ABSTRACT

Introduction: Endurance training is known to have many health and performance related benefits. Two of popular methods of endurance training are Slow Continuous Method (SCT) and High Intensity Interval Method (HIIT).

Objective: This study compared the effect of 06 weeks of high intensity interval training with 06 weeks of slow continuous training among healthy adult males for aerobic performance, anthropometric profile, peak lactate level, lipid profile and glucose tolerance.

Methodology: 238 volunteers were subjected to inclusion and exclusion criteria and were randomly divided into HIIT and SCT groups. HIIT group was given following training

1. Frequency : 03 sessions per week X 06 weeks
2. Intensity : Training velocity equal to maximum velocity
3. Type : Interval, Training/Active rest – 30s/30s,05 reps per set,04 sets per session with 03 min rest between sets
4. Duration : Exercise time – 10 min/session, 30 min/week
   Total time – 26 min/session

SCT group was given following training.

1. Frequency : 05 sessions per week X 06 weeks
2. Intensity : Training at velocity equal to 60 – 70% of maximum velocity
3. Type : Continuous
4. Duration : Exercise time – 30 min/session, 150 min/wk

Result: The pre experimental values were statistically comparable. Statistical analysis shows that HIIT was effective in improving weight by 3.14% (p<0.005), BMI by 6.16% (p<0.005), body fat by 21.24% (p<0.005), lean mass by 2.36% (p<0.005), BMR by
2.36% (p<0.005), peak lactate by 29.81% (p<0.005), VO_{2max} by 20.75% (p<0.001), Vmax by 8.83% (p<0.005), total cholesterol by 5.50% (p<0.005), triglycerides by 7.33% (p<0.005), HDL by 13.90% (p<0.005), TC/HDL by 17.70% (p<0.005) and fasting glucose by 0.76% (p<0.005).

SCT was effective in improving weight by 5.35% (p<0.005), BMI by 5.36% (p<0.005), body fat by 25.95% (p<0.005), lean mass by 0.86% (p<0.005), BMR by 0.86% (p<0.005), peak lactate by 22.51% (p<0.005), VO_{2max} by 18.22% (p<0.001), Vmax by 8.13% (p<0.005), total cholesterol by 6.25% (p<0.005), triglycerides by 6.93% (p<0.005), HDL by 19.29% (p<0.005), TC/HDL by 21.64% (p<0.005) and fasting glucose by 0.72% (p<0.005).

HIIT was more effective than SCT for improvement in lean mass (p<0.005), BMR (p<0.005), VO_{2max} (p<0.005) and fasting glucose (p<0.05)

SCT was more effective than HIIT for improvement in BMI (p<0.005), body fat (p<0.005) and HDL (p<0.05)

Both HIIT and SCT have comparable effect in improvement in weight, peak lactate, maximum velocity, total cholesterol, triglycerides and TC/HDL ratio.

**Conclusion:** Both HIIT and SCT provide significant health and performance benefits in healthy adult males over 6 weeks of training in aerobic performance, peak lactate, anthropometric profile, lipid profile and glucose tolerance. The benefits of training are achieved by HIIT by exercising for 30 min/week as against those of SCT which are achieved by training 5 times more i.e. 150 min/week.

**Key words:** HIIT, SCT, body composition, Peak lactate, Lipid profile, Glucose tolerance, VO_{2max}, recovery heart rate,