

JCHS

Journal of Clinical and Health Sciences

#2
2026

SUPPLEMENTARY ISSUE

Malaysian Obesity Society
MYOS



ND **2 NATIONAL OBESITY SCIENTIFIC CONFERENCE**

ABSTRACT BOOK

11th - 12th April 2026
**Connexion Conference &
Event Centre,**
Kuala Lumpur, Malaysia

Theme
**Obesity as a Treatable
Chronic Disease:
Science, Strategy,
and Success**

Issue **September 2026** | Volume **11** Issue **02 (Supplementary)**
eISSN 0127-984x
jchs-medicine.uitm.edu.my



**UNIVERSITI
TEKNOLOGI
MARA**

PD-10

Comparative Effects of Exercise Intensities on VO₂max, Systolic, and Diastolic Blood Pressure in Combine Overweight and Obese Individuals: A Meta-Analysis and Systematic Review

Noorfahzarina Amiuliya Abu Bakar¹, Afryna Batrisyia Md Soberi¹, Muhammad Syazani Sohaimi¹, Noor Fatihah Ilias¹, Sazzli Shahlan Kasim³, Rahmat Adnan¹, Ruziyati Mohamed¹, Mazlifah Omar², Hashbullah Ismail¹

¹Faculty of Sports Science and Recreation, MARA University of Technology (UiTM), 40450 Shah Alam, Selangor, Malaysia

²Faculty of Medicine, Universiti Teknologi MARA (UiTM), 47000 Sungai Buloh, Selangor, Malaysia

³Cardiovascular Advancement and Research Excellence Institute (CARE Institute), Universiti Teknologi MARA, Selangor, Malaysia

Corresponding Author email: amiuliya21@gmail.com

Introduction:

Obesity is a significant worldwide health issue, elevating the risk of cardiovascular illnesses. Aerobic exercise is crucial in obesity management, with high-intensity interval training (HIIT) and moderate-intensity continuous training (MICT) extensively researched. Nevertheless, there is a lack of understanding about which of these intensities is more effective for persons with overweight and obesity. This study seeks to assess the impacts of various exercise intensities between HIIT and MICT on cardiorespiratory fitness (VO₂max), systolic blood pressure (SBP), and diastolic blood pressure (DBP) in individuals with overweight and obesity.

Methods:

The electronic databases from PubMed, MEDLINE, and Google Scholar from the year 1970 to 20 October 2022 were searched for randomized controlled trials. Average differences and 95% confidence intervals (CI) were calculated using a random effects model in RevMan version 5.4, a funnel plot was created to check for publication bias, and the I² statistic was used to report heterogeneity.

Results:

Eighteen studies were discovered, covering persons with overweight or obesity. Among them, 221 people participated in HIIT, whilst 201 participants took part in MICT. This study revealed no significant differences between HIIT and MICT in enhancing VO₂Max (MD = 0.33 ml/kg/min, 95% CI: -0.61 to 1.26, P=0.49, I² = 51%). Furthermore, there was no significant impact on SBP (MD = 0.84 mmHg, 95% CI: -3.58 to 5.26, P = 0.71, I² = 80%) when comparing HIIT with MICT. No significant increase was seen in DBP (MD = -0.98 mmHg, 95% CI: - 1.97 to 0.01, P = 0.05, I² = 14%).

Conclusion:

In conclusion, both High-Intensity Interval Training (HIIT) and Moderate-Intensity Continuous Training (MICT) are equally effective at improving and reducing blood pressure, with no significant statistical differences found between the two.

Keywords: VO₂max, Systolic Blood Pressure, Diastolic Blood Pressure, Blood Pressure, Overweight, Obesity, HIIT, MICT