Pengaruh Pemberian Kefir Susu Kambing dan Kefir Susu Kedelai terhadap Aktivitas Fagositosis Makrofag Tikus Diabetes

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Intisari

Kefir merupakan salah satu pangan fungsional berbasis probiotik yang berfungsi meningkatkan pertumbuhan bakteri probiotik dalam tubuh. Kandungan antioksidan dalam kefir susu kambing berupa peptida bioaktif dan isoflavon dalam kefir susu kedelai dapat memperbaiki sel β pankreas tikus diabetes melitus (DM). Penelitian ini bertujuan untuk mengetahui pengaruh pemberian kefir susu kambing, kefir susu kedelai dan kefir susu kombinasi (50% susu kambing dan 50% susu kedelai) terhadap aktivitas fagositosis makrofag pada tikus *Wistar* diabetes. Rancangan penelitian menggunakan *randomized controlled trial* (RCT), tikus Wistar jantan berumur 2-3 bulan yang dibuat diabetes dengan 5 kelompok perlakuan, 1: tikus normal sebagai kontrol negatif, 2. tikus dibetes sebagai kontrol positif, 3: tikus diabetes yang diberi kefir susu kambing, 4: tikus diabetes yang diberi susu kedelai.dan 5: tikus diabetes dengan pemberian kefir kombinasi dari 50% kefir susu kambing dan 50% kefir susu kedelai. Analisis data dilakukan menggunakan uji ANOVA satu jalur. Hasil penelitian menunjukkan adanya perbedaan yang bermakna antara kefir susu kambing, kefir susu kombinasi, dan kefir susu kedelai, pada kapasitas fagositosis (p≤0,01) dan indeks fagositosis (p≤0,05). Kapasitas dan indeks fagositosis tertinggi terdapat pada perlakuan kefir susu kambing disusul kefir susu kombinasi, sedangkan kefir susu kedelai tidak berpengaruh terhadap kapasitas dan indeks fagositosis. Kesimpulan, kefir susu kambing dan kefir susu kombinasi (50% kefir susu kambing dan 50% kefir susu kedelai) dapat meningkatkan aktivitas fagositosis, sedangkan kefir susu kedelai tidak dapat meningkatkan aktivitas fagositosis makrofag peritoneal pada tikus diabetes.

Kata kunci: kefir, diabetes melitus, kapasitas fagositosis, indeks fagositosis

Effect of Goat Milk Kefir and Soy Milk Kefir on Phagocytosis Macrophages Activity in Diabetic Rat

Abstract

Kefir is one of the functional food which is based on probiotics, and used to enhance the probiotics bacterial growth in body system. Antioxidants, specifically the isoflavon in soy milk kefir and bioactive peptide in goat milk kefir, can regenerate β pancreatic cell in diabetes mellitus (DM) in rat. The objective of this research was to understand the effect of goat milk kefir, soy milk kefir, and combined milk kefir (50% of goat milk and 50% of soy milk) on phagocytosis macrophages activity in diabetic Wistar rat. Method of research was randomized controlled trial (RCT) research using male Wistar rat aged 2-3 months that purposedly treated to be diabetes, with 5 group of treatment, 1: normal rat as the negative control, 2: diabetic rat as the positive control, 3: diabetic rat with goat milk kefir, 4: diabetic rat with soy milk kefir, and 5, diabetic rat with combined milk kefir. The data then analyzed using one-way ANOVA test. Research results showed that there were significant differences between soy, goat and combined milk kefir on the phagocytosis capacity (p≤0,01) and the phagocytosis index (p≤0,05). The highest phagocytosis capacity and index were obtained in the goat milk kefir, followed by combined milk kefir, yet soy milk kefir did not show any changes toward the aforementioned parameters. The conclusion is the goat milk kefir and combined milk kefir (50% of goat milk and 50% of soy milk) can enhance the phagocytosis activity, while the soy milk kefir can’t increase the macrophag peritoneal phagocytosis activity on diabetic rat.

Keywords: kefir, diabetes mellitus, phagocytosis capacity, phagocytosis index