



The Egyptian Society of Chest Diseases and Tuberculosis
Egyptian Journal of Chest Diseases and Tuberculosis

www.elsevier.com/locate/ejcdt
www.sciencedirect.com



ORIGINAL ARTICLE

Influence of indoor respiratory irritants on the course of bronchial asthma

Tageldin M.^a, Raafat H.^{a,*}, Elassal G.^a, Salah Eldin W.^b

^a Chest Department, Ain Shams University, Egypt

^b Public Health Department, Ain Shams University, Egypt

Received 3 January 2014; accepted 6 January 2014

Available online 28 January 2014

KEYWORDS

Bronchial asthma;
Respiratory irritants;
Indoor pollution

Abstract *Objective:* The aim of the current work is to study the influence of indoor respiratory irritants on the course of bronchial asthma.

Subjects & methods: Thirty-eight asthmatic patients were included in the study. They were subjected to history taking, clinical examination, and PEF. Then they were asked to answer two questionnaires, the first one includes the investigated indoor irritants and the other detects the level of asthma control.

Results: There were no statistical significant differences between level of use and level of asthma control, either in uncontrolled or partially controlled asthma. The usual users were significantly more uncontrolled in household chlorine and chlorine for laundry. The usual users of phenol were statistically highly significantly more uncontrolled asthmatics. No significant difference was seen between level of asthma control and level of use in fragrance, incense and perfumes.

Conclusion: Chlorine and phenol had significantly higher effect on the asthma control level than other respiratory irritants.

© 2014 The Egyptian Society of Chest Diseases and Tuberculosis. Production and hosting by Elsevier B.V. Open access under CC BY-NC-ND license.

Introduction

The World Health Organization (WHO) assessed the contribution of a range of risk factors to the burden of disease and revealed indoor air pollution and respiratory irritants as the 8th

* Corresponding author. Tel.: +20 966 592542751.

E-mail address: heshamrafat@yahoo.com (H. Raafat).

Peer review under responsibility of The Egyptian Society of Chest Diseases and Tuberculosis.



Production and hosting by Elsevier

most important risk factor and responsible for 2.7% of the global burden of disease [1]. It is known that indoor air pollution likely has an equal or even greater impact on health when compared to that of outdoor pollutants. This occurs because time spent indoors is usually higher than time spent outdoors; also, there is a great variety of indoor sources, leading frequently to a higher concentration than outdoors [2–4].

Exposure to indoor air pollution has been linked to a variety of health effects, including respiratory health problems and exacerbation of childhood asthma [5]. Several household products may provoke asthma exacerbation and/or poor asthma control. Examples are: chlorine used in cleaning and as bleach in laundry [6], pesticides [7,8], odorants [9], fragrances [10] and

perfumes [11,12]. In the current study we investigated the effect of such household products on the course of asthma.

Subjects and methods

Thirty-eight patients known to be asthmatic, by history, medical records, and clinical examination were included from the Ain Shams University hospital outpatient department in the period frame of September 2010 to July 2011. All had a history of inhaled bronchodilators with/without inhaled steroids. Patients were subjected to: history and clinical examination including chest X-ray, chest CT scan if required, peak expiratory flow rate testing (PEFR), and 2 questionnaires.

The first questionnaire is about exposure to 7 common different indoor respiratory irritant substances (Fig. 1), and the second is the Asthma Control Test (ACT), a documented and validated 5-item questionnaire for assessing the control of asthma [13], which is available in Arabic language [14] (Fig. 2).

The patients who were included had the following criteria: history of bronchial asthma for at least 1 year, non smokers, no history of other concomitant lung disease, or other diseases

that could involve the lungs as organ failure. The patients who were excluded were: smokers and patients regularly subjected to negative smoking, patients who have other concomitant lung diseases, who were symptomatizing less than one year, and who are receiving systemic steroids regularly.

The 7 different common indoor pollutant substances were: insecticides, household chlorine used to wash surfaces, sinks, bathtubs, floors, etc., chlorine used in laundry, phenol used as a disinfectant in toilets, bathtubs, floors, etc., fragrance, incense, and perfumes. The questionnaire indicates 4 levels of usage, which are: usual, sometimes, rare, or never.

Statistical analysis

All data were collected, tabulated and statistically analyzed. All statistical procedures were carried out using SPSS version 15 for Windows (SPSS Inc., Chicago, IL, USA).

Results

The study included 38 asthmatic patients, 7 males (18.4%) and 31 females (81.6%). The mean age was 37.7 ± 14.0 years.

Questionnaire about use of indoor respiratory irritants and its relation to asthma			
Name:			
Sex:	Male	Female	
Age:			
Adress:			
Telephone:			
Occupation:			
For how long do you suffer from asthma:			
Do you receive regular therapy for asthma	Yes	No	
How frequent you use your rescu inhaler	Daily or almost daily	2 – 3 times weekly	Rarely
How frequent you use insecticides in your home			
Always	Sometimes	Rarely	Never
How frequent you use chlorines in house hold cleaning tasks			
Always	Sometimes	Rarely	Never
How frequent you use chlorines in laundry			
Always	Sometimes	Rarely	Never
How frequent you use phenols in indoor cleaning			
Always	Sometimes	Rarely	Never
How frequent you use indoor fragrances			
Always	Sometimes	Rarely	Never
How frequent you use incense			
Always	Sometimes	Rarely	Never
How frequent you use perfumes			
Always	Sometimes	Rarely	Never
Which of the following product(s) usually increases your asthma symptoms (cough, wheezy chest, chest tightness)			
Insecticides	Chlorine	Phenols	
Fragrances	Incense	Perfumes	

Figure 1 Questionnaire of indoor respiratory irritants.

Download English Version:

<https://daneshyari.com/en/article/3400336>

Download Persian Version:

<https://daneshyari.com/article/3400336>

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