

ABSTRAK

Latar belakang: Sepuluh persen dari populasi orang dewasa di dunia menderita obesitas. Melakukan aktivitas/latihan akan terjadi beberapa perubahan fisiologi antara lain respons jantung, pernapasan, dan biokimia tubuh. **Tujuan:** Mengetahui perbandingan perubahan tekanan darah, frekuensi nadi, frekuensi pernapasan dan suhu tubuh pada mahasiswa obesitas dan tidak obesitas sebelum dan sesudah latihan *treadmill* dengan protokol *Balke*. **Metode:** Populasi penelitian ini adalah mahasiswa FK UMSU. Sampel berjumlah 16 orang setiap kelompok, lalu menentukan IMT dari setiap subjek. Dilakukan pengukuran langsung terhadap tekanan darah, frekuensi nadi, frekuensi pernapasan dan suhu tubuh sebelum dan sesudah latihan *treadmill* dilakukan. **Hasil:** Sesudah latihan *treadmill* terjadi peningkatan pada setiap variabel dimana pada kelompok obesitas tekanan darah reratanya adalah 136,25/89,38 mmHg, FN 92,44 x/menit, FP 27,19 x/menit dan suhu tubuh 36,87°C, dan pada kelompok *normoweight* tekanan darah reratanya 125/85 mmHg, FN 94,25 x/menit, FP 24,38 x/menit dan suhu tubuh 36,64°C. **Kesimpulan:** Masing-masing kelompok mengalami kenaikan tekanan darah sistolik, tekanan darah diastolik, frekuensi nadi, frekuensi pernapasan dan suhu tubuh yang bermakna pada saat sesudah latihan *treadmill* dibandingkan saat sebelum latihan. Namun jika nilai rerata kenaikan tersebut dibandingkan antar kedua kelompok, maka didapat perbedaan hanya pada tekanan darah sistolik saja, tidak untuk tekanan darah diastolik, frekuensi nadi dan frekuensi pernapasan dan suhu tubuh.

Kata kunci: obesitas, *treadmill*, tekanan darah.

ABSTRACT

Background: ten percents of adults population in the world was obesity. In doing activities / exercises will be changes some physiological responses include cardiac, respiratory, and biochemistry of the body. Cardiac response to exercise gives a positive response. **Objective:** to compare the changes of blood pressure, pulse, respiratory rate and body temperature on obesity students and non obesity students before and after treadmill exercise with a Balke protocol. **Methods:** The study population is students of FK UMSU. Samples are 16 person of each group, then determine the BMI of each subject. Do direct measurement of the blood pressure, pulse, respiratory rate and body temperature before and after treadmill exercise performed. **Results:** After the treadmill exercise each variable was increased, in obese group their mean BP was 136.25/89.38 mmHg, HR 92.44 x/min, RR 27.19 x/min and temperature was 36.87 °C, and in normoweight group their mean BP was 125/85 mmHg, HR 94.25 x/ min, RR 24.38 x/min and temperature was 36.64 °C. **Conclusion:** Every group were significantly increased in systolic blood pressures, diastolic blood pressure, pulse, respiratory rate and body temperature after the treadmill exercise than before. However, if the mean value of the increase compared between the two groups, then gained the only difference in systolic blood pressure alone, not for diastolic blood pressure, pulse and respiratory rate and body temperature.

Keyword: obesity, treadmill, blood pressure.