Abstract

Background: The maximum static respiratory pressures, namely the maximum inspiratory pressure (MIP) and maximum expiratory pressure (MEP), reflect the strength of the respiratory muscles. These measures are simple, non-invasive, and have established diagnostic and prognostic value. This study is the first to examine the maximum respiratory pressures within the Brazilian population according to the recommendations proposed by the American Thoracic Society and European Respiratory Society (ATS/ERS) and the Brazilian Thoracic Association (SBPT). Objective: To establish reference equations, mean values, and lower limits of normality for MIP and MEP for each age group and sex, as recommended by the ATS/ERS and SBPT. Method: We recruited 134 Brazilians living in Belo Horizonte, MG, Brazil, aged 20-89 years, with a normal pulmonary function test and a body mass index within the normal range. We used a digital manometer that operationalized the variable maximum average pressure (MIP/MEP). At least five tests were performed for both MIP and MEP to take into account a possible learning effect. Results: We evaluated 74 women and 60 men. The equations were as follows: MIP=63.27-0.55 (age)+17.96 (gender)+0.58 (weight), r² of 34% and MEP= – 61.41+2.29 (age) – 0.03(age ²) +33.72 (gender)+1.40 (waist), r² of 49%. Conclusion: In clinical practice, these equations could be used to calculate the predicted values of MIP and MEP for the Brazilian population.

Keywords

Maximum respiratory pressures, reference values, rehabilitation, physical therapy, MIP, MEP.