

**DAMPAK KONSUMSI EKSTRAK ANTOSIANIN BERAS MERAH,
KULIT KEDELAI HITAM DAN CAMPURANNYA TERHADAP PROFIL
LIPID PADA TIKUS HIPERGLIKEMIA**

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INTISARI

Salah satu faktor risiko pada DM tipe 2 yaitu dislipidemi, yaitu gangguan metabolisme lipid berupa peningkatan kadar kolesterol total, trigliserida (TG), *low density lipoprotein* (LDL), dan penurunan kadar *high density lipoprotein* (HDL). Stress oksidatif pada DM tipe 2 akan mengurangi jumlah transport glukosa dan rusaknya sinyal insulin. Antosianin merupakan salah satu senyawa antioksidan yang dapat menurunkan stress oksidatif. Dalam penelitian ini kulit kedelai hitam dan beras merah digunakan sebagai sumber ekstrak antosianin. Tujuan dari penelitian ini untuk mengetahui dampak konsumsi ekstrak antosianin beras merah, kulit kedelai hitam, dan campurannya terhadap profil lipid, glukosa darah, marker stress oksidatif dan asam urat pada tikus diabetes mellitus tipe 2.

Hasil penelitian menunjukkan ekstrak antosianin yang diberikan pada tikus *Sprague Dawley* jantan yang mengalami hiperglikemia dapat memperbaiki profil lipid dengan meningkatkan kadar HDL pada kelompok beras merah, kulit kedelai hitam, dan campuran berturut-turut 254.71%, 383.77%, dan 321.85%. Pada kelompok beras merah kadar LDL, trigliserida, total kolesterol, MDA, dan asam urat menurun, dengan penurunan berturut-turut 13.12%, 26.91%, 24.59%, 36.46%, dan 50.62%. Kelompok kulit kedelai hitam mengalami penurunan kadar LDL, trigliserida, total kolesterol, MDA, dan asam urat berturut-turut 15.86%, 28.85%, 26.38%, 47.59%, dan 57.35%. Campuran ekstrak antosianin beras merah dan kulit kedelai hitam menurunkan kadar LDL, trigliserida, total kolesterol, MDA, dan asam urat berturut-turut 31.64%, 32.60%, 34.11%, 46.13%, dan 55.67%. Peningkatan kadar HDL berkorelasi negatif dengan kadar LDL, trigliserida, total kolesterol, MDA, dan asam urat. Penurunan kadar LDL, kolesterol, trigliserida, MDA darah, glukosa darah dan asam urat saling berkorelasi positif, dengan tingkat korelasi yang kuat.

Kata kunci : beras merah, kedelai hitam, antosianin, diabetes mellitus tipe 2, profil lipid

**THE IMPACT OF CONSUMPTION RED RICE ANTHOCYANIN
EXTRACT, BLACK SOYBEAN SEED COAT ANTHOCYANIN
EXTRACT AND MIXTURE OF THEM AGAINST THE LIPID PROFILE
IN HYPERGLYCEMIC RATS**

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ABSTRACT

One of the factors in diabetes mellitus type 2 is dyslipidemia, that is a disorder of lipid metabolism in the form of elevated total cholesterol level, triglycerides (TG), low density lipoprotein (LDL) level, and decreased high-density lipoproteins (HDL) level. Oxidative stress in DM type 2 will reduce the amount transport glucose and the breakdown of a signal insulin. Anthocyanin is one of antioxidant compound that can lower oxidative stress on diabetes mellitus type 2. In this research the black soybean seed coat and red rice it is used as a source of anthocyanin. The purpose of this research to find out the impact consumption of red rice anthocyanin extract (EA-BM), black soybean seed coat (EA-KH), and a mixture of red rice and black soybean seed coat anthocyanin extract (EA-BMKH) against the lipid profile, blood glucose, oxidative stress marker and uric acid in hyperglycemic rats.

The result showed anthocyanin extracts given to Sprague Dawley male rats that experienced hyperglycemia can improve lipid profile by increasing levels of HDL to a group of EA-BM, EA-KH, and EA-BMKH to 254.71%, 383.77%, and 321.85% respectively. On EA-BM group the LDL, triglycerides, total cholesterol, MDA, and uric acid levels decreasing, was are 13.12%, 26.91%, 24.59%, 36.46%, and 50.62% respectively. On EA-KH decreased of LDL, triglycerides, total cholesterol, MDA, and uric acid levels are 15.86%, 28.85%, 26.38%, 47.59%, and 57.35% respectively. On EA-BMKH group the lowering of LDL, triglycerides, total cholesterol, MDA, and uric acid levels are 31.64%, 32.60%, 34.11%, 46.13%, and 55.67% respectively. The increased of HDL levels correlate negatively with LDL, triglycerides, total cholesterol, MDA, and uric acid levels. The decrease of LDL, cholesterol, triglycerides, MDA, blood glucose and blood uric acid levels were strongly positive correlated each other.

Keyword : red rice, black soybean, anthocyanin, diabetes mellitus type 2, lipid profile