

PENGARUH PEMBERIAN KOMBINASI EKSTRAK TEH HIJAU (*Camellia sinensis*) DAN EKSTRAK KAYU MANIS (*Cinnamomum burmanii*) TERHADAP KADAR TRIGLISERIDA TIKUS *SPRAGUE DAWLEY* YANG DIINDUKSI KOLESTEROL MURNI

INTISARI

Grace Marselina Datutasik¹, Sunarti², Dian C.Sulistiyoningrum¹

Latar belakang : Sekitar 30 persen kematian di Indonesia disebabkan oleh penyakit kardiovaskular dimana peningkatan kadar trigliserida diketahui sebagai salah satu faktor risiko independen dan menjadi target sekunder penatalaksanaan gangguan profil lipid. Pemanfaatan pangan fungsional berbasis lokal sebagai alternatif upaya kuratif perlu dikembangkan contohnya teh hijau (*Camellia sinensis*) dan kayu manis (*Cinnamomum burmanii*) dengan kandungan flavonoid, *MHCP*, sinamaldehyd yang terbukti mempengaruhi penurunan kadar trigliserida. Penelitian mengenai teh hijau dan kayu manis sudah banyak dilakukan namun dalam bentuk kombinasi keduanya belum pernah dilakukan.

Tujuan : Untuk mengetahui pengaruh pemberian ekstrak teh hijau dan kayu manis terhadap kadar trigliserida tikus *Sprague Dawley* yang diinduksi kolesterol murni.

Metode : Penelitian eksperimental murni dengan desain *pre and post test with control group design*. Sebanyak 30 ekor tikus *Sprague Dawley* dibagi dalam 5 kelompok. Kelompok K1 (pakan standar AIN-93), kelompok K2 (pakan standar AIN-93 + induksi kolesterol murni), kelompok K3 (pakan standar AIN-93 + induksi kolesterol murni + kombinasi ekstrak teh hijau dan kayu manis 54 mg/200gBB/hari), kelompok K4 (pakan standar AIN-93 + induksi kolesterol murni + kombinasi ekstrak teh hijau dan kayu manis 108 mg/200gBB/hari) dan kelompok K5 (pakan standar AIN-93 + induksi kolesterol murni + kombinasi ekstrak teh hijau dan kayu manis 216 mg/200gBB/hari). Adaptasi selama 3 hari, dilanjutkan dengan pemberian kolesterol murni selama 14 hari. Kemudian dilakukan pengukuran kadar trigliserida lalu pemberian kombinasi ekstrak teh hijau dan kayu manis selama 21 hari. Pada akhir penelitian kadar trigliserida diukur kembali.

Hasil : Pemberian kombinasi ekstrak teh hijau dan kayu manis selama 21 hari pada dosis 54 mg/200gBB, 108 mg/200gBB, 216 mg/200gBB berpengaruh terhadap penurunan kadar trigliserida tikus *Sprague Dawley* yang diinduksi kolesterol murni

Kesimpulan : Terdapat perbedaan signifikan ($p < 0.05$) pada kadar trigliserida tikus *Sprague Dawley* yang diinduksi kolesterol murni setelah pemberian kombinasi ekstrak teh hijau dan ekstrak kayu manis.

Kata kunci : teh hijau, kayu manis, flavonoid, *MHCP*, sinamaldehyd, hipertrigliseridemia, kardiovaskular, degeneratif

¹ Program Studi Gizi Kesehatan Fakultas Kedokteran Universitas Gadjah Mada

² Bagian Biokimia Fakultas Kedokteran Universitas Gadjah Mada

EFFECT OF GREEN TEA (*Camellia sinensis*) AND CINNAMON (*Cinnamomum burmanii*) EXTRACT COMBINATION ON TRIGLYCERIDE LEVELS IN SPRAGUE DAWLEY RATS WITH PURE CHOLESTEROL INDUCED

ABSTRACT

Grace Marselina Datutasik¹, Sunarti², Dian C.Sulistyoningrum¹

Background: Approximately thirty percent of deaths in Indonesia are caused by CVD in which escalation of triglycerides levels are known as one of the independent risk factors and become a secondary target of profile lipid disorder treatment. Utilization of locally-based functional food as a curative alternate needs to be developed as a supportive therapy for example green tea (*Camellia sinensis*) and cinnamon (*Cinnamomum burmanii*). These plants are rich with flavonoid, MHCP, cinnamaldehyde which are proven to influence the lowering of triglycerides levels. Studies about green tea and cinnamon have been done many times yet the combination of both has never been done.

Objective: To discover the effect of green tea and cinnamon extract combination on triglyceride levels in Sprague Dawley (SD) rats with pure cholesterol induced.

Method: Truly experimental pre and post-tests with a control group design was used in this study. Thirty male SD rats were divided into 5 groups. Group K1 (standard diet AIN-93), group K2 (standard diet AIN-93 + purified cholesterol), group K3 (standard diet AIN-93 + purified cholesterol + green tea and cinnamon extract combination (54mg/200gbw/day), group K4 (standard diet AIN-93 + purified cholesterol + green tea and cinnamon extract combination (108mg/200gbw/day), and group K5 (standard diet AIN-93 + purified cholesterol + green tea and cinnamon extract combination (216mg/200gbw/day). Adapted in 3 days, then hypertriglyceridemia was induced by giving purified cholesterol after 14 days. Then, triglycerides were measured (pre-test) and the intervention phase was continued by giving the combination of green tea and cinnamon extract for 21 days. At the end of the experiment, the triglyceride levels were measured (post-test).

Result: The combination of green tea and cinnamon extract at dosage 54mg/200gbw/day, 108mg/200gbw/day, and 216mg/200gbw/day is proven to lower triglyceride levels in SD rats induced with pure cholesterol.

Conclusion: There were significantly ($p < 0,05$) different triglyceride levels in SD rats induced with pure cholesterol after the administration of green tea and cinnamon extract combination at every dosage.

Keyword : green tea, cinnamon, flavonoid, MHCP, cinnamaldehyde, hypertriglyceridemia, CVD

¹ Department of Nutrition, Faculty of Medicine, Gadjah Mada University

² Department of Biochemistry, Faculty of Medicine, Gadjah Mada University