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**Title:** A comparative study of FVC, FEV<sub>1</sub>, and TLC in non-smoking Saudi students at Eastern Province, Saudi Arabia with Caucasian reference values

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**Body:** Introduction: It is well-known that pulmonary function testing (PFT) values vary with height, age, gender, and ethnicity.<sup>1</sup> The influence of ethnic variation on PFT in particular has been the topic of numerous studies conducted globally.<sup>1,2</sup> In Saudi Arabia (SA), the currently available reference values (RV) for PFT are based on data from the Caucasian population. We aimed to compare Saudi measured values, for forced vital capacity (FVC), forced expiratory volume in one second (FEV<sub>1</sub>) and total lung capacity (TLC), with Caucasian RV. Methods: Healthy non-smoker university students were recruited to perform spirometry and plethysmography. Measurements were obtained according to ATS/ERS recommendations, standardized for height and age and compared with Caucasian RV. Results: We studied 128 subjects, 16 of which were excluded for technical reasons. Significant difference (p<0.01) was found between the measured values in Saudis (52 males and 60 females) and Caucasian RV. The means for the measured values of FVC, FEV<sub>1</sub> and TLC for Saudis were found to be lower than the means of RV for Caucasians by about 10%, 5% and 8% respectively for males and 16%, 12% and 5% respectively for females. Discussion: Matching the reference and patient populations when selecting RV for PFT is significant.<sup>3</sup> The observed differences we found between Saudi's PF and Caucasian RV can be deemed of great importance and maybe explained in terms of environmental and life-style factors. However, larger study is required to confirm these findings. 1. Hankinson et al. 1999 AJRCCM; 159:179-187 2. Al-Riyami et al. 2004 Respirology; 9:387-391 3. Wanger et al. 2005 ERJ; 26:511-522.