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Systematic Review

Training Mode Comparisons on Cardiorespiratory, Body Composition and Metabolic Profile in Middle-Aged Women: A Systemic Review and Meta-Analysis

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Training Mode Comparisons on Cardiorespiratory, Body

Composition and Metabolic Profile Adaptations in
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**New international publication from Nathalie
Boisseau in collaboration with Sao Paulo**

Purpose: This study aimed to compare the effects of high-intensity interval training (HIT), sprint interval training (SIT) and moderate-intensity continuous training (MICT) on cardiorespiratory fitness (CRF), weight (kg), body fat mass (%), plasma glucose (fasting) and lipid levels in reproductive-age women. Method: The search was conducted in Pubmed, Cochrane Library, Virtual Health Library and Scielo. The meta-analyses were conducted using Review Manager software for random-effects models. The results were presented as standardized mean differences and 95%CI, which were calculated to determine the effect size of HIT/SIT and MICT interventions. Results: Eleven articles meet the inclusion criteria. The analyses demonstrated that all exercise modes improved body composition and metabolic profile, but nevertheless, MICT was significantly better at improving CRF ($\text{mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$) compared with HIT ($2.45 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ (95% CI: 1.15 to 3.75 $\text{mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$); $p < 0.05$; $I^2 = 0\%$) and with SIT ($0.98 \text{ mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ (95% CI: 0.98 to 2.93 $\text{mL}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$); $p = 0.33$; $I^2 = 53\%$). Conclusion: Both HIT and SIT have the potential to be used as a training modality in reproductive-age women, with similar effects to MICT on body composition/metabolic markers but inferior effects on CRF, suggesting that HIT/SIT may be considered a “time-efficient component of weight management programs. However, the variability in the secondary outcome measures, coupled with the small sample sizes in studies, limits this finding. [View Full-Text\(https://www.mdpi.com/2673-4168/2/2/18/htm\)](https://www.mdpi.com/2673-4168/2/2/18/htm)

Keywords: [high-intensity interval training\(https://www.mdpi.com/search?q=high-intensity%20interval%20training\)](https://www.mdpi.com/search?q=high-intensity%20interval%20training); [sprint interval training\(https://www.mdpi.com/search?q=sprint%20interval%20training\)](https://www.mdpi.com/search?q=sprint%20interval%20training); [moderate-intensity continuous training\(https://www.mdpi.com/search?q=moderate-intensity%20continuous%20training\)](https://www.mdpi.com/search?q=moderate-intensity%20continuous%20training); [body composition\(https://www.mdpi.com/search?q=body%20composition\)](https://www.mdpi.com/search?q=body%20composition); [cardiorespiratory fitness\(https://www.mdpi.com/search?q=cardiorespiratory%20fitness\)](https://www.mdpi.com/search?q=cardiorespiratory%20fitness); [women\(https://www.mdpi.com/search?q=women\)](https://www.mdpi.com/search?q=women)

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