

PREVALENCE OF BRONCHIAL ASTHMA AMONG PATIENTS VISITING GENERAL HOSPITAL MISAU

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ABSTRACT

Background: Bronchial asthma is a chronic inflammatory disorder of the airways characterized by hyper-responsiveness and recurrent episodes of wheezing, breathlessness, and chest tightness. While its pathophysiology is well-documented, localized prevalence data is crucial for improving regional clinical management. This study aimed to determine the prevalence and clinical characteristics of bronchial asthma among patients at General Hospital Misau between 2019 and 2023. **Methods:** A retrospective analysis was conducted using patient records documented over a five-year period (2019–2023). Demographic data, clinical signs, and patient triggers were analyzed to identify prevalence patterns and symptom distribution among adults. **Results:** The study identified a higher prevalence of bronchial asthma among females, who accounted for **54.55%** of the cases. Age-specific analysis revealed that the 18–25 age group was the most affected; within this cohort, cough was the most common clinical sign (37.78%), followed by shortness of breath (6.67%) and wheezing (4.44%). For patients aged 26–40. Across the study population, the most frequent symptoms and triggers included cough, shortness of breath, wheezing, and chest pain or tightness. **Conclusion:** The findings indicate a significant prevalence of asthma among young adults and females in the Misau region. The predominance of cough as a primary symptom suggests a need for heightened diagnostic vigilance. These results provide a baseline for improving respiratory care and resource allocation at General Hospital Misau.

KEYWORDS: Bronchial asthma, Prevalence, Misau, Nigeria, Clinical characteristics, Retrospective study.**1.0 BACKGROUND OF THE STUDY**

Asthma is an important cause of morbidity and mortality around the world, ranking high in terms of disability adjusted life years. (Vos *et al.* (2015). According to the Global Burden of Diseases (GBD) project, the prevalence of asthma increased by approximately 12% globally between 2005 and 2015, with the majority of the increase occurring in developing countries. (Ellwood *et al.*, 2012). Economic development and urbanization in many parts of Africa, for example, are likely to

contribute to the region's increased asthma prevalence. Urbanization has resulted in increased income, adoption of the Western diet and lifestyle, a decrease in childhood infections, atopic sensitization, and an increase in air pollution, all of which are associated with the development of asthma. (Soriano, *et al.* 2015). Allergic rhinitis is a significant cause of morbidity that shares pathophysiology with asthma and frequently coexists with it. (Musa, *et al.* 2012). Allergic rhinitis is a risk factor for adult-onset asthma, and its coexistence with

asthma is typically associated with poor asthma control. (Adetoun, *et al.* (2013). The prevalence of allergic rhinitis in a population reflects its level of atopic sensitization, which guides intervention.

Despite the increasing burden of bronchial asthma in Nigeria, there is a lack of recent and reliable data on its prevalence among patients attending General Hospital Misau, hindering effective asthma management and control strategies. There is a need to fill this gap by conducting a comprehensive study to assess the prevalence of bronchial asthma and identify the factors contributing to its prevalence in this population.

Few studies have examined the population-based prevalence of asthma in Sub-Saharan Africa. Nigeria is one of the world's fastest growing populations, as well as Africa's largest. (Stanojevic, *et al.* 2011). with a population estimate of about 198 million). At present, there is an absence of nationally representative asthma prevalence estimate derived from a community survey in Nigeria. Previous studies have been limited by sample population, geographical distribution and non-uniformity in asthma definition precluding the estimation of the national asthma prevalence.

AIM AND OBJECTIVES

To determine the prevalence of bronchial asthma among patients attending General hospital misau between 2019-2023. The aims include.

1. To determine the prevalence of bronchial asthma among patients visiting General hospital Misau who have been diagnosed with bronchial asthma.
2. To determine the socio-demographic and clinical factors associated with patients with bronchial asthma.
3. To determine the relationship between socio-demographic factors, clinical factors and bronchial asthma.
4. To determine the most common symptoms and triggers of bronchial asthma in this population.

2.0 METHODOLOGY

2.1 STUDY DESIGN

A retrospective cross-sectional study which involved analyzing existing medical records and data from

patients who attended the General hospital Misau between 2019-2023 to determine the prevalence of Bronchial Asthma during this period.

2.2 DATA COLLECTION

The primary data source was electronic and paper medical records of adult patients who visited the General hospital Misau during the study period. Key variables to be collected include demographic information (age, gender, ethnicity), clinical characteristics (diabetes diagnosis) and laboratory results (blood glucose levels).

2.3 INCLUSION AND EXCLUSION CRITERIA

2.3.1 Inclusion Criteria: All adult patients with Asthma aged 18 years and above who visited General hospital misau between 2019-2023 was included in the study.

2.3.2 Exclusion Criteria: Non-Asthmatic patients and patients less than 18 years was excluded from the study.

2.4 DATA ANALYSIS

Data were coded, cleaned, and analyzed using the SPSS Statistical Package for Social Sciences (version 27). Descriptive statistics such as frequency, percentages, mean, and standard deviation were used to summarize the data. Results will be presented in diverse formats such as mean \pm SEM, percentages, tables, and figures.

3.5 ETHICAL CONSIDERATIONS

Obtained ethical approval from the relevant institutional review board to access and analyze patient medical records. Ensured that patient information is anonymized and stored securely to protect confidentiality.

3.0 RESULT AND ANALYSIS

3.1. Prevalence of Bronchial Asthma

The table below shows the prevalence of bronchial asthma among patients visiting General hospital Misau from 2019 to 2023. The data shows that 30 females representing 54.55% attended General hospital Misau from 2019 to 2023 as a bronchial asthma patient. In the same table, 25 males representing 45.45% attended General hospital Misau from 2019 – 2023 as a bronchial asthma patient as displayed in the table 3.1 below.

Table 3.1: Prevalence of Bronchial Asthma.

Gender	No. of Patient attended General hospital Misau	Percentage
Male	25	45.45%
Female	30	54.55%
total	55	100.00%

3.2 Clinical Characteristics

The table 3.2 below shows a chi square analysis of the demographic and clinical characteristics of adults with bronchial asthma attending General Hospital Misau.

Table 3.2: Clinical Characteristics.

Marital Status						
Single	0.94 (0.64, 1.38)	-0.03(-0.11, 0.05)	0.001 (-0.08, 0.08)	-0.05 (-0.13, 0.03)	-0.02 (-0.10, 0.06)	
Married	1.19 (0.81, 1.74)	-0.06 (-0.14, 0.02)	-0.07 (-0.16, 0.01)	0.02 (-0.07, 0.10)	0.10 (-0.04, 0.13)	
Engage	1.81 (1.13, 2.91)	0.02 (-0.09, 0.13)	-0.02 (-0.13, 0.09)	0.08 (-0.03, 0.20)	0.10 (-0.01, 0.22)	
Gender						
Male	0.65 (0.39, 1.08)	-0.03(-0.13, 0.07)	-0.05 (-0.15, 0.05)	0.03 (-0.07, 0.03)	0.05 (-0.15, 0.15)	
Female	0.61 (0.35, 1.07)	-0.05 (-0.16, 0.06)	-0.08 (-0.19, 0.03)	0.01 (-0.11, 0.13)	0.03 (-0.08, 0.14)	

3.3. Most Common Symptoms

Sign & Symptoms	Current Asthma No.	Control No. %
cough	21 (46.66%)	16.66%
Shortness of Breath	27 (60) %	20%
Wheezing	4 (8.89%)	5.89%
chest tightness or pain	3 (6.67%)	3.67%

The above table shows the most common symptoms and triggers of bronchial asthma in this population. 21 patients representing 46.66% observed the cough symptom and 16.66% out of that number was recovered. 27 patients representing 60% face the shortness of breath and 20% out of that number is controlled. while 4 respondents representing 8.89% face wheezing as a sign and symptom of bronchial asthma and 5.89% is controlled., 3 patients representing 6.67% face tightness or pain and 3.63% was fully recovered.

4.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

4.1 DISCUSSION

The study data has indicated that 55 patients visited General Hospital Misau for bronchial asthma treatment between 2019 and 2023. Among them, 30 were male (54.55%) and 25 were female (45.45%), reflecting a slightly higher prevalence of asthma among males. The higher prevalence of asthma among males (54.55%) is consistent with some studies that suggest a higher occurrence of asthma in males, particularly in childhood and young adulthood. Factors such as increased exposure to environmental triggers (like dust, smoke, and allergens), occupational risks, and potentially genetic differences could contribute to this pattern. However, the difference between male and female asthma prevalence in this dataset is relatively same, indicating that asthma affects both genders in significant proportions. It's important to explore whether biological, environmental, or social factors explain the slight male predominance in this population. The demographic and clinical characteristics of 45 adults with bronchial asthma at General Hospital Misau.

According to research by Jenkins et al., 2022. It was observed that evidence suggests that women tend to perceive asthma symptoms as more bothersome than do men, even if the severity of asthma and lung function (as measured by FEV₁) is similar. At the same FEV₁, women experience more discomfort, an increased cough reflex, and greater perception of dyspnea than do men. The reasons for these gender discrepancies are poorly understood. This may be related to sex-based physiologic

differences; however, a study found that female gender and poor quality of life, but not airway obstruction severity, were predictors of increased perception of dyspnea, indicating a role for non-physiologic factors.

Obesity may increase asthma symptom perception, possibly because of the misattribution of obesity-related breathing difficulties to asthma. Women with asthma are more likely to have obesity than are men with asthma, which may contribute to differences in symptom perception. Patients with comorbid anxiety, which is more prevalent among women (which could be due to reporting bias rather than a lack of anxiety and depression among men), tend to be high symptom perceivers and reporters and may experience breathlessness or hyperventilation as the result of a panic disorder that is misattributed to asthma. Another reason for gender disparity in symptom reporting is that men may not feel as comfortable reporting symptoms because of gender role expectations (Jenkins, Christine R. et al. 2020)

Cough: 21 patients (46.66%) reported coughing as a primary symptom, with a recovery rate of 16.66%. This highlights cough as a common but manageable symptom in this population. Shortness of Breath: This was the most frequently reported symptom, with 27 patients (60%) experiencing it. However, only 20% were able to manage and control this symptom. This finding is consistent with asthma's hallmark characteristic of airway constriction leading to difficulty in breathing. Wheezing: A smaller percentage (4 patients, 8.89%) experienced wheezing, which is another classic symptom of asthma. With only 5.89% able to control this symptom, it suggests that wheezing might be less frequent but more difficult to manage.

4.2 CONCLUSION

Prevalence of bronchial asthma among adult patient who visited General Hospital in the study area was high. The asthma discussion is one that was continue to grow if the prevalence does not decrease. Many new ideas are being implemented to help the cause. The ideas that work should be supported by people on a larger scale. We

know that asthma is a huge problem worldwide, so there needs to be more energy into this issue. We have grown in our understanding that genetics and the environment play a big factor in the onset. Asthma is a huge problem that has created health disparities in many urban neighborhoods. Those who suffer the most seek last minute care from emergency rooms, creating over usage and driving up the cost of health care. This has created a large monetary expenditure on asthma care that includes the visits, medication use, and continues asthma management.³

4.3 Recommendations

1. Regular exercise can strengthen your heart and lungs, which helps relieve asthma symptoms. If you exercise in cold temperatures, wear a face mask to warm the air you breathe. Maintain a healthy weight. Being overweight can worsen asthma symptoms, and it puts you at higher risk of other health problems.
2. Taking a reliever medicine before exercising to prevent symptoms short term.
3. Carry your reliever inhaler with you at all times and keep taking your regular preventer inhaler as prescribed.
4. Health education and intervention measures should be targeted to those who suffering with bronchial asthma.

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