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Research Article

**COMPARATIVE ANALYSIS OF ASTHMA
SEVERITY & CONTROL AMONG PATIENTS PRESENTING
WITH & WITHOUT CO-MORBID RHINITIS****Rashid Ahmed Khan^{1*}, Muhammad Iqbal², Nadeem Memon³,
Hamid Nawaz Ali Memon⁴, Syed Jahangir⁵, Maryam Iqbal⁶,
Muhammad Muneeb⁷ and Aatir H. Rajput⁸**¹Department of Pulmonology, Liaquat University of Medical & Health Sciences, Jamshoro²Department of Medicine, Liaquat University of Medical & Health Sciences, Jamshoro³Department of Medicine, Muhammad Medical College, Mirpurkhas⁴Zulekha Hospital Dubai, United Arab Emirates**Abstract:**

Objective: This study hopes to compare the severity and control of asthma among patients presenting with and without co-morbid rhinitis.

Methodology: This retrospective, comparative analysis was conducted upon a total of 377 asthmatic patients, presenting at the medical out-patient department with and without co-morbid rhinitis. The data was collected using a structured interview based questionnaire (after taking written informed consent) which included in-depth inquiries regarding the asthma severity and control for the past 4 week. The data obtained was analyzed using SPSS v. 21. 0.

Results: Among the 377 subjects, 200 were males while 177 were females. Mean age of the subjects was 36 years. 172 asthmatic patients in the sample suffered from the co-morbid rhinitis, while the remaining did not have the said comorbidity. Asthmatic patients with co-morbid rhinitis experienced more frequent asthmatic attacks. The incidence of visits to the emergency room and frequency of hospital admissions too was high among asthmatic patients with co-morbid rhinitis.

Conclusion: The results reveal that, all attempts to draw a comparison of asthma severity and control among patients with and without comorbid rhinitis yield clear and unidirectional results, leading to a transparent conclusion i.e. the asthma severity and control is considerably poorer in asthmatics with co-morbid rhinitis.

Keywords: Asthma, Severity, Control, Rhinitis and Co-morbidity.

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INTRODUCTION:

Rhinitis is a high-prevalence disease around the world, affecting nearly ten to forty percent of the adults everywhere. [1–3]. Prevalence of rhinitis is on the rise and the rise has been accelerating for many years now, especially in the western world. Evidence based research conducted in the western agree with the aforementioned statement in nearly all countries and all age groups, differing only in the extent of acceleration. Up to 15% for children aged six to seven years, up to 40% for children aged thirteen to fourteen years and up to 41% for adults aged twenty to forty four years [1, 2].

Evidence based analysis, aiming to reach a conclusive prevalence of rhinitis among patients with asthma, featuring in reputed search engines and scientific indices from 1983 to 2004, the prevalence ranged from twenty four to ninety four percent, with the lifetime prevalence ranging from fifty to hundred percent among adults with asthmatic subjects in the western world [8]. The relation is also bi-directional, and symptoms of asthma are found in patients suffering from rhinitis [9].

The aforementioned also suggests that the two ailments are linked in a way that the symptoms of asthma, affect rhinitis and the symptoms of rhinitis aggravate the severity of asthma and impairs asthma control [10–13]. Furthermore, as logic may predict, attempts at treating rhinitis yield positive effects on asthma as well, in terms of severity and control measured by the number of asthma attacks, number of visits to the emergency room and frequency of hospital admissions [11, 14-16].

Fresher literature in the evidence pool also showed recently that patients of asthma that did not suffer A scientific meta-

from co-morbid rhinitis held a probability of up to five times better control of asthma compared to patients with co-morbid rhinitis [10]. Likewise, surveys in outpatient departments, similar to ours hint that long term rhinitis is the strongest correlate of visits to the emergency room and hospital admissions brought about by exacerbation of asthma and increased frequency of asthmatic episodes. The purpose of this retrospective comparative analysis was to compare the severity and control of asthma among patients presenting with and without co-morbid rhinitis.

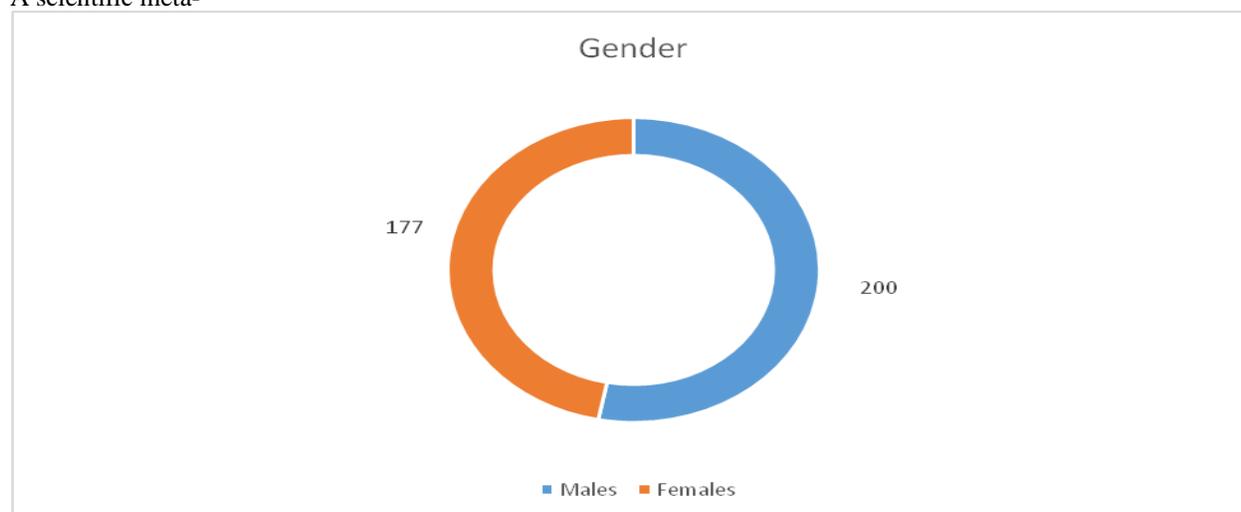
METHODOLOGY:

This retrospective, comparative analysis was conducted upon a total of 377 asthmatic patients, presenting at the medical out-patient department with and without co-morbid rhinitis. The data was collected using a structured interview based questionnaire (after taking written informed consent) which included in-depth inquiries regarding the asthma severity and control for the past 4 week. The data obtained was analyzed using SPSS v. 21. 0.

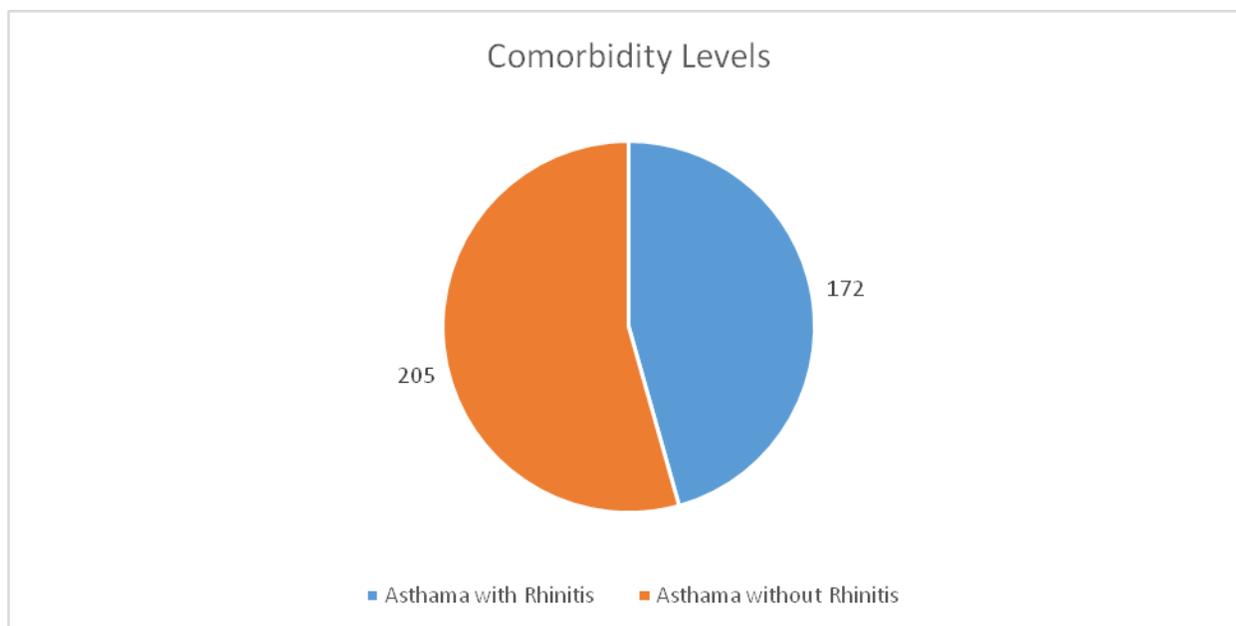
RESULTS:

Among the 377 subjects, 200 were males while 177 were females.

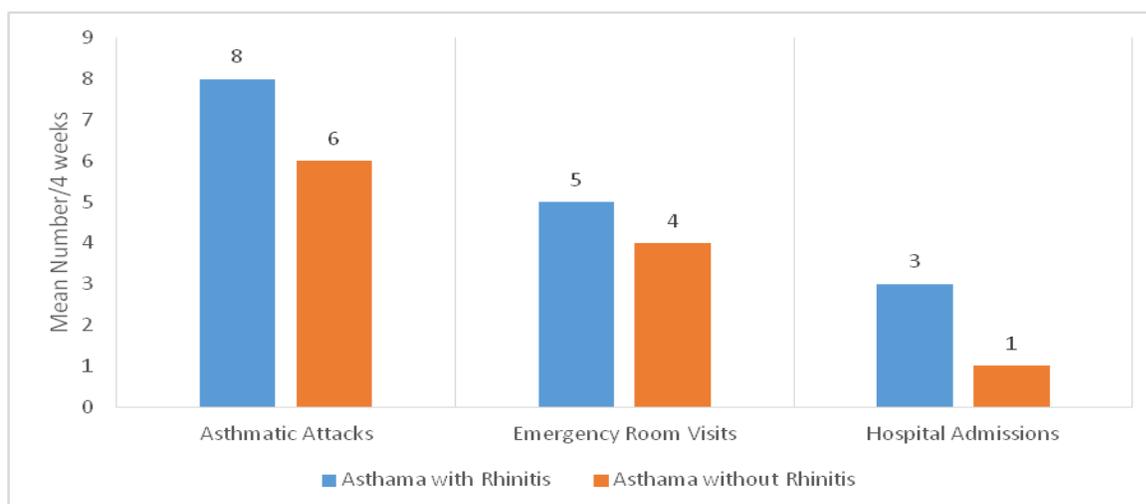
literature lists discoveries of unchallengeable statistics regarding the epidemiology and pathophysiology that rhinitis and asthma are strongly associated [4–6]. The prevalence of the comorbidity i.e. rhinitis among asthmatic patients is very high, reaching up to a hundred percent among patients with allergic asthma[5, 7].



Mean age of the subjects was 36 years. 172 asthmatic patients in the sample suffered from the co-morbid rhinitis, while the remaining did not have the said comorbidity.



Asthmatic patients with co-morbid rhinitis experienced more frequent asthmatic attacks. The incidence of visits to the emergency room and frequency of hospital admissions too was high among asthmatic patients with co-morbid rhinitis.



DISCUSSION:

This retrospective comparative study mirrors closely, the real life statistics owing to the efficient methodology. This was, to our knowledge, the first comparative study done in this regard in patients of asthma. Our study was carried out upon a rich sample of patients at a study setting that plays host to patients from a diverse sociodemographic background.

Research literature has continuously been updated with fresh studies that provided statistics of the epidemiology and pathophysiology and indicated that

the two ailments, i.e. asthma and rhinitis frequently exist together [16-22]. Evidence pertaining to epidemiology demonstrates that an approximate twenty to sixty percent of patients suffering from rhinitis mirror clinical asthma, and more than eighty percent of allergic asthmatic patients shadow symptoms of rhinitis [17-19]. According to evidence, an approximate 1/3rd of all patients with rhinitis have persistent symptoms of asthma [23, 24]. Deeper, more extensive research exploring the matter in anatomical and physiological perspectives, have given rise to decisive evidence pertaining to the bronchi and nose [21-24]. In addition to that, a

similarity is also present among the triggering agents that aggravate asthma. Furthermore, the resultant inflammatory responses as a result of the said triggers are also the same [22-26].

Hence the fact that attempts at treating rhinitis yield positive effects on asthma as well, in terms of severity and control measured by the number of asthma attacks, number of visits to the emergency room and frequency of hospital admissions [11, 14-16].

CONCLUSION:

The results reveal that, all attempts to draw a comparison of severity and control of asthma among patients with and without comorbid rhinitis yield clear and unidirectional results, leading to a transparent conclusion i.e. the severity and control of asthma is considerably poorer in asthmatics with comorbid rhinitis.

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