



Title	The effects of gender on exhaled Nitric Oxide (NO) production among volunteers
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The Effects of Gender on Exhaled Nitric Oxide (NO) Production among Volunteers

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Although exhaled NO levels have been extensively evaluated in many disease and experimental conditions, the effects of age, gender and body size on its production has never been studied. We have, therefore, performed a prospective study to examine these factors in a cohort of 121 stable non-smoking volunteers (61F; mean± SD 47.7± 15.8 and range 20–79 yrs). Exhaled NO was measured by using an automatic chemiluminescence analyzer (Sievers NO Analyser280) at steady expiration. Female subjects were significantly shorter, lighter and had smaller surface area than males (155.4± 6.3, 168.2± 7.1cm, <0.001; 56.4± 8.1, 67.6± 9.9, p<0.001; and 1.5± 0.1, 1.8± 0.2, p=0.001 respectively), but there were no significantly gender difference in age or body mass index. Men had significantly higher exhaled NO levels than women (35.4± 25.7, 23.1± 14.7 ppb respectively; p=0.001). Although exhaled NO levels did not correlate with age (r=0.12, p=0.17), it correlated significantly with height (r=0.23, p=0.02), weight (r=0.34, p<0.001), body mass index (r=0.25, p=0.009), and body surface area (r=0.42, p<0.001) for the entire cohort. After making adjustment for age, height, weight, body mass index, and body surface area, exhaled NO levels were still significantly higher for men than women (p=0.004). Our data, therefore, could help explain their discrepancy in results for previous studies on exhaled NO production, which had not taken account of these parameters. Our original data set standard for future studies and demand critical review of previous studies.

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Validation of the Hong Kong Chinese Version of St. George's Respiratory Questionnaire (SGRQ)

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Assessment of health-related quality of life (HRQL) is important on patients with chronic diseases. Bronchiectasis is a chronic respiratory disease in which patients suffer from recurrent exacerbation, sputum production and intermittent haemoptysis. Although bronchiectasis is a common disease among the Chinese, there is no validated HRQL available for Chinese patients. We have therefore performed this study to validate our recently constructed Hong Kong Chinese version of SGRQ. This study aims to test the reliability, validity and the sensitivity of the Hong Kong Chinese version of SGRQ, the most popular HRQL in English language. SGRQ was initially translated and then back-translated by professional bilingual linguists. A professional and lay panel reviewed the translation equivalence and content, and adapted these to the Hong Kong Chinese culture and phraseology. Our version of SGRQ was tested on 96 stable bronchiectasis patients. Of these, 60 were randomly selected to be re-evaluated 2 weeks after the initial assessment. Our results showed that internal consistency of our version was supported by the Cronbach's alpha coefficients in SGRQ Symptom, Activity and Impact Scores (0.59, 0.91 and 0.88, respectively). The correlation between clinical variables and SGRQ scores on bronchiectasis also support the construct of SGRQ. FEV₁% predicted and 24h sputum volume correlated with the Symptoms Score (p<0.01), while 6-minutes walking distance with Activity Scores (r=-0.38; p<0.01). Criterion validity tested against the established Chinese (HK) SF-36. Longitudinal data showed that our version of SGRQ was sensitive to changes on patients with active treatment with inhaled steroid after 6-months when compared with placebo group (SGRQ total scores pre-treatment=38.05± 18.48, 35.09± 20.38; post-treatment=24.43± 18.46, 35.85± 21.45; p=0.03, 0.40 respectively). Our version of SGRQ is a valid instrument for assessment of the quality of life for Hong Kong Chinese patients with bronchiectasis.