

**DOI:**

10.22301/IJHMCR.2528-3189.925

Article can be accessed online on:  
<http://www.ijhmcr.com>

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**ORIGINAL ARTICLE**  
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**INTERNATIONAL JOURNAL  
OF HEALTH MEDICINE AND  
CURRENT RESEARCH**

## **EFFECT OF LAOR CONSUMPTION (POLYCHETA) ON REDUCED BLOOD SUGAR LEVELS IN DIABETES MELLITUS IN WOSIA VILLAGE, CENTRAL TOBELO NORTH HALMAHERA**

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### **ARTICLE INFO**

**Article History:**

Received 28th March, 2018  
Received in revised form  
29th April, 2018  
Accepted 31th Mei, 2018  
Published online 30th June, 2018

**Key words:**

*Laor (polycheta), Diabetes Mellitus.*

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### **ABSTRACT**

Diabetes mellitus (DM) from the Greek word, diabainein, see-through or shower and the Latin word Mellitus, the sweet taste commonly known as sweet is a disease characterized by continuous and varied Hiperglycemia (increased blood sugar levels) teruma after eating. Type of research The used is Quantitative research with Design Research Quasy Experiment Desing With Pre-Post Test Control Group to analyze the influence of Laor Polycheta consumption Against the decrease of Blood Blood level in Diabetes Mellitus patient in Wosia village. Population in this research is patient of Diabetes Mellitus. The sample used 10 people taken with non Probably sampling technique. The results of the experiment in the experimental group obtained T value of 2,810. (greater than the value of T table 2.776) with sig (2 tailed) or p value (p = 0.048) <0.05 and in control group the value of T arithmetic 167 is smaller than the value of T table 2.776 with value (p 0.876) > 0 , 05. Based on the results of the study, it has been shown that there is an influence of Laor consumption on the decrease of blood sugar level in the experimental group. In addition to controlling blood sugar levels Diabetes mellitus patients can make laor as an alternative ingredient for herbal remedies that can reduce the blood sugar levels.

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**Citation: Imelda Naomi Kambey<sup>1,2\*</sup>, Herdi Hady<sup>2</sup>, Christian Lombogia<sup>1,2</sup>, Charles B. Turangan<sup>1,2</sup>, 2018** "Effect Of Laor Consumption (Polycheta) On Reduced Blood Sugar Levels In Diabetes Mellitus In Wosia Village, Central Tobelo North Halmahera", *International Journal of Health Medicine and Current Research*, 3, (02), 925-929.

## INTRODUCTION

According to World Health Organization (WHO) 2011 data, currently there are 366 million people with DM in the world. Diabetes Mellitus is one type of degenerative disease that is increasing every year in countries around the world according international of Diabetic (IDF, 2015) levels the global pervalence of DM patients in 2014 amounted to 8.3%, of the total population of the world and increased in 2014 to 387 cases. (1)

In Indonesia in 2000 it was 8.4 million and would increase to 21.8 million by 2030, so that Indonesia ranked fourth after the United States, China and India among the countries with the largest number of people with diabetes, world's largest. (2)

Diabetes Mellitus is a disease that has complications or causes too many other diseases. Hyperglycemia that occurs from time to time can cause various damage to the body system, especially the nerves, and blood vessels. Frequent complications of diabetes mellitus include: renal failure, diabetic retinopathy, neuropathy (nerve damage) on the foot causing leg ulcers and even the necessity for leg amputation. Increased risk of heart disease and stroke, and the risk of death of diabetes in general is doubled compared with not diabetes mellitus. (3)

According to Riskedes 2013 DM prevelensi in Indonesia based on the answer never in the doctor's diagnosis of 1.5% DM based on the diagnosis with symptoms of 2.1% prevelensi DM in women tend to be higher than in men. North Sulawesi has a DM predominantly diagnosed by health workers at 2.4% and deformed with symptoms of 3.6%, in line with that data from the North Sulawesi health office in 2013 showed under the prevalence of diabetes, either dyed on the diagnosis or diagnosis, evenly at the level of North Sulawesi Province.

Sports or physical activity is useful as a blood glucose control and weight loss in people with Diabetes Mellitus. The great benefits of exercise in other diabetes mellitus antra reduce the blood glucose levels, prevent obesity, play a role in overcoming complications, blood lipid disorders and increased blood pressure. (4)

Dietary adherence is one of the cornerstones of success in a DM management (Tjokroprawiro, 2006) more specific research on adherence in DM treatment is generally still low 80% of DM patients inject insulin inappropriately 58% injections with unsuitable doses 77% monitor with improperly interpreted blood sugar and 75% did not want to eat as recommended.

Proven research by phitry Widiyaningsih shows that adherence to diet program is mostly not obedient as much as (56,9%) success in treatment of DM depend on patient of DM have enough knowledge then can change attitude in doing medication for example low sugar diet can close sugar within normal limits and preventing complications so as to live a healthy, healthy and qualified knowledge as a basis in non-pharmacological conduct in the DM patients followed by tau, and willing, from each individual will perform one action preceded by tau then have the initiative. (5)

To take action. Rearing the phenomenon of individuals tend not to want and able to apply dietary compliance characterized by must elderly who consume food that triggers blood sugar levels far from normal and frequencies that do not fit the suggestion to eat.

Based on data that the author obtained from the Health Office of North Halmahera Regency in 2016 is 219 people with DM. The data obtained by the author of Territory work Pitu Health Center Pitu Tobelo middle recorded 37 people with DM while the authors focus only 10 people with DM consisting of 6 women and 4 men. with the criteria of age 43 years as many as 1 person, age 44 years as many as 2 people, age 47 years as many as 2 people, age 48 years as many as 1 person, 63 as many as 1 person, age 66 years 1 person and age 60 years as many as 2 people. (6)

Laor worm (polyheata) is one of the typical waters Moluccas. In March or April, at full moon or various days of the south, this biodata undergoes swarming, the event when a sea worm of a certain type clustered in abundance around the water surface to conduct an external marriage.

Polychaeta has protein content and quality amino acids and unsaturated fatty acids. Protein content of polychaeta is 56.29% and fat is 11.32% while for fatty acid content includes iococapetanoic acid (EPA), docosahexanoic acid (DHA), arachodonic acid (ARA), steric acid (SA), linoleic acid (LA) , and acid l.

## METHODS

Design Research is a frame of reference for researchers to examine the relationship between variables in a research, and is a container to answer research questions or test the truth Hypothesis. This research is a quantitative research with research design Quasi eksperimen Desing With Pre - Post test control Group. (22)

This research intends to analyze the influence of Laor Consumption (Polychaeta) on the decrease of

glucose level in blood in DM in wosia village, central tobelo north halmahera. The intervention group in this study is the patient who will undergo an intervention procedure that will consume Laor (Polycheta). In the experimental group before and after the intervention measured Glucose levels. In the control group only measured glucose levels without intervention.

**Table 5.** Research Design.

Pre Test	Treatment	Post test
O <sup>1</sup>	X (Laor)	O <sup>3</sup>
O <sup>2</sup>		O <sup>4</sup>

Information :

- O1: The results of the measurement of Sugar level before consuming Laor in the intervention group (experiment)
- O2: Result of measurement of Blood Glucose Level in Control group
- X: Laor Consuming Intervention
- O3: The results of measurement of Blood Glucose Level after consuming Laor in the intervention group (experiment)
- O4: Measurement results of blood glucose levels in the control group

**Place and Time of Inspection**

This research was conducted in Wosia Village, Tobelo middle Sub-district. North Halmahera This location is deliberately chosen because it has not been done research about Laor like this. Implementation The study was conducted for 1 month starting from the date of 1-30 months of July 2017.

**Population**

Population is the total amount consisting of subjects that have certain characteristics and qualities set by the researchers for the in-depth and then drawn conclusions. (21)

The population of this research is the patient who will undergo the intervention of Laor consumption (polychaeta). Didesa Wosia District of Central Tobelo of North Halmahera Regency.

**Sample**

Sample size was obtained from population reared patients who will undergo intervention procedure consuming Laor In Wosia Village, Tobelo middle Sub-district, North Halmahera Regency. In research, the researchers used sampling technique in the form of non probability sampling by using saturated sampling that is

the technique of sample aging when all population members are used as sample. This is done when the number of relatively small population, it seems if the sample is less than 30 people, then the population members are taken entirely to be penelitain samples. Another term saturated sample is the census, where all the population members are sampled. (21)  
The number of samples used was 10 people, with 5 samples for the experimental group and 5 control group.

**RESULTS**

This research was conducted in July 2017 in Wosia Village, Tobelo middle Sub District, with 10 respondents. This research uses quantitative research with research design "quasy experiment per-post test" This study aims to get empirical evidence and correlation between Laor Polycheta consumption to decrease Blood Blood Level in Diabetes Mellitus patient in Wosia Village.

Respondents in the intervention group of female sex as much as 4 people and while on the control group of female sex 3 people while the male sex in the intrvensi group as much as 1 person and the control group male as much as 2 men. High blood sugar levels can trigger the occurrence of Diabetes Mellitus disease.

Diabetes is a chronic hormonal disorder that causes excess blood glucose and metabolic abnormalities, resulting in complications of the eyes, kidneys, nerves, and blood vessels with lesions in the basement membrane in the examination using an electron microscope.

The influence of Laus Consusmsi (Polycheta) to reduce blood glucose level in Diabetes mellitus patient because Laor Polycheta contains compound: Palmitik acid, stearic acid, Lenoleic acid. Yang role in decreasing blood sugar level.

The result of statistical test of SPSS in obtaining significant value = 0,048 <0,05, or T value (2,810)> T table (2,776), this indicates under laor have influence to decrease blood sugar level in patient of diabetes mellitus in village Wosia region work clinic Pitu.

**Experiment Group (Pre-Test and Post-Test)**

1. Decision-making based on comparisons of T arithmetic and T tables.
  - a. If T count is greater than T table then ho is rejected
  - b. If T count smaller than T table then ho accepted
 Given T count is 2.810, while T table is searched by way

a. 5% significant level for the 2 side test then the significant level is divided into 2.5%

b. Df (degree of freedom) or degree of freedom sought by the formula of the amount of data -1 or  $5-1 = 4$

c. The test is done by 2 sides with  $df = 4$  value and significant value 0.05 then from t table got value 2,776.

Because T arithmetic lies in the  $H_0$  area is rejected, it can be concluded that blood sugar levels before and after consuming Laor (Polycheta) is not the same or different significantly.

Decision-making based on probability value

a. If the probability is  $> 0.05$ , then  $H_0$  is accepted

b. If the probability is  $< 0.05$ , then  $H_a$  is rejected for the 2-sided test, each side divided by 2 to become

1) The probability number is  $/2.00.025$ , then  $H_0$  is accepted

2) Probability  $/2.00.025$ ,  $H_a$  is rejected

It appears that T count for blood sugar level is 2,810 with probability 0.000 for 2 side test, probability number is  $0.000 / 2 = 0.00$  then  $H_0$  is rejected While T count for blood sugar level is  $0.00 > 0.025$ , with probability for test 2 side probability number is then  $H_a$  rejected.

### Control Group (Pre Test and Post Test)

Decision-making based on comparisons of T arithmetic and T tables

a. If t arithmetic greater than t table then  $H_0$  rejected

b. If t count is smaller than t table then  $H_0$  accepted

Given T count is -1.000 whereas T table is searched by way

a. 5% significant level for the 2 side test then the significant level is divided into 2.5%

b. Df (degree of freedom) or degree of freedom sought by the formula of the amount of data -1 or  $5-1 = 4$

c. with a value of  $df = 4$  and a significant value of 0.05 then from t table obtained value of 2776.

### DISCUSSION

Average on Experiment Group before consuming Laor (Polycheta) pre test experience is high enough, then given consumption of laor during one morning and evening turn out to decrease far enough. After the re-examination / post test While in the control group showed below there is no difference between the pre and post in the control group / group without the consumption of laor polycheta which means blood sugar

levels remain the same without the consumption of laor where the blood sugar level of respondents: good 0 %, moderate 0%, and high 100%.

1. Methods used to reduce sugar content by way of Laor consumption that has been dried 1 Plate of Sea Worm (Polychaeta) measuring P: 26 cm, L: 7 cm with weight: 200 grams divided into 7 parts, then each part divided by 2 (consumption in the morning and evening).

2. Respons body against the tuntutan dihadapi decrease blood sugar levels in patients with DM, Measurement: The researcher gave the observation sheet of Measuring Instrument using Blood Sugar Stick Using Likret scale: Score 1: Good Score 2: Medium Score 3: High category KGDS Good: 110-145 Mg / dl Medium 154-200 Mg / dl Height  $> 200$  Mg / dl.

### CONCLUSION

Reared the results of research, it can be concluded below

A. Average in Experiment Group before consuming Laor (Polycheta) pre test experience is high enough, then given consumption of laor during one morning morning and evening it has decreased far enough. After re-examination / post test.

B. While in the control group showed there was no significant difference between pre and post in the control group without the consumption of laor polycheta which means the blood sugar level remained the same without the consumption of laor where the blood sugar level of the respondent was either 0%, and 0 %, and high 100%.

C. Then  $H_0$  is rejected  $H_a$  accepted if  $\alpha < 0.05$  in this study is known down there is a significant influence with the consumption of Laor polycheta in patients with Diabetes Mellitus.

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