



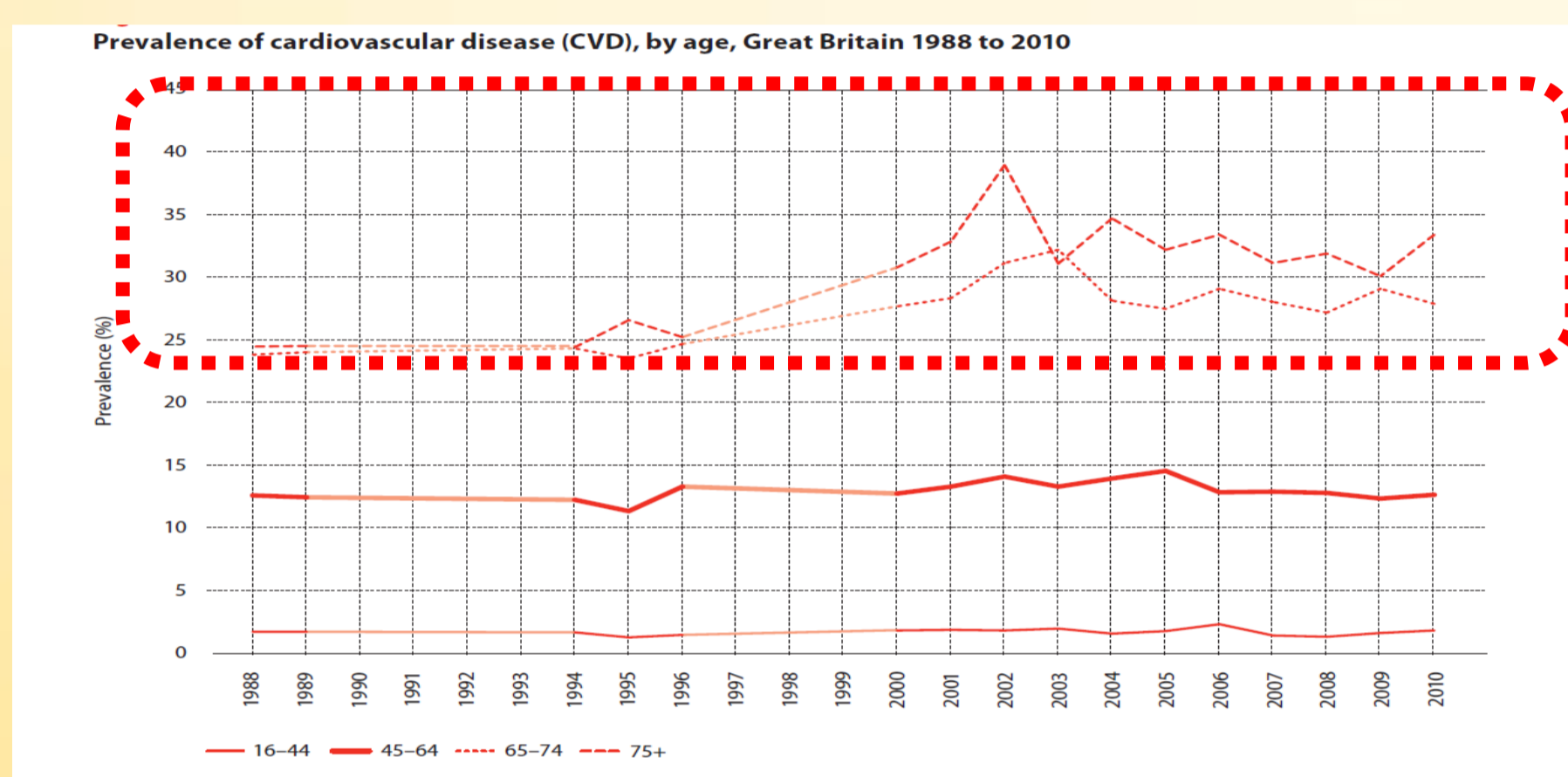
# TAI CHI OR ZUMBA GOLD

## WHICH ONE IS BETTER?



THE EFFECT OF TAI CHI AND ZUMBA GOLD ON OXIDATIVE STRESS AND INFLAMMATION IN AN AGEING POPULATION

### INTRODUCTION



#### RELATIONSHIP BETWEEN AGEING, OXIDATIVE STRESS AND INFLAMMATION



- Inflammation and oxidative stress in older age are associated with endothelial dysfunction and arterial stiffness.
- Increase in endothelial dysfunction and arterial stiffness can cause cardiovascular diseases.
- Exercise can help to prevent these effects of ageing, however, not all exercise is perceived as suitable for older age adults (intensity, mobility etc.)

### AIMS & OBJECTIVES

1. To investigate the ability of Zumba Gold and Tai Chi to promote an increased in antioxidant capacity, anti-inflammatory cytokines and improved cardiovascular function in older age adults.
2. To compare the effectiveness of Zumba Gold and Tai Chi in improving cardiovascular health and psychological well being in older age adults.

### METHOD



**PARTICIPANT:**  
male/female  
age 65 to 75 years old  
no history of cardiovascular  
and respiratory disease



**PRE INTERVENTION POST**  
12 weeks of  
Tai Chi, Zumba Gold or Control

#### PRE AND POST MEASUREMENT:



FMD

Flow mediated dilation (FMD) is a non-invasive technique to measure endothelial function



TONOMETRY

Analysis of Pulse wave using tonometry to determine arterial stiffness



BLOOD ANALYSIS

Blood analysis will be use to detect markers of inflammation and oxidative stress



MENTAL & OTHER HEALTH PARAMETER

Quality of Life, sleep quality, blood pressure, and body mass profile will be measured

### ACKNOWLEDGEMENT

I would like to thank Sultan Idris Education University and Ministry of Education Malaysia for the scholarship and funding toward this PhD project.

### REFERENCE

1. Huang, X.-Y., Eungpinichpong, W., Silsirivanit, A., Nakmareong, S., & Wu, X.-H. (2014). Tai chi improves oxidative stress response and DNA damage/repair in young sedentary females. *Journal of Physical Therapy Science*, 26(6), 825-9. doi:10.1589/jpts.26.825
2. Belardinelli, R., Laccalprice, F., Ventrella, C., Volpe, L., & Faccenda, E. (2008). Waltz dancing in patients with chronic heart failure: new form of exercise training. *Circulation. Heart Failure*, 1(2), 107-114. doi:10.1161/CIRCHEARTFAILURE.108.765727