

Effectiveness of High-Intensity Interval Training in Overweight Individuals between 25-45 Years of Age Registered in Sports Medicine Clinic, General Hospital Kalutara

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Abstract : Introduction: The prevalence of obesity and obesity-related non-communicable diseases are becoming a massive health concern in the whole world. Physical activity is recognized as an effective solution for this matter. The published data on the effectiveness of High-Intensity Interval Training (HIIT) in improving health parameters in overweight and obese individuals in Sri Lanka is sparse. Hence this study is conducted. Methodology: This is a quasi-experimental study that was conducted at the Sports medicine clinic, General Hospital, Kalutara. Participants have engaged in a programme of HIIT three times per week for six weeks. Data collection was based on precise measurements by using structured and validated methods. Ethical clearance was obtained. Results: Registered number for the study was 48, and only 52% have completed the study. The mean age was 32 (SD=6.397) years, with 64% males. All the anthropometric measurements which were assessed (i.e. waist circumference($P<0.001$), weight($P<0.001$) and BMI($P<0.001$)), body fat percentage($P<0.001$), VO2 max($P<0.001$), and lipid profile (ie. HDL($P=0.016$), LDL($P<0.001$), cholesterol($P<0.001$), triglycerides($P<0.010$) and LDL: HDL($P<0.001$)) had shown statistically significant improvement after the intervention with the HIIT programme. Conclusions: This study confirms HIIT as a time-saving and effective exercise method, which helps in preventing obesity as well as non-communicable diseases. HIIT ameliorates body anthropometry, fat percentage, cardiopulmonary status, and lipid profile in overweight and obese individuals markedly. As with the majority of studies, the design of the current study is subject to some limitations. The first is the study focused on a correlational study. If it is a comparative study, comparing it with other methods of training programs would have given more validity. Although the validated tools used to measure variables and the same tools used in pre and post-exercise occasions with the available facilities, it would have been better to measure some of them using gold-standard methods. However, this evidence should be further assessed in larger-scale trials using comparative groups to generalize the efficacy of the HIIT exercise program.

Keywords : HIIT, lipid profile, BMI, VO2 max

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