



## **Xylometazoline: A tropical Nasal Decongestant and an extensive cause of Rhinitis medicamentosa (RM)**

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### **ABSTRACT**

*Xylometazoline is a nasal decongestant intranasal spray which is often used to reduce the inflammation of the nasal mucosa in allergic rhinitis. It is available with different brand names in different countries. In Pakistan it is available with the brand name of Xynosine. Over use of Xylometazoline cause rebound nasal congestion as the patient gets addicted to it. This condition is called Rhinitis medicamentosa (RM). Rhinitis medicamentosa occur when this spray is used more than 5-6 days. Suspected patients were investigated in ENT (Ear, Nose and Throat) section, DHQ hospital, of Kohat city KP Pakistan. All respondents had the same clinical condition, i.e. Rhinitis medicamentosa. All respondents were interviewed for the excessive use of nasal decongestant sprays. A total of 21/39 (53.85%) male, while 18/39 (46.15%) female respondents were included in this study. All patients were divided into different age groups. In the age group 10 or less than 10 years old patients only 1 female was suffering from RM (rhinitis medicamentosa). About 53.85% patients of Rhinitis medicamentosa were male population this percentage was much higher than female population which was recorded 46.15%. Males were found more effected as compare to the female population. A high prevalence of Rhinitis medicamentosa (30.33%) was observed in age groups 21-30 as well as 31-40 years. A high percentage (51.28%) of RM-patients were those who were using Xylometazoline as a nasal decongestant prescribed by a physician, but physician didn't advise the maximum use of this drug. About 35.90% patients accepted that they were using Xylometazoline without prescribed by physician whenever they felt nasal blockage and soon they got addicted to it. To get rid of nasal congestion people used nasal decongestants more than the recommended time frame and get addicted to it. This study reveals that rhinitis medicamentosa can be cure by stopping use of nasal decongestant sprays and the use of other non-addictive drugs. Both Homeopathic and allopathic medications was found effective to get rid of addiction of nasal decongestion.*

**Key Words:** Xylometazoline, Xynosine, Rhinitis medicamentosa, Nasal congestion

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### **INTRODUCTION**

Allergic rhinitis is a type of nasal allergy in which there is inflammation nasal mucosa and cause nasal congestion, itching and swelling around orbits of the eye, sneezing and watery nose. This condition is also called hay fever [1,2]. Pollens and dust are the root cause of allergic rhinitis [3,4,5]. The best way of treating Allergic rhinitis is corticosteroid intranasal sprays [6]. Xylometazoline is a nasal decongestant intranasal spray which is often used to reduce the inflammation of the nasal mucosa in allergic rhinitis. It is available with different brand names in different countries. In Pakistan it is available with the name of Xynosine [7]. Over use of Xylometazoline cause rebound nasal congestion as patient get addicted to it. This condition is called Rhinitis medicamentosa (RM) [8]. Rhinitis medicamentosa occur when this spray is used more then 5-6 days [9]. Xylometazoline is one of the OCT (over the counter) drug sold without the prescription [10]. Looking to the above hazards of over use of Xylometazoline the current study is designed to investigate the prevalence and risk factors of Rhinitis medicamentosa in local population of Kohat city of District Kohat KP Pakistan.

**MATERIALS AND METHODS**

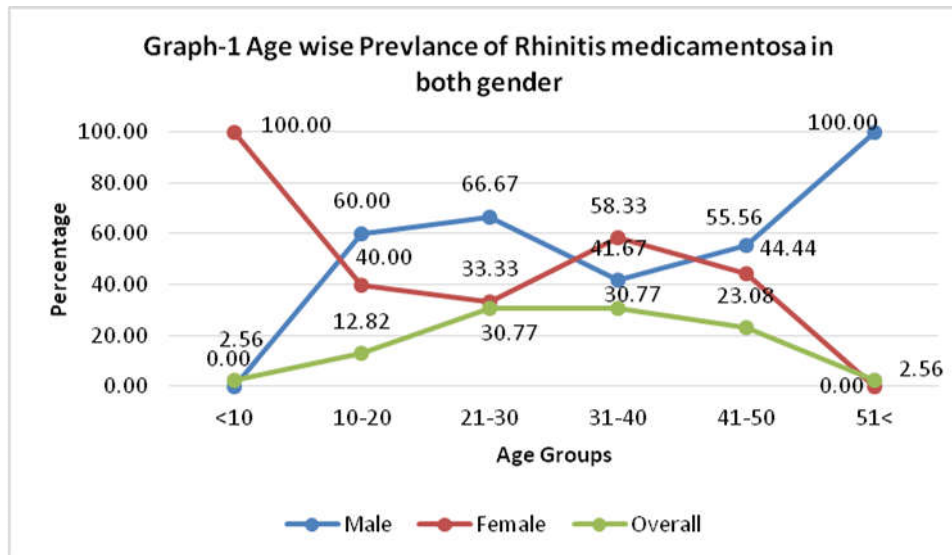
About 39 respondents were included in this study non randomly. Suspected patients were investigated in ENT (Ear, Nose and Throat) section, DHQ hospital, of Kohat city KP Pakistan. All respondents had same clinical condition i.e. Rhinitis medicamentosa. all respondents were interviewed for the excessive use of nasal decongestant sprays.

**Results**

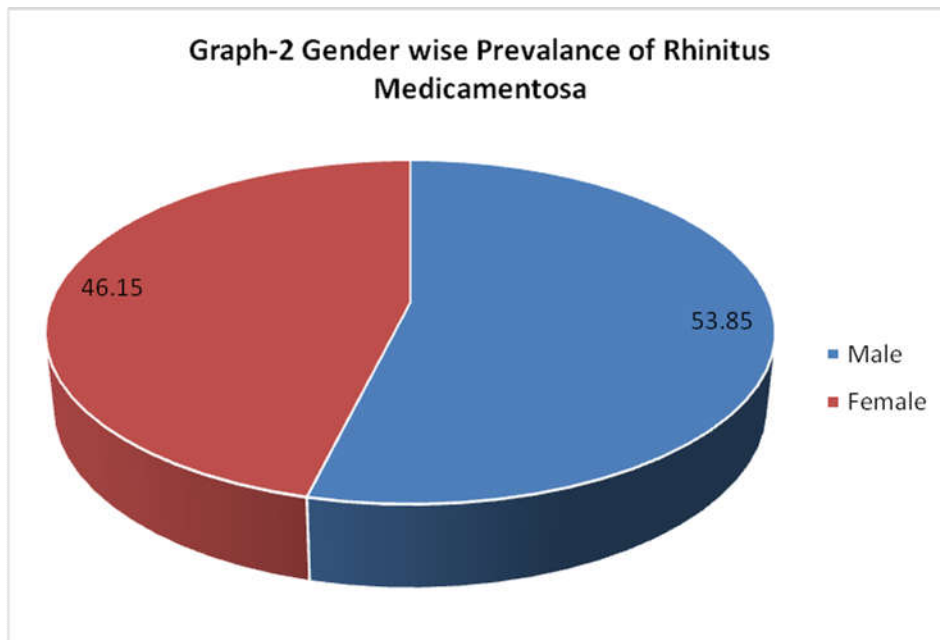
A total of 21/39 (53.85%) male while 18/39 (46.15%) female respondents were included in this study. All patients were divided into different age groups. In age group 10 or less than 10 years old patients only 1 female was suffering from RM (rhinitis medicamentosa). In age group 10-20 years 3/5 (60.00%) male, while 2/5 (40.00%) females were suffering from RM. In age group 21-30 years of age 8/12 (66.67%) male while 4/12 (33.33%) females were suffering from RM. In 31-40years' age group 5/12 (41.67%) male, while 4/12 (58.33%) were suffering from RM. In age group 41-50 years 5/9 (55.56%) male and 7/9 (44.44%) females were suffering from RM. In 51 and above year of age group only 1/1 (100.00%) male was suffering from RM. Table-1 and graph-1 denotes the prevalence of Rhinitis medicamentosa in both genders in relation to age groups.

**Table-1** Prevalence of Rhinitis medicamentosa in both genders in relation to age groups.

Age Groups	Male n(%)	Female n(%)	Overall n(%)
<10	0(0.00)	1(100.00)	1(2.56)
10-20	3(60.00)	2(40.00)	5(12.82)
21-30	8(66.67)	4(33.33)	12(30.77)
31-40	5(41.67)	4(58.33)	9(23.08)
41-50	5(55.56)	7(44.44)	12(30.77)
51<	1(100.00)	4(0.00)	5(12.82)
<b>Grand Total</b>	<b>21(53.85)</b>	<b>18(46.15)</b>	<b>39</b>

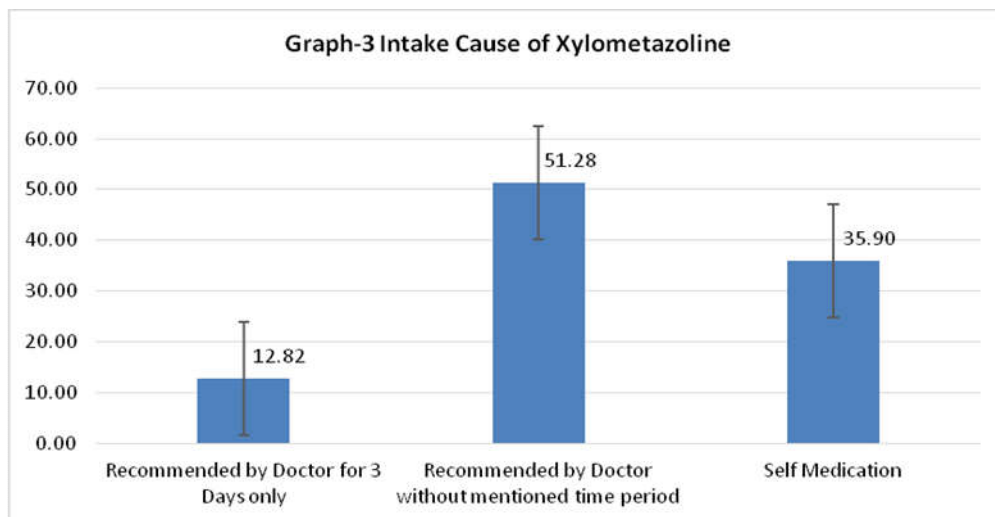


About 53.85% patients of Rhinitis medicamentosa were male population this percentage was much higher than female population which was recorded 46.15%. Males were found more effected as compare to the female population (Graph-2).



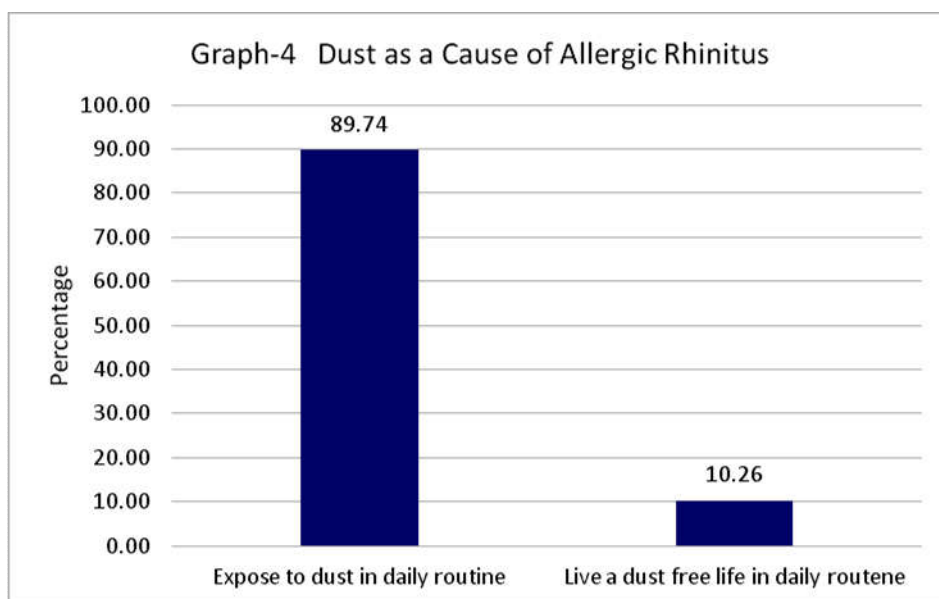
**Intake Cause of Xylometazoline**

In this study the cause of intake of Xylometazoline was investigated from all RM effected patients. About 12.83% patients were those who were recommended the use of Xylometazoline by physician for three days only but due to recurring symptoms of nasal blockage they prolonged the use of Xylometazoline which lead them to Rhinitis medicamentosa. About 51.28% patients were never advised by physician about the maximum usage of Xylometazoline, they also extended the use more than a month and they became addicted. About 35.90% patients were continuously using Xylometazoline as self-medication without any prescription of physician (Graph-3).



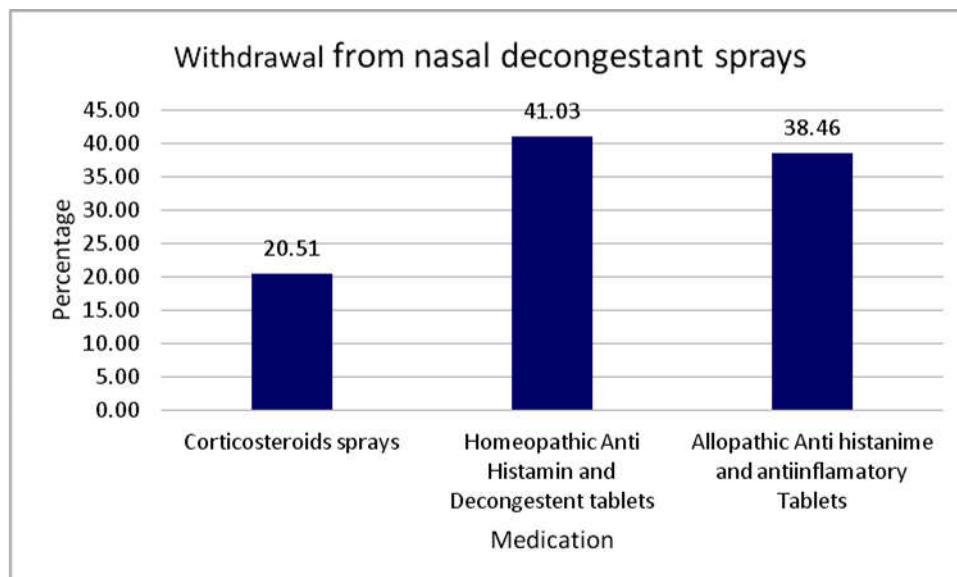
**Dust as a Cause of Allergic Rhinitis**

About 89.74% patients accepted they have daily exposure to dust while going for their work / School. While only 10.26% patients were living a dust free life. A high percentage of patients had daily exposure to dust that lead to many nasal disorders including Allergens like Allergic Rhinitis, to treat Allergic Rhinitis they used nasal decongestants and got addicted to it (Graph-4).



#### Withdrawal from nasal decongestant sprays

Withdrawal from nasal decongestants particularly from Xylometazoline is not difficult but it requires time and determination to get rid of it. Many other drugs are there which do not have any addictive quality for a patient. About 20.51% respondent used nasal corticosteroids sprays to treat Rhinitis medicamentosa, they found corticosteroids very effective against RM. About 41.02% respondents relied Homeopathic anti-histamines and decongestants to cure root cause of nasal congestion and nasal allergies (Allergic Rhinitis) about 38.46% of the patients trusted that Allopathic English medicines containing anti-histamines and anti-inflammatory tablets are best to cure RM and to get rid of Xylometazoline.



#### DISCUSSIONS AND CONCLUSIONS

A high prevalence of Rhinitis medicamentosa (30.33%) was observed in age groups 21-30 as well as 31-40 years. This high prevalence might be due to over exposure of these respondents to dust which is the major cause of Allergic rhinitis. To treat Allergic Rhinitis patients usually use nasal decongestants. Over use of these nasal decongestants cause Rhinitis medicamentosa. In this study it was found that male population are at higher risk to get affected from Rhinitis medicamentosa. As compared to female population, females usually cover their face that's why there are less chances to get any nasal infection by them. Still females are susceptible to get any nasal infection or disease while cleaning houses and their exposure to dust. A high percentage (51.28%) of RM-patients were those who were using Xylometazoline

as nasal decongestant prescribed by a physician, but physician didn't advise the maximum use of this drug. Patients continued using whenever they felt nasal congestion. As time passed their condition got worse and they got addicted to Xylometazoline. Self-medication is the most prevailing issue now a day in Pakistan. About 35.90% patients accepted that they were using Xylometazoline without prescribed by physician whenever they felt nasal blockage and soon they got addicted to it. This study revealed that those who had daily exposure to dust, are most affected by nasal disorders / allergies and nasal congestion. To get rid of nasal congestion people used nasal decongestants more than the recommended time frame and get addicted to it. This study reveals that rhinitis medicamentosa can be cure by stopping use of nasal decongestants sprays and use of other non-addictive drugs. Both Homeopathic and allopathic medication was found effective to get rid of addiction of nasal decongestion.

This study is parallel to the findings of Pamela Brooks [3], Denver Medical Times (2014) [4] and George Clinton Andrews [5] who highlighted that dust is the root cause of allergic rhinitis. Self medication is always reported around the globe. According to a report of *world self-medication industry* [10] Xylometazoline is one of the OCT (over the counter) drug sold without the prescription. These findings are quite in agreement to the current study.

### RECOMMENDATIONS

Xylometazoline and other nasal decongestant sprays like it are highly addictive drugs, these should not be used more than the prescribed time duration by a physician. No medication should be used without the prescription of a physician or a medical spiciest. Self-medication always leads to complications. Physicians must advise the time frame of the prescribed drug and the adverse effects of prolonged using a drug. Drug dealers should not sale any sort of medication without a proper prescription. Mask should be used while travelling to dust zones or while working in dusty area to protect nasal passage from nasal infections and nasal congestion. Bikers must use helmets to prevent dust enter their nose.

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