puskesmas Temon 1 Kulon Progo. STIKes Ahmad Yani Yogyakarta.
- Batubara, S. O., & Tat, F. (2015). Hubungan Antara Penanganan Awal dan Kerusakan Neurologis Pasien Stroke di RSUD Kupang. *Jurnal Keperawatan Soedirman (The*

- Soedirman (Journal of Nursing), 10(3), 143–157.
<https://doi.org/10.20884/1.JKS.2015.10.3.627>.
- Chaidir, R., Wahyuni, A.S., & Furkhani, D. . (2017). Hubungan self care dengan kualitas hidup pasien diabetes mellitus. *Jurnal Endurance*, 2(2), 132.
<https://doi.org/https://doi.org/10.22216/jen.v2i2.1357>.
- Farida, Yitno, Nizar, A. (2021). Pelayanan Home Care Dalam Meningkatkan Kemandirian Keluarga Dalam Merawat Anggota Keluarga Yang Menderita Diabetes Mellitus. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*.
- Fatriona, E. (2016). Analisis Faktor-Faktor Yang Mempengaruhi dukungan keluarga dalam perawatan klien Skizofrenia Di Wilayah Kerja Puskesmas Kumun Debai Kota Sungai Penuh Jambi Tahun 2016.
- Federation, I. D. (2019). IDF Diabetes Atlas Ninth Edition 2019. In Avenue Herrmann-Debroux 54 B-1160 Brussels.
- Kemenkes RI. (2019). Profil Kesehatan Indonesia Tahun 2018.
- Nursalam, Rondhianto, Kusnanto, & Melaniani, S. (2021). Panduan Pengelolaan Mandiri Diabetes Mellitus Tipe 2 di Rumah : Panduan Bagi Perawat.
- Pangribowo, S. (2020). Tetap Produktif, Cegah Dan Atasi Diabetes Mellitus. In Jl. H.R Rasuna Said Blok X-5 Kav. 4–9.
- PERKENI. (2019). Pedoman pengelolaan dan pencegahan diabetes mellitus tipe 2 dewasa di indonesia 2019 (pp. 13–16). PB PERKENI.
- Petersen, M. (2016). Economic costs of Diabetes in the U.S. *Diabetes Care*, 39(7), 1033–1046.
- RISKESDAS. (2018). Riset Kesehatan Dasar. Balitbang Kemenkes RI.
- Septiawan, T., Permana, I., & Yuniarti, F. A. (2018). Studi Deskriptif Karakteristik Pasien Hipertensi di Wilayah Kerja Puskesmas Gamping II Yogyakarta. *Prosiding Konferensi Nasional Ke-7*, 1–9.
- Siti Langga Lubis, Gamy Tri Utami, Y. I. D. (2018). Gambaran Gaya Hidup Anggota Keluarga Berisiko Diabetes Melitus (DM) Tipe 2. *JOM FKp*, 5(2), 155–163.
- Yahya & Nadjibah. (2018). *Hidup Sehat Dengan Diabetes*. PT Tiga Serangkai Pustaka Mandiri.