

**UNIVERSITI TEKNOLOGI MARA**

**THE INVESTIGATION OF CHEST  
CIRCUMFERENCE ON LUNG CAPACITY IN  
NETBALL, FOOTBALL AND HOCKEY AMONG  
FEMALE ATHLETES**

**By  
MAISARAH BINTI IBRAHIM**

**Research Project Report submitted in partial fulfillment of the  
requirements for the Degree of  
Bachelor of Sports Science (Hons.)**

**Faculty of Sports Science and Recreation**

**July 2016**

## **DECLARATION**

### **THE INVESTIGATION OF CHEST CIRCUMFERENCE ON LUNG CAPACITY IN NETBALL, FOOTBALL AND HOCKEY AMONG FEMALE ATHLETES**

I, Maisarah binti Ibrahim (I/C Number: 930403065556) hereby, declare that:

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

This research project paper is the result of my independent work and investigation, except, where otherwise states. I absolve Universiti Teknologi Mara (UiTM) and Faculty of Sport Science and Recreation from any blame because of my work.

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

Signature : \_\_\_\_\_

(MAISARAH BINTI IBRAHIM)

UiTM ID : 2014673262

Date : 02/08/2016

## ABSTRACT

Pulmonary test is the test that can be enabling to measure the ability how efficient the lungs work. Spirometry was important as the maneuver or equipment as application for accessing the respiratory diseases providing the recommendation, indications and contraindication when use the device [4]. Thus, this study conducted to determine how much air entering into the lung based on three categories of sports which are netball, football and hockey female athletes and also to identify does chest circumferences were related towards the sports itself. 52 female athletes were recruited in the study. They were asked to fill up the demographic form and informed consent also chest circumference measurement before started the spirometer test which the test had measure FVC, FEV1, FEV1/FVC, and PEF reading variables. One-way ANOVA was used to investigate to make comparison of the sports with pulmonary function test's variables while correlation was used in order to measure relationship between CM with those variables. The result shows there was significance different between categories of sports with the FVC reading, and there was no significance different between categories of sport with FEV1, FEV1/FVC and PEF reading. The prediction for those sports showed that athletes who were exercises, tend to have higher value in FVC reading because of large muscle worked throughout regular training. There was no significance relationship between CM and PFT's reading variable. As for conclusion, the results of this present study conclude that the type of sports determines each of the pulmonary function variables and chest circumference does not influenced lung capacity at all.

**Keywords:** *Pulmonary Function Test, FVC, FEV1, PEF, Lung Function Theory, Netball, Hockey, Football*

## **TABLE OF CONTENT**

	<b>Page</b>
<b>ACKNOWLEDGEMENT</b>	<b>i</b>
<b>TABLE OF CONTENT</b>	<b>ii</b>
<b>DECLARATION</b>	<b>vi</b>
<b>LETTER OF TRANSMITTAL</b>	<b>vii</b>
<b>AFFIRMATION</b>	<b>viii</b>
<b>LIST OF TABLES</b>	<b>ix</b>
<b>LIST OF FIGURES</b>	<b>x</b>
<b>LIST OF SYMBOLS AND ABBREVIATIONS</b>	<b>xi</b>
<b>ABSTRACT</b>	<b>xiii</b>
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	
1.1 Background of the study	1
1.2 Statement of the problem	4
1.3 Research questions	5
1.4 Research objectives	5
1.5 Research hypothesis	6
1.6 Significant of study	7
1.7 Delimitations of study	7

1.8	Limitations of study	8
1.9	Definition of terms	9
<b>2</b>	<b>LITERATURE RIVIEW</b>	
2.1	Introduction	11
2.2	Chest circumference	12
2.3	Lung capacity	13
2.4	Netball	14
2.5	Football	15
2.6	Hockey	15
2.7	Factors influencing of lung function	16
2.7.1	Age	16
2.7.2	Height and weight	16
2.7.3	Gender	17
<b>3</b>	<b>METHODOLOGY</b>	
3.1	Introduction	18
3.2	Research design	19
3.3	Sampling	19
3.3.1	Subject selection	20
3.3.2	Subject consideration	21