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Title: Reference values for spirometry in healthy subjects 17 to 25 years

Dr. Ivânia 24183 Gonçalves ivania.m.g@gmail.com [1,2], Dr. Bárbara 24184 Tavares badm.tavares@gmail.com [1,3], Dr. Sandra 24185 Gomes gomesandra1@hotmail.com [1,7] and Dr. Tiago 24186 Jacinto tiagojacinto@med.up.pt [4,5,6]. [1] Cardiopneumologia, Escola Superior de Tecnologia da Saúde do Porto, Vila Nova de Gaia, Portugal ; [2] Cardiologia, Consultório de Cardiologia Dr. Ribeiro Santos, Maia, Portugal ; [3] Cardiologia, Hospital de São Martinho, Porto, Portugal ; [4] CINTESIS - Centro de Investigação em Tecnologias e Sistemas de Informação em Saúde, Universidade do Porto, Portugal ; [5] Departamento de Ciências da Informação e da Decisão em Saúde, Faculdade de Medicina da Universidade do Porto, Portugal ; [6] Imunoalergologia, Instituto e Hospital CUF Porto, Porto, Portugal and [7] Alergologia, Clínica Alergológica Marianela Vaz, Porto, Portugal .

Body: Background: Spirometry is the most common way to evaluate pulmonary function. The European Respiratory Society recommends the development of new reference equations, in order to upgrade and improve the existing ones. Aim: Develop reference equations to calculate reference values adjusted to a healthy population of college students. Methods: A total of 49 healthy female individuals with ages ranging 17 to 25 years old were enrolled in the present study. A standardized respiratory and allergy symptoms questionnaire was applied and spirometry was performed in the selected individuals. FEV1, FVC and FEV1/FVC were used as dependent variables in simple and multivariate linear regression models. Results: Height is the variable that best explains variation of FEV1 ($r2 = 0.36$; $p < 0.001$) and FVC ($r2 = 0.44$; $p < 0.001$), while weight is the variable that best explains FEV1/FVC ($r2 = 0.15$; $p = 0.006$). Knudson's equations were the most different from this model, while Quanjer's were the closest. Conclusions: We've calculated new reference equations for healthy individuals, with ages ranging from 17 to 25 years old. The results highlight the need for the use of appropriate reference equations, taking into consideration the individual characteristics of the target population.