



UNIVERSITI TEKNOLOGI MARA

**HIGH INTENSITY INTERVAL TRAINING AND HIGH INTENSITY
RESISTANCE TRAINING ON BODY FAT PERCENTAGE AND
AEROBIC FITNESS AMONG FEMALE OVERWEIGHT ADULTS**

**ASFARINA ANAK JITWIL
2016690812**

**BACHELOR OF SPORTS SCIENCE (HONS)
FACULTY OF SPORTS SCIENCE AND RECREATION
UNIVERSITI TEKNOLOGI MARA SARAWAK**

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ABSTRACT

The percentage of overweight and obesity populations has increased worldwide among both children and adults population in developing countries. The purpose of this study was to compare the effect of 6 weeks high intensity interval training (HIIT) and high intensity resistance training (HIRT) on body fat percentage and aerobic fitness among overweight female adults. Fourteen subjects have been recruited and been assigned to two groups; HIIT (n=7) and HIRT (n=7) with aged 22.571 ± 1.399 years, height 155.929 ± 2.841 cm, weight 63.464 ± 5.873 kg and BMI 26.079 ± 2.032 kg/m². The results showed that there was a significant differences ($p < .05$) for body fat percentage ($p = .003$) and aerobic fitness ($p = .001$). HIIT showed improvement in body fat percentage and aerobic fitness by 1.93% and 3.47%, in comparing HIRT showed greater improvement by 2.6% and 8.15% for body fat percentage and aerobic fitness respectively. Thus, HIIT and HIRT did give improvement on body fat percentage and aerobic fitness.

Keywords: High intensity interval training (HIIT), high intensity resistance training (HIRT), body fat percentage, aerobic fitness, overweight adults

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

The percentage of the overweight or obesity population had increased over the world especially in the developing countries among both children and adults (Ramirez-Velez, Hernandez, Castro, Tordecilla-Sanders, Gonzalez-Ruiz, Correa-Bautista, Izquierdo & Garcia-Hermoso, 2016). Studies have demonstrated that this condition is linked to the higher possibility of developing others many types of chronic diseases such as cardiovascular disease (CVD) which can lead to fatal (Chiu, Ko, Wu, Yeh, Kan, Lee, Hsieh, Tseng & Ho, 2017). Apart from that, cardiometabolic disorders also known as regulating to the risk factors that are related to the risk of CVDs. Thus, a better understanding about the important of exercise interventions could affect this risk factors which linked with the cardiometabolic disorders, especially in the adult population (Fisher, Brown A., Brown M., Alcorn, Noles, Winwood, Resuehr, George, Jeansonne & Allison, 2015).

Although the routine of physical activity exercises that been well-established does benefits in improving cardiometabolic health, but it still remains difficult for an individual to adhere to the current physical activity guidelines. Both resistance and aerobic training are prescribed for sedentary and obese subjects, due to their promoting improvement of blood pressure and heart rate, body composition, biochemical markers as well as strength and aerobic capacity (Contro, Bianco, Cooper, Sacco, Macchiarella, Traina & Proia,

CHAPTER 2

LITERATURE REVIEW

In this chapter, it discusses an insightful analysis and evaluation of each research source as related to the objectives of the current study that have a significant relationship to the current problem and help to justify the study.

2.0 INTRODUCTION

The purpose of this study was to determine the effect of 6 weeks of HIIT and HIRT on body fat percentage and aerobic fitness among overweight female adults. In this chapter was reviewed the literature that related to the present study.

2.1 OBESITY AND EXERCISE

Obesity is one of the major risk factors in the development of type 2 diabetes and also increase the morbidity and mortality that been increased rapidly in recent decades. Commonly, low and moderate intensity exercise is recommended for overweight and obese individuals to promote fat oxidation. Besides that, it is also been proposed to be an appropriate intensity in order to prevent injury and improving tolerance. This is because to ensure that the