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Clinical Manifestations of Runny nose among Patients Attending Baqubah Teaching Hospital

Qays Jaafar Khalaf[1], Ali Lafta Salman[2],Mohammad Abdelmajid Al katatbeh[3], Sura Nabhan Hussein[4]

[1,2]College of Medicine, University of Diyala , Iraq
[3]Department of General and Special Surgery, Faculty of Medicine, Hashemite University Zarqa, Jordan
[4]Family Physician, Diyala Health Directorate, Diyala, Iraq

Abstract

Background: The runny nose refers to a discharge (fluid) coming from the nasal passages.Runny nose is associated with inflammation and swelling (congestion) of the inner lining of the nasal passages and sinuses. May associated with atopic condition the patient complain from nasal obstruction, runny nose, episode of sneezing, and nasal pruritis.

Objective: To examine the demographic distribution, clinical features, and age disparities among male and female patients with Runny nose (Rhinorrhea).

Patients and Methods: A study was done on 100 AR patients at Baqubah Teaching Hospital. Information on demographics, clinical symptoms, and age variations between males and females were gathered and examined through the use of descriptive statistics and independent sample t-tests.

Results: The Findings revealed that most of the subjects were women (56%) and homemakers (38%), with an average age of 29.73 years. Frequent symptoms comprised of sneezing (93%), runny nose (83%), itchy nose (74%), and stuffy nose (92%). There was no notable variation in age between males and females (p = 0.139).

Conclusion: Clinical symptoms of runny nose are often recognized consist of rhinorrhea, sneezing, obstruction of the nasal passages with lacrimation and pruritus of the nasal mucosa, conjunctiva and oropharynx with history of allergic rhinitis. Conditions commonly associated with allergic rhinitis include asthma, sinusitis, allergic conjunctivitis and atopic dermatitis. Long standing disease can lead to mucosa remodeling, atrophic skin changes, nasal infection and overall increased morbidity.

Keywords: Runny nose, nasal obstractions , nasal pruritis, stuffy nose

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Correspondence Address: Qays Jaafar Khalaf
Email: qais@uodiyala.edu.iq

Website: https://djm.uodiyala.edu.iq/index.php/djm

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Introduction

The runny nose refers to a discharge (fluid) coming from the nasal passages. ... runny nose is associated with inflammation and swelling (congestion) of the inner lining of the nasal passages and sinuses. A runny nose is excess nasal drainage. It may be a thin clear fluid, thick mucus or something in between. The drainage may run out of your nose, down the back of your throat or both. The terms "rhinorrhea" and "rhinitis" are often used to refer to a runny nose. Rhinorrhea actually refers to a thin, mostly

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clear nasal discharge. Rhinitis refers to the inflammation of nasal tissues. Rhinitis often results in a runny nose. Symptoms like those of allergic rhinitis (AR) are seen in atopic individuals.

Nasal congestion, runny nose, sneezing, drainage down the back of the throat, and itching in the nose. It affects approximately one in six individuals and is linked to considerable morbidity, reduced productivity, and healthcare expenditures. Traditionally perceived as a nasal airway disorder, the unified airway theory has redefined AR as part of a systemic allergic response, sharing underlying systemic pathology with conditions like asthma and atopic dermatitis [1].

AR can be categorized as seasonal (intermittent) or perennial (chronic), with around 20% of cases being seasonal, 40% perennial, and 40% exhibiting features of both [2]. Besides nasal symptoms, individuals with AR may also experience associated allergic conjunctivitis, non-productive cough, Eustachian tube dysfunction, and chronic sinusitis. Upon diagnosis, AR is manageable through various approaches, with intra-nasal glucocorticoids serving as first-line therapy [1].The prevalence of allergic rhinitis (AR) has seen a significant rise since the 1990s [3,4,5]. Globally, it affects approximately 25% and 40% of children and adults, respectively. Notably, about 80% of AR symptoms manifest before the age of 20, peaking between the ages of 20 and 40 before gradually declining [6, 7]. In children, the incidence rate of AR within the first 5 years of life stands at 17.2%, with the highest diagnosis frequency occurring between 24 and 29 months (2.5%) [8]. Meta-analyses have revealed sex-specific differences in AR prevalence, with males being more affected during childhood and females showing a higher prevalence in adolescence [9, 10].

The increasing prevalence of AR over the years can be attributed to various risk factors, including global urbanization. Studies comparing AR prevalence between urban and rural areas have consistently demonstrated higher rates in urban settings [11,12]. Urbanization brings about elevated levels of pollutants, such as traffic- related pollutants and particulate matter 2.5 (PM2.5), which can exacerbate pollen- sensitized AR [13-15]. Reports indicate a higher prevalence of AR in urban locales compared to rural regions [12]. Moreover, climate changes have led to prolonged pollen seasons, as observed in Europe over the last three decades, contributing to more frequent seasonal allergies [16].

Rhinitis encompasses a spectrum of inflammatory conditions affecting the nasal mucosa, with etiological classifications providing insights into their diverse origins ,IgE-mediated rhinitis, characterized by allergic reactions, involves inflammation driven by IgE antibodies and eosinophilic infiltration, manifesting as either intermittent or persistent symptoms. Autonomic rhinitis encompasses various causes, including vasomotor disturbances, drug-induced reactions, hormonal fluctuations, and non-allergic rhinitis with eosinophilia syndrome (NARES). Infectious rhinitis, commonly viral in nature, arises from viral, bacterial, or fungal infections.

Finally, idiopathic rhinitis denotes cases where the underlying cause remains elusive

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despite investigation. Understanding these classifications aids in targeted diagnosis and management strategies tailored to the specific etiological factors contributing to rhinitis onset and progression [17].

Patients and Methods

A cross-sectional study of One hundred patients complaining of runny nose were conducted randomly at the outpatient clinic for otolaryngology at Baquba teaching hospital. from the period of 1st July 2023 to 1st march 2024. A comprehensive history was taken as well as a clinical examination was performed., the patient underwent systematic anterior rhinoscopy, posterior rhinoscopy, nasal endoscopy, and computed tomography (CT) of the nose and paranasal sinuses for diagnoses nasal smear analysis.

Statistical Analysis

Data analysis was performed using SPSS version 25.0. Descriptive statistics were used to summarize sociodemographic characteristics, and clinical manifestations. Independent sample t tests were applied for quantitative variables comparison. A significance level of $p < 0.05$ and a 95% confidence interval were used.

Results

Demographic Distribution of Study Participants

The study included 100 participants diagnosed with runny nose , comprising 56% females and 44% males. Regarding occupations, the majority were housewives (38%) and students (33%) Farmer(11%) Worker(10%) Animal Breeder (2%) baker (2%) . The mean age of the participants was 29.73 years with a standard deviation of 11.522. Among the participants, 13% reported history of eczema and asthma, 52% reported a history of conjunctivitis, and 17% reported a history of drug sensitivity.

Table (1): Demographic Distribution of Study Participants.

Demographic	Frequency	Percent%
Sex		
Female	56	56
Male	44	44
Occupation		
Worker	2	2
Animal Breeder	2	2
Baker	2	2
Farmer	11	11
Housewife	38	38
Student	33	33
Teacher	2	2
Worker	10	10
History of Asthma		
No	87	87
Yes	13	13
History of Eczema		
No	87	87

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Yes	13	13
History of Conjunctivitis		
No	48	48
Yes	52	52
History of Drug Sensitivity		
No	83	83
Yes	17	17
Total	**100**	**100**
Age Mean ± Sd. (Years)		**29.73 ± 11.522**

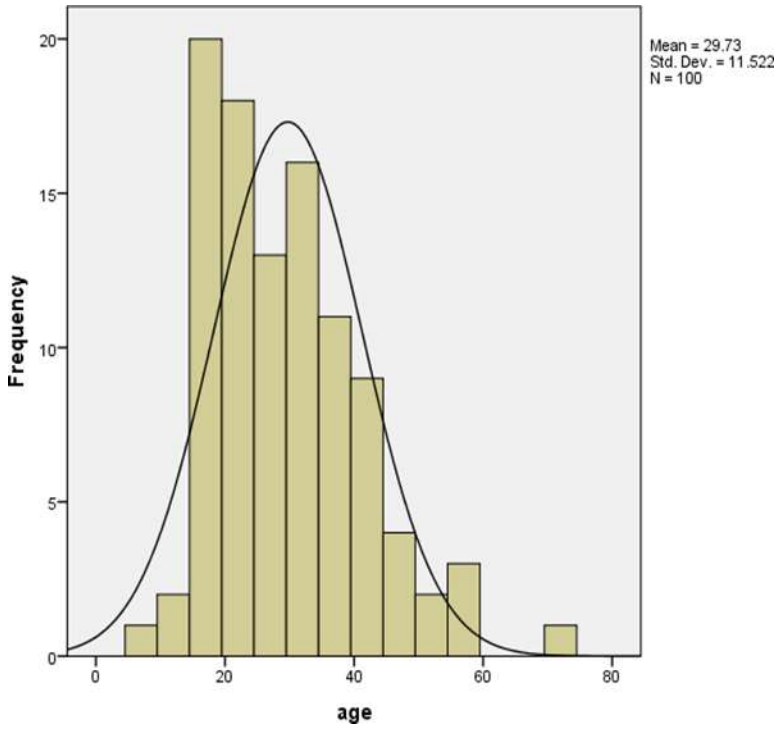

Figure (1): Age Distribution of Study Participants.

Runny nose with allergic rhinitis Manifestations

Runny nose with allergic rhinitis manifestations were evaluated among the participants. Sneezing was reported by 93% of the participants, rhinorrhea by 83%, nasal itching by 74%, and nasal obstruction by 92%.

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Table (2): Runny nose with allergic rhinitis Manifestations.

Symptom	Frequency	Percent%
Sneezing		
No	7	7
Yes	93	93
Total	100	100
Rhinorrhea		
No	17	17
Yes	83	83
Total	100	100
Nasal Itching		
No	26	26
Yes	74	74
Total	100	100
Nasal Obstruction		
No	8	8
Yes	92	92
Total	100	100

Age Difference between Genders among Patients with Allergic Rhinitis

Among patients with allergic sinusitis, the mean age for females was 28.21 years (SD = 10.337) and for males was 31.66 years (SD = 12.735). An independent sample t-test showed a non-significant difference in age between genders (p = 0.139).

Table (3): Age Difference between Genders among Patients with Allergic Rhinitis.

Mean	Age Mean ± Sd. (Years)	Independent sample t test *p* value
Female	28.21 ± 10.337	0.139
Male	31.66 ± 12.735	

Discussion

The demographic breakdown of participants enrolled in this study on Runny nose and allergy it is hypersensitive reaction of nasal mucosa. The study included 100 participants diagnosed with Runny nose, the study reveals mostly occur in female in 56%, housewives (38%) and students (33%). And less occure in male 44% with mean age of the participants was 29.73 years this agree with Widuri A e ,tal show the runny nose and allergic rhinitis occur in female also This finding aligns with existing research, which consistently shows a higher occurrence of allergic rhinitis in women compared to men [18].

Multiple factors, including hormonal influences and differences in immune responses between genders, contribute to the gender disparity. Researchers may discover new treatment targets and intervention strategies for allergic rhinitis in female patients by studying how hormones, genetics, and the immune system interact.

The average age of participants, set at 29.73 years, is a crucial sign that allergic rhinitis affects people of all ages, appearing in different age ranges and highlighting its

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widespread presence over a lifetime. This observation is consistent with results from previous studies, which also align with this conclusion documented a peak prevalence of allergic rhinitis among both young adults and older individuals [19].

In the research show the main clinical feature of runny nose is. Sneezing was reported by 93% of the participants, rhinorrhea by 83%, nasal itching by 74%, and nasal obstruction by 92%. These agree with many authorize describe the distraction of mast cells lead to release of allergen material like histamine, interleukin ,cytokines and T - helper cells active the inflammatory proses [20].

Revealing occurrences of asthma, eczema, conjunctivitis, and drug sensitivity in participants' medical histories highlights the complex connection between allergic rhinitis and other allergies. There for in Auer study show the 13% of patient reported history of eczema and asthma, 52% reported a history of conjunctivitis, and 17% reported a history of drug sensitivity.

The allergic material effect all the body specially the eye and the skin these explain by mane authorize [21]. The presence of these allergic conditions in one person implies common causes and requires a comprehensive approach to patient treatment. Similar results from a research project in Tehran, Iran, continue to emphasize the significance of combined strategies for managing allergic diseases [20]. Similar results from a research show there is very common relationship between allergic rhinitis and drug allergy like aspirin, and penicillin, also all patient with history of asthma had allergic rhinitis the diagnosis and treatment of atopic patient occur by implementing strategies that recognize how different allergic conditions are linked, healthcare providers can improve treatment results, reduce symptoms, and improve the overall quality of life of patients.

Conclusions

According to the findings of this research , the most prevalent symptom of the runny nose is nasal itch ing and nasal obstructions . the patient with asthma ,eczema ,drug allergy more reliable to allergy of nose ,the exposure to allergen like air pollen ,drug ,dust mite it is the most common causes skin prick test and nasal smear very important for diagnoses

Recommendations

The initial treatment of runny nose is avoid of allergen material like dust mites,drugs,pollens from tree.

The allergic rhinitis mostly higher in patient with asthma, eczema therefore should be investigating the patient carefully and take the family history to reach the diagnosis and treatment.

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Ethical clearance: This study was conducted according to the approval of College of Medicine/ University of Diyala and in accordance with the ethical guidelines of the Declaration of ethical committee of the College (Document no. 2024QJK834).

Conflict of interest: Nil

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المظاهر السريرية لالتهاب الأنف التحسسي والمرضى الأكثر إصابة به

قيس جعفر خلف[١]، على لفته سلمان[٢], محمد عبد المجيد الخطاطبة [٣],سرى نبهان حسين[٤]

الملخص

خلفية الدراسة: التهاب الأنف التحسسي هو حالة مرضية سائدة تتميز بأعراض الأنف مثل انسداد الأنف، وسيلان الأنف، والعطس، والحكة.

اهداف الدراسة: للمظاهر السريرية والفروق العمرية بين الجنسين بين المرضى الذين يعانون من سيلان الانف التحسسي وكذألك من هم الذين أكثر عرضة للإصابة.

المرضى والطرائق: أجريت دراسة مقطعية على ١٠٠ مريض تم تشخيص إصابتهم حساسية الانف في مستشفى بعقوبة التعليمي. تم جمع وتحليل البيانات المتعلقة بالخصائص الديموغرافية والمظاهر السريرية والفروق العمرية بين الجنسين باستخدام الإحصائيات الوصفية واختبارات للعينة المستقلة.

النتائج: غالبية المشاركين كانوا من الإناث (٥٦٪) وربات البيوت (٣٨٪)، بمتوسط عمر ٢٩,٧٣ سنة. وشملت الأعراض الشائعة العطس (٩٣٪)، وسيلان الأنف (٨٣٪)، والحكة الأنفية (٧٤٪)، وانسداد الأنف (٩٢٪). لم يكن هناك فرق كبير في العمر بين الجنسين (ع = ٠,١٣٩).

الاستنتاجات: غالبًا ما يتم التعرف على الأعراض السريرية لسيلان الأنف والتي تتكون من سيلان الأنف والعطس وانسداد الممرات الأنفية مع تمزق وحكة في الغشاء المخاطي للأنف والملتحمة والبلعوم مع اعراض التهاب الأنف التحسسي. تشمل الحالات المرتبطة عادةً بالتهاب الأنف التحسسي الربو والتهاب الجيوب الأنفية والتهاب الملتحمة التحسسي والتهاب الجلد. يمكن أن يؤدي المرض طويل الأمد إلى تشكيل الغشاء المخاطي، وتغيرات الجلد الضامرة، وعدوى الأنف، وزيادة معدلات الإصابة بالمرض بشكل عام.

الكلمات المفتاحية: التهاب الأنف التحسسي، التوزيع الديموغرافي، المظاهر السريرية، الفروق بين الجنسين، الإدارة الشخصية

البريد الالكتروني: qais@uodiyala.edu.iq

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[٢،١] كلية الطب – جامعة ديالى - ديالى – العراق
[٣]كلية الطب - الجامعة الهاشمية – الزرقاء - الاردن
[٤] مستشفى بعقوبة التعليمي - دائرة صحة ديالى – ديالى