

Compliance of Diabetes Mellitus Patients Following Diet Arrangements at IPI Medan Hospital in 2022

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ABSTRACT

Compliance is a patient's behavior with diet rule which is in accordance with the suggestion of health team. The objective of the research was to find out the compliance of diabetes mellitus patients with following diet control at Hospital IPI, Medan, by using descriptive research design. The samples were 105 respondents, taken by using non-probability sampling technique. The research was conducting in internal disease Polyclinic of Hospital IPI Medan. Based on respondents' characteristics, it was found that 62 respondents (58.1%) were females, 61.9% of the respondents were 51-60 years old, 39 respondents (37.1%) were Elementary School graduates, 66 respondents (62.9%) suffered from diabetes mellitus type 2, 47 respondents (44.8%) had ideal weight, 52 respondents (49.5%) had suffered from diabetes mellitus for 6 to 10 years, 32 respondents (30.5.5%) suffered Diabetes mellitus plus hypertension. The result of questionnaire about compliance of diabetes mellitus patients with diet rule, it was found that of 100 respondents, 58 of them (55.2%) did not comply. It is recommended that health care providers make a strategy of discipline in controlling diabetes mellitus, especially about diet control in diabetes mellitus. The patients should comply with suggested diet control in order to prevent from complication and the next researchers should do the research on the factors which influence the compliance of diabetes mellitus patients with diet control.

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INTRODUCTION

This era of globalization is increasingly advanced and growing rapidly, many people like to eat fast food and sweet - sweet without taking into account the health content in the food. Because an unattended diet can provoke a dangerous disease. Diabetes Mellitus (DM) is a disease that is categorized as dangerous that can be deadly (Wijayakusuma, 2004 in Wirma, 2011). In developed and developing countries the prevalence of diabetes mellitus is one of the diseases that continues to increase in the world, so it is said that diabetes mellitus has become a health problem in the community. The prevalence of diabetes mellitus in adults worldwide was approximately 4.0% in 1995, and is expected to rise to 5.4% by 2025 (Suiraoaka, 2012)

Data from the World Health Organization (WHO) in 2008, that the number of diabetes cases in Indonesia ranks fourth highest in the world after China, India and America, which is 8.4 million people and is estimated to exceed 21 million people in 2025. According to WHO in 2012, it is estimated that more than 346 million people worldwide suffer from diabetes mellitus. This number is likely to more than double by 2030 (Suiraoaka, 2012). In 2005, DM was ranked 6th out of 10 major diseases in outpatients in hospitals in Indonesia (Ministry of Health of the Republic of Indonesia, 2010). The results of Basic Health Research (Riskesdas) in 2007, in Indonesia, DM is the number 6 cause of death with a proportion of deaths of 5.8% after stroke, TB, hypertension, injury and perinatal. shows that the proportion of causes of death due to diabetes mellitus in the age group of 45-54 years in urban areas is ranked second at 14.7%, while in rural areas, diabetes mellitus is ranked sixth at 5.8% (Riskesdas, 2007 In Saifunurmazah, 2013). Edison in 2014 said, in North Sumatra diabetes mellitus is the most common type of disease suffered by patients who visit the Pirngadi

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Medan Regional General Hospital during 2014. DM ranked first among the top 10 diseases from January to December with 1050 patients from 11779 visits in 2014 (Profil Pirngadi medan, 2015)

Various studies on DM non-compliance have been conducted that patients who are not compliant in dietary arrangements according to the results of research conducted by Indarwati in 2012 results from 53 respondents mostly non-adherence to DM diet as many as 29 respondents (54.7%) and those who adhered to DM diet as many as 24 respondents (45.3%). The results of Purwanto's research in 2011, on 60 respondents, half of the respondents were not compliant in the Diabetes Mellitus diet arrangement, namely as many as 35 respondents (58.3%) and those who were obedient to 25 respondents (41.7%). The results of Juniarti's research in 2014 found that most of the respondents who were not compliant in dietary arrangements were 20 respondents (55.6%) and those who were compliant in dietary arrangements were 16 respondents (44.4%). People with diabetes mellitus should be obedient in dietary arrangements to adjust glucose needs according to the needs of the body through a healthy diet according to the dietary settings instructed by the Doctor (Suyono, 2012).

Patient compliance in diabetes mellitus diet settings plays an important role in stabilizing glucose levels in people with diabetes mellitus, while compliance itself is an important thing to be able to develop routines (habits) that can help sufferers follow a diet schedule that is sometimes difficult for sufferers to do. Compliance is very difficult and requires support in order to become accustomed to the changes made by organizing to take the time and opportunity needed to adjust (Tambayong, 2008 dalam Phitri, 2012). Patients who do not comply with meal planning are one of the obstacles in treatment faced by health professionals. It is therefore important to know about the rate of non-compliance, the factors that influence non-compliance and ways to reduce non-compliance (Niven, 2013). DM sufferers are not obedient in carrying out the diet regulation program that has been recommended by doctors, nurses, nutritionists or other health workers will worsen the disease suffered. The impact caused if non-compliance in dietary arrangements can cause failure in controlling blood sugar levels which results in decreased health, and can have an impact on chronic diabetes mellitus complications such as macroangiopathy, microangiopathy, diabetic neuropathy, susceptible to infection and diabetic foot (Ministry of Health, 2009 in Saifunurmazah, 2013).

The response of DM disease through lifestyle, one of which is an appropriate diet, is greatly influenced by the compliance of DM sufferers to maintain their health. Education or counseling for diabetes mellitus patients to apply a balanced diet to adjust glucose needs according to the needs of the body through a healthy diet. Compliant patients will have better glycemic control, with good and continuous glycemic control will be able to prevent acute complications and reduce the risk of long-term complications (Bustan, 2007). Seeing the above phenomenon, one of the diabetes mellitus management is obedient to follow the DM diet settings because the DM diet is the main component of the success of diabetes mellitus management. Patient compliance following meal arrangements and planning is one of the obstacles in diabetic patients. Many diabetics feel tormented with respect to the type and amount of food recommended.

METHOD

The research design conducted in this study is descriptive in nature which aims to describe the Compliance of Diabetes Mellitus Patients Following Diet arrangements at IPI Medan Hospital in 2022. The population in this study is people with diabetes mellitus based on words from Sirs Rumah on behalf of Delis, in 2022 at IPI Medan Hospital as many as 1050 people and the number of samples was 105 respondents.

The sampling technique uses purposive sampling techniques, namely sampling based on the researcher's assessment of who meets the criteria to become a respondent. With inclusion criteria:

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1. Respondents can use good Indonesian.
2. Diabetes Mellitus patients at IPI Medan Hospital who are willing to become respondents by signing informed consent.
3. Respondents who were treated at IPI Medan Hospital.
4. DM type 1 and type 2 respondents.

The instruments used in this study are instruments modified by researchers with reference to literature reviews. Questionnaire data respondents include initial name, gender, age, education, type of DM diet, weight, length of exposure to DM and current comorbidities.

Testing the validity of this research instrument is validated by people who are experts in their fields. Researchers show the questionnaire that has been prepared to the expert. An instrument is said to be valid if its value is >0.5-1. The results of the summation of validity tests that have been corrected by expert lecturers get a value of 0.89. Thus the instrument has been valid. Based on the reliability test that has been carried out, it was found that the compliance of diabetics with diabetes mellitus following dietary arrangements at IPI Medan Hospital with a value of 0.77, thus this instrument can be used.

RESULTS AND DISCUSSION

Results

The study of 105 respondents entitled diabetes mellitus sufferer compliance followed dietary arrangements at IPI Medan Hospital. This chapter describes the results of research that has been carried out for 1 month (from July 27, 2022 – August 28, 2022) at IPI Medan Hospital. The number of samples in this study was 105 people.

Characteristics of Respondents

The results of the study of respondents' characteristics consisted of gender, age, education, type of DM, weight category, length of exposure to DM, and current comorbidities. Viewed by the gender of the majority of women as many as 61 people (58.1%), the age of the majority of respondents 51-60 years as many as 65 people (61.9%), the education of the majority of respondents with elementary school education amounted to 39 people (37.1%), the type of DM suffered by the majority of type 2 respondents amounted to 66 people (62.9%), the weight classification of the majority of respondents was ideal amounted to 47 people (44.8%), long exposed to DM the majority of respondents 6-10 years amounted to 52 people (49.5%), Comorbidities of the majority of hypertensive respondents amounted to 32 people (30.5.5%). This can be seen the distribution and frequency from the table below.

Table 1. Frequency Distribution Based on Demographic Characteristics of Respondents at IPI Medan Hospital (N=105)

Characteristic Demographics	Frequency (n)	Percentage (%)
Jenis Kelamin		
Man	44	41,9
Woman	61	58,1
Age		
41-50 Years	7	6.7
51-60 Years	65	61.9
>60 Years	33	31.4
Education		
SD	39	37.1
JUNIOR	32	30.5

SMA	17	16.2
COLLEGE	10	9.5
OUT OF SCHOOL	7	6.7
Types of DM		
Type 1	39	37.1
Type 2	66	62.9
Weight Classification		
Fat	26	24.7
Ideal	47	44.8
Thin	32	30,5
Long Exposure to DM		
0-5 years	24	22.9
6-10 Years	52	49.5
>10 Years	29	27.6
Current Comorbidities		
Hypertensive	32	30.5
Rheumatism	23	21.9
Gastritis	18	17.1
Kidney failure	7	6.7
None	25	23.8

Table 2 Frequency Distribution Based on Quasionary Adherence of Diabetes Mellitus Patients Following Diet Arrangements at IPI Medan Hospital in 2022

No	Respondent Compliance	Frequency (n)	Percentage (%)
1	Obedient	47	44,8
2	Disobedient	58	55,2
Total		105	100

The results of the questionnaire sheet data analysis show that the frequency distribution based on the quasionary compliance of people with diabetes mellitus following DM diet arrangements at IPI Medan Hospital In 2022, the majority of non-compliant respondents' compliance rates amounted to 58 people (55.2%) from 105 respondents.

Discussion

This chapter researchers explain the compliance of diabetes mellitus patients following dietary arrangements at IPI Medan Hospital In 2022, it was found that more people did not comply with following dietary arrangements as many as 58 respondents (55.2%), this happened because the age of outpatient DM patients was mostly 51-60 years old totaling 65 people (61.9%) where according to Ramadana (2011) at that age was less active in receiving counseling from the health team regarding disease information and therapies that given, so that non-compliance follows DM diet arrangements and it is proven in this study that those aged 51-60 years out of 65 people, who obeyed only 28 people (43%) while those who did not obey as many as 37 people (47 people). In addition, the education factor greatly affects the compliance of patients following DM diet arrangements where the majority of elementary school respondents' education is 39 people (37.1%), according to Notoatmodjo, the

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higher a person's education level, the easier the person receives information (2003). This is evident in this study of all college-educated adherents to following DM diet arrangements because the highly educated have a higher level of knowledge in receiving and absorbing information provided by the health team, and have a better mindset towards diseases and dietary arrangements that they live than those with less education.

The results of Widyaningsih's research (2012), the majority did not comply as many as 31 respondents (57.4%), and there was a relationship between the knowledge of DM patients with adherence to following DM diet settings with a value (value = 0.015) and Juniarti (2014) research results from 36 non-compliant people as many as 20 respondents (55.6%), statistical tests showed a relationship between knowledge and dietary compliance in patients with diabetes mellitus obtained a value of $P = 0.001$ ($P < 0.05$). In line with Aini's research (2012), non-compliance with following dietary arrangements because a person's level of knowledge is lacking, where the results of the study show that the level of knowledge of DM sufferers about diabetes mellitus diet category is less than 20 people (37.7%), this occurs because of lack of knowledge about health and disease prevention behavior and educational factors so that they do not comply with following diet arrangements.

According to Siregar (2006), people with diabetes mellitus should follow dietary arrangements to adjust glucose needs according to the needs of the body through a healthy diet as instructed by the health team, patient compliance with dietary arrangements is one of the obstacles in diabetic patients, many diabetics feel tormented regarding the length of time to follow the recommended type and amount of food settings so that respondents feel lazy and bored in running diet settings every day. The results of this study can be seen that from the length of time affected by DM respondents the majority of 6-10 years as many as 52 people (49.5%) and there have been complications.

Mirza (2008), said that if someone has experienced DM then the disease will not be cured but control blood sugar levels, one of controlling blood sugar levels is to comply with DM diet settings, all this is done to improve the quality of life of patients and prevent acute and chronic complications. The results of this study from 105 people of whom already experienced complications, namely hypertension as many as 32 (30.5%) and kidney failure 7 (6.7%) respondents and the results of this study are in line with Risnasari's research (2014) from 57 respondents found 33 (57.89%) respondents experienced complications, this happened because some respondents considered complications to be comorbidities not the result of suffering from DM. The onset of complications by most respondents was caused by not adhering to follow the DM diet settings set. Phitri (2012), The factor of non-compliance of respondents following DM diet arrangements is because they are busy with work to earn a living for their family and children, so they no longer have time to follow diet arrangements. Nursalam (2001) said that work is a busy thing that must be done, especially to support his life and family life. Someone who has an important job and needs activity will interfere with someone in following the DM diet because they often experience difficulties in managing their meal schedule.

Difficulty in managing meal schedules due to lack of family motivation The results of Minardo's study (2012), from 20 patients who were obedient in running a diet program in DM patients with good family support totaling 11 people (68.8%), this is because family motivation is the main support that provides direct care for every patient's health and illness, and the family asks for help from health workers if the family is no longer able to care for him, because the ability of DM sufferers to control their lives can affect adherence to dietary arrangements.

Purwanto (2011), Non-compliance of diabetes mellitus patients in the implementation of diabetes mellitus diet can be influenced by information factors. Where the results showed that most respondents used television / radio as a means to obtain information about health, namely as many as 51 respondents (85%). Information is the result of data processing used for a purpose (Arikunto,

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2006). One of the tools to convey information to the public is mass media. Mass media itself is a type of communication addressed to a number of desired populations, especially DM sufferers, so that the same information message can be received simultaneously and momentarily. The results of this study show that the majority of respondents education is SD 39 (37.1%), because according to Notoatmodjo the higher a person's education level, the easier it is for the person to receive information (2003).

The gender of the majority of respondents was 61 women (58.1%). According to Mursamsini, (1997) men are more obedient in the diet because it is related to their responsibilities as breadwinners, so they realize they must be obedient in the diet, from this opinion is not proven in this study because the female sex is more obedient as many as 28 out of 47 people compared to men. This result is different from Lestari's (2012) research of more male respondents who obeyed 51 people out of 100 respondents.

In addition, DM sufferers do not comply due to the age factor of respondents and can be seen the majority of 51-60 years as many as 65 people (61.9%), increasing age results in deterioration of body function causing disruption of pancreatic function and the work of insulin, and the older a person gets, it will regress, especially in the field of cognitive ability which can result in a decrease in his memory to run DM diet settings, This is evident in this study, of all those aged 43-60 years, 37 people did not comply in dietary arrangements while those who were obedient in following dietary arrangements as many as 18 out of 65 people.

The weight of respondents is still obese as much as 26 (24.7%), According to Soegando (2004), most patients who suffer from DM are obese because they are not obedient in DM management, especially following DM diet settings regularly. Comorbidities at present, the majority of hypertension as many as 32 people (30.5%). This respondent misperception because the level of awareness to know and understand the disease they are experiencing is still lacking, According to Bakri (2004), the severity of the patient's disease will cause DM complications if left unchecked, this is because they consider the disease harmless, or according to them the results are not so satisfactory as long as they follow dietary arrangements, because according to their experience even though it continues the results are still not satisfying and unable to heal, so they surrender and care less about the disease, as a result they are not so interested in being given information about DM diet arrangements.

CONCLUSION

The results of this study found that respondents followed the DM diet arrangements at the Internal Medicine Poly of IPI Medan Hospital in 2022, more were non-compliant than those who were obedient. This is because the respondent's education level factor is more elementary school, so that patient compliance with the instructions or instructions given is not in accordance with what is prescribed, and it is proven that all highly educated people obediently follow the DM diet arrangements because the higher a person's education the better or faster he will receive and absorb the information provided by the health team, and have a better mindset towards the disease and the DM diet management he undergoes. Then from the age factor, where the results of the study were obtained most respondents aged 51-60 years, which was as many as 65 respondents, this is because the thought process possessed by respondents decreased in terms of remembering and accepting something new, where it was proven from 56 respondents only 28 respondents were obedient and it can be concluded that more were disobedient than obedient. Meanwhile, the gender factor also shows that respondents are more women than men. In the study, it can be seen that male patients are higher in compliance compared to women where out of 39 men 29 are obedient, while out of 66 women only 28 people are obedient. This is because men in this case are more open to receiving the information provided compared to women. In terms of the factor of long suffering

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from DM following the DM diet arrangement, it shows that the longest suffering from diabetes 6-10 years where there are still many who are not obedient compared to those who are obedient. This is because they are bored or bored in diet settings so they do not follow the diet settings recommended by the health team because they consider the disease harmless, so they surrender and care less about the disease, as a result they are not so interested in following the DM diet settings.

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