UNIVERSITI TEKNOLOGI MARA

HIGH ALTITUDE VS UNDERWATER: AN ANALYSIS OF FUNCTIONAL LUNG CAPACITY

MUHAMMAD UZAIR AZIM BIN AZMAN

BACHELOR OF SPORTS SCIENCE (HONS.)

2016

DECLARATION OF ORIGINAL WORK
BACHELOR OF SPORT SCIENCE AND RECREATION
UNIVERSITI TEKNOLOGI MARA

I, Muhammad Uzair Azim Bin Azman (I/C 930221-14-6339)

Hereby, declare that:

This work has not previously been accepted in substance for any degree, locally or overseas and is not being concurrently for this degree or any other degrees.

This research project was the best result of my independent work and investigation, except, where otherwise states. I absolve UniversitiTeknologi MARA (UiTM) and it is Faculty of Sport Science and Recreation from any blame because of my work.

All verbatim extract is being distinguished by quotation marks and sources of my information have been specially acknowledgement.

Signature : 
(Muhammad Uzair Azim bin Azman)

UiTM ID : 2013105529

Date : 26/1/2016

ABSTRACT

Porter is the one who involved in high altitude condition while scuba divers is the one who involved in underwater condition. Porters and scuba divers need a very good lung in order to maintain their performance during their activities and they usually have greater lung capacity than others because of their adaptation in high altitude and underwater condition. The purpose of this study is to determine and compare the functional lung capacity that is Forced Vital Capacity (FVC), Forced Expiratory Volume in 1 second (FEV1) and FEV1/FVC between Mount Kinabalu Porters and Sapi Island Scuba Divers. The spirometric parameters were measured at two different subject which is porters that involve in high altitude and divers that involved in underwater. The independent variable (IV) is representing the porters and divers and dependent variable (DV) will be representing the functional lung capacity. 15 porters and 15 divers were tested using spirometer and the FVC, FEV1 and FEV1/FVC was measured. The data collected have been analyzed using Statistical Package for Social Science (SPSS) version 19.0.The results show that FVC value was 0.03 which is less than 0.05. FEV1 value is 0.02 which was also less than 0.05. While FEV1//FVC (L) value was 0.5 which is more than 0.05. There is a significant difference effect on FVC and FEV1 between porters and divers. Thus the null hypothesis for FVC and FEV1 is accepted while the FEV1/FVC (L) showed that there is no significant difference. This study showed that porters have greater lung capacity than divers based on their FVC and FEV1 but not in FEV1/FVC (L).

Keywords: *Lung capacity, spirometer, high altitude, underwater, porters, divers*

TABLE OF CONTENT