

# **PENGARUH PEMBERIAN CERSA MORI TERHADAP KADAR KOLESTEROL TOTAL DAN MALONDIALDEHID TIKUS PUTIH YANG DIINDUKSI ALOKSAN**

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## **Abstrak**

Diabetes Melitus (DM) berkaitan dengan peningkatan kadar kolesterol total dan dapat menimbulkan stres oksidatif yang ditandai dengan peningkatan produksi malondialdehid (MDA). Pati resisten dan flavonoid dalam Cersa Mori (CM) memiliki sifat hipokolesterolemik dan aktivitas antioksidan yang mampu menekan stres oksidatif. Penelitian ini dilakukan untuk menganalisis pengaruh pemberian CM terhadap kadar kolesterol total dan MDA pada tikus putih yang diinduksi aloksan. Penelitian ini merupakan penelitian eksperimental dengan desain *Pre and Post-Test Control Group*, 32 ekor tikus galur *Wistar* dibagi menjadi 4 kelompok, yaitu kelompok kontrol negatif (K1), kontrol positif 1 (K2), kontrol positif 2 (K3) dan perlakuan yang diberikan 5 g/200gbb/hari CM (K4). K2, K3 dan K4 diinduksi aloksan dengan dosis 125 mg/kgbb. Masa intervensi dilaksanakan selama 30 hari. Aktivitas antioksidan dan total flavonoid CM masing-masing di analisis menggunakan metode reduksi DPPH dan metode kolorimetri. Pengukuran kadar kolesterol total dan MDA masing-masing dilakukan dengan metode CHOD-PAP dan metode TBARS. Kadar kolesterol total dan MDA dianalisis dengan uji *Paired Sample T-test* dan *One Way ANOVA*. Hasil penelitian menunjukkan adanya penurunan kadar kolesterol tertinggi pada K2 dan penurunan kadar MDA tertinggi pada K4. Pemberian CM mampu menurunkan kadar kolesterol total dan MDA tikus putih yang diinduksi aloksan secara signifikan ( $p < 0,05$ ).

**Kata Kunci:** Diabetes Melitus, Flavonoid, Pati Resisten, Kolesterol Total, Malondialdehid

# **THE EFFECTS OF CERSA MORI ADMINISTRATION ON TOTAL CHOLESTEROL AND MALONDIALDEHYDE LEVELS OF WHITE RATS INDUCED BY ALLOXAN**

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## **Abstract**

Diabetes mellitus (DM) is associated with increased total cholesterol levels and oxidative stress characterized by high level of malondialdehyde (MDA). Resistant starch and flavonoids in Cersa Mori (CM) have hypocholesterolemic properties and antioxidant activity that suppresses oxidative stress. This study was conducted to analyze the effect of CM on total cholesterol and MDA levels in white rats induced by alloxan. This research is an experimental study with pre and post-test control group design, 32 Wistar strain rats were divided into 4 groups, namely negative control group (K1), positive control 1 (K2), positive control 2 (K3) and intervention group treated with 5 g/200g bw/day CM (K4). K2, K3 and K4 were induced by alloxan at a dose of 125 mg/kg bw. The intervention period was carried out for 30 days. Antioxidant activity and total CM flavonoids were analyzed by the DPPH reduction method and colorimetric method respectively. Total cholesterol and MDA levels were measured by the CHOD-PAP method and TBARS method respectively. Total cholesterol and MDA levels were statistically analyzed by Paired Sample T-test and One Way ANOVA. The highest lowering effects in total cholesterol and MDA levels were found in K2 and K4 respectively. CM significantly lowered total cholesterol and MDA levels of white rats induced by alloxan ( $p < 0.05$ ).

**Keywords:** Diabetes Melitus, Flavonoid, Resistant Starch, Total Cholesterol, Malondialdehyde