

The Relationship of Family Support with Adherence in Diabetes Mellitus Patients in the Working Area of the Barong Tongkok Public Health Center District West Kutai

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Abstract

Background: Diabetes Mellitus (DM) is the number 4 health problem in the world. Data from the International Diabetes Federation 2019 estimates that there are 463 million people (aged 20-79 years) suffering from DM. According to Riskesdas at 2018 47.2% of sufferers have poor control of their blood sugar. **Objective:** To determine the relationship between family support and diet compliance of Diabetes Mellitus patients in the working area of the Barong Tongkok Health Center, West Kutai Regency. **Methods:** The research design in this study is descriptive correlation using a cross-sectional approach. Determination of the sample using non-probability sampling, the research sample amounted to 78 respondents. **Results and Discussion:** Family support in the sufficient category (59.0%), Diabetes Mellitus Dietary adherence in the non-adherent category (62.8%). The relationship between family support and Diabetes Mellitus Diet was obtained p -value = 0.002. **Conclusion:** There is a relationship between family support and diet compliance of Diabetes Mellitus patients in the working area of the Barong Tongkok Health Center, West Kutai Regency.

Keywords: Diabetes; Diet; Family

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Introduction

Non-communicable diseases in the era of globalization have become one of the public health problems, both globally, regionally, nationally, and locally. At present, non-communicable diseases (degenerative diseases) have shifted infectious diseases as the dominating diseases and become the highest cause of death (LESTARI, 2020). Diabetes Mellitus is an important public health problem, and is one of the four non-communicable diseases that are priority for follow-up targets by world leaders (WHO, 2018) in (SOLIHAN, 2021).

Diabetes Mellitus, commonly also called Diabetes or Sugar Disease, is known as a disease caused by chronic disorders, especially in the metabolic system of carbohydrates, fats, and proteins in the body (Dalimunthe et al., 2020). Data from various global studies states that Diabetes Mellitus is a major health problem with the number 4 in the world (WHO, 2018) in (Go o et al., 2020)

The latest IDF (International Diabetes Federation) data in 2019 estimates that there are at least 463 million people aged 20-79 years in the world suffering from Diabetes Mellitus in 2019 or equivalent to a prevalence rate of 9.3% of the total residents of the same age (Novitasari et al., 2022). The Southeast Asia region where Indonesia is located, ranks 3rd with a prevalence of 11.3% and is expected to continue to increase to 16.7 million people by 2045 (Amirah & Andayani, 2022)

Based on a report from Riskesdas 2018, the total prevalence of Diabetes Mellitus in Indonesia is 1.5% according to the results of research conducted by *Diabcare* in Indonesia, it is known that 47.2% have poor control of plasma blood sugar of more than >130 mg/ml in patients with Diabetes mellitus (Riskesdas, 2018). While the prevalence of Diabetes Mellitus in Indonesia based on a doctor's diagnosis at the age of ≥ 15 years is 2%. There are 4 provinces with the highest prevalence in 2013 and 2018, namely Yogyakarta, Jakarta, North Sulawesi, and East Kalimantan (Riskesdas, 2018) in (Isnasari, 2022)

Based on the data that has been obtained, the coverage of patients with type 2 Diabetes Mellitus in East Kalimantan is ranked 2nd with an alarming number. This is because Diabetes Mellitus is included in the top 10 in the order of diseases that often receive treatment at Public Health Centers throughout East Kalimantan with a total of 34,739 patients in 2016 (East Kalimantan Provincial Health Office, 2016) in (Khalish & Hansen, 2021)(Khalish & Hansen, 2021)

The total number of new cases in patients with Diabetes Mellitus in East Kalimantan Province in 2017 was 12,688 cases consisting of 4,794 cases occurring in the male sex and 7,894 cases in the female sex. In total the old cases of Diabetes Mellitus sufferers were 54,108 cases consisting of 19,131 in the male sex and 34,977 in the female sex (Fradina & Nugroho, 2020). The total deaths due to Diabetes Mellitus in East Kalimantan in 2017 were 256 cases consisting of 93 cases in men and 163 patients in women (Riskesdas Samarinda, 2018) in (Pahlawati & Nugroho, 2019)

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Barong Tongkok Public Health Center, West Kutai regency, has a total incidence of Diabetes Mellitus of 418 people (142 men and 276 women). While there are 98 patients who check themselves regularly and follow the standards according to service. And the rest do not check themselves regularly (sometimes). From the high cases and low visits of Diabetes Mellitus sufferers to existing health facilities, it shows a lack of public awareness, especially sufferers of the importance of regular and regular examinations.

The main key to stabilize the health condition of people with Diabetes Mellitus is to carry out a diet. Adherence in Diabetes Mellitus sufferers are influenced by several factors, one of which is family support rather than Diabetes Mellitus sufferers themselves (Harmiati, 2017). Non-compliance of people with Diabetes Mellitus to do Diet is a major factor in increasing blood sugar levels and can cause other complications (Ninda, 2015). Family support plays an important role in increasing adherence to people with Diabetes Mellitus, among others, by regulating diet, unhealthy lifestyles, improving by regulating foods that contain high glucose in people with Diabetes Mellitus (Harmiati, 2017).

In research conducted by Susanti, (2013) it was found that family support can improve patient dietary compliance. Diabetes Mellitus. In line with Choirunnisa's research, (2019) that family support has a correlation with adherence to Diabetes Mellitus patients. Similarly, research conducted by Pudyasti, (2017) obtained the results of research showing that there is a relationship between family support and Diet adherence in elderly patients with Diabetes Mellitus.

Based on the above background, the authors are interested in examining whether there is a relationship between family support and adherence in Diabetes Mellitus patients. Remembering this is very important and is the main key to stabilize the patient's condition. In addition, this has never been studied before, the working area of the Barong Tongkok Public Health Center, West Kutai Regency.

Method

The research design in this study is descriptive correlation with a cross-sectional approach. The cross-sectional approach is a measurement carried out on independent and bound variables simultaneously and at the same time (Notoatmodjo, 2014). Descriptive if correlation is a study that aims to describe and examine the relationship between variables, namely the relationship between family support and adherence in Diabetes Mellitus patients. It is carried out in the Working Area of the Barong Tongkok Public Health Center, West Kutai Regency in January-May 2022.

The population in this study was all patients who had Diabetes Mellitus in the Working Area of the Barong Tongkok Public Health Center, West Kutai Regency with a total population of 98 people. The sampling technique in this study is *non-probability sampling*, which is a sampling technique that does not provide equal opportunities or opportunities for each population to be sampled (Sugiyono, 2017). The sample size in this study was 78 patients as research subjects.

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Results and Discussion

Result

1. Characteristics of Respondents

Table 1
Characteristics of Respondents

No.	Characteristic	Total	
1	Age	f	%
	Seniors (>65 years old)	9	11.5
	Senior (56-65 years old)	54	69.2
	Early adulthood - end (26-45 years)	15	19.2
	Total	78	100
2	Gender		
	Man	24	30.8
	Woman	54	69.2
	Total	78	100
3	Marital Status		
	Marry	68	87.2
	Unmarried	2	2.6
	Widow/Widower	8	10.3
	Total	78	100
4	Education		
	College	7	9.0
	SHS	15	19.2
	CENTURY	14	17.9
	IT	34	43.6
	No School	8	10.3
	Total	78	100
5	Work		
	Farmer	30	38.5
	Self employed	3	3.8
	Employee	6	7.7
	Civil Servants	4	5.1
	Housewives	20	25.6
	Retired/Non-Working	15	19.2
	Total	78	100
6	Long suffering from diabetes mellitus		
	<2 years	7	9.0
	2-5 years	36	46.2
	>5 years	35	44.9
	Total	78	100

The results of the study based on table 1 on the characteristics of respondents showed that the most age category is the elderly, namely someone in the age range of 56-65 years (Ministry of Health RI 2009) as many as 54 people (69.2%), the most gender is women which is 54 people (69.2%). The most marital status is married 68 people (87.2%), the most education is elementary school (SD) as many as 34 people (43.6%), the most

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work as a farmer 30 people (38.5%) and long suffering from Diabetes Mellitus 2-5 years as many as 36 people (46.2%).

2. Family Support

Table 2
Family Support

Family Support	Total	
	F	%
Good	22	28.2
Enough	46	59.0
Less	10	12.8
Total	78	100

The results of the study based on table 2 on family support showed that the most were in the sufficient category, which was 46 people (59.0%).

3. Diabetes Mellitus Diet Adherence

Table 3
Diabetes Mellitus Diet Adherence

DM Diet Adherence	Total	
	f	%
Obedient	29	37.2
Disobedient	49	62.8
Total	78	100

The results of the study based on table 3 on Diabetes mellitus diet adherence showed that the most were in the non-compliance category, which was 49 people (62.8%).

4. The relationship between family support and dietary compliance of Diabetes Mellitus patients

Table 4
Family support with Diabetes Mellitus dietary adherence

Support a Family	Diabetes Mellitus diet adherence						p-Value
	Obedient		Disobedient		Total		
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	0,002
Good	15	19.2	7	9.0	22	28.2	
Enough	12	15.4	34	43.6	46	59.0	
Less	2	2.6	8	10.3	10	12.8	
Total	29	37.2	49	62.8	78	100	

The results of bivariate analysis based on table 4 on: the relationship between family support and dietary compliance of Diabetes Mellitus patients showed that the most was family support category enough with non-compliance as many as 34 people (43.6%). Based on the results of the analysis conducted using the *Chi-Square* test, obtained the value of value

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= 0.002 smaller than the value of $\alpha = 0.05$ or ($0.00 < 0.05$), that means there is a relationship between family support and dietary compliance of Diabetes Mellitus patients

Discussion

The results of bivariate analysis based on table 4 on the relationship between family support and diabetes mellitus patients' diet adherence showed that the most were sufficient category family support and diet compliance with the category 34 non-compliant people (43.6%). Regulation of nutrition is an important component in the management of Diabetes. A sufferer of diabetes will improve his health by controlling weight, blood glucose levels, blood fat levels, and the use of insulin as a hormone regulating glucose levels blood. This nutritional regulation includes modification of Diet for normal nutrient intake to control blood glucose and blood fat levels (Aisyah, et al., 2015).

A family is two or more people who are united by bonds of togetherness and emotional ties and identify themselves as part of the family (Zakaria, 2017). The family is the smallest unit of society consisting of the head of the family and several people who are gathered and live somewhere under one roof in a state of interdependence and relation to each other in their membership. Families can also be united from a group of people with marriage, birth and adoption ties that aim to create, maintain culture, and increase physical, mental, emotional, and social growth of each family member (Zakaria, 2017).

Family support according to Friedman (2014) is an attitude, an act of family acceptance towards family members, in the form of informational support, assessment support, instrumental support and emotional support. So, family support is a form of interpersonal relationship that includes attitudes, actions, and acceptance towards family members, so that family members feel someone is paying attention. People in supportive social environments generally have better conditions than their peers without these benefits, because family support is thought to reduce or buffer individual mental health effects.

Based on the results of the analysis conducted using the *Chi-Square* test, obtained the value of *p-value* = 0.002 is smaller than the value of $\alpha = 0.05$ or ($0.00 < 0.05$), that means there is a relationship between family support and compliance with Diabetes Mellitus patients. This result is in line with Susanti's research, (2013).

The researchers' assumption is that the benefits of Diabetes Mellitus diabetes are maintaining or achieving ideal body weight, maintaining blood sugar levels close to normal, preventing acute and chronic complications and improve the quality of life of patients so that patients affected by diabetes can still live a happy life, especially supported by family to control their diet or diet regularly.

Conclusion

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The conclusion that can be drawn from the results of this study is that there is a relationship between the support of Family and Diabetes Mellitus Diet at the Barong Tongkok Public Health Center, West Kutai Regency (p-value = 0.002).

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