

**UNIVERSITI TEKNOLOGI MARA**

**COMPARISON OF LUNG FUNCTIONALITY  
BETWEEN SMOKERS AND NON-SMOKERS  
MARATHON RUNNERS**

**By**

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**DECLARATION OF ORIGINAL WORK**  
**BACHELOR OF SPORT SCIENCE AND RECREATION**  
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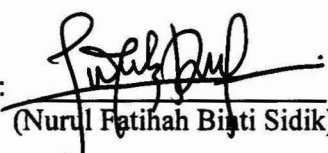
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## ABSTRACT

**Introduction:** Marathon runners need a very good lung in order to maintain their performance in a prolong duration. Smoking generally can decrease lung functionality in marathon runners's performances. Hence, spirometry test was done to compare lung functionality between smoker and non-smoker for marathon runner.

**Objectives:** The purpose of this study is to determine the lung functionality between smokers and non-smokers among marathon runner and to compare the outcome measures between smokers and non-smokers among marathon runner.

**Method:** The spirometric parameters were measured at two different categories which is smokers and non-smokers among marathon runners. The independent variable (IV) is representing the smokers and non-smokers and dependent variable (DV) will be representing on lung volume. 15 male marathon runners were tested using spirometer and the Force Vital Capacity (FVC) and Force Expiratory Volume 1 (FEV1) was measured. Number of smokers are 7 and the number of non-smokers is 8. Mean and (SD) age for smoker;  $25.38 \pm 1.80$ , height;  $169.14 \pm 4.74$  and weight;  $65.86 \pm 10.82$ . Mean and SD for age non-smoker;  $25.38 \pm 2.61$ , height;  $164.60 \pm 2.97$  and weight;  $60.38 \pm 6.04$ . The data collected have been analyzed using Statistical Package for Social Science (SPSS) version 20.0.

**Result:** The results show that FEV1 has no significance difference between both categories, but the FEV/FVC% have significant differences between smoker and non-smoker among marathon runners.

**Conclusion:** There is a significant difference effect on FEV/FVC% between smoker and non-smoker which there is a significant improvement at mean differences, Thus, the null hypothesis is accepted.

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