

**PENGARUH *MODERATE INTENSITY CONTINUOUS TRAINING*
TERHADAP KADAR MALONDIALDEHIDA PADA WANITA DENGAN
OBESITAS DAN *OVERWEIGHT***

ABSTRAK

Latar Belakang: Obesitas dan *overweight* merupakan keadaan terjadinya akumulasi lemak berlebih. Akumulasi lemak menyebabkan peningkatan sitokin proinflamasi, sehingga meningkatkan produksi *reactive oxygen species* (ROS). Peningkatan ROS mengakibatkan peroksidasi lipid, sehingga menghasilkan malondialdehida (MDA) yang berperan sebagai penanda biologis keadaan stres oksidatif. *Moderate intensity continuous training* (MICT) merupakan salah satu jenis latihan fisik yang dapat menurunkan stres oksidatif. **Tujuan:** Penelitian ini bertujuan untuk mengetahui pengaruh latihan fisik model *moderate intensity continuous training* (MICT) terhadap kadar malondialdehida pada wanita obesitas dan *overweight* di Banyumas. **Metode:** Penelitian ini menggunakan rancangan penelitian *quasi experimental* dengan desain *pretest and post test* tanpa kontrol. Subjek berjumlah 26 dipilih dengan metode *consecutive sampling*. Subjek menjalani pengukuran kadar MDA sebelum dan sesudah MICT. Kadar MDA diukur menggunakan ELISA kit metode *competitive* dari sampel plasma darah. Subjek mengikuti latihan fisik MICT selama 9 minggu dengan 3 sesi setiap minggunya. **Hasil:** Median kadar MDA sebelum MICT didapatkan 467,69 dan median kadar MDA sesudah MICT didapatkan 491,89. Uji *Wilcoxon* pada kadar MDA sesudah dan sebelum MICT menunjukkan hasil tidak bermakna ($p = 0,849$). **Kesimpulan:** Tidak terdapat pengaruh bermakna kadar MDA sebelum dan sesudah MICT pada wanita dengan obesitas dan *overweight* di Banyumas.

Kata kunci: Obesitas, *Overweight*, *Moderate Intensity Continuous Training*, Malondialdehida, MICT, MDA.

**THE IMPACT OF MODERATE INTENSITY CONTINUOUS TRAINING TO
MALONDIALDEHYDE ON OBESE AND OVERWEIGHT WOMEN**

ABSTRACT

Background: Obesity and overweight is categorized by accumulation of fat. The accumulation of fat stimulating proinflammatory cytokines production. Thus, elevated the reactive oxygen species (ROS). ROS can cause lipid peroxidation, and becomes malondialdehyde (MDA) as the result. Malondialdehyde (MDA) used as biomarker of oxidative stress. Moderate intensity continuous training (MICT) is one type of physical exercise that can decreasing oxidative stress. **Objective:** This study aims to determine the difference of MDA marker levels before and after MICT intervention in obese and overweight women in Banyumas. **Methods:** This study used a quasi-experimental method with pretest and post test design without control group. 33 subjects were selected by consecutive sampling method. The subjects were measured MDA marker levels before and after MICT. The subjects followed the MICT intervention for 9 weeks with 3 sessions each week. The measurement of MDA marker levels is done by the ELISA from blood plasma sample. **Results:** MDA marker levels median before MICT was 467,69 ng/ml and after MICT was 491,89 ng/ml. Wilcoxon test on the difference of MDA marker levels berfore and after MICT showed insignificant result ($p = 0,849$). **Conclusion:** There are no significant differences of MDA marker levels berfore and after MICT in obese and overweight women in Banyumas.

Keywords: Obesity, Overweight, Moderate Intensity Continuous Training, Malondialdehyde, MICT, MDA.

