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Health Education for Diabetes Patients in Consumption of Oral Hypoglycemic Drugs (OHO)

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ABSTRACT

Diabetes mellitus is a disease of body metabolic disorders with a sign of an increase in blood glucose levels. This disease is chronic and requires treatment for life. The instability of blood glucose levels can cause chronic complications, so prevention is needed with treatment therapy. Compliance with someone taking oral hypoglycemic medication is one of the contributions to the occurrence or absence of complications of diabetes mellitus so education needs to be done so that the client is compliant in taking medication. This research was a quantitative type with the method of quasi experimental pre and post test without control. Subjects were respondents 34, selected by purposive sampling. Data were analyzed by Wilcoxon test. The results showed that there was a significant difference between adherence to taking oral hypoglycemic drugs clients in Diabetes Melitus before and after health education with p-value of 0.000. Health education can support health programs in managing diabetes so as to produce changes and increase knowledge in controlling blood sugar levels in diabetes clients.

Keywords: Health education, Diabetes mellitus, Oral hypoglycemic drug

INTRODUCTION

Diabetes mellitus is a non-communicable disease that continues to experience increased prevalence and contributes to the increase in mortality due to non-communicable diseases(1). The prevalence of people with diabetes mellitus in Indonesia ranks 7th in the world in 2015. The World Health Organization (WHO) predicts that people with diabetes in Indonesia will continue to increase from 8.4 million people in 2000 to 21.3 million people in 2030(2). Cases of diabetes mellitus in Central Kalimantan Province based on data from the Central Statistics Agency (BPS), ranks 5th out of 10 cases of the most diseases with the number of persons reaching 5,137 people in 2015, and in 2016 there were an increase in the number of people as many as 7,254 people, this indicates an increase in diabetes cases in Central Kalimantan(3). This needs to be followed up by carrying out the five pillars of diabetes management.

Five pillars of diabetes management begin with a non-pharmacological approach in the form of education, independent blood glucose control checks, meal planning, physical activity and weight loss if you gain more weight or obesity. Pharmacological therapy is given if these steps have not been able to achieve the goal of controlling diabetes in addition to maintaining appropriate eating and physical activity settings, but the possibility of failure in managing diabetes is still large because there are people with diabetes who do not know about the five pillars so that they do not obey the therapy or already know about the five pillars of diabetes management but for various reasons to be disobedient in carrying out the five pillars of diabetes management.

Research conducted by Harwandy (2017) on the effect of education on the level of adherence to hypertension patients in Kasihan 1 Public Health Center Bantul, using the pseudo-experimental form approach with the *control group design with pretest posttest design* showed that there were significant differences in increasing medication adherence (p = 0.000) for clients who are educated than those who do not get education. The conclusion of this study is that education has an influence on increasing adherence in hypertensive patients(4).

Adherence to taking medication in diabetes clients is important in achieving effective treatment goals in preventing some complications of diabetes. Treatment therapy that is good and right will be very beneficial for patients, both in terms of health or cure of the illness that is by adhering to the patient in consuming the drug, especially for patients who have to take drugs for a long time, even in their lives(5).

Research conducted by Arifin (2016) on the relationship between perceptions of diseases with oral adherence to hypoglycemic drugs (OHO) showed 73 (54.07%) respondents had a positive perception of the disease while 75 (55.56%) respondents did not comply with drinking drug(6).

Another study conducted by Ainni & Mutmainah (2017) on adherence to drug use in diabetic clients with 53 respondents obtained results of 21 respondents still had a low level of compliance. Determinants of compliance that have a meaningful relationship are education and employment factors with a value of $p < 0.05$[7].

There are still many diabetes clients with blood glucose levels that are not stable by various factors so education is needed. Education is one way to support health programs that can produce changes and increase knowledge in a short time. Education plays a role in changing the behavior of individuals, groups and communities in accordance with health values. Behavioral changes that are expected to be able to maintain and improve health through medication adherence

METHODS

The methods applied in this study were summarized in Table 1.

Table 1. The summary of methods

Type and design of research	Quasi experiment, pre and post test without control
Subjects	34 Diabetic sufferers in the working area of Pahandut Public Health Center, Palangkaraya City
Sampling	Purposive sampling
Data collection technic	Pre-test questionnaire before being given education and ended with the post-test. Post-test questionnaire was carried out after the intervention (health education for 60 minutes) was given within a period of 2 weeks after intervention.
Data analysis	Wilcoxon test

RESULTS

The majority of age was 46-65 years, the majority of gender was female, the majority of education was elementary school, the majority of job was housewife, and the majority of diabetes duration was 1-5 years.

Table 1. Distribution of Respondent Characteristics

Variable	Frequency	Percentage
Age		
26-45 years	7	20.6
46-65 years	27	79.4
Gender		
Male	6	17.6
Female	28	82.4
Education		
No School	1	2.9
Elementary school	27	79.4
High school	5	14.7
Higher Education	1	2.9
Jobs		
Not Working	7	20.6
Housewife	16	47.1
Entrepreneurship	10	29.4
PNS	1	2.9
Diabetes duration		
<1 year	11	32.4
1-5 in	15	44.1
> 5 years	8	23.5

Table 2. Distribution of compliance to taking drugs before given health education

Compliance	Frequency	Percentage
High	3	8.8
Medium	17	50.0
Low	14	41.2
Total	34	100

Table 3. Distribution of compliance to taking drugs after given health education

Compliance	Frequency	Percentage
High	25	73.5
Medium	8	23.5
Low	1	2.9
Total	34	100

The majority of compliance to taking drugs before given intervention was in the level of medium (50%). The majority of compliance to taking drugs after given intervention was in the level of high (73.5%).

Table 4. Differences in compliance with oral hypoglycemic drugs for diabetes before and after given health education

		N	Mean Rank	P value
Post Test- Pre Test	Negative Rank	31	16.00	0.000
	Positive Rank	0	0.00	
	Ties	3		
	Total	34		

Table 4 shows that from the results of statistical tests obtained negative rank on medication adherence after health education was 31 respondents experienced a decrease in scores compared to before given health education. The compliance score is said to be good if it has a score of 1 while moderate compliance if it has a score of 2 and low compliance if it has a score of 3-8.

Positive rank on medication adherence after health education showed no sample experienced an increase in score compared to before health education. Ties on medication adherence after health education have 3 respondents on a fixed score meaning that they do not have high adherence after being given health education. It was found that the mean 16.00 for medication adherence after education, while the mean rank for medication adherence before education was 0.00. Based on the results of Wilcoxon test obtained P value = 0.000 (<0.05), it can be concluded that there was a significant difference between adherence to taking oral hypoglycemic drugs for diabetes clients before and after health education.

DISCUSSION

The results showed that the majority of respondents who suffered from diabetes were aged 46-65 years. According to Trisnawati (2013) aged 46-65 years is the age at risk of developing diabetes due to glucose tolerance and the aging process which causes a lack of pancreatic beta cells that produce insulin[8]. This is in line with research conducted by Amalia (2014) which states that ages 46-65 years have a 2.28 times greater risk of developing diabetes[9].

Research conducted by Fathurohman (2016) women have a high risk of more diabetes than men[10]. This is in line with research conducted by Irawan (2010 in Amalia 2014) which states that women are more at risk of developing diabetes than men because physically women have a greater chance of increasing BMI, monthly cycle syndromes, and post menopause makes the distribution of body fat become easily accumulated due to hormonal processes so that women are more at risk of developing diabetes.

The majority of respondents who suffer from diabetes are on average with elementary school education. Education can affect a person, especially attitudes in health management. Notoatmodjo (2010) states that lack of education will hinder the development of one's attitude towards newly introduced values or information[11]. Conversely, the higher the level of education, the easier it is to receive information, the more knowledge they have.

Respondents who suffer from diabetes have more housewife employment status (IRT). This is in line with research conducted by Trisnawati (2012) who said that there was a significant relationship between physical activity and the incidence of diabetes, people who did not work were at greater risk of diabetes than those who worked. Physical activity can control blood sugar where glucose will be converted into energy when physical activity causes insulin to increase so that the level of glucose in the blood will decrease, if insulin is insufficient to convert glucose into energy there will be diabetes[8].

The majority of respondents who suffer from diabetes on average have diabetes that is 1-5 years, the factors that actually affect a person's knowledge in managing their health and drug use are experiences. The longer the respondent has diabetes, the more he will experience the disease. The more experience a person has, the better is the management of the disease and its handling. This is related to research conducted by Pramestutie (2016) said that the duration of suffering from diabetes is very supportive of knowledge in the use of drugs[12].

The results of the statistical test using the Wilcoxon test obtained P-value = 0.000 (there were differences in adherence to oral hypoglycemic drugs (OHO) of diabetic clients before and after health education was given),

meaning that there were significant differences between adherence to taking oral hypoglycemic medication for diabetic clients before and after health education.

Success in diabetes management is one of them is influenced by medication adherence, basically diabetes management aims to control blood sugar levels and improve quality of life in diabetes clients. One increase in medication adherence is influenced by the knowledge gained from health education. The expected output from a health education is a health behavior, or behavior to maintain and improve conducive health[13].

CONCLUSION

The results showed that there were significant differences between adherence to taking oral hypoglycemic drugs for diabetic clients before and after being given health education.

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