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High Intensity Interval Training Associated with Lower Waist Circumference and Fat Percentage at the Trunk Region in the overweight Young Population

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Background: The prevalence of obesity and overweight is high among the physically inactive adults. Lack of time is found to be the main barrier to exercise in this population, thus, it is important to develop a short duration, time-efficient training protocol to overcome this problem.

Method: 30 participants (male, n=15; female, n=15) were recruited using block randomization and divided into two equal groups; experimental (high intensity interval training, HIIT n=15) group and control (CON n=15) group via lottery method. Experimental group performed 4x4 bouts of HIIT, (one minute 85%-90% maximum heart rate with 4 minutes of active recovery at 65%-70% maximum heart rate) for 4-weeks, 3-sessions/week on alternate days. CON group did not participate in any kind of training. Body mass index (BMI), waist circumference (WC) and fat percentage at trunk region (FPTR) was assessed at baseline and 1 day after completion of training.

Results: The mean \pm SD age for HIIT group was 20.57 ± 1.34 and CON group was 21.80 ± 1.82 . A two ways mixed method ANOVA showed statistically significant positive changes in HIIT group in WC and FPTR compared to CON, (WC mean difference = 2.33 vs -1.34, $F(1,27) = 5.81$, $p = 0.024$, partial $\eta^2 = 0.276$), (fat percentage at the trunk region mean difference = 1.48 vs -0.49, $F(1,27) = 4.17$, $p = 0.046$, partial $\eta^2 = 0.194$), and a negligible difference in BMI (mean difference = 0.04 vs -0.31, $F(1,27) = 3.621$, $p = 0.68$, partial $\eta^2 = 0.118$). Between group comparisons showed no significant differences among all the three outcome variables.

Conclusion: Short period of 4-weeks HIIT has positive effect on anthropometric outcome measures particularly on WC and fat percentage at the trunk region and is a recommended time efficient type of training protocol for overweight population.

Biography

Mr. Imtiyaz Ali is a versatile, enterprising & resourceful physiotherapist with more than 12 years of rich experience in the healthcare sector & academic industry in Malaysia. He has extensive experience in clinical guidance, research supervision, curriculum design, delivery & assessment. Mr. Imtiyaz Ali is a subject matter expert, recognized for providing innovative & intellectually stimulating teaching thereby producing very best professionals. In addition, he has 6 journal and 2 book publications under his name.