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RESEARCH ARTICLE

THE PREVALENCE OF ALLERGIES AMONG YOUTH IN KARACHI, PAKISTAN

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ABSTRACT

Allergies are fetching more severe and complex and interactive towards many other environmental factors such as pollutants, infections, lifestyle and diet. Children and young adults are more prone to allergies. The aim of this paper is to analyze the prevalence of allergies among youngsters in Karachi, Pakistan. In order to recognize the causes of allergies, the study has used direct source of information by first hand data which was collected through questionnaire filled by students of 14-21 age groups. The conclusion of our study suggested that there was no much difference in the life style of allergic with non-allergic individuals. It was also identified by the questionnaire that the youngsters generally, do not have much consciousness about their allergies and misinterpret allergic conditions with manifestation of infection. The focused factors somehow contribute to allergies but mainly allergies may be inherited and based on immunity of individuals. It is very difficult to identify complete etiology for the development and expression of allergy. In this study with the help of data collected by different individuals, we concluded that allergy is caused recurrently by exposure to perennial and seasonal allergens that exist in our indoor and outdoor environment. It is recommended that the other factors also need to be studied to clearly identify allergies such as WBCs count, reactive IgE Antibodies, Mast Cell and Basophil Activation.

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INTRODUCTION

The mounting prevalence of allergy is a global concern and has major penalty (Pawankar et al., 2011; Ruby Pawankar et al., 2008). Children and young adults are more prone to allergies (<http://www.responsibletechnology.org/gmo-angers/higher-risks-for-children;> <http://www.onetoughjob.org/safety/healthy/your-child-with-allergies?>). Allergy evils are not only associated with the seasons and regions but other factors have also impact on allergy cases like environmental allergens. Multiple symptoms associated with a range of conditions including allergic asthma, allergic rhinitis, food allergies, urticaria difficulty breathing, coughing, repeated sneezing, itchy, swollen and sore nose and eyes, and eczema and dermatitis. In very serious cases, an anaphylactic reaction can be fatal (<http://www.alk-abello.com/allergy;> Milwaukee, 2012; John Bowis, 2007). Among the allergic disorders, psychological stress is also considered as one of their cause, as modern living and hectic lifestyles have an increasingly negative impact (Valovirta 2007). Most of the symptoms of allergic diseases are not so concerning.

Allergies have a significant impact on the lives of patients and their families (<http://www.alk-abello.com/allergy;> David Briggs, 2003). For example, nearly two thirds of people with allergic rhinitis report that symptoms disturb them enough to interfere with sleep and daytime activities ([www.medicalnewstoday.com/medicalnews.php?newsid=52863;](http://www.medicalnewstoday.com/medicalnews.php?newsid=52863) Kilpelainen et al., 2002).

Although the allergic diseases can have impact on a patient's life, the condition is often under-diagnosed, mismanaged and under-treated. In the earlier period, allergic victims were reluctant to visit their doctor and preferred to go for self medication. Sometimes non-practiced healthcare professionals damaged the conditions of allergy as a result, many people with allergies are simply unaware of effective treatments and correct avoidance strategies that are available to them (<http://www.responsibletechnology.org/gmo-dangers/higher-risks-for-children;> <http://www.onetoughjob.org/safety/healthy/your-child-with-allergies?>). The recent increase of allergic diseases may be due to the contact of people to a multitude of substances, both natural and man-made, that would have been alien just a few decades ago. Peoples spend most of their time in indoor activities - at home, school, in offices and within

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enclosed transportation systems - where allergens that are difficult to avoid are increasingly prevalent. Urban dwellers are now more likely to be affected by certain allergies than people living in rural areas (John Bowis, 2007). It is estimated that by the year 2020, more than 50% of the population in Pakistan will be living in urban cities. This means that countless people of all ages will be in continuous contact with environmental pollutants (Baig et al., 2010). Main focus of our study was to assess the prevalence of allergic diseases in young's of age group 14-21 year in Pakistan's metropolis Karachi, which is amongst the largest urban centers in the world with some of the worst indicators of air pollution. Allergic diseases therefore are expected to be a common problem faced by the people of Karachi.

MATERIALS AND METHODS

The study was conducted at different institutions in Karachi, Pakistan in 2012. Institutions were selected based on availability. Permission to demeanor the study was obtained from the head/principal of each institute. This study used a specially designed questionnaire with close-ended questions. Questions were related to the survey and provided additional information that compares allergic individuals with non allergic. A total of 500 questionnaires were distributed in selected focus group keeping few things in mind including their ages as main concern of our study is towards, gender (both males and females), and different age groups from 14-21, indoor and outdoor activities, life styles, plantation, ventilation, locality, in order to determine the prevalence of allergies.

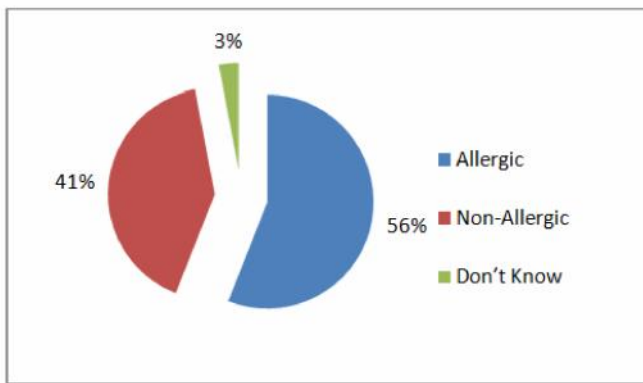


Fig. 1: Prevalence of allergies during past 5 yrs

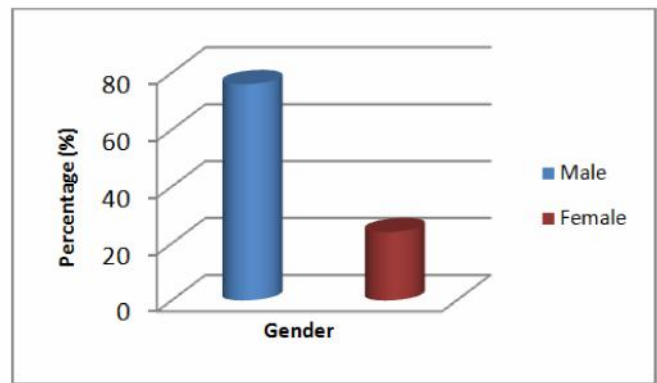


Fig. 2: Prevalence of Allergies among Gender

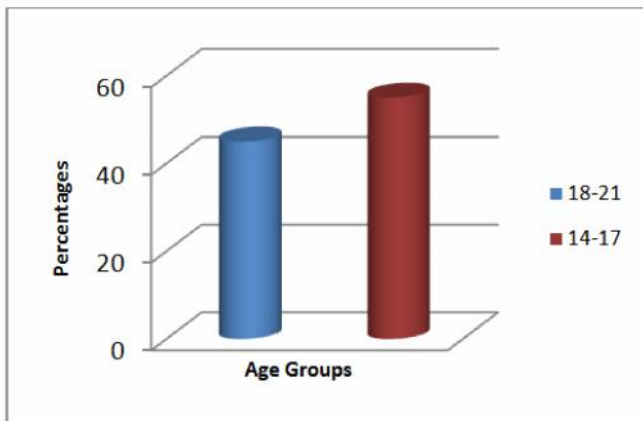


Fig. 3: Prevalence of Allergies Among Age Groups

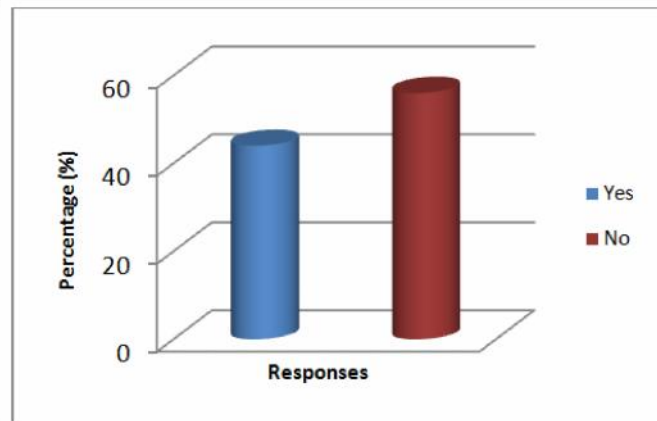


Fig. 4: Family History For Allergic Responders

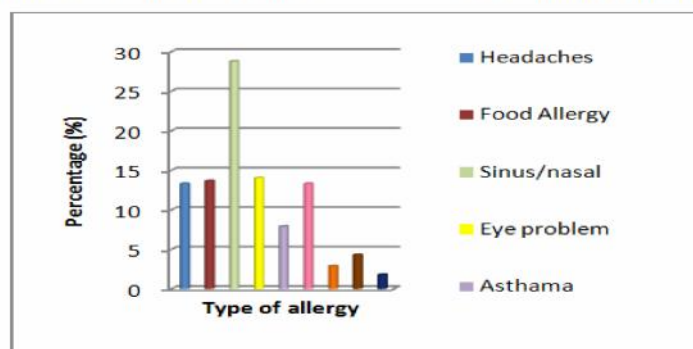


Fig. 5: Prevalence of Allergies Identified

Statistical analysis

The results were analyzed by Student's t-test using Microsoft Office Excel 2007 and values at ($p < 0.05$) considered significant.

RESULTS

Among 500 subjects, 56% were found to be allergic and 41% were non allergic while 3% responses were unknown about allergic conditions (Fig. 1). It was observed that males (74%) were more prone to allergies as compared to females (24%) (Fig. 2) belonging to age groups 14-17 (55%) as compared to age groups 18-21 (45%) (Fig. 3). The 44% allergic victims have family history in contrast 56% have no family history for similar allergies (Fig. 4). Among allergic responders most commonly identified types were nasal/sinus (29%), eye problem/conjunctivitis (14%), food allergies (14%), eczema (13%) and headache (13%) respectively (Fig. 5). The most of the allergic responders (88%) spent their time in indoor activities than outdoor activities (55%). The most of allergic responses were reported from Karachi east (41%) followed by Karachi south (23%), Karachi central (14%) and Karachi west (12%).

DISCUSSION

From Survey Study we end with interpretation of our findings that there is no true demonstration of data, as most of the targeted population misinterpret allergic conditions with manifestation of infection. These focused factors somehow contribute to allergies but mainly allergies may be inherited and based on immunity of individuals. Comparing the life style of allergic with non allergic individuals not much difference were identified. Other factors also need to be studied to clearly identify allergies such as WBCs count, reactive IgE Antibodies, Mast Cell and Basophilic Activation. Environmental factors contribute less to allergies as compare to host factors (age, gender and race). With the help of data collected, we concluded that allergy is caused frequently by exposure to persistent and seasonal allergens that exist in our indoor and outdoor environment. Among the most common allergens, pollens (grass, trees, and weeds) are the predominant. House dust mites, pets, and molds are the major causes of allergy. The reason could be the variation in the temperature, humidity etc. that can trigger the allergy symptoms. On the other hand perennial allergies happen throughout the year. They are not in any way related to any season or time period. These can be like food allergies, pet dander allergies, drug allergies etc.

In conclusion the complete etiology for the development and expression of allergy is not yet understood. Several putative factors have been proposed such as changes in lifestyle; increase in exposure to allergens, pollution, and irritants (smoke, gas, etc); changes in diet responsible for the diminution of protective nutrient intake; decrease in infections; and stress. Thus, interaction between environmental factors and individual susceptibility is essential that contribute to different type of allergies.

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