



Occupational Asthma: Contribution of Smoking and Hereditary Effects

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Dear Editor-in-Chief

Work related asthma has turned into the most predominant work related lung malady in developing and under developing countries. Work related asthma is a sickness which is because of the airway inflammation and aviation routes get to be hyper-responsive and this condition is then known as bronchial hyper responsiveness (1). External factors which can induce asthmatic symptoms includes air contaminants, gases, chemicals, fumes, smoke and dust particles even emotionally stressed or excited situations can be considered as causative factors. More than 200 (2) specific agents encountered at work can cause asthma. Several group based epidemiological surveys have examined dangers of asthma identified with occupation. Although sometimes, the work related asthma develops due to the working environment and this is termed as new onset asthma. On the other hand, asthma which is already existing in a person but the symptoms are hidden or aggravate due to working conditions and on exposure to certain triggers is called as work-exacerbated asthma (2).

Smoking is a prime factor for causing respiratory illnesses including occupational asthma (3). In occupational frameworks, smoking is responsible to speed up the process of occupational asthma maturity. Smokers in an occupational setting are

more receptive to induce occupational asthma. The combination bond of smoking and occupational irritants is significant for developing OA (4). Smoking ratio, in UK and USA is 17%-35% (5). In USA, acute asthma cases were more in number, and most of the cases reports contained former or current smokers (5). Genetics is also responsible for asthma development along with other environmental factor (6). Family history is a factor, which acts as a predictor of asthma risk. A large number of studies have been done to provide evidence that familial factors are notable in risk of developing asthma in early age and after that when subject be exposed with irritants or allergens in their adult stage at occupational setting (7).

The symptoms of asthmatic predominance analyzed asthma in Canada and the US, which are the most noteworthy on the planet for both kids and grown-ups. There are 35.5 million sufferers, with pervasiveness rate of 11.2% (8). Generally, asthma affects about 5% to 10% of the worldwide population and 2% to 15% may be occupational origin asthma. Health and safety regulations are therefore making stringent rules and regulations for indoor air quality to minimize the occupational asthma risks (9).

This cross sectional study was conducted in 2014-2015 at Karachi, and data were collected from designed and validated questionnaire. It was based on sample frames of various industries of Karachi. Participants were recruited from population aged between 20 to 55 yr. Altogether, 10 different industries were being contacted and 6 industries allowed interviewing their employees. Respiratory symptoms were assessed using the data obtained from random samples.

In order to analyze and interpret the data, descriptive and analytical statistics applied by SPSS software (Chicago, IL, USA).

The textile industry workers were more likely to have work related asthmatic symptoms i.e. 14.19% (43/303), food, cement and ceramic industries workers had 12.54% (38/303), ratio of positive responders in pharmaceutical industry was 8.58% (26/303), 4.62% (14/303) in paint industry whereas plastic industry was less likely to have positive cases such as 6.27% (19/303). This cross sectional study determined the strong correlation among smokers and their hereditary effects. It showed that various industries and their workers were notably associated in developing asthma due to their smoking habits and frequency. Actually, in our society males are more habitual to smoke. Similarly, the number of asthmatic cases observed was higher in number among males in comparison of females (7).

Textile industry smokers are in higher number and they would be more inclined towards developing asthma. Food industries are also at risk of developing occupational asthma. In this study, findings about cement and ceramic industry were of high significance as exposure to cement dust was capable of bringing about continual modification and variation in pulmonary activities. Workers in pharmaceutical industries might develop striking biological changes due to inhalation and contact of different active pharmaceutical ingredients. Certain plasticizers, resins, epoxy, adhesives and other types of chemicals, which were essential in paints and plastic industry, were having the significant allergens, which act adversely on respiratory system. Therefore, it can

readily lead to progression in occupational asthma (10).

The findings obtained from this model are of enormous consideration indicates that the data received from various industries and their workers depicting a strong bond among smokers and their genetic makeup for developing and aggravating the occupational asthma, including both former smokers and current smokers.

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