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EFFECT OF WATER CONSUMPTION OF LEILEM LEAF RUPTURE (CLERODENDRUM) AGAINST CHOLESTEROL LOWERING IN HYPERCHOLESTEROLIC PATIENTS IN PALE VILLAGE, SOUTH TOBELO SUB-DISTRICT NORTH HALMAHERA

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ABSTRACT

Cholesterol is a type of white fat. Cholesterol can be found in some foods we consume. Cholesterol is also made through the interceptor of all body cells. But most important is silver cell. Most cholesterol is a basic requirement for a healthy body. This study aims to determine the effect of Leaf Rice Water Consumption (Clerodendrum) on Cholesterol Levels Reduction in Hypercholesterol Patients in Pale Village, South Tobelo Subdistrict, North Halmahera Regency, 2017. Type of research used is "quasy eskperiment design with Pre-post test control group ". With a large sample of 10 respondents in Pale Village sampling by non probability sampling type consecutive sampling. The result of T-test analysis showed that the effect of Leaf Rinse Water on Cholesterol level decrease with T-count value is $3.560 > T\text{-table value} = 2.776$ Therefore the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. From the results of research has obtained significant value = 1.000 thus has proved that the experimental group / intervention H_0 rejected and H_a accepted (where sig $< 0,05$). And in the control group obtained sig = (0,208). So it has proved that H_0 accepted because sig value $> 0,05$.

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INTRODUCTION

Based on WHO (World Health Organization 2011) data. That heart disease is the number one cause of death in the world. A study conducted by the Lipid Research Clinic in the United States found a similar correlation between total blood cholesterol levels and heart disease risk. The study found that every 1% reduction in total blood cholesterol levels, it will decrease the risk of heart disease by 25% (1). According to the Framingham Heart Study the risk of heart disease increases when total cholesterol levels are greater than 200 mg / dL, and will increase three to five times when it exceeds 300 mg / dL.

Cholesterol is a complex fatty compound that resides in every cell in the body. Cholesterol serves as a starting material for the formation of bile, cell wall, vitamins and certain hormones, such as sex hormones and others (2).

Cholesterol is an essential ingredient in the body needed to regulate chemical processes in the body, but high cholesterol can lead to atherosclerosis which will ultimately affect coronary heart disease (3). Hypercholesterolemia is a condition that the amount of blood cholesterol exceeds normal limit.

Cholesterol sources are obtained from foods such as offal, egg yolk, shrimp, shellfish and lean meat (4). High total cholesterol levels will form atherosclerosis that can cause hypertension and the involvement of the blood vessels of the brain, the heart and blood vessels of the legs. Blockage in the blood vessels of the brain causes cerebrovascular disease or cerebrovascular disease such as stroke. Blockage of the heart's blood vessels can cause cardiovascular diseases such as coronary heart disease, whereas blockage of the leg veins causes peripheral blood vessel disease. This condition often occurs in the legs that can cause complaints of pain, cramps, numbness, and even gangrene (5)

The highest prevalence of total cholesterol was European (54%) and American (48%). While the lowest prevalence is Africa (23%) and Southeast Asia (30%). The prevalence of total cholesterol increases with the income of the country. Low income countries, a quarter of the adult population increases their total cholesterol levels. While countries with middle and high opinion levels, each about one-third and more half (50%) of adult population increased their total cholesterol levels (WHO, 2011).

Based on Basic Health Research 2013 prevalence heart disease in Bengkulu is 5% (Risksdas 2013).

Based on Medical Record RSUD data. M Yunus Bengkulu in 2011 recorded the number of patient visits as many as 3268 people who have heart disease. In 2012 3461 patients. While in the year 2013 that is counted from January-September, 2013 recorded the number of heart patient visits as much as 2309 people. All these facts show that the threat of heart disease is increasingly real and continues to show improvement.

Based on data from clinic Kupa Kupa, South Tobelo District, North Halmahera Regency from January to May 2017 is 10 patients. (Monthly Report of Kaka Kupa Kupa Tobelo Selatan 2017).

Leilem (*Clerodendrum*) Plant is a plant that grows and used as a plant and traditional medicine in Minahasa area.

Leilem plants are part of the genus *Clerodendrum* L (family: *Lamiaceae*) containing active chemical compounds such as phenols, flavonoids, terpenoids, and steroids.

Leilem leaf (*Clerodendrum Minahasae*) is a tropical plant that is about 2-4 meters high in the form of leaf eggs, shiny green with a sense of bitter sponge and bitter sedekit.

From the above background researchers are interested to conduct research on "Leilem Leaf Consumption Influence (*Clerodendrum Minahasae*) Against Decrease Cholesterol Levels In Hypercholesterolemia Patients In Work Area of Kupa Kupa Clinic South Tobelo Sub-district of North Halmahera Regency".

METHODS

This research design Quasy Experiment Design Control Group with pretest and posttestcontrol group design that there are two groups that each selected at random or random. The first group was given treatment and the second group was not treated. The treated group is called the experimental group and the untreated group is called the control group.

After that, one measurement was done in the Pretest for both groups, then treated in the first group (experiment group) and in the second group (control group) was not treated. After that, the posttest was done in both groups. It aims to look at comparisons in the experimental group and the control group.

The research design is described as follows:

Pretest		Posttest
O ₁	x	O ₃
O ₂		O ₄

Information :

- O1 = Measurement of cholesterol level before consumption Water Decoction of leilem leaf in intervention group (experiment)
- O2 = Measurement of cholesterol levels in the control group
- X = Water Consumption Intervention Decoction leaves leilem
- O3 = Results of measurement of cholesterol after consuming Water Leaf Rinse leaves in the intervention group (experiment)
- O4 = Results of cholesterol measurement in the control group

RESULTS

The results of statistical test analysis (SPSS) using T test (T arithmetic and T table) showed that Leaf Rinse Water Leaf has an effect on the decrease of Cholesterol level in Hiperkolesterol patient in Pale Village, South Tobelo Subdistrict, North Halmahera Regency.

From the results of this study showed the difference in total cholesterol levels with sex. There is a significant relationship between sex and cholesterol level. Women have a high total cholesterol risk (> 200 mg / dl) 2.19 times compared with men.

The study showed that men at 40-59 years of age were 3.26 times more likely to have Hiperkolesteromia, the risk decreased at age > 60 years to 2.05 times. In hiperkolesteromia raspa women is highest at age > 60 years, that is equal to 3,19 times.

The influence of leuced leaf drink consumption to decrease cholesterol levels of hypercholesterolemia because leilem leaves contain flavonoid compound and 9E Octadecenoic acid (as.oleat). decreased cholesterol levels.

Previous research by Omale and Ugwu (2011) that vegetables are high in nutrients because they contain high carbohydrates, minerals and vitamins, is a source of fiber that can lower body cholesterol levels, and reduce the risk of heart disease. The difference between research on the effect of leuced leaf drinking water consumption, and previous research about the influence of consumption of boiled water of ged leaf to decrease Cholesterol level in Hiperkolestrol patient. Where the content of the gedy leaves is greater.

Cholesterol Levels in Hypercholesterol Patients After Intervention of Water Consumption Consumption of Leaf Raising Leaves Experiments.

The results of cholesterol levels in patients with hypercholesterol after Intervention leilem leaf consumption are: 186 mg / dl, 193 mg / dl, 188 mg / dl, 177 mg / dl, 188 mg / dl.

Effect Analysis of Water Consumption of Leilem Leaf Stew Against Cholesterol Decrease In Hypercholesterol Patients.

This research is known that there is a significant influence with the intervention of water leucam leaf consumption in the experimental group of hypercholesterol patients. It can be known from result of analysis of SPSS 23.0, with T-test, got result that is $\rho = 0,024 < 0,05$.

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 Cholesterol levels before and after consuming Leaf Rice Water Leaf is not the same or different significantly. Based on comparison t count with t table: If static count (figure t output) $>$ static table, (t table) then H_0 is rejected, and H_a accepted.

T-test results showed the value of T arithmetic 3.560 (greater than the value of T table 2.776), with the value of $\rho = 0.024$. From the results of research have been obtained $\rho = 0,024$ thus has proved that H_a accepted and H_0 rejected, (if value $\rho < 0.05$). which means there is a significant influence of leuced leaf tea leaf consumption to decrease cholesterol levels in patients with hypercholesterolemia.

Consume leilem leaf water well and regularly can menrunkan cholesterol levels in people with hypercholesterolemia. Disenchant (9E) -9-Octadecenoic Acid, which belongs to the class of flavonoids, phenols, and steroids. That plays a role in decreasing cholesterol levels.

DISCUSSION

1. Leilem clerodendruM is a tropical plant that grows around the yard of the house with the shape of oval leaves, shiny green berwrna with a bit spicy taste and a bit bitter in use sabagai food and traditional medicine in the Minahasa Region. Consume Water Leaf Leaf Stew Take the leaves as much as 7 pieces of Leilem leaf wash and then dry, boil leilem leaves for 15 minutes (to boil) at 95 with a water size of 1000 ml, strain the leucem leaf drinking water into a glass, drinking 250 ml 2x a day) for 1 week.

2. From cholesterol level ≥ 240 mg / dl optimized to < 200 mg / dl, the method of measuring the research was done by taking blood samples for cholesterol test, measuring instrument using cholesterol, normal cholesterol level < 200 / mg / dl cholesterol levels abnormal ≥ 200 mg / dl.

REFERENCES

1. Fatmah. Gizi usia lanjut. Jakarta: penerbit Erlanga. 2010.
2. Gondosari, A.H.. Kolesterol, asam lemak jenuh, dan asam lemak tak jenuh Dalam: Widjan FR, editor. The Miracle Of 5 Elements Energy Depok: E-tera. (2010).
3. Rahayu T.. Kadar Kolesterol Darah Tikus Putih (*Rattus norvegicus* L.) setelah pemberian cairan Kombucha Per-Oral. Jurnal. Jurnal penelitian sains dan teknologi FKJP UMS 6 (2) Pustaka, 2005.
4. Widuri H, ddk,. Kompenen Gizi & Bahan Makanan untuk Kesehatan. Yogyakarta : Gosyen Publishing, 2013.
5. Garnadi, Yudi. *Hidup Nyaman Dengan Hiperkolesterol*. Jakarta: Agromedia, 2012.
6. Misnadiarly. Obesitas. Jakarta Pustaka Obor Populer, 2007.
7. Nurrahmani, Ulfah. *Stop ! Kolesterol Tinggi*. Yogyakarta : Group Relasi Inti Media, 2012.
8. WHO. Global Atlas on Cardiovascular Disease Prevention and Control. Mendis S, Puska P, Norrving B (eds). Geneva. Diakses pada 15 april 2016 dari http://www.who.int/cardiovascular_diseases/publications/atlas_cvd/en/index.html.
9. Durstine, L.J. *Program Olahraga : Kolesterol Tinggi*. Yogyakarta. PT Citra Aji Parama. 2012.
10. Laba Nur Songo Makalah Kolesterol <http://labanursongo.blogspot.com,id/2014/tml>. Diakses 19 April (2014).
11. Angga Putra Tanda - Tanda Dan Gejala Kolesterol <http://www.anggaputra.com/>. Diakses 19 April (2014).
12. Mampuni & Wulandari. *Cara Jitu Mengatasi Kolesterol*. Yoyakarta, 2011.
13. Soetardjo, Susirah.. Gizi usia dewasa in: gizi seimbang dalam daur kehidupan. (Ed). Jakarta: Gramadia Pustaka Utama, 2011.
14. Suiroka, I. P. Penyakit degenerative. Yogyakarta : Nuha Madika, 2012.
15. Kurniasari, dkk. Kunci tepat diet dan sehat. Jogjakarta: Trans Ideal Pubblising, 2014.
16. Mapanawang Arend. Riset di bidang Kesehatan: Tobelo, Medika Mandiri Halmahera 2016.
17. Riset Kesehatan Dasar (Riskesdas). Jakarta Badan Penelitian dan pengembangan Kesehatan. Departemen Kesehatan Republik Indonesia, 2013.
18. Dolfi Buluran. Influence Of Consuming Lilin Vegetable (*Setaria Palmifolia*) To Reduce Total Cholesterol At Hiperkolesterolemia Sufferer International Journal of Health Medicine and Current Research 2016; 1(02): 125-130. DOI: 10.22301/IJHMCR. 2528-3189.125.
19. Deiby Rumbaja dkk, The Effect Of Gedi Leaf Decoction (*Abelmoschusmanihot*) Toward Hb Increasing At Perturition Mom With Anemia, International Journal of Health Medicine And Current Research, 2016; 1(01): 70-75. DOI: 10.22301/IJHMCR.2528-3189.70.
20. Cindy Kalangia, Vanda S. Kamua, Maureen Kumaunanga* *Barcode* DNA Tanaman Leilem (*Clerodendrum minahassae*L.) Berdasarkan Gen *matK*.
21. Laboratorium Kesehatan Daerah Kandungan dan Senyawa daun leilem. Jln . Raya . Rawasari Selatan No. 2 Jakarta Pusat, 2017.