

Relationship Between Patient Knowledge and DM Dietary Adherence to Blood Sugar Control Management at Royal Prima Hospital

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ABSTRACT

The 4 primary columns of diabetes mellitus infection administration are instruction, therapeutic nourishment treatment, physical work out, and pharmacological intercession. The objective of the 4 columns is to keep blood sugar (glucose) levels at typical levels (no hypoglycemia/hyperglycemia). Patients with DM who don't follow to the 4 columns of administration will have uncontrolled blood sugar levels and complications will happen such as stroke, kidney disappointment, heart disappointment, blindness and indeed got to experience removal in case the appendages endure from wounds that are troublesome or cannot dry the blood. Components that impact the control of blood sugar levels are information and dietary compliance, on the off chance that not controlled appropriately, there will be an uncontrolled diminish and increment in blood sugar levels. So that the patient's information almost the DM slim down can increment the patient's compliance in controlling his blood sugar, non-adherence to dietary administration of DM patients is caused by a few variables counting instruction, information, immersion in treatment and the crave to recoup, coming about in complications. Subsequently, the diabetes mellitus slim down must be carried out concurring to the suggested program, such as dietary administration in DM patients, one of which is by expanding understanding information around DM slim down compliance. This study aims to determine the relationship between knowledge of dietary compliance and management of blood sugar control in patients with diabetes mellitus at the Royal Prima Hospital Polyclinic in Jambi City.

Keywords: *Knowledge, Dietary Adherence, Blood Sugar Control Management, Patient, Royal Prima Hospital*

1. INTRODUCTION

Different endeavors have been made by the government, particularly the nearby government, in an exertion to diminish the frequency of diabetes, but the predominance of diabetes has not appeared a diminish. In expansion, handling the issue of diabetes in Jambi Territory will be successful in case you know the chance variables that exist. Numerous ponders have been conducted to see at the chance components for diabetes [1].

Dietary non-compliance may be a exceptionally genuine issue. Due to slim down non-compliance, blood sugar levels will increment. For this reason, individuals with diabetes mellitus are prescribed to follow to eat less treatment which is shortened as 3J, specifically the correct schedule, the correct sum and the correct sort [2]. Dietary adherence is an imperative viewpoint for victory in running and controlling blood sugar levels. In this way, DM patients must take after and comply with the dietary administration program in understanding with the arrangements of the wellbeing group in arrange to attain ideal metabolic control, since patient compliance with slim down is the most component of victory in overseeing diabetes mellitus [3], [4].

Non-adherence to dietary administration of DM patients is caused by a few variables counting instruction, information, immersion in treatment and the crave to recoup, coming about in complications. Hence, the diabetes mellitus count calories must be carried out concurring to the suggested program. Patients must learn extraordinary abilities to require care of themselves each

day to dodge sudden drops or increments in blood glucose levels, in expansion to having preventive behaviors in way of life to maintain a strategic distance from long-term diabetic complications [5].

Compliance with slim down is the trust of each individual with diabetes mellitus. This implies that each individual with diabetes mellitus must be able to carry out the doctor's suggestions so that diabetes mellitus remains controlled. In hone, compliance is characterized as the level of patients carrying out the treatment and behavior suggested by the specialist or paramedic, as proposed by the arrangements proposed for individuals with diabetes mellitus who encounter treatment disappointment, this may be caused by different variables counting not having a great eat less [6].

An beginning overview conducted by analysts on 20 patients with diabetes mellitus who came to the Polyclinic. The comes about of the GDS examination were 16 individuals with $GDS > 180$ mg/dl and 4 individuals with $GDS < 180$ mg/dl. when met they said they seldom checked their blood sugar but when they came to wellbeing administrations such as healing centers and 4 patients said they knew the diabetes mellitus count calories by complying with the DM eat less by making count calories plans such as the sort and sum of nourishment to be eaten each day, whereas 16 patients who had a normal blood sugar level of more than 180 mg/dl. expressed that they did not have a arrange since they did not get it around DM count calories administration and a few of them said that they were soaked in treatment and needed to recuperate, coming about in complications and uncontrolled blood sugar [7].

The World Wellbeing Organization (WHO) detailed that there were 422 million individuals universally enduring from DM until May 2020, and based on this information, Indonesia positioned fourth with the most noteworthy number of DM sufferers after China, India and the Joined together States. Based on the same report, it is assessed that in 2030 there will be 21.3 million individuals with DM in Indonesia (Worldwide Diabetes League, 2013; World Wellbeing Organization, 2020). The national predominance of DM illness based on Riskesdas (2018) at the age of >15 a long time is 2.0% (Badan Penelitian dan Pengembangan Kesehatan RI, 2018). The frequency of DM in Jambi Territory within the 2013 Riskesdas results was 1.2% and after that expanded to 1.4% in 2018 (Service of Wellbeing, 2008; Badan Penelitian dan Pengembangan Kesehatan RI, 2018).

Based on preliminary data, the increase in the number of visits to the clinic for people with diabetes mellitus. In 2020 there were 78 cases, then in 2021 there were 138 cases there was an increase of 60 cases, while in 2022 there were 878 cases there were 499 cases and in 2023 from January to July 2023 there were 637 cases. From this data, every year there is an increase in diabetes mellitus patients at the Royal Prima Hospital Polyclinic in Jambi City.

[8] appears the relationship between dietary compliance and control of blood sugar levels in patients with diabetes mellitus. Univariate and bivariate examination utilizing the chisquare factual test. There's a noteworthy relationship between dietary adherence and the esteem ($p=0.000$). Hence, family back and wellbeing laborers can increment the information of patients with diabetes mellitus in controlling blood sugar levels by giving data around diabetes mellitus administration so that it can alter states of mind and behavior. Besides, Charles' investigate in 2023 on the relationship between information and dietary compliance with blood sugar levels at Illustrious Prima Clinic, Jambi City found that 5. There's no noteworthy relationship between dietary compliance and respondents' blood sugar levels at Regal Prima Healing center Jambi with a p-value gotten of 0.756.

2. METHODS

This research is an associative study, namely to find a relationship between knowledge and dietary compliance with the blood sugar levels of diabetes mellitus patients, the study design used a cross-sectional design with a chi-square statistical test, the number of samples used was 85 respondents.

3. RESULTS AND DISCUSSION

The assessment of Age, Sex and Education of Respondents in this study was carried out using questionnaire sheets. The frequency distribution of blood sugar test characteristics can be seen in the table below:

Table 1. Frequency of Characteristic Age of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	Age	f	Percent
1.	40-60 Year	61	71,8
2.	>60 Years	24	28,2
Total		5	100

Based on the information over, it was found that the age characteristics of respondents were an normal of 40-60 a long time ancient, 61 (71.8%) respondents out of 85 respondents at Illustrious Prima Healing center, Jambi, even though there has now been a shift that many DM sufferers are found to be young due to excessive sugar consumption and unhealthy lifestyles, but for ages it is still more common to be found over 40 years old, this happens because they actually don't know the first signs of someone suffering from DM so they consider these symptoms to be normal.

Table 2. Frequency of Sex Characteristics of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	Gender	f	Number of Percent
1.	Perempuan	55	64,7
2.	Laki-laki	30	35,3
Total		85	100

Based on the information over, it was found that the sexual orientation characteristics of the respondents were the foremost female compared to men, specifically 55 (64.7%) respondents out of 85 respondents at Regal Prima Healing center, Jambi.

Researchers assume that many female DM sufferers are caused by several factors such as excessive consumption patterns and lack of activity in addition to other factors that cannot be modified, such as hereditary diseases.

Table 3. Frequency of Educational Characteristics of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	Education	f	Percent
1.	SD	10	11,8
2.	Middle School	15	17,6
3.	SMA	51	60,0
4.	College	9	10,6
Total		85	100

Based on the data in table 3 above, it was found that the educational characteristics of the respondents obtained an average of 51 (60%) respondents from 85 respondents at Royal Prima Hospital, Jambi. the level of education influences a person's understanding of a healthy lifestyle, so that their ability to manage the DM diet program will be better when education is higher.

Table 4. Frequency of Blood Sugar Characteristics of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	GDS	f	Percent
1.	Bad $\geq 180\text{mg/dL}$	43	50,6
2.	Enough 145-179mg/dL	26	30,6
3.	Good $<145\text{mg/dL}$	16	18,8
Total		85	100

Based on the data in table 4 above, it was found that the characteristics of blood sugar in the respondents obtained bad blood sugar as many as 43 (50.6%) from 85 respondents and good blood sugar as many as 16 (18.8%) respondents from 85 respondents at Royal Prima Hospital Jambi.

Table 5. Frequency of Knowledge Characteristics of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	Knowledge	f	Percent
1.	Lower	8	9,4
2.	Higher	77	90,6
Total		85	100

Based on the data in table 5 above, the knowledge characteristics of the respondents were found to have low knowledge of only 8 (9.4%) of the 85 respondents and high knowledge of 77 respondents (90.6%) of the 85 respondents at Royal Prima Hospital Jambi.

Table 6. Frequency of Dietary Compliance Characteristics of DM Patients in Polyclinics Royal Prima Jambi Hospital

No.	Compliance	f	Percent
1.	Not Compliant	30	35,3
2.	Compliance	55	64,7
Total		85	100

Based on the data above, it was found that the characteristics of dietary compliance among respondents were 30 (35.3%) respondents from 85 respondents and 55 respondents (64.7%) from 85 respondents at Royal Prima Hospital, Jambi.

Table 7. Frequency of Knowledge Relationship with Blood Sugar Levels of DM Patients at the Royal Prima Hospital Polyclinic, Jambi

Knowledge	Blood Sugar						F	P	
	Bad		Enought		Good				
	n	%	n	%	n	%			
Lower	3	3,5 %	2	2,4%	3	3,5%	8	9,4%	0, 0,381
Higher	40	47,1%	24	28,2%	13	15,3%	77	90,6%	
Total	50	71,4%	26	30,6%	16	19,8%	85	100%	

Based on data in table 7, research results showed that respondents' knowledge of blood sugar results with high knowledge and poor blood sugar results was 40 (47.1%) respondents. Based on the results of the chy-square statistical test, $p = 0.381$ means $p > \alpha$ (0.05), this shows that there is no significant relationship between respondents' knowledge of the patient's blood sugar results at Royal Prima Hospital, Jambi.

The results of this research are in line with research conducted by [9], [10] with statistical test results with a value of 0.230, which means there is no relationship between knowledge and blood

sugar level results. Good knowledge does not guarantee the patient's good actions towards efforts to control blood sugar levels. Because actions come from desires and motivation from him, the patient's awareness and application of healthy living behavior is still lacking, which results in less controlled blood sugar levels.

On the knowledge itself, it is the patient's ability to understand and apply dietary patterns in controlling blood sugar levels, the more the patient applies the knowledge he has, the results obtained in implementing controlling blood sugar levels will be good or within normal limits, as well as poor results if the patient does not apply the knowledge, he has to control his blood sugar levels.

Apart from that, many DM sufferers already have a good level of knowledge because it is triggered by several factors that influence the knowledge itself, such as mature age and high educational background, thereby increasing the respondent's analytical ability regarding knowledge about DM risk factors, as well as the experience of DM sufferers over several years and has made several efforts such as controlling sugar consumption.

Apart from educational factors, researchers assume that respondents' moderate knowledge is obtained from experience (long suffering from diabetes). The longer you have (suffer from) a disease, the more experience there is about the disease, so diabetes mellitus respondents have extensive knowledge.

Research conducted by [11], [12] states that an individual who has a higher level of education will find it easier to receive information and reflect the level of ability to understand and receive information. The knowledge and educational status of an individual are closely related. The higher a person's educational status, the more knowledge they will gain.

Apart from the patient's own knowledge to control blood sugar levels so that within normal limits there must be support from family such as husband/wife, children and other close relatives to remind each other and give positive advice and support so that patients remain enthusiastic about following a good diet and can share information with close relatives regarding controlling blood sugar levels.

Researchers assume that respondents with high knowledge tend to absorb information provided by health workers so that they have awareness in maintaining their health. Respondents should be able to look for information related to food menus that do not trigger an increase in blood sugar levels and not be too indifferent to the knowledge gained in maintaining health and blood sugar levels.

Table 8. Frequency of Diet Compliance Relationship with Blood Sugar Levels of DM Patients at the Royal Prima Hospital Polyclinic, Jambi in 2023

Compliance	Blood Sugar						f	P
	Bad		Enaought		Good			
	n	%	n	%	n	%		
Not Compliance Tida	14	16,5 %	9	10,6%	7	8,2%	30	35,3%
Compliance	29	34,1%	17	20%	9	10,6%	55	64,7%
Total	43	50,6%	26	30,6%	16	18,8%	85	100%

Based on data in table 8, research results showed that respondents' dietary compliance with blood sugar results with non-adherence and poor blood sugar results was 14 (16.5%) respondents. Based on the results of the chy-square statistical test, $p = 0.756$ means $p > \alpha$ (0.05), this shows that there was no significant relationship between respondents' compliance with the patient's blood sugar results at Royal Prima Hospital, Jambi.

The results of the analysis of the relationship between the respondents' knowledge and the results of the respondents' blood sugar levels at Royal Prima Hospital, Jambi. It can be seen that of the 85 respondents with the highest percentage with high knowledge and poor results, 40 (47.1 %) respondents.

The results of further statistical tests obtained that the p value was $0.381 > 0.05$ so it can be concluded that there was no significant relationship between knowledge and the results of the respondents' blood sugar levels at Royal Prima Hospital, Jambi.

The findings of this research do not align with the study by [13], which reported a p-value of 0.000, indicating a notable connection between adherence and the blood sugar levels of participants. Patients who follow their treatment plans are likely to maintain stable blood sugar levels, and consistently managing these levels can help avoid acute problems and lower the chances of long-term issues. Conversely, patients who do not adhere to their treatment may experience uncontrolled blood sugar, leading to complications.

Diet therapy plays a crucial role in diabetes mellitus management, presenting a considerable challenge for individuals with diabetes in sticking to their dietary plans. Adjustments to one's diet can include reducing excess calorie intake and limiting high-fat foods while increasing the consumption of complex carbohydrates, fruits, and vegetables.

As individuals age, they tend to become more adept at seeking, acquiring, and utilizing the information provided to them. This increased wisdom can positively influence respondents' behaviors in deciding how to address their condition, including dietary management. Patient adherence varies among individuals; for example, if a patient only intermittently monitors their sugar intake, it may result in negative outcomes. Additionally, a lack of attention to daily dietary habits and physical health can exacerbate their condition and elevate blood sugar levels.

Researchers suggest that low dietary adherence may be influenced by employment and income levels. Generally, individuals with higher incomes are better positioned to purchase foods that align with diabetes dietary guidelines. Participants should be more mindful of the factors that contribute to elevated blood sugar levels.

It is ideal for patients to demonstrate strong adherence to their treatment and possess a firm commitment to their recovery in managing blood sugar levels. Equally important is the support from family and the community, which plays a vital role in facilitating the patient's healing process.

CONCLUSION

In this study it can be concluded that knowledge and compliance do not have much influence on the patient's blood sugar levels, this is due to several factors, such as; The patient's despair due to suffering from DM for years until they reach saturation point and make the patient resigned and there is no hope of recovery.

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