

PENGARUH LATIHAN FISIK INTENSITAS SEDANG TERHADAP KADAR *INTERLEUKIN-6* DAN JUMLAH LIMFOSIT PADA PASIEN REAKSI KUSTA DI RSUD KELET PROVINSI JAWA TENGAH

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ABSTRAK

Latar belakang: Reaksi kusta merupakan reaksi penurunan imunitas ditandai adanya peradangan yang dapat menimbulkan kecacatan permanen. Latihan fisik dapat meningkatkan sistem imunitas tubuh. **Tujuan:** membuktikan pengaruh latihan fisik intensitas sedang terhadap kadar *IL-6* dan jumlah limfosit.

Metode: *quasy experimental* dengan desain *pre and post test with control group*, menggunakan 30 responden (14 intervensi dan 16 kontrol). Kelompok intervensi diberikan latihan fisik intensitas sedang 60%-79% berupa *static cycle*, frekuensi 4 kali/minggu, waktu 150 menit/minggu dan kortikosteroid, sedangkan kelompok kontrol diberi kortikosteroid. Kadar *IL-6* diukur dengan metode *ELISA* dan jumlah limfosit diukur dengan *hematology analyzer*.

Hasil penelitian: Rerata selisih kadar *IL-6* antara *pre* dan *post test* pada intervensi (-7,1429;±25,2369) lebih rendah dibandingkan kontrol (8,8125;±11,2025). Analisis *Mann-Whitney* bahwa selisih kadar *IL-6* antara intervensi dan kontrol $p < 0,05$. Rerata selisih jumlah limfosit antara *pre* dan *post test* pada intervensi (0,7407;±0,41236) lebih tinggi dibandingkan kontrol (-0,4500;±0,42415). Analisis *Independent t-test* selisih jumlah limfosit antara intervensi dan kontrol $p < 0,05$.

Kesimpulan: Pemberian latihan fisik intensitas sedang berupa aerobik menggunakan *static cycle* dengan frekuensi latihan 4 kali perminggu, durasi waktu 150 menit/minggu secara bermakna dapat menurunkan kadar *interleukin-6* dan meningkatkan jumlah limfosit pada pasien reaksi kusta.

Kata kunci: latihan fisik intensitas sedang, *IL-6* dan limfosit

**THE EFFECT OF MODERATE INTENSITY PHYSICAL TRAINING ON
INTERLEUKIN-6 LEVELS AND AMOUNT OF LIMFOSITE IN
LEPROSY REACTION PATIENTS IN KELET HOSPITAL
CENTRAL JAVA PROVINCE**

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ABSTRACT

Background: Leprosy reaction is a reaction to decrease immunity to inflammation which can cause permanent disability. Physical exercise can increase the body's immune system. **Objective:** to prove the effect of moderate intensity physical exercise on IL-6 levels and lymphocyte counts.

Methods: quasy experimental design with pre and post test with control group, using 30 respondents (14 intervention and 16 control). The intervention group was given moderate intensity physical exercise 60% -79% in the form of a static cycle, a frequency of 4 times / week, 150 minutes / week and corticosteroids, while the control group was given corticosteroids. IL-6 levels were measured by the ELISA method and the number of lymphocytes was measured by a hematology analyzer

Results: The mean difference in IL-6 levels between pre and post test in the intervention (-7.1429; \pm 25.2369) was lower than that of the control (8.8125; \pm 11.2025). Mann-Whitney analysis showed that the difference in IL-6 levels between intervention and control was $p < 0.05$. The mean difference in the number of lymphocytes between pre and post test in the intervention (0.7407; \pm 0.41236) was higher than the control (-0.4500; \pm 0.42415). Independent t-test analysis of the difference in the number of lymphocytes between intervention and control $p < 0.05$

Conclusion: Giving moderate intensity physical exercise in the form of aerobic using a static cycle with a frequency of exercise 4 times per week, duration of 150 minutes / week can significantly reduce levels of interleukin-6 and increase the number of lymphocytes in patients with leprosy reactions.

Key words: moderate intensity physical exercise, IL-6 and lymphocytes