

ORAL PRESENTATION OP24

Predicting Factors and Formula for Peak Flow Performance in Healthy Malaysian Adults

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ABSTRACT

Background and Objectives: Peak Expiratory Flow Rate (PEFR) is an important indicator of pulmonary function and is influenced by various anthropometric and demographic factors. However, locally relevant predictive models for healthy Malaysian adults remain limited. This study aimed to identify the predicting factors of PEFR and develop a predictive equation among healthy Malaysian adults. **Methods:** A cross-sectional study was conducted involving 91 healthy Malaysian adults aged 18–57 years recruited using convenience sampling. Demographic and anthropometric data, including age, gender, height, weight, and body mass index (BMI), were recorded. PEFR was measured using a Mini Wright Peak Flow Meter. **Results:** Correlation analysis showed that height ($r = 0.513$, $p < 0.001$), gender ($r = -0.707$, $p < 0.001$), and weight ($r = 0.232$, $p = 0.027$) were significantly associated with PEFR, while age and BMI showed no significant correlations. Multiple linear regression analysis demonstrated that gender was the only significant predictor of PEFR ($\beta = -0.680$, $p < 0.001$), with the model explaining 49.2% of the variance ($R^2 = 0.492$). The final predictive equation developed was: $PEFR = 507.62 + (1.15 \times \text{Age}) - (174.95 \times \text{Gender})$. **Conclusion:** These findings indicate that gender is the primary determinant of PEFR among healthy Malaysian adults. The proposed predictive equation may serve as a practical reference for pulmonary assessment and respiratory health screening in Malaysian clinical and community settings.

Keywords: Peak expiratory flow rate; Pulmonary function; Predictive factors; Adults; Malaysia

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