

**PENGARUH *HIGH INTENSITY INTERVAL TRAINING* TERHADAP KADAR  
MALONDIALDEHIDA PLASMA PADA WANITA DENGAN OBESITAS  
DI KABUPATEN BANYUMAS**

**ABSTRAK**

**Latar belakang:** Obesitas didefinisikan sebagai kelebihan lemak tubuh dapat menyebabkan berbagai perubahan parameter fisiologis, salah satunya stres oksidatif. Stres Oksidatif merupakan ketidakseimbangan prooksidan dan antioksidan menyebabkan kerusakan dari tingkat sel, jaringan, hingga organ yang memicu terjadinya berbagai penyakit malpf. Stres Oksidatif dalam tubuh dapat diukur menggunakan malondialdehida (MDA) plasma sebagai salah satu parameternya. Metode latihan yang dinilai efektif untuk orang obesitas adalah *high intensity interval training* (HIIT). **Tujuan:** Mengetahui pengaruh HIIT terhadap kadar MDA plasma antara sebelum dan sesudah intervensi pada wanita dengan obesitas. **Metode:** Penelitian ini menggunakan rancangan penelitian *quasi experimental pre and post design without control group*. Subjek sebanyak 27 orang. Pengukuran kadar MDA dilakukan sebelum dan setelah intervensi. Pemeriksaan MDA plasma dengan metode asam thiobarbiturate. Data dianalisis secara univariat dan bivariat. Analisis bivariat menggunakan *Wilcoxon Test*. **Hasil:** Hasil menunjukkan kadar MDA Plasma sebelum intervensi sebesar  $603,54 \pm 344,64$  ng/mL dan setelah intervensi sebesar  $587,56 \pm 400,18$  ng/mL. Tidak ada perbedaan signifikan diantara kadar MDA sebelum dan setelah intervensi ( $p=0,374$ ) menggunakan uji *Wilcoxon*. **Kesimpulan:** Tidak terdapat pengaruh HIIT terhadap penurunan kadar MDA antara sebelum dan sesudah intervensi pada wanita dengan obesitas.

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Kata kunci: *high intensity interval training*, malondialdehida, obesitas

## IMPACT OF HIGH INTENSITY INTERVAL TRAINING (HIIT) ON MALONDIALDEHYDE IN OBESE ADULT WOMEN IN BANYUMAS

### ABSTRACT

**Introduction:** Obesity is defined as excess body fat, causes various changes in physiological parameters of the body, one of which is the oxidative stress. Oxidative stress refers to the imbalance between prooxidants and antioxidants level in the body can cause damage to cells, tissues, and organs then become primary role in pathogenesis of disease. Oxidative stress can be measured by using malondialdehyde (MDA) plasma as one of the parameters. High intensity interval training (HIIT) is the most efficient and effective exercise method for reducing fat accumulation.

**Objective:** to determine the impact of HIIT program intervention in obese women on MDA levels.. Data were analyzed by univariate and bivariate test. Bivariate analysis was using *Wilcoxon* Test. **Method:** This study used Quasi Experimental Pre and Post Design without Control Group. Subject were 27 people. MDA Plasma were examined before and after intervention using Thiobarbituric Acid and Substances (TBARs) test.

**Result:** The result indicated that MDA pre-intervention was  $603,54 \pm 344,64$  ng/mL and post-intervention was  $587,56 \pm 400,18$  ng/mL, which was no significant using the wilcoxon-test ( $p=0,374$ ). **Conclusion:** there was no impact of HIIT program intervention in obese women in obese women on MDA level.

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Keyword: high intensity interval training , malondialdehyde, obesity