

UNIVERSITI TEKNOLOGI MARA

**HEALTH BENEFITS OF AEROBIC EXERCISES
ON OVERWEIGHT FEMALE YOUNG ADULTS**

MAISARAH BINTI SHARI

Dissertation submitted in partial fulfilment of the requirements for the
degree of
Master of Sports Science

Faculty of Sports Science & Recreation

June 2013

Author's Declaration

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, UiTM, regulating the conduct of my study and research.

Name of Student : Maisarah Binti Shari

Student I.D. No : 2010918137

Programme : Master of Sports Science

Faculty : Sports Science and Recreation

Dissertation Title : Health Benefits of Aerobic Exercises on Overweight Female
Young Adults

Signature of Student :


Date : June 2013

Acknowledgement

No soul is solely responsible for this success. We all receive help in the form of investment from others. With that being said, I would like to express my deepest gratitude for those who have been instrumental in the successful completion of this dissertation.

No living creatures deserve more appreciation than the Almighty Allah S.W.T. May Allah S.W.T accept my humble thesis as an effort to remember and thank Him. Next, I am highly indebted to Madam Suhana Aiman for her guidance and constant supervision as well as providing significant information that I needed throughout completing this research. I could not thank her enough for her tremendous support and help. Without her encouragement and assistance, this research will not have materialized. Besides that, I wish to express my gratitude to Datin Hajah Sarina Md. Yusof who was abundantly helpful and offer invaluable support.

Not forgetting, my parents, Shari Md. Ali and Normah Mukhtar, who picked up my pieces and glued it back together with tender, patience and unconditional love. I would like to thank my sisters and brothers for being my lifeguards throughout the storm and turbulence. They have been my back bone and were vital for my success. Special thanks to all my best friends for lending your hands and ears when I needed it. Lastly, thank you to all who have involved directly or indirectly through the duration of my studies. May Allah bless all of us.

Maisarah Binti Shari

June, 2013

Abstract

The prevalence of overweight and obesity has increased dramatically worldwide with an estimate of 62 percent of young female adults in Malaysia until 2010. Aerobic exercise are strongly recommended to promote overall physiological health in oneself, preventing and reducing risks of health tribulations. Lack of study conducted in comparing between land-based and water-based aerobic dance on overweight population. The aims of this study were to determine the effects of aerobic and aqua dance exercises on blood pressure (BP), blood glucose (BG), blood lipids (BL), body composition (BC), muscular strength (MS), and cardiorespiratory fitness (CF) and to determine which type of aerobic exercise is the best in improving overall health parameters among overweight female young adults. A total of 75 overweight females participated in this study and were randomly assigned to interventions and control groups (25 aerobic dance, 25 aqua dance, 25 control). The health parameters were assessed using mercury sphygmomanometer (BP), blood sampling (BG and BL), body weighing, body mass index, waist to hip circumference and skinfold thickness measurements (BC), grip dynamometers (MS), submaximal cycle ergometer with Astrand Rhythmic protocol (CF). Intervention groups engaged in aerobic exercises workout (aerobic dance and aqua dance) for nine weeks, three times per week and one hour per session. All health parameters were measured at baseline, week five, and at post-exercise. Significant improvements on all health parameters measured were noted in both training groups across observations periods ($p < 0.05$). Aqua dance demonstrated greater improvement in BP, BL, BC, and MS compared to aerobic dance ($p < 0.05$). In conclusion, aqua dance exercise is more beneficial and a safer type of aerobic exercise as compared to aerobic dance exercise as a means to enhance multiple aspects of health in overweight female young adult.

CHAPTER 1

Introduction

1.1 Background of the Study

In order to obtain longevity and excellent health, free from risks of any chronic ailments including obesity, heart diseases, high blood pressure, type II diabetes, stroke, bone diseases and certain types of cancer, a person regardless of age should practice a balanced diet with a combination of regular physical activities [Centers for Disease Control and Prevention (CDC), 2007]. Both men and women who reported increased levels of physical activity and fitness were found to have 20% to 35% reduction in relative risk of death (Martinez-Gonzalez, Varo, Santos, Irala, Gibney, Kearney & Martinez, 2001).

In general, physical activity refers to any body movement that enhances health. Walking, running, swimming, dancing, and gardening are a few examples of physical activities that could benefit an individual's health. By participating in regular physical activities, a person is not only able to boost up him or her optimal health and fitness level, but it also helps him or her to have an ideal body figure through the body fat mass reduction and improve along with sustained motor functionalities. According to American College of Sport Medicine (ACSM) (2006), a person can be categorized as practicing regular physical activities when they accumulate 30 minutes or more in performing moderate-intensity physical activities on most or on all days of the week.

Subsequently, ACSM and the American Heart Association (AHA) clearly notify a long duration of aerobic workouts with low, moderate to high intensity that