

SPIROMETRIC VALUES AMONG YEMENI UNDERGRADUATE STUDENTS IN UNIVERSITY OF SCIENCE AND TECHNOLOGY, YEMEN, SANA'A CITY

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ABSTRACT

Normal values of spirometry for the healthy population are affected by different anthropometric, demographic (Height, weight, sex, and age), ethnic, geographic and climatic factors. This study aimed to measure normal values of spirometry for Yemeni undergraduate students in University of Science and Technology in Sana'a city. By using spirometer, 155 spirometry datasets collected between May, 2016 to Oct.2017 were carried out on healthy and non-smoking individuals; 62 males and 93 females aged between 18-25 years. Multiple regression analysis was used to develop predicted equations for use in Yemeni population. The result of the Forced Vital Capacity (FVC/L) was (3.87 ± 0.63 versus 2.79 ± 0.39 , P value < 0.001), and that of Forced Expiratory Volume in the first second was (3.68 ± 0.58 versus 2.52 ± 0.38 , P value < 0.001). Moreover, the ratio of FVC/FEV1 was (94.79 ± 5.27 versus 90.37 ± 10.58 , P value = 0.001) and that of Maximum Voluntary Ventilation MVV (L/min) was (140.03 ± 28.41 versus 92.63 ± 19.48 , P value = 0.001) which were significantly higher in males than females. Irrespective of gender, all spirometric parameters increased with the increase of age and had a positive correlation with height and weight. They also had no correlation between parameters and Body mass index. Our measured values of spirometry were significantly lower than Caucasian predicted values. There is a real need for further larger studies to develop predicted equations based on normal spirometric values for Yemeni population, including all ages and both genders living in different climates of the country.

KEYWORDS: Pulmonary Function Tests, Predicted Equations, Spirometry & Yemeni Population