



Respiratory symptoms and asthma prevalence in Indian students due to adaptation reactions of cold climate

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Abstract

Asthma and allergic rhinitis are chronic diseases are worldwide. Several factors which increased the prevalence of respiratory symptoms are environmental conditions, family history, exposure to cigarette smoking. Respiratory symptoms are prone to cold weather [1]. The objective of our study was to investigate the prevalence of respiratory symptoms and asthma in Indian students in the city of Perm, Central Russia due to adaptation reaction.

Keywords: asthma, adaptation, peak flow meter

Introduction

Asthma is a chronic inflammatory disorder of airway of lungs. Suspected individuals show a symptoms of airway inflammation including wheezing, nasal congestion, dyspnea and coughing. The prevalence of asthma has dramatically increased in many countries like India (10-15%) and Russia (7.4-10.6%) according to recent reports that is higher than the normal rate [1]

Materials and Method

We used respiratory survey which includes 200 questions for different respiratory problems. Our questionnaire asessed the presence of following symptoms: wheezing, coughing, dyspnea, congestion etc. Information about smoking status, family history of asthma use of inhalers were also collected. Indian students of the third year 20-27 years old were asked to fill the questionnaire "Electronic polyclinic" in asthma evaluating test. Based on the data of questionnaires, students were divided into two groups; one with severe bronchial asthma and other with absence of symptoms. One with presence of bronchial asthma were asked for reexamination of Peak Expiratory Flow using Peak Flow Meter by deeply inhaling and exhaling into the device and measuring the highest air velocity. Previously we encountered with 6 students who were supposed to be suffering with bronchial asthma were asked to continue their examination by using Peak Flow Meter in 15 minutes after salbutamol inhalation. The comparison was done with 30 Russian students (aged 19-21 years 13 males and 17 females).

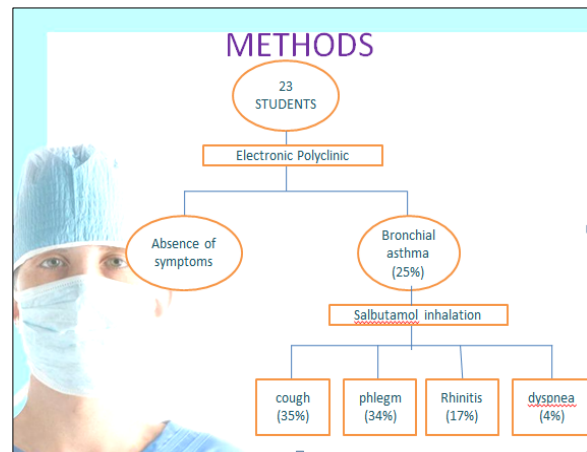


Fig 1

Results and Discussion

A total of 23 students (16 boys and 7 girls) participated in this survey. The most frequently clinical sign was captured by cough which was revealed in 35% of Indian students followed by phlegm which was seen in 26% dyspnea, nasal congestion 13% and suffocation was seen in 4% only. After Peak Flow Meter technique and bronchodilating test we found that only 2 students i.e. about 8% were suffering from bronchial asthma. In the group which comprised of Russian students revealed only 14, 3% signs of bronchial obstructive syndrome. We had used the program *Statistica 10.0* for results evaluation.

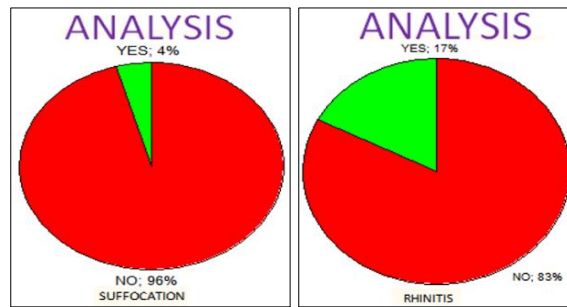


Fig 5

Conclusions

The prevalence of respiratory symptoms in our study was higher than expectations with a difference between Indian and Russian students. The prevalence of respiratory symptoms in Russian students were found to be 14% while in Indian it is 35%, means (2X) higher. The explanation of increased numbers of respiratory symptoms in Indian students suggested the adaptation reaction to cold climate in Russian Federation as cold weather mainly affects the respiratory tract.

References

1. Moslem Mohammadi, ¹Behzad Parsi, Prevalence of Asthma and Respiratory Symptoms among Students in Sari. 2016; 15(1):1-8.