

# TRENDS OF ASTHMA IN BANGLADESH: FINDINGS OF THE NATIONAL ASTHMA PREVALENCE STUDY 1999 AND 2010

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## Background:

In 1999 first population-based studies to determine the magnitude of the asthma problem have been carried out in Bangladesh. This study aimed to define the prevalence of asthma as well as to identify the risk factors of asthma in the general population of Bangladesh. After 10 years we carried out same study to find out trends of asthma in Bangladesh.

## Methods:

A cross-sectional study was conducted from January 1999 to August 1999 on 5642 Bangladeshi people and another same study carried out from November 2009 to April 2010 on 8088 subjects. Data were collected from randomly selected primary sampling units of 8 municipality blocks of 4 large metropolitan cities, 12 municipality blocks of 6 district towns and 12 villages of 6 districts chosen randomly from all 64 districts of the country. Face-to-face interviews were performed with the housewives or other guardians at the household level using a structured questionnaire.

## Results:

In 1999 the prevalence of asthma (wheeze in the last 12 months) was 6.9% (95% CI: 6.2-7.6) whereas in 2010 it is 6.96% (95% CI: 6.90-7.04).

In 1999 prevalence of other asthma definitions were: ever wheeze (lifetime wheeze) 8.0% (95% CI: 7.3-8.7); perceived asthma (perception of having asthma) 7.6% (95% CI: 6.9-8.3); doctor diagnosed asthma (diagnosis of asthma by any category of doctor either qualified or unqualified) 4.4% (95% CI: 3.9-4.9). In 2010 ever wheeze (lifetime wheeze) 7.73% (95% CI: 7.67-7.81); perceived asthma (perception of having asthma) 7.46% (95% CI : 7.39-7.54); doctor diagnosed asthma (diagnosis of asthma by any category of doctor either qualified or unqualified) 5.86% (95% CI : 5.81-5.92). The prevalence of asthma in children (5-14 years) was higher than in adults (15-44 years) (7.3% versus 5.3%; odds ratio [OR] = 1.41, 95% CI : 1.09-1.82). Trends of Asthma in Bangladesh remains almost static over last 10 years although at present prevalence is slightly more in adults than children [5.95% (95% CI : 5.45-6.48) vs. 5.63% (95% CI : 5.41-5.86)]. Asthma was found to be higher with households living in the coastal areas (OR 1.019, 95% CI : 0.844-1.23), significantly higher in house-holds with  $\leq 3$  people than in larger households (OR=1.668, 95% CI: 1.291-2.136). The poor two quintiles (OR = 1.298, 95% CI : 1.089-1.547) and the illiterate group (OR = 1.464, 95% CI : 1.191-1.797) were more vulnerable to asthma attacks than the high-income group and more educated people respectively. The female (OR 1.096, 95% CI : 0.920-1.306) specifically the house-wives (OR 1.488, 95% CI : 1.226-1.805) and pre-school children (OR 1.268, 95% CI : 0.933-1.697) were also more vulnerable to asthma attacks than male and other occupational groups.

## Conclusions:

Asthma in Bangladesh appears to be a substantial public health problem: an estimated 11.6 million people including 4.1 million children suffer from asthma-related symptoms.

## Keywords:

Asthma, wheeze, prevalence, population-based study, Bangladesh