

THE CORRELATION OF THE LEVEL OF DIET COMPLIANCE WITH CURRENT BLOOD SUGAR LEVELS IN TYPE 2 DIABETES MELLITUS PATIENTS AT THE BANJANG HEALTH CENTER

Linda ¹, Siti Rafah ²

^{1,2} Universitas Muhamamdiyah Banjarmasin, Indonesia

Abstract

Diabetes mellitus is one of the diseases whose prevalence now Keep going increasing worldwide. The number of Diabetes mellitus sufferer type 2 at the Banjang Health Center UPT in 2021 was 766 visits. In 2022, there were as many as 1,114 visits, and in 2023, there were as many as 1,471 visits. Control of blood sugar levels in patients with diabetes mellitus Type 2 is related to dietary factors or meal planning because nutrition is linked to Diabetes mellitus type 2. They know connection level Diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 at UPT Puskesmas Banjang Hulu Sungai Utara Regency. Quantitative research studies correlate with a cross-sectional approach. The sample was 45 patients with diabetes mellitus type 2 in June 2024, with an accidental sampling technique. Data collection using a questionnaire sheet. Data analysis using the Spearman Rho test. Diet compliance of diabetes mellitus patients Type 2 diabetes mellitus sufferers are primarily compliant, namely 33 people (73.3%). GDS levels of Diabetes mellitus sufferers with Type 2 are predominantly abnormal, namely 41 people (91.1%). There is a relationship between the level of Diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 at UPT Puskesmas Banjang Hulu Sungai Utara Regency with a value (p-value $0.002 < 0.05$), $r = -0.441$, with a negative direction.

Keywords: *Temporay Blood Sugar Levels, Diet Compliance*

Introduction

Non-communicable diseases increase Because the frequency of incidents in society increases. From ten reason prominent deaths, two of which are non-communicable diseases (NCDs). This situation occurs globally in developed countries and countries with developing economies. low and medium (Pahrul et al., 2020) . One of them is diabetes mellitus disease, which is better known in Indonesia as " diabetes " and is one of the diseases whose prevalence is now Increasing.

Diabetes mellitus is a chronic disease characterized by high blood glucose (blood sugar) levels that exceed normal, namely random blood sugar levels equal to or more than 200 mg/dl and fasting blood sugar levels above or equal to 126 mg/dl. Diabetes mellitus is a group of metabolic diseases with characteristics of hyperglycemia that occurs due to abnormality of insulin secretion, insulin action, or both. Hyperglycemia is chronic Diabetes-related damage,

term length, dysfunction, or failure of several body organs, especially the eyes, kidneys, nerves, heart, and blood. Diabetes mellitus is known as a silent killer because it is often not realized by the sufferer, and when it is discovered, complications have already occurred.

The International Diabetes Federation Atlas (IDF) reported in 2022 that the number of people with diabetes mellitus Type 2 worldwide currently accounts for 8.3% or 387 million souls. At the same time, the continent of Asia occupies the first rank of 7 continents, which is 138 million souls or 8.5%. There was an increase in People with Diabetes Mellitus in Indonesia; according to Perkeni (2021), from 8.4 million in 2000 to around 21.3 million in 2030, and by 2045, the IDF estimates that 1 in 8 adults or around 783 million souls will live with Diabetes and this increases by 46%.

2018 Basic Health Research (Riskesdas) on diabetes mellitus sufferers has as many as 46,174 cases. The association Indonesian Endocrinology (Perkeni) states various types of Diabetes mellitus. Still, the one with the highest prevalence of Diabetes mellitus type 2 is around 30-50%, while the prevalence of Diabetes mellitus gestational Diabetes is 10-25%, and the rest is Diabetes mellitus type 1. It is estimated that the Indonesian population suffering from diabetes mellitus is around 8.5% or around 14 million—souls with an average age of over 15 years. Data from the South Kalimantan Provincial Health Office as of August 24, 2023, the number of Diabetes mellitus sufferers in South Kalimantan in 2020 was 91,453 cases. In 2021, there were 24,057 cases, and in 2022, there were 15,930 cases.

Research results by Nasution et al. (2023) stated that of the 139 respondents with diabetes mellitus sufferer type 2, as many as 74 people (53.2%) were not compliant with the diabetes mellitus diet and were compliant with as many as 65 people (46.8%). The results of the study by Mardhatillah et al. (2022) also stated that out of 110 respondents who were diabetes mellitus sufferers type 2, as many as 56 people (50.9%) were compliant with low on a diabetes mellitus diet and compliant as many as 54 people (49.1%). The results of the study by Pahrul et al. (2020) also stated that of the 72 respondents, the majority of respondents were not compliant with following the diabetes mellitus diet, namely 41 (56.9%) and compliant as many as 31 people (43.1%).

The number of diabetes mellitus sufferers in Hulu Sungai Utara Regency in 2020 was 3,341 cases. In 2021, there were 1,090 cases; in 2022, there were 1,021 cases. Based on the number of diabetes mellitus sufferers type 2 at the Banjar Health Center UPT in 2021, there were 766 visits. In 2022, there were as many as 1,114 visits, and in 2023, there were as many as 1,471 trips (Medical Data from Banjar Health Center UPT, 2023).

The high prevalence of Diabetes mellitus type 2 is caused by factors unchangeable risks such as gender, age, and other factors, genetics. The second is the factor of modifiable risks, such as level of education, work, physical activities, smoking habits, alcohol consumption, waist circumference, index mass body, and age.

The American Diabetes Association (ADA) states that improvement in diabetes mellitus sufferer type 2 is associated with several factors. Factor

unchangeable risks are family history of diabetes mellitus (first-degree relative), age ≥ 45 years, ethnicity, history of giving birth to babies with BBL >4 kg or a history of suffering from gestational Diabetes, and a history of birth with a BBL <2.5 kg. Modifiable risk factors include obesity (BMI ≥ 25 kg/m²), waist circumference of the stomach, men ≥ 90 cm and women ≥ 80 cm, lack of physical activity, hypertension, dyslipidemia, and unhealthy diet.

Efforts and prevention of Diabetes mellitus in Indonesia are carried out so that healthy individuals can remain healthy, people who already have risk factors risk can control the risk of not getting Diabetes, and people who already suffer from diabetes mellitus are expected to be able to control the disease so that complications do not occur which could cause death Early. Efforts to prevent and control Diabetes can be made through education, early factor NCD risk detection, and management according to standards. In general, there are 6 pillars of diabetes mellitus management. Type 2 is education, regulation of diet, regular physicals, medications, insulin use, and monitoring daily blood sugar levels for people with Diabetes.

One of the most important things for people with diabetes mellitus type 2 is to control or monitor blood sugar levels. Then, patients need to understand things that influence the control of blood sugar levels. Control of blood sugar levels in patients with diabetes mellitus Type 2 is related to dietary factors or meal planning because nutrition is linked to Diabetes mellitus type 2. Diabetes mellitus disease Type 2 cannot be cured but can be controlled through diabetes mellitus diet management. Type 2 can prevent complications. Problem Diabetes mellitus disease type 2 untreated will cause various complications diseases that can cause improvement in death.

Diabetes complications are divided into 2, namely complications, acute and chronic complications. Complications consist of ketoacidosis, diabetic ketoacidosis (DKA), hypoglycemia, and syndrome hyperosmolar diabetes. Complications are chronic and consist of macroangiopathy, which is the emergence of symptoms such as heart disease, heart failure, congestive, and stroke, as well as microangiopathy, which is the emergence of symptoms such as nephropathy, retinopathy, and neuropathy. Therefore, Compliance in managing Diabetes

mellitus is required, including dietary Compliance.

Dietary Compliance is an essential factor in carrying out a diet so that blood sugar levels are maintained. Blood glucose can be controlled. Diet compliance of diabetes mellitus patients type 2 plays a role in stabilizing blood glucose levels. At the same time, Compliance is essential in developing routines that can help patients follow meal schedules, types of food, and amounts of food (3J). Patients who do not comply with diet therapy experience uncontrolled glucose. Dietary principles for people with diabetes mellitus Type 2 include a balanced diet according to each individual's needs and substance nutrition. Lack of education, understanding regarding diet, and family support cause many patients with Diabetes mellitus type 2 to not comply with recommendations for diet therapy.

Research results by Nihullohti & Siti Aminah (2023) mention the existence of a meaningful relationship between dietary Compliance with levels of blood glucose in patients with diabetes mellitus type 2 at Mary Cileungsi Hijau Hospital with a p-value ($0.000 < 0.05$). Research results by An'Nisa et al. (2023) state there is a connection between dietary Compliance and levels of blood glucose in diabetes mellitus patients type 2 in the Karang Taliwang Health Center work area with a p-value ($0.000 < 0.05$). Other research results from Magfiroh et al. (2023) also stated that there is a connection between Diet compliance and changes in blood sugar levels in DM patients at the Jambon District Health Center Ponorogo with a p-value ($0.000 < 0.05$).

Researchers on 7 diabetes mellitus patients conducted the preliminary study. Type 2 who received treatment at the Banjang Health Center UPT on January 22-23, 2024, through simple observation and interviews to identify problems in the field. Based on the interview results, the seven patients were always diligent in controlling and taking the diabetes mellitus medication given. Still, only 3 of the 7 patients complied with the recommended diet, and 4 did not abide by the diabetes mellitus diet rules provided by the doctor. For other health workers, such as meal schedules, quantities, and types (3J), the patient feels fed up / bored eating the same food all the time, and that's what affects the patient's blood sugar level, which is still high (exceeds) from normal limits).

Based on the background, related research, and study results, the introduction that the researcher did, so that the researcher will conduct research related to

the level of dietary compliance and blood sugar levels with the research title "Relationship between Diet Compliance Level and Random Blood Sugar Levels in Diabetes Mellitus Patients " Type 2 at Banjang Community Health Center UPT North Hulu Sungai Regency".

Method

The research study design correlates with a cross-sectional approach. The sample consisted of 45 diabetes mellitus patients. Type 2 at UPT Puskesmas Banjang Hulu Sungai Utara Regency in July 2024 was taken using the Accidental sampling technique. The data collection used was a questionnaire on dietary Compliance consisting of 16 questions that have been validated with the corrected item-total correlation value ($r_{\text{count}} > r_{\text{table}}$) (0.296). The reliability test shows that Cronbach's alpha diet compliance value was $0.856 > 0.6$. Univariate analysis was used to describe characteristics and research variables, and bivariate analysis was used to determine the relationship level of diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 using the Spearman Rank (Rho) test.

Certificate of ethics obtained from Commission Research Ethics of Muhammadiyah University of Banjarmasin dated July 19, 2024, with Ethical Approval Letter No. 451/UMB/KE/VII/2024.

Results

Table 1. Distribution Frequency Characteristics Respondents

Characteristics Respondents	Frequency (n)	Percentage (%)
Age		
26-45 years	14	31.1
46-65 years	26	57.8
>65 years	5	11.1
Total	45	100
Gender		
Man	8	17.8
Woman	37	82.2
Total	45	100
Long Time Suffering from Type 2 DM		
≥ 1 year	41	91.1
<1 year	4	8.9
Total	45	100

Table 1 shows that the most respondents aged 46-65 years were 26 people (57.8%), and the fewest respondents were over 65 years old were 5 people (11.1%). Based on gender, the most respondents

were as many as 37 people (82.2%). Based on the most extended duration of illness, Respondents suffering from diabetes mellitus type 2 for more than 1 year as many as 41 people (91.1%).

Table 2. Distribution Frequency Diet Compliance

Diet Compliance	Frequency (n)	Percentage (%)
Obedient	33	73.3
Not obey	12	26.7
Total	45	100

Table 2 shows that most Respondents adhere to a diabetes mellitus diet, as many as 33 people (73.3%).

Table 3. Distribution GDS Level Frequency

GDS Level	Frequency (n)	Percentage (%)
Normal	4	8.9
Abnormal	41	91.1
Total	45	100

Based on Table 3, it is known that the GDS levels of Diabetes mellitus sufferers Type 2 were abnormal, with 41 people (91.1%) being the most.

Table 4. Relationship between Diet Compliance Level and Random Blood Sugar Levels in Diabetes Mellitus Patients Type 2 at Banjang Community Health Center UPT North Hulu Sungai Regency

Diet Compliance	GDS Level				Total
	Normal		Abnormal		
	n	%	n	%	
Obedient	4	12.1	29	87.9	33
Not obey	0	0	12	100	12
Total	4	8.9	41	91.1	45
P-Value = 0.002					
r = -0.441					

Tabulation results cross in Table 4; it is known that most Respondents adhered to Diabetes mellitus diet and abnormal GDS levels as many as 29 people (87.9%). The results of data analysis using the Spearman Rho test obtained a significance value of $0.002 < 0.05$ and the Coefficient Correlation value of -0.441. This means there is a moderate relationship between the level of Diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 at UPT Puskesmas Banjang Hulu Sungai Utara Regency with a negative direction, meaning the more obedient diabetes mellitus sufferer type 2 diabetes diet, the more regular the blood sugar levels GDS.

Discussion

Level of Diet Compliance of Diabetes Mellitus Patients Type 2 at Banjang Community Health Center UPT North Hulu Sungai Regency

The study results showed that the dietary Compliance of Diabetes mellitus sufferers type 2 was the most compliant, with as many as 33 people (73.3%). Diet compliance is essential to develop routines (habits) that can help sufferers follow the patient's diet schedule. Patients not compliant with diet therapy cause uncontrolled blood sugar levels. Dietary principles for patients with diabetes mellitus Type 2 diabetes include a balanced diet according to each individual's needs and substance nutrition.

Explain The recommended standard diet for diabetes mellitus patients is food with balanced carbohydrates, protein, fat, vitamins, and minerals according to adequate nutrition. However, often, diabetes mellitus sufferers get source inaccurate information that can harm patients. Diet management in patients with diabetes mellitus is the mainstay in managing diabetes mellitus, including following the meal schedule, type of food, and amount of food (3J).

In this study, there were also sufferers of diabetes mellitus type 2 who did not comply with Diabetes diet recommendations. Nihullohti & Siti Aminah (2023) explain that patient compliance with nutrition and meal planning principles are significant constraints for patients with diabetes mellitus. In patients with diabetes mellitus type 2, many are tormented regarding the type and amount of food recommended. Some factors can influence dietary Compliance in patients with diabetes mellitus, including attitude, personality, knowledge, support of health workers, family support, self-motivation, self-confidence, self-awareness of the importance of health, regularity of health checks, and participation in counselling nutrition about diabetes mellitus.

Diet compliance becomes a positive and expected change in behaviour, so the disease-healing process is faster and more controlled. Lifelong diet management for diabetes mellitus patients type 2 becomes tedious if it does not arise in the patient's strong understanding and awareness of maintaining health. Changes in dietary behaviour for patients with diabetes mellitus type 2 are

expected to change the eating pattern from the irregular diet.

The research results are in line with Magfiroh's research, which stated that of the total of 25 respondents, dietary Compliance was in the complaint category. as many as 18 respondents with a percentage (72%), while in the non-compliant category as many as 7 respondents (28%). The research results are also in line with An'Nisa's research *et al* . (2023), who stated Of the 90 respondents, it can be seen that 66 respondents (73.3%) were compliant with the diet and 60 respondents (73.3%) were not compliant. as many as 24 people (26.7%).

The research results conducted by (2020) showed that of the 72 respondents, most were not compliant with the diabetes mellitus diet. Namely, 41 (56.9%) comply with following a diabetes mellitus diet, namely 31 (43.1%). The results of Mardhatillah's research *et al* . (2022) stated that out of 110 respondents who were diabetes mellitus sufferers type 2, as many as 56 people (50.9%) were compliant low on diabetes mellitus diet and compliant with as many as 54 people (49.1%).

Based on the research results, researchers concluded that Compliance with a diet program is the principal capital for diabetes mellitus patients. Type 2 is to recover or at least maintain one's health to become better and healthier; however, it all comes back to each patient. Therefore, researchers suggest that growing awareness of diabetes mellitus sufferer type 2 in choosing the right kind of food according to the guidelines requires the active role of health workers to consistently give information education nutrition for all diabetes mellitus patients type 2.

Blood Sugar Levels in Patients with Diabetes Mellitus Type 2 at Banjang Community Health Center UPT North Hulu Sungai Regency

The research results showed that the GDS levels of Diabetes mellitus sufferers with Type 2 were the most abnormal, with 41 people (91.1%). Diabetes mellitus is a chronic disease characterised by high blood glucose (blood sugar) levels that exceed normal, namely instant blood sugar levels equal to or more than 200 mg/dl and fasting blood sugar levels above or equal to 126 mg/dl. Meanwhile, Blood sugar is a term that refers to the level or amount of sugar content in the blood circulation in the body. Sugar in the body exists in several forms. The sugar in the blood is called glucose, the simplest form of sugar.

Glucose in the blood is obtained from foods containing carbohydrates from other substances that

are not carbohydrates. Blood glucose levels in patients with diabetes mellitus type 2 are abnormal because of the disturbance of the metabolism of carbohydrates. Blood glucose levels throughout the day vary where they increase after eating and return to normal within 2 hours. Normal blood glucose levels in the morning after fasting the night before are 70-110 mg/dL of blood. Blood glucose levels are usually less than 120-140 mg/dL 2 hours after eating or drinking fluids containing glucose and other.

In this study, many respondents had abnormal blood sugar levels, meaning that respondents did not comply with the rules given by health workers. Hence, changes in blood sugar levels were above average values. Noviyanti (2015) stated that increased blood sugar levels cause narrowing of all blood vessels. As a result, the body's organs wither, and their functions decline. In the end, the organs of the body will experience total damage.

Perkeni (2021) explains that diabetes complications are divided into 2: acute and chronic. Complications consist of ketoacidosis, diabetic ketoacidosis (DKA), hypoglycemia, and syndrome hyperosmolar diabetes. Complications are chronic and consist of macroangiopathy, which is the emergence of symptoms such as heart disease, heart failure, congestive and stroke, as well as *microangiopathy*, which is the appearance of symptoms such as *nephropathy*, *retinopathy*, and *neuropathy*.

This study's results align with the research of Pahrul et al . (2020). Of the total 72 respondents, most respondents had blood sugar levels in the abnormal category, namely 46 respondents (63.9%) and in the normal category, namely 26 respondents (36.1%). The study results also align with Magfiroh's research., which states that of the 25 respondents with normal blood sugar levels, 13 respondents (52 %) and 12 respondents (48%) had abnormal blood sugar levels.

An'Nisa's research results *et al* . (2023) stated that of the 90 respondents, 64 (71.1%) had normal levels, and 26 people (28.9%) had abnormal levels. The results of the study Nihullohti & Aminah (2023) mention Of the 37 respondents, 24 (64.9%) suffered from diabetes mellitus type 2 with levels controlled blood glucose, and as many as 13 people (35.1%) suffered from diabetes mellitus type

2 with levels uncontrolled blood glucose.

Based on the research results, the researcher concluded that there was a need for improvement in following the diet program recommended by expert health workers to achieve blood sugar levels within normal limits. However, there were also respondents whose GDS values were average. Various things can cause this, such as proper diet, exercise, and regular medication. Therefore, for people with diabetes mellitus, abnormal type 2 is expected to increase Compliance to maintain blood sugar levels within normal limits. For people with diabetes mellitus type 2, which is high GDS, it is expected to be normal. Keep going guard compliance so that blood glucose levels are stable.

Diet Compliance Level and Random Blood Sugar Levels in Diabetes Mellitus Patients Type 2 at Banjang Community Health Center UPT North Hulu Sungai Regency

The results of the data analysis obtained There is a moderate relationship between the level of Diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 at UPT Puskesmas Banjang Hulu Sungai Utara Regency with a negative direction, meaning the more obedient sufferer diabetes mellitus type 2 diabetes diet, the more regular the blood sugar levels GDSnya ($r = -0.441$).

The research also found that in sufferers with diabetes mellitus type 2 diabetes, diet compliance and blood sugar levels, The GDS was normal in 4 people (12.1%). In comparison, The GDS was abnormal in 29 people (87.9%)—the sufferer of diabetes mellitus type 2 non-compliant diabetes diet and blood sugar levels. The GDS was abnormal in 12 people (100%), and there was no average GDS level (0%).

These results show that most respondents have good blood sugar levels, which may be because they often control blood sugar levels by maintaining ideal body weight and consuming a balanced diet. There are also abnormal GDS values. This situation may be necessary if diet and exercise do not control blood sugar levels and antidiabetic drugs are needed.

Based on the results of further observations of Diabetes mellitus sufferers type 2 at UPT Banjang Health Center who adhere to their diet, however, still have abnormal GDS levels, as many as 29 sufferers. From these results, data was obtained that those who experienced a decline in GDS levels 11 people from previous control. Exercise and medication are also

needed if blood sugar cannot be controlled well through diet.

The research results are in line with the research of Nihullohti & Aminah (2023), who mention the existence of a meaningful relationship between dietary Compliance with levels of blood glucose in patients with diabetes mellitus type 2 at Mary Cileungsi Hijau Hospital with a value of $p\text{-value}$ ($0.000 < 0.05$). The research results are also in line with research from Forgive Me *et al.* (2023), who also stated that there is a connection between Diet compliance and changes in blood sugar levels in DM patients at the Jambon District Health Center Ponorogo with a value $p\text{-value}$ ($0.000 < 0.05$).

The research results are also in line with other research from An Nisa *et al.* (2023), who state there is a connection between dietary Compliance with levels of patient's blood glucose diabetes mellitus type 2 in the Karang Taliwang Health Center work area with a value of $p\text{-value}$ ($0.000 < 0.05$). The resulting Prevalence Ratio (RP) of 22.9 means that people who adhere to a diet are 22.9 times more likely to have high blood pressure—average blood glucose.

Explain that one of the most essential things for sufferers of diabetes mellitus type 2 is the control or monitoring of blood sugar levels. Control of blood sugar levels in patients with diabetes mellitus Type 2 is related to dietary factors or meal planning because nutrition is linked to diabetes mellitus type 2. Disease diabetes mellitus Type 2 cannot be cured but can be controlled through diabetes mellitus diet management. Type 2 can prevent complications that can cause an improvement in death.

The American Diabetes Association (ADA) states that improvement in the number of sufferers of diabetes mellitus type 2 is associated with several factors. Factor unchangeable risks are a family history of diabetes mellitus (*first-degree relative*), age ≥ 45 years, ethnicity, history of giving birth to babies with BBL > 4 kg or a history of suffering from gestational Diabetes, and a history of birth with BBL < 2.5 kilograms. Modifiable risk factors include obesity (BMI ≥ 25 kg/m²), a waist circumference of the stomach, men ≥ 90 cm and women ≥ 80 cm, lack of physical activity, hypertension, dyslipidemia, and unhealthy diet.

The results of this study also found that most sufferers of diabetes mellitus type 2 in this study were 46-65 years old. Nihullohti & Aminah (2023) explain that the risk of Diabetes increases with age, especially over 40 years of age; this is because, at that age, the ageing process begins to occur, which causes the decline of insulin sensitivity and decreased function of the body for metabolism glucose caused Because decrease ability pancreatic β cells in producing insulin so that it occurs improvement intolerance glucose.

By gender, sufferers of diabetes mellitus type 2 are women. This is following the opinion that gender women who have risk factors have a higher risk of Diabetes mellitus compared to men because women experienced a decline in estrogen hormone due to menopause. Estrogen and progesterone hormones can affect cells' ability to respond to insulin. After women experience menopause, there will be changes in levels. These hormones can trigger ups and downs in blood sugar levels.

Based on the duration of suffering diabetes mellitus type 2, many have suffered diabetes mellitus type 2 for ≥ 1 year. Magfiroh *et al.* (2023) explain that blood sugar levels can be above expected values, not just because you are less aware of implementing a diet program. Still, it could also be because of stress levels, obesity, physical or exercise, oral medication or insulin use, environmental factors such as age, and blood sugar level checks. People with Diabetes should Limit foods from sugar, oil, and salt. Many patients with Diabetes mellitus type 2 complain because the foods listed on the diet menu are not varied enough, so they often... feel bored.

Based on the research results, researchers concluded that dietary Compliance is necessary. Because of the diet in patients, diabetes mellitus type 2 requires a short time and a lifetime to do that obedience. Patience is strength, the biggest within the individual sufferer to get a healthy body and motivation from those closest to you is also needed to support the process of life every day. Carrying out the diabetes diet is helpful to achieve the highest level of health.

The nursing implications of this study are that adherence to a diet program is the principal capital for diabetes mellitus patients. Type 2 is used to recover or maintain one's health to become better and healthier. Diet compliance is essential because the diet of patients with diabetes mellitus type 2 requires a short time and a lifetime.

Patience and motivation from those closest to you are also needed to support carrying out the life process every day. In carrying out the diabetes diet, achieving the highest level of health is helpful. Therefore, growing awareness of diabetes mellitus sufferer type 2 in choosing the right kind of food according to the guidelines requires the active role of health workers to consistently give information education nutrition for all diabetes mellitus patients type 2.

Conclusion

Patients' dietary Compliance with diabetes mellitus Type 2 patients were mainly compliant, namely 33 people (73.3%). The GDS levels of patients with diabetes mellitus Type 2 are primarily abnormal, namely 41 people (91.1%). There is a moderate relationship between the level of Diet compliance with random blood sugar levels in patients with diabetes mellitus type 2 at UPT Puskesmas Banjari Hulu Sungai Utara Regency with a value (p -value $0.002 < 0.05$), $r = -0.441$, with a negative direction.

Suggestion

Researchers hope from the results of this study on patients with diabetes mellitus Type 2, especially patients who have entered old age, should have regular check-ups, GDS levels and pay more attention to behaviour style his life and changed style his life to get better and comply with recommendations from health workers to maintain quality of life to improve and prevent the occurrence further complications of disease diabetes mellitus.

Health Centers are expected to give information education nutrition for all diabetes mellitus patients consistently type 2 so management of diabetes mellitus type 2 can be smooth and continuous as well as d expected existence of direct home visits to individuals suffering from diabetes mellitus type 2 be able to monitor the development of the disease suffered and can motivate individuals to improve their health by change appropriate lifestyle.

It is hoped that the results of this study can add to the teaching materials for lecturers in the Medical-Surgical Nursing and Community Nursing courses so that all... related elements can make this result a medium for carrying out nursing care for diabetes mellitus patients with type 2.

Future researchers should perfect the results of this study by conducting control over factors that can increase compliance and motivation for sufferers of diabetes mellitus type 2, such as medication compliance, compliance control, physical activity, family support and others by using large samples and also qualitative research.

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