



## FACTORS THAT AFFECT DIET COMPLIANCE IN PATIENTS WITH DIABETES MELLITUS AT NGANJUK HOSPITAL

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ABSTRACT	Keywords
Patients with diabetes mellitus must follow a strict diet to control blood sugar levels to keep them within normal limits. If it is not controlled, it will cause various diseases which will be caused by visual disturbances, cataracts, heart problems, impaired kidney function, sexual impotence, difficulty in healing wounds or even rot/gangrene, lung infections, vascular disorders, and strokes. The purpose of this study was to determine the factors that affect dietary compliance in diabetes mellitus sufferers. This study uses a qualitative method with a phenomenological approach. This study explores the experiences of people with diabetes mellitus when they are on a diet. The participants in this study were 10 people. The technique of collecting data was by conducting in-depth interviews so that the results were 3 themes, namely lack of knowledge about diet, lack of family support, and difficulty in adhering to a diet. The importance of support and motivation from family and health workers for diabetes mellitus sufferers to always adhere to a diet to avoid various complications.	Diabetes Mellitus and Diet Compliance

### INTRODUCTION

Diabetes mellitus is a chronic disease caused by a malfunctioning of the pancreas so that beta cells cannot produce insulin. If someone has been diagnosed with diabetes mellitus, apart from routine treatment, he must pay attention to diet (dietary regulation) to control blood sugar. If diabetes mellitus sufferers do not adhere to a diet, there will be complications that diabetes mellitus sufferers do not want, such as heart disease, kidney failure, hypertension, glaucoma, impotence, cataracts, and gangrene (Mamesah et al., 2019).

The principle of diabetes mellitus diet is the right amount, schedule and type. The right amount of diet, schedule and type in question is the number of calories given must be exhausted, do not reduce or add as needed, the schedule of the diet must be by following per under the interval which is divided into 6 meal times, namely 3 main meals and 3 side meals, type sugary foods should be avoided because they can increase the amount of blood sugar levels. This is done to avoid complications caused by hyperglycemia and hypoglycemia (Santika Dewi, Ni Wayan Sri and Kusumayanti, Gusti Ayu Dewi and Juni Arsana, SST, M.Fis, 2020)

The International Diabetes Federation reports data on the incidence of diabetes mellitus in the world in 2019 as many as 463 million adults aged 20 - 79 years and will increase to 700 million people by 2045. Diabetes is one of the fastest-growing health challenges in the century. 21, with the number of adults living with diabetes has tripled over the past 20 years. Data for 2019, Indonesia is in 7th place with 10.7 million people suffering from diabetes and it is estimated that in 2030 it will increase to 13.7 million people suffering from diabetes (international diabetes federation, 2019).

Research conducted by (Ganiyu et al., 2013) the sample of 104 participants comprised of 61 (58.7%) women. The rates of non-adherence to diet and exercise were 37% and 52% respectively. The main reasons for non-adherence to diet were: poor self-discipline (63.4%); lack of information (33.3%) and the tendency to eat out (31.7%). The main reasons for non-adherence to exercise were: lack of information (65.7%); the perception that exercise exacerbated their illness (57.6%) and lack of an exercise partner (24.0%). While the research conducted by (Khan et al., 2017) show that although 75% diabetic patients were advised by physicians for dietary guidelines, only 28% of them were fully compliant to their diet; however, 40% of educated patients were fully compliant.

Research is often conducted using a questionnaire, so this study has used in-depth interview techniques to explore what phenomena often experienced by people with diabetes mellitus have difficulty in carrying out their diet.

## **METHOD**

The method used in this research is a qualitative method with a phenomenological approach, which means that research focuses on finding facts that are in accordance with experience. Qualitative research is method

for exploring and understanding the meaning of several some many of individuals or groups of people who are considered to be social or humanitarian problems (Creswell, 2016). Phenomenology is a research method that understands the uniqueness of individual life-world phenomena, the unique and specific responses experienced by each individual, including interactions with others (Afiyanti, 2014).

Like the previous research conducted by (Wahyu et al., 2020) using 5 participants, while in this study it was conducted on 10 participants and the data collection technique used the in-depth interview method to obtain accurate information from diabetes mellitus sufferers based on experiences experienced so far in carrying out their lives to do adherence to the DM diet as a non-pharmacological therapy.

Validity and reliability as data validity in qualitative research, namely: credibility, transferability, dependability and confirmability. Researchers also conducted triangulation as a form of confirmability. Researchers chose family members as matching data from in-depth interviews.

## **RESULTS**

After taking qualitative data from the results of in-depth interviews with 10 respondents and conducting a thematic analysis so that a theme can be drawn, namely; 1). Lack of knowledge about diet, 2). Lack of family support and 3). Difficulty adhering to a diet.

Table 1 Themes Lack of knowledge about diet

Themes	Lack of knowledge about diet			
Category	Do not understand		Do not understand about diet	
Sub-categories	What foods can be eaten	Don't understand what to do	do Don't eat	No sugar consumption
Code	Do not understand	Eat 3 smpai 4 times a day	Fear of eating	Fear of eating rice

Respondent 3: *"Sometimes I don't eat, afraid of eating rice, fried food let alone eat sugar."*

Table 2 Themes Lack of family support

Themes	Lack of family support			
Category	Family doesn't care		Families less supportive of diet	
Sub-categories	Not paying attention to the food of family members suffering from DM	Don't understand what to do	Cooking food using sugar	Always provide rice
Code	Regular cooking	Does not control Do not regulate the feeding hours of DM sufferers	Regular cooking does not reduce sugar	Providing rice

Respondent 8: *"My family cooks as usual, I also consume rice."*

Respondent 5: *"Sometimes I eat 3 to 4 times a day even though the portions are small."*

Table 3 Themes Difficulty in complying with diet

Themes	Difficulty in complying with diet			
Category	Always feeling hungry		Fear of eating	
Sub-categories	Want to eat	Can't control appetite	Do not know the number of portions of food	Do not know the meal time
Code	Always hungry	Eat anytime	Eat whatever's there	Eat when you're hungry

Respondent 1: *"I eat when I feel hungry."*

Respondent 7: *"I find it difficult to have to set the hours and portions."*

## DISCUSSION

### A. Lack of Knowledge About Diet

From the results of in-depth interviews, some DM sufferers said that they did not understand how to control a good diet for DM sufferers. Diet adherence is still very low among respondents aged 56-60 years, possibly influenced by age and lack of knowledge. Dietary compliance in diabetics is strongly influenced by knowledge of diet and family support, so that blood sugar levels will be controlled and complications will not occur (Toruan, 2018). Based on research conducted by (Nursalam, 2016

& Fallis, 2013) DM sufferers need to increase their knowledge of DM and study the dietary patterns of DM sufferers so that they can control blood sugar within normal limits and avoid various complications that are usually caused by diabetes mellitus. Education really affects a person in his knowledge to be good or less. If someone's education is good, there will be a good understanding and knowledge of what is received and will be done as behavior in everyday life.

Research conducted by (Akram et al., 2020) found the mean age of the participants was  $56.47 \pm 9.81$  years with predominantly female population of 250 (64.8%). Only 36% of the participants were found to be adherent to life style modification required for diabetic self-management. Socio-demographic factors like gender, age, ethnicity and marital status was not significantly associated with the compliance level of diabetic management, whereas increase in educational status was found to be associated with increase in compliance score (p-value=0.016). The majority of the participants were not following the prescribed lifestyle modification required for the diabetes management and education status has been found to be linked with adherence to life style modification

#### B. Lack of Family Support

Based on the results of in-depth interviews that have been carried out from 10 DM sufferers, there are some patients whose families have never paid attention to DM sufferers such as from their diet, monitoring taking medication and even considering that DM sufferers are only allowed to not consume sugar. Meanwhile, they allow and even serve food which in fact is a derivative of

sugar such as; rice, dishes using sweet soy sauce, sweet coffee, sweet tea, fruit such as papaya. Research conducted by (Rawat et al., 2019) family support is very important in undergoing dietary adherence to DM sufferers, so that the family can directly control the diet from 3J and control the consumption of drugs. Research conducted by (Desy Bela Rohma Abriya Ningsih, Hariyono, 2019) also states that family support is closely related to dietary compliance in DM sufferers. Family support in acting as a caregiver is very important to support dietary monitoring of DM sufferers in everyday life. Families must also be prepared in various ways such as receiving complaints from DM sufferers who complain that only such food is provided every day.

(Alhaidar et al., 2020) States that family plays a major role in the management of diabetes. Their supportive behaviors are perceived by their family members diagnosed with T1DM, but there has been no optimal association with disease control. However, the involvement of the family can aid in decreasing possible complications of the disease by intervening in critical situations. Research conducted by (Damanik et al., 2019) is also supportive Family support is the variable that mostly contributed to the quality of life of patients with type 2 DM in Hospital Pematangsiantar Tk.IV.01.07.01. It is expected that families of patients with type 2 DM provide high support to the patients of type 2 DM so that the quality of life of these patients get better.

#### C. Difficulty following a diet

Based on the results of in-depth interviews conducted from 10 DM patients, a small proportion stated that they had difficulty adhering to their diet

because they felt hungry during the day and at night. In addition, there are DM sufferers who are afraid to eat and are even very careful about their diet so that it has the effect of losing more than 10kg of body weight. The difficulty of adhering to a diet is also a frequent complaint of DM sufferers. Diet adherence is influenced by sex factors, mostly male sex who cannot control diet adherence. Apart from that, the status of education also affects a person in carrying out his obedience (Ernawati et al., 2020).

Research conducted by (Arimukti, 2018) shows that factors affecting dietary difficulties in type 2 diabetes mellitus informants are described in 4 themes, namely, 1) the meaning of management of type 2 diabetes mellitus therapy (diet, physical activity, nutrition education, treatment), 2) Individual level (body, psychology, self-efficacy, motivation for illness, 3) Small group level (social environment, occupation, information from various sources, access to food and health, 4) Health system level (health workers). The factor that most influences the application of dietary recommendations is from within the informant (individual level). But factors on the other 3 themes also influenced the informants' diet difficulties. To overcome the difficulty of the recommended diet, it must be started from the informant himself, namely being able to encourage himself to change a healthier lifestyle, especially a healthy diet. Apart from the informants themselves, dietary difficulties were also overcome with support from the environment outside the informants, both from the surrounding community and health workers.

## CONCLUSION

The conclusion in this research is to get 3 themes, namely; 1). Lack of knowledge about diet, 2). Lack of family support and 3). Difficulty adhering to a diet. Diet in DM sufferers is the main key in controlling blood sugar levels so that they are always normal and avoid complications.

## REFERENCES

- Afiyanti, Y. dan I. N. R. (2014). *Afiyanti, Yati dan Imami Nur Rachmawati. (2014). Metodologi Penelitian Kualitatif dalam Riset Keperawatan Ed. 1. Cet. 2. Rajawali Pers. Jakarta.*
- Alhaidar, A. M., Alshehri, N. A., & Alhussaini, M. A. (2020). Family Support and Its Association with Glycemic Control in Adolescents with Type 1 Diabetes Mellitus in Riyadh, Saudi Arabia. *Journal of Diabetes Research*, 2020. <https://doi.org/10.1155/2020/5151604>
- Arimukti, N. P. (2018). *Faktor yang Memengaruhi Kesulitan Diet Pada Pasien Diabetes Melitus Tipe 2 yang Menjalani Rawat Jalan Di Puskesmas Janti Kota Malang.* [Universitas Brawijaya.]. <http://repository.ub.ac.id/167338/>
- Damanik, E., Lubis, R., & Mutiara, E. (2019). Relationship Between Family Support and Quality of Life Among Type 2 Diabetes Mellitus. *International Journal of Public Health and Clinical Sciences*, 6(6), 50–61.
- Desy Bela Rohma Abriya Ningsih, Hariyono, U. I. (2019). Hubungan Dukungan Keluarga Dengan Kepatuhan Diet Pasien Diabetes Melitus Tipe 2 (Di Dusun Candimulyo,

- Desa Candimulyo, Kabupaten Jombang). *Repository Stikesicme Jombang*.
- Ernawati, D. A., Harini, I. M., Signa, N., & Gumilas, A. (2020). Jurnal of Bionursing Faktor Faktor yang Mempengaruhi Tingkat Kepatuhan Diet pada Pasien Diabetes Melitus Tipe 2 di Kecamatan Sumbang Banyumas. *Jurnal of Bionursing*, 2(1), 63–67.
- Ganiyu, A. B., Mabuza, L. H., Maletе, N. H., Govender, I., & Ogunbanjo, G. A. (2013). Non-adherence to diet and exercise recommendations amongst patients with type 2 diabetes mellitus attending extension II clinic in Botswana. *African Journal of Primary Health Care and Family Medicine*, 5(1), 2–7. <https://doi.org/10.4102/phcfm.v5i1.457>
- international diabetes federation. (2019). *IDF diabetes atlas*. <https://www.diabetesatlas.org/en/sections/worldwide-toll-of-diabetes.html>
- Khan, M. I., Raj, A., Ullah, N., Ahmad, A., Faizan, M., Khan, O., Rehman, A., & Zeb, A. (2017). *Compliance of type 2 diabetes mellitus patients with dietary guidelines at tertiary care hospitals of Peshawar*. 3(June), 24–27.
- Mamesah, F. P. I., Runtuwene, M., Katuuk, M., Studi, P., Keperawatan, I., Kedokteran, F., & Ratulangi, U. S. (2019). Hubungan Motivasi Intrinsik Dengan Kepatuhan Diet Pasien Diabetes Melitus Tipe Ii Di Puskesmas Ranotana Weru. *Hubungan Motivasi Intrinsik Dengan Kepatuhan Diet Pasien Diabetes Melitus Tipe Ii Di Puskesmas Ranotana Weru*, 7(1), 1–7.
- Nursalam, 2016, metode penelitian, & Fallis, A. . (2013). 濟無No Title No Title. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Rawat, T., Di, J., & Moewardi, R. (2019). Kepatuhan Diet Pada Pasien Diabetes Melitus. *Kepatuahn Diet*.
- Santika Dewi, Ni Wayan Sri and Kusumayanti, Gusti Ayu Dewi and Juni Arsana, SST, M.Fis, D. I. W. (2020). *Studi Literatur Hubungan Tingkat Pengetahuan Diet Diabetes Dan Kepatuhan Diet Penderita Diabetes Melitus Tipe 2*. <Http://Repository.Poltekkes-Denpasar.Ac.Id/5346/>
- Toruan, D. P. L. (2018). Hubungan Motivasi Diri Dengan Kepatuhan Diet Pada Penderita Diabetes Melitus Tipe 2. *JOM FKp, Vol. 5 No. 2, 5(2)*, 137–145.
- Wahyu, S., Cahyono, T., & Ulla, F. (2020). *Gambaran Sistem Interpersonal Teori King Terhadap Stigma ( Description of the Interpersonal System of King ' S Theory of Negative Stigma in*. 4(1), 30–35.