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Prevalence of Bronchial Asthma in Male & Female in Bangladesh Perspective -A Comparative Study

Dr. Sahedul Islam Bhuiyan[1*], Dr Md Abu Sayed[2], Dr Muhammad Saiyedur Rahman[3] , Dr. Jahanara Aktar[4], Dr. Muhammad Jahangir Kabir[5], Dr Md Shihab Uddin[6]

[1]Associate Professor, Respiratory Medicine, Brahman aria Medical College, Bangladesh
[2]Assistant Professor, Community Medicine, Brahmanbaria Medical College, Bangladesh
[3]Junior Consultant, Sadar Hospital, Feni, Bangladesh
[4]General Physician, Concept Hospital, Feni, Bangladesh
[5]Primary Care Respiratory Physician, National Hospital, Dagonbhuiyan, Feni, Bangladesh
[6]Assistant Registrar, NIDCH, Mohakhali, Dhaka, Bangladesh

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***Corresponding author**
Dr. Sahedul Islam Bhuiyan

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Abstract: Among the commonest disease all over the world, Bronchial asthma is one of them with gradually increasing prevalence in developing countries like Bangladesh. Around 300 million people in the world currently have asthma and an additional 100 million persons will be diagnosed by 2025. This controllable disease can cause fatalities, by timely institution of appropriate drugs in appropriate mode. Most of which are preventable. Appropriate knowledge and orientation is important to know triggering factors, clinical presentation and some diagnostic parameters for proper management of bronchial asthma. The present study is aimed to evaluate the prevalence of bronchial asthma in female versus male population. A cross-sectional descriptive study is carried in Brahman Medical College Hospital from 1st July, 2017 to 31st December, 2017. One hundred asthmatic patients with typical symptoms of bronchial asthma were included in this study. This study revealed the prevalence of bronchial asthma more in Female than Male (Male: Female=1:1.43). Symptoms were. Breathlessness, (100%), wheeze (100%), cough and chest tightness. From pretreatment to post treatment PEFR and FEV1 are increased mean +SD (18.64+2.94) % and (17.30+1.83) %. Here both PEFR and FEV1 are reversible in all asthmatic patients. The present study found that most of the asthmatics are female of 21-30 years old, mostly associated with atopy and had commonly exposure to cold and house dust as triggering factors, would be helpful to treat conservatively with good response. But this type of morbidity can be reduced by appropriate control of triggers.

Keywords: Bronchial Asthma, Prevalence, Female, Male.

INTRODUCTION

Greek *aazein*, meaning "sharp breath." From which the word *asthma* is derived. Bronhial athma is a chronic inflammatory disease causing hyper-responsiveness of the airway to certain stimuli resulting in recurrent variable airflow limitations at least partly reversible presenting as wheezing, cough. Chest tightness and breathlessness Hippocrates is the first to use it in reference to the medical condition. Hippocrates thought that the spasms associated with asthma are more likely to occur in tailors, anglers, and metalworkers. Galen wrote much about asthma that it is caused by partial or complete bronchial obstruction. Moses Maimonides, an influential philosopher, and physician, wrote a treatise on asthma. Describing its prevention, diagnosis, and treatment. In the 17th cetury. Bernardino Ramazzini noted a connection between asthma and organic dust. The use of bronchodilators started in 1901, later on 1960s, the inflammatory component of asthma is recognized, and anti-inflammatory medications are added to the treatment regimen of asthma. Bronchial asthma is gradually increasing in developing countries like Bangladesh. Around 300 million people in the world currently have asthma. According to first National Asthma Prevalence Study (NAPS) 1999, in Bangladesh about seven million people (5.2% of the population) are suffering from bronchial asthma [1].

Triggers of bronchial asthma

What is a Trigger? [1]

- Airway of asthmatics is highly sensitive to certain things, which do not bother people without asthma. These things are called "triggers". When

asthma comes in contact with them, an asthma episode starts.

What are the triggers of Asthma? [1,2]
Common triggers of asthma can be classified as follows:

A) Allergens
- Outdoor allergens:
- pollens
- mold (fungi)

- Indoor allergens:
- house dust mites
- dander --> skin, hair, feather or excreta of warm blood pet (dogs, cats, birds, rodents, etc.)
- mold — harbored in vacuum cleaners, air-conditioners, humidifiers, etc.
- insect — cockroach

- Food allergens
- Rarely cause an asthma attack, commonly allergy producing foods are
- Beef, prawn. Hilsa and some other fishes. seafood, duck egg, cow's milk, some vegetables. nuts. etc.
- Food additives. eg. metabisulphite; tartrazine.

B) Irritants:
- Tobacco smoke
- Strong odors
- Perfumes and sprays
- Cosmetics
- Paints
- Cooking (especially with spices)
- Air pollutants — smoke & toxic gases from automobiles and factories.

C. Upper respiratory tract infection: viral infection, common cold
D. Changes in season, weather and temperature:
- Exacerbation during-specific seasons (more in winter).
- Exacerbation during the period of season change.
- Provoked during cold and or hot, humid days.
- Asthma attack is likely if temperature lowers for 3°C or more than the previous day.

E. Exercise: strenuous physical activities
F. Drugs: e.g. B-blockers (even eye drops), Aspirin, NSAIDS, etc.
G. Stress:
- Emotion — e.g. laughing, crying, sobbing, anxiety, mental depression.
- Surgery.
- Pregnancy.
- Fear of an impending attack.

MATERIALS AND METHODS

A cross-sectional descriptive study is carried in Brahman Medical College Hospital from 1st July, 2017 to 31st December, 2017. One hundred asthmatic patients with typical symptoms of bronchial asthma were included in this study.

Study population
Asthma patients (both indoor & outdoor patients) at Brahman Medical College Hospital

Sampling technique
Purposive sampling

Sample size
A total of hundred subjects were included in this study.

INCLUSION CRITERIA

The inclusion criteria for this study are follows:
- Patient with acute Bronchial asthma as per National Asthma Guidelines[1]
- 2. Age-18 -50 Years
- PEFR-≤ 50% of predicted value.

EXCLUSION CRITERIA

The exclusion criteria for this study are follows:
- Smokers-Present or Past smokers
- Known case of COPD.
- Others associated co-morbid condition like- Left ventricular failure, Bronchiectasis, Interstitial lung diseases pulmonary tuberculosis, Pneumonia, Hypertension, and Diabetes.

RESULTS

The study showed that male 41% and female 59% & Male, female ratio is 1:1.43

Table-1: shows distribution of sex in studied population (n=100)

Sex	Number of Patient (percentage)
Male	41(41%)
Female	59(59%)

Table-2: shows variation of symptoms in studied population (n=100)

Characteristics symptoms		Number of Patient (percentage)
Breathlessness		100(100%)
Wheeze		100(100%)
Cough		58(58%)
Chest tightness		52(52%)
Sputum production (mild, mucoid)		40(40%)
Sneezing		35(35%)
Nocturnal/early morning exacerbation		80(80%)
Fever		06(06%)
Chest pain		04(04%)
Seasonal variation	Worse in winter	45(45%)
	Worse in summer	05(05%)

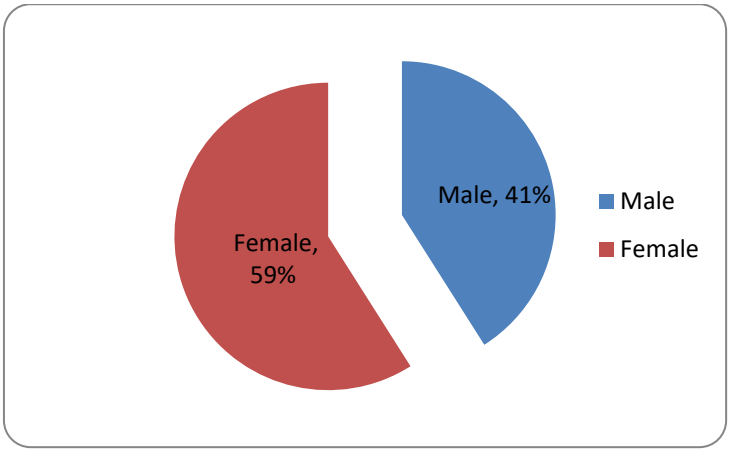

Fig-1: Male vs Female Bronchial Asthma

This study revealed the prevalence of bronchial asthma more in Female than Male (Male: Female=1:1.43). Symptoms were breathlessness, (100%), wheeze (100%), cough and chest tightness. From pretreatment to post treatment PEFR and FEV1 are increased mean +SD (18.64+2.94) % and (17.30+1.83) %. Here both PEFR and FEV1 are reversible in all asthmatic patients.

DISCUSSION

In this study, female were more affected than male. Male and female ratio is 1:1.43. Hassan MR *et al*. found that male children are more affected than female [3]. Rashid MM *et al*. observed that male are predominant (21-40 years) [4]. Broder I *et al*. showed that asthma is common among boys than among girls up to the time of adolescence [5]. Thereafter, it became more frequent in women, though male probably again predominant among the elderly [6]. Rahman SM *et al*. observed that asthma afflicts man and women equally after age of 30 years [7]. Result of different studies are variable. This study is not similar to my study because this study is preformed mainly on adult patients of an adult hospital and smoker (both male and female) are excluded.

CONCLUSION

The present study found that most of the asthmatics are female of 21-30 years old, mostly associated with atopy and had commonly exposure to cold and house dust as triggering factors, would be helpful to treat conservatively with good response. But this type of morbidity can be reduced by appropriate control of triggers.

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