Prevalence of Asthma among Urban Population: A study
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Abstract
Asthma is a common unpleasant disease, affecting up to 12% of urban population, and resulting in disability, considerable ill-health, absence from work, and extra costs to health services. It may affect the child’s education and long-term prospects, and have future consequences for the family and community as a whole.

Introduction
Recent studies show that asthma is an allergic disorder, exacerbated by atmospheric pollution, and acute episodes, in particular, are preventable with adequate therapy. As these episodes can be fatal, much effort has been devoted to the detection, prognosis, prevention, and treatment of asthma. Statistics over the past three decades have indicated an increase in prevalence and admission rates for asthma. Actual mortality seems to be decreasing (a recent change) but increase in prevalence and admission rates may reflect an increase in public and medical awareness of asthma, coupled with increasing reliance on nebuliser treatment. Earlier recognition and intervention of acute episodes will inevitably lead to a rise in hospital referral rates, and all protocols for self-care in asthma emphasize the need for early medical intervention when symptoms fail to respond to self-medication.

The importance of early prognosis, coupled with patient/family education and continuing support of the asthmatic patient within primary health care has been stressed in all recent studies and protocols. Most asthma care takes place at this level, and effectiveness can be measured in terms of relief of symptoms, reduction in time of work, improved exercise tolerance as well as reduction in hospital admissions and mortality. It must be kept in mind that this may also be reflected in increased prescribing costs, and increased referral to chest clinics (but not necessarily admission). Good prophylactic therapy and intensive education are both expensive, but pay dividends in the long term.

Asthma statistics are often ‘smoothened’ by subjective data, i.e. different methods of case finding, variable labeling (especially in general practice), non identical questionnaires of symptoms, and difficulties in reproduction of data based on peak-flow readings (unreliable particularly at pediatric ranges in spite of good equipment) and between different meter types. Ipso facto, our ‘objective’ measure on which we base both diagnosis and response to treatment has its own limitations, and trends rather than plain figures are more reliable.

Taking this into account, long-term planning for asthma services is an important target for those at risk. Much is possible, up to 50% reduction in acute severe episodes has been demonstrated with good prophylactics.

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Methods
In my chest clinic and medical OPD which are located at Dhaka north, a custom designed computer system has been used to collect demographic details of all patients together with comprehensive details of each patients episode. Details of all patient episodes were encoded onto forms designed for this purpose. Expert personnels were involved in the development of both the coding system and the design of the data collection form, providing them with both familiarly and motivation toward the system as a whole. Information taken over a twelve months period was then analyzed, revealing the prevalence of asthma among the urban population studied.

Results
We present statistics from a chest clinic and medical OPD serving the population randomly. Our figures reflect similar trends as presented elsewhere, on different institution and in different situations. Over a one-year period in this clinic, covering 3702 patients, the incidence of male and female asthmatics were 10.90% and 8.39%, respectively.

Asthmatic men were also more likely to consult for asthmatic episodes during this study than women.

The exceptions to the above occurred during the third decade and between the ages of 50-65, where female asthma consultation rates outnumbered those of the male patients. There is a biphasic peak pattern to all of our graphs, indicating ages when asthma is more prevalent. This applies both to numbers of asthmatic people and is mirrored in consultation rates for asthma.

The first (and larger) peak occurs in childhood between 1-14 years and the second peak in early middle age, 30-50 years.

Discussion
Incidence of asthma in male is 10.9%, female 8.39% (all ages). This is compatible to figures of between 5-15% depending on study. A previous study in Dhaka shows a population prevalence of 9.72%, and a similar UK study 11.5%. Male attendance (9.83%) outnumbers female attendance (7.39%), such situation also found else-where. There are no reliable figures for the prevalence of asthma in general practice in Bangladesh.

CXR of a 12 yrs asthmatic chilld since 9 years, shows over inflation of lungs, prominant hilar vessels & overall bronchovascular prominance. Clinically shows FEV1 was 0.89 (62%) & CXR of a 9 yrs old child asthmatic since 4 yers, shows mild over inflation of lungs. Clinically shows FEV1 was 1.81 (69%) & P.F was 167 (70%). Here the Pulmonary vessels show normal pattern.

The male preponderance is worldwide, with a male-female asthmatics ratio of 1.5:1. Asthmatic female attendance outnumber male in the third decade and again, at 50-65 years. It is of interest that one of the predictors for childhood asthma continuing into adulthood is belonging to the female sex.

There is double-peak pattern to our graph of episodes by age / sex. This is also seen elsewhere, with peaks in childhood (1-14) and again in middle age (30-40). This is also reflected in the charts for both men and women individually.

There are difficulties in diagnosing asthma in children under two years old and a reluctance on the part of doctors to label children as such. The sudden increase in numbers may reflect a willingness on the part of medical staff to diagnose this condition after the age of two, rather than an actual increase in prevalence.
Severe respiratory tract infections, in particular viral, are thought to play a causative role in asthma, and especially in younger children, and this may help to boost numbers as such infections are common in this age group. Almost half of all wheezing episodes in young children are associated with viral infections. Up to 60% of these wheezy children will be symptoms free in adult.

The later peak is the well recognized 'adult onset' asthma but many of them had no complain of childhood asthma, and there is also an overlapping with chronic obstructive airway diseases, which can present with similar but less reversible symptoms. Again, objective diagnosis and a trial of steroids are necessary to separate between these cases.

The individual charts for men and women, respectively, shows similar asthma attendance patterns, with a marked preponderance in childhood. At all ages, the annual average attendance rate per patient was two. This may reflect lack of frequent surveillance and special asthma clinics, which review usually at three monthly intervals. As in other tropics attendance are increased in the spring in Bangladesh to due to dust, smoke from vehicles as irritants. Interestingly, girls were less likely to consult at ages 5-14 than boys, but more likely at ages 20-30.

Summary
In summary, the prevalence of asthma appears to be rising possibly as a result of atmospheric pollution and admission, prescribing, and attendance rates are all increasing, although mortality is declining.

Methodological differences in detection and reporting of asthma can cause misleading figures and difficulties comparing one study with another.

All over it is accepted that asthma is a common and unpleasant condition, good preventive measures and treatment and statistical data collected both nationally and internationally can help to form a reporting system, enabling governments and NGOs to plan for better education, planning, and supporting services for asthmatic patients.

References