



# Low prevalence of asthma in sub Saharan Africa: A cross sectional community survey in a suburban Nigerian town

Daniel O. Obaseki <sup>a,\*</sup>, Francis O. Awoniyi <sup>b</sup>,  
Olayemi F. Awopeju <sup>a</sup>, Gregory E. Erhabor <sup>a</sup>

<sup>a</sup> Department of Medicine, Obafemi Awolowo University, Ile-Ife, Nigeria

<sup>b</sup> Faculty of Clinical Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria

Received 11 May 2014; accepted 26 September 2014

Available online 22 October 2014

## KEYWORDS

Asthma;  
Prevalence;  
Respiratory;  
Breathlessness;  
Nigeria

## Summary

**Background:** Asthma remains an important cause of morbidity and mortality, especially in developing countries but the prevalence in Nigeria is not well described.

**Methods:** Using the European Community Respiratory Health Survey (ECRHS) standard screening questionnaire and asthma criteria, we recruited a representative sample of adults resident in a suburban community in Nigeria through a stratified three-stage cluster sampling technique.

**Results:** Out of a total of 3590 individuals contacted, 2310 responded and provided completed data (62.8% female). The prevalence of respiratory symptoms ranged from 0.4% (95% CI: 0.1–0.6) to 9.1% (95% CI: 7.6–10.6). Apart from nasal allergies, the most frequently reported symptoms were 'woken up by an attack of breathlessness at any time in the last 12 months' (2.4%, 95% CI: 1.8–3.0) and 'woken up by an attack of cough at any time in the last 12 months' (2.9%, 95% CI: 2.0–3.7). The combined proportion of respondents reporting previous asthma attack or currently taking asthma medication within the preceding 12 months (diagnosed asthma) was 1.5%, 95% CI: 1.0–2.0. The proportion with 'probable asthma' based on ECRHS criteria of any three symptoms of asthma (woken up by an attack of breathlessness or previous asthma attack or currently taking asthma medication within the preceding 12 months) was 3.1%, 95% CI: 2.0–4.3 for men and 3.3%, 95% CI: 2.4–4.2 for women.

**Conclusion:** The prevalence of asthma in this suburban Nigerian population is low. Determinants of adult asthma distribution in low-income setting need further clarification.

© 2014 Published by Elsevier Ltd.

\* Corresponding author.

E-mail addresses: [danseki@yahoo.com](mailto:danseki@yahoo.com) (D.O. Obaseki), [francisolubanjiaawoniyi@yahoo.com](mailto:francisolubanjiaawoniyi@yahoo.com) (F.O. Awoniyi), [yemijide@yahoo.com](mailto:yemijide@yahoo.com) (O.F. Awopeju), [gregerhabor7@yahoo.com](mailto:gregerhabor7@yahoo.com) (G.E. Erhabor).

## Introduction

Asthma is recognized globally as a common cause of morbidity and mortality [1]. Current estimates suggest that the prevalence of asthma in children and young adolescents is substantial and stable in high-income countries but increasing in developing countries, which hitherto, had low prevalence [2–4]. However, in sub-Saharan Africa, the prevalence among adults is less studied or understood. Some prevalence studies on asthma have been conducted in Africa, but the reported prevalence varies widely. This may partly be due to the changing dynamics of asthma and its determinants and/or the use of disparate definitions for asthma. Some studies define asthma based on self-reported wheeze [5], others on combinations of asthma symptoms or doctor diagnosis [6] and a few others have applied further tests like spirometry, peak expiratory flow or skin allergy tests [7].

But asthma remains a clinical diagnosis with or without further investigative confirmatory tests and its prevalence may be influenced by various factors including environment, nature of settlements, type of migration, urbanization, diet, genetics and other factors related to socio-economic changes [8].

The burden of asthma in small suburban towns in Nigeria is not known. Most Nigerians live in small towns; migrating from rural settlements to live in suburban communities near big cities like Lagos which is emerging as one of the densest urban cities worldwide [9]. With increasing economic development and the comparative low costs of settling in these small towns, there's been a remarkable increase in small town settlements in Nigeria, many of which lack basic services or access to quality health care. It is unclear to what extent these socio-demographic changes affect the pattern of diseases including asthma [9,10]. Understanding the pattern of asthma in transitional societies may provide new insight to the drivers of the global asthma epidemic [11]. Ile-Ife, the site of this study, is a small university town inhabited by a mix of non-indigenous university staff and local indigenes. Using the European Community Respiratory Health Survey (ECRHS) standard screening questionnaire and asthma criteria [12], we evaluated the prevalence of asthma in Ile-Ife, Nigeria and compared our findings with reports from other centres worldwide.

## Methods

The study was conducted using the protocol developed by the ECRHS previously described in detail [13].

### Population and sampling

The study took place in Ile-Ife, an ancient suburban town in southwest Nigeria between May 2011 and December 2011. Though Ile-Ife is host to the Obafemi Awolowo University with a large student population and 'middle class' academic staff, the town has low vehicular traffic, no major industries and the indigenes are predominantly agrarian and petty traders. The study was conducted among the residents of Ile-Ife town, excluding the university campus. Ile-Ife, as it is commonly called, has two local government

districts (Ife East and Ife Central), and is home to about 250,000 individuals according to the 2006 Nigerian national census [14].

We did a stratified three-stage sampling of the town. The first stage was the census tract, also known as Enumeration Area (EA) and the second and third stages were households and individuals. With an estimated population of 85 individuals per EA, 63% of them being 15 years and above [14], we randomly selected 64 EAs from a pool of 1658 EAs to attain an initial estimated sample of at least 3456 age eligible individuals. The sample was selected proportionately from each of the two strata; Ife Central and Ife East. All households and individuals in the selected households were included in the sample.

### Questionnaire data

All willing participants completed the ECRHS screening questionnaire, which obtained information about respiratory symptoms, asthma diagnosis and treatment, nasal allergies and basic socio-demographic data. The questionnaire was administered face-to face in the local language, Yoruba, by trained and certified interviewers in the respondents' homes in order to minimize on missing data. Standard methods for translation including forward and backward translation, reconciliation and piloting are part of the ECRHS standardized methods.

### Data analysis

All analyses were performed using Stata 11.2 (Stata Corp., College Station, TX, USA) [15]. Data describing population demographics include all responders with complete data. The proportions of responders with affirmative responses to each of the questions were analyzed after subdividing the total sample according to age categories; 15–19 years, 20–44 years, and 45 years and above. Consistent with the ECRHS protocol, asthma was considered 'probable', if a respondent provided affirmative responses to any of the following questions: "Have you been woken up by an attack of breathlessness at any time in the last 12 months", "Have you had an attack of asthma in the last 12 months" or "Are you currently taking any medicines (including inhalers, aerosols or tablets) for asthma?" [12] A respondent who responded affirmatively to question 5: "Have you had an attack of asthma in the last 12 months" or question 6: "Are you currently taking any medicines (including inhalers, aerosols or tablets) for asthma" was regarded as 'diagnosed asthma'. The analysis was done taking into account the sampling design using the "svy" set of commands in the Stata statistical program. The sample weights were derived for the probability of selection in each of the stages of the sampling process according to the population strata (Ife East and Ife Central) and these weights were used to generate the population prevalence estimates. The ethics committee of Obafemi Awolowo University hospital approved the study.

## Results

Out of a total of 3590 individuals sampled, 905 were unreachable after two contact attempts mainly due to work

Download English Version:

<https://daneshyari.com/en/article/6241840>

Download Persian Version:

<https://daneshyari.com/article/6241840>

[Daneshyari.com](https://daneshyari.com)