THE EFFECT OF DRINK MADE FROM A SINGLE GARLIC (*LANANG*), APPLE VINEGAR, RED GINGER, HONEY AND LEMON ON TRIGLYCERIDE AND TOTAL CHOLESTEROL LEVELS IN HYPERCHOLESTEROLEMIA WHITE RATS

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ABSTRACT

Background: Hypercholesterolemia is one of the causes of degenerative diseases related to the heart, blood vessels, and diseases related to blockages in blood vessels. Efforts that can be made to help reduce triglyceride and total cholesterol levels are by consuming natural ingredients, which one that contains antioxidant compounds such as single garlic (*lanang*), apple cider vinegar, red ginger, honey and lemon so that it is safe for consumption and does not cause harmful side effects for humans body if consumed for long term.
Objective: To determine the effect of drink made from a single garlic (*lanang*), apple cider vinegar, red ginger, honey, and lemon on triglyceride and total cholesterol levels in hypercholesterolemic white rats.
Methods: A true-experimental study with a Controlled Pre-Post test design which was carried out at the PAU Laboratory, Gadjah Mada University, Yogyakarta. The number of samples was 30 male Sprague Dawley rats divided into 5 groups consisting of a negative control group, a positive control group and treatment groups P1, P2, P3. Drink dosage formula for group P1 : 0.75ml/200gramBB/day, P2: 1.5ml/200gramBB/day, and P3: 3ml/200gramBB/day. Triglyceride and total cholesterol levels were measured before and after treatment. Data analysis using Paired T-test and One-Way ANOVA followed by Post Hoc LSD test.
Results: The average pre-post test triglyceride levels in groups P1, P2, P3 were 134.09±3.52; 134.60±2.94; 135.35±5.45 becomes 111.76±2.13; 94.48±3.24; 89.95±2.21;. While the average pre-post test total cholesterol levels in groups P1, P2, P3 were 194.82±4.97; 193.76±5.67; 197.41±4.13 becomes 155.78±4.14; 131.50±7.38; 115.88±6.63;. Provision of intervention drinks in all treatment groups significantly decreased triglyceride and total cholesterol levels ($p<0.05$). There was a significant difference in triglyceride and total cholesterol levels between groups with p-value = 0.000 ($p <0.05$).
Conclusion: There is an effect of giving drink that made from a single garlic (*lanang*), apple cider vinegar, red ginger, honey, and lemon at a dose of 0,75ml/200gramBB/day, 1,5ml/200gramBB/day and 3ml/200gramBB/day to reduce triglycerides and total cholesterol levels in hypercholesterolemic white rats.

Keywords: herbal drink formula, hypercholesterolemia, natural ingredients compounds, total cholesterol, triglycerides, white rats.

PENGARUH MINUMAN BAWANG PUTIH TUNGGAL (*LANANG)*, CUKA APEL, JAHE MERAH, MADU, DAN LEMON TERHADAP KADAR TRIGLISERIDA DAN KOLESTEROL TOTAL PADA TIKUS PUTIH HIPERKOLESTEROL

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ABSTRAK

Latar belakang: Hiperkolesterol merupakan salah satu penyebab timbulnya penyakit degeneratif yang berhubungan dengan jantung, pembuluh darah, serta penyakit yang berhubungan dengan sumbatan pada pembuluh darah. Upaya yang dapat dilakukan untuk membantu menurunkan kadar trigliserida dan kolesterol total adalah dengan mengonsumsi bahan alami yang salah satunya mengandung senyawa antioksidan yaitu bawang putih tunggal (*lanang*), cuka apel, jahe merah,madu dan lemon sehingga aman dikonsumsi serta tidak menimbulkan efek samping berbahaya bagi tubuh jika dikonsumsi jangka panjang.
Tujuan: Mengetahui pengaruh minuman bawang putih tunggal (*lanang*), cuka apel, jahe merah, madu, dan lemon terhadap kadar trigliserida dan kolesterol total pada tikus putih hiperkolesterol.
Metode: Penelitian *true-eksperimental* dengan desain *Pre-Post test Controlled* yang dilaksanakan di Laboratorium PAU Universitas Gadjah Mada Yogyakarta. Jumlah sampel 30 ekor tikus putih *Sprague Dawley* jantan dibagi menjadi 5 kelompok yaitu kelompok kontrol negatif, kontrol positif dan kelompok perlakuan P1, P2, P3. Formula dosis minuman untuk kelompok P1 : 0,75ml/200gramBB/hari, P2 : 1,5ml/200gramBB/hari, dan P3 : 3ml/200gramBB/hari. Kadar trigliserida dan kolesterol total diukur sebelum dan sesudah perlakuan. Analisis data menggunakan uji *Paired T-test* dan *One-Way ANOVA* dilanjutkan dengan uji *Post Hoc LSD.*
Hasil: Rata-rata kadar trigliserida *pre-post test* pada kelompok P1, P2, P3 adalah 134.09±3.52; 134.60±2.94; 135.35±5.45 menjadi 111.76±2.13; 94.48±3.24; 89.95±2.21;. Sedangkan rata-rata kadar kolesterol total *pre-post test* pada kelompok P1, P2, P3 adalah 194.82±4.97; 193.76±5.67; 197.41±4.13 menjadi 155.78±4.14; 131.50±7.38; 115.88±6.63;. Pemberian minuman intervensi pada semua kelompok perlakuan berpengaruh terhadap penurunan kadar trigliserida dan kolesterol total secara signifikan ($p<0,05$). Terdapat perbedaan yang bermakna kadar trigliserida dan kolesterol total antar kelompok dengan nilai $p=0.000$ ($p<0.05$).
Kesimpulan: Ada pengaruh pemberian minuman bawang putih tunggal (*lanang*), cuka apel, jahe merah, madu, dan lemon dengan dosis 0,75ml/200gramBB/hari, 1,5ml/200gramBB/hari dan 3ml/200gramBB/hari dalam menurunkan kadar trigliserida dan kolesterol total pada tikus putih hiperkolesterol.

Kata Kunci : formula minuman herbal, hiperkolesterol, kolesterol total, senyawa bahan alami, tikus putih, trigliserida.