

## Clinical Research Results Abstract

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### Markers of Air Way Inflammation, asthma control, and respiratory function among adult asthma patients in Sri Lanka.

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**Aim:** Despite attending regular asthma clinics, asthma control amongst patients is subjectively assessed. Spirometry is used in diagnosis and monitoring of asthma in primary care. However the inflammation of airways contributing to poor asthma control is unknown. Measurement of exhaled breath nitric oxide levels ( FeNO ) is often used in developed countries to monitor asthma severity and control. The objectives of the study were to determine the respiratory function by spirometry, to determine the inflammation of airways by measurement of FeNO levels and to determine asthma control by Asthma Control Test amongst asthma patients attending primary respiratory care .

**Method:** Adult asthma patients (n=260) attending routine asthma clinics at primary care level were studied by interviewer administered questionnaire, clinical examination and Asthma Control Test ( ACT). Respiratory function was assessed by spirometry, FeNO was assessed using FeNO breath monitor (Bedfont, UK). Results were analyzed by SPSS statistical software.

**Results:** Asthma control as determined by spirometry was low amongst females more than males. The mean FeNO levels of the females and males were 32 ppb  $\pm$  11.4 and 27.8 ppb  $\pm$  10.6 respectively (p < 0.05). 56% of females and 40% of males had high FeNO levels (>25ppb) indicating airway inflammation. Asthma control as determined by ACT was poor in 46% of females and 18% of males despite regular attendance to primary care clinics. FeNO levels and asthma control were negatively correlated indicating the use of FeNO to objectively assess asthma control.

**Conclusion:** Despite medication adherence a significant number of patients had poor asthma control. FeNO and spirometry are reliable, easy to use measures that could be used to monitor asthma patients. Urgent measures should be taken to determine possible precipitants and improve asthma control amongst these patients.