Basrah Journal of Surgery
ISSN: 1683-3589, Online ISSN: 2409-501X

Research Paper

Bas J Surg, 2024; 30(1)

AWARENESS REGARDING NASAL DECONGESTANT USES AND SIDE EFFECTS IN THE BASRAH GOVERNORATE

Document Type : Research Paper. Doi: https://doi.org/10.33762/bsurg.2024.148456.1074

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Article ID: BSURG-2404-1074 (R2)
Receive Date: 01 April 2024
Revise Date: 07 June 2024
Accept Date: 13 June 2024
Publish Date: 30 June 2024

Abstract:

Background: The growing problem of medication usage has drawn attention worldwide, especially among those who take over-the-counter medications to treat nasal-related problems. In this study, we sought to investigate the use of topical nasal medicines and to throw light on consumers' knowledge, and behaviors regarding nasal decongestant self-medication. The study aims to assess their knowledge of required doses and probable adverse effects. The study will also look for knowledge gaps and patterns of usage to guide targeted educational initiatives and reduce the risk of decongestant overuse.

Ptients and Methods: This is observational research at Basrah governorate conducted through an online self-administered questionnaire. A sample size of 250 people was chosen randomly regardless of their nasal decongestant use status, and data on demographics, awareness levels, and usage habits were collected. SPSS was used to analyze the data, and participants supplied informed consent while maintaining data confidentiality.

Results: There were 46.4% males and 53.6% females among the 250 participants. In terms of age, (53.2 %) of participants were between the ages of 20 and 40, followed by 40-60 years old (37.2 %). Among the participants, 77.2% had a high level of education. About using nasal decongestants, 86.8% have used them in the past or presently do. In terms of drug knowledge, 28% of participants are aware of the adverse effects, 27% are aware of the medically suggested length of usage, and 30% are aware of nasal congestion addiction.

Conclusion: the overall knowledge was low and increased with the level of education. Most of the patients were self-medicated

Keywords: nasal decongestant, Runny nose, allergic rhinitis treatment

Introduction

Nasal decongestants, which are available over the counter, can be considered a form of self-medication. They come in different forms, including drops and nasal sprays, which act either locally or systemically. They are useful in the treatment of allergic disorders such as allergic rhinitis and decrease symptoms associated with viral infections symptoms. Users should be informed and educated about the active ingredients and the recommended dosage. Despite their broad availability and established safety measures,[1] these preparations have the potential to cause a variety of chronic illnesses and problems. Nasal decongestants reduce swelling in the blood vessels within the nasal passages by blocking alpha-1 receptors, leading to vasoconstriction. This process helps open the airways after edema subsides, forming the basis of their mechanism of action. These decongestants are frequently used to treat a variety of conditions, including the common cold, inflammation of sinuses, allergic rhinitis, and other allergies caused by infections or pollen, and nasal polyps.[2] Nasal decongestants are widely used for lengthy periods without restriction.[3] However, it is crucial to know that these drugs should be used with caution in children younger than six years old.[4] Patients should be advised not to use these types of medication for prolonged periods specifically not more than ten days to reduce the danger of increased mucous membrane edema after stopping decongestant usage, especially in children.[5] The majority of the effects of nasal decongestants are local, but they can also have systemic side effects such as elevated blood pressure, headaches, insomnia, nausea, and feeling dizzy.[6] One of the important side effects resulting from the increasing frequency of administration of decongestant is tachyphylaxis, a condition when the body's reaction to the medication rapidly declines and the patient will not get the relief that previously occurred. Thus, decongestants should not be used for extended periods, and They should educate patients thoroughly, providing clear explanations of the causes and drawbacks of such self-medication.[6]

The FDA has issued a warning against the misuse of decongestants, noting that one of these drugs has been associated with mental and

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cardiovascular problems when used beyond the prescribed dosage.[7,8] Because these treatments are only intended for certain purposes, the abuse of over-the-counter (OTC) pharmaceuticals has become a significant issue, especially among adults. The danger associated with this phenomenon is rising. The inherent dangers associated with the improper use of OTC medications highlight the need for greater awareness and caution.[9] Some patients may be suspected of abusing certain types of decongestants not only for their therapeutic benefits but also for their potential psychostimulant effects.[10] This study aims to evaluate people's knowledge, attitudes, and behaviors related to using nasal decongestants for self-medication of nasal diseases. The goal of the study is to determine how well-informed consumers are about the suggested dose and potential side effects of nasal decongestants. Additionally, it wants to look at how people feel about these drugs, including how they see them in terms of effectiveness and safety. The study also seeks to examine how sociodemographic factors affect the candidate's knowledge.

Patients and Method

This study aimed to assess the awareness of Basrah citizens regarding nasal decongestants and their potential adverse effects, as no prior research on this topic had been conducted in Basrah.

The research took place in Basrah province, Iraq, from January to May 2023. A cross-sectional sample size formula was applied, resulting in an intended sample of 250 participants, with a 95% confidence interval and a 0.05 margin of error.

Data were collected using a questionnaire administered to patients attending public and private clinics in the Basrah Governorate. The questionnaire included socioeconomic factors such as age, gender, and education level, and focused on evaluating participants' knowledge of nasal decongestants and understanding of congestion.

Data analysis was conducted using SPSS version 25. Demographic and socioeconomic information was reported as frequencies and percentages, with visual representations through pie charts and bar graphs. A chi-square test was employed to analyze the significance of differences in response distributions and their correlation with the variables. Informed consent was obtained from all participants before the study. Only the researchers had access to identifiable

information, which was kept confidential and used solely for research purposes.

Results

Among the 250 participants, women made up 53.6% of the group while men made up 46.4%. In terms of age, those under 20 years old made up 6.4%, those between 20 and 40 years old made up 53.2%, those between 40 and 60 years old made up 37.2%, and those beyond 60 years old made up 3.2%. According to educational attainment, individuals with a Baccalaureus were represented by 77.2%, Secondary students by 18.4%, Middle school students by 3.6%, and Elementary students by 0.8%, respectively Table I.

Table I: Demographic Features For All Participants.

	The variable	N	%
Gender	Female	134	53.6
	Male	116	46.4
Age	<20	16	6.4
	20-40	133	53.2
	40-60	93	37.2
	>60	8	3.2
Education	Primary	2	0.8
	Intermediate	9	3.6
	Secondary	46	18.4
	Higher	193	77.2

The findings represented in Figure1 shed light on the prevalence of specific health issues associated with nasal congestion usage, according to the findings, 65.2% of the participants believed that using nasal decongestants helps in stop sneezing and rhinorrhea. 52% reported they believe that using the medication after continuous nasal block is beneficial.

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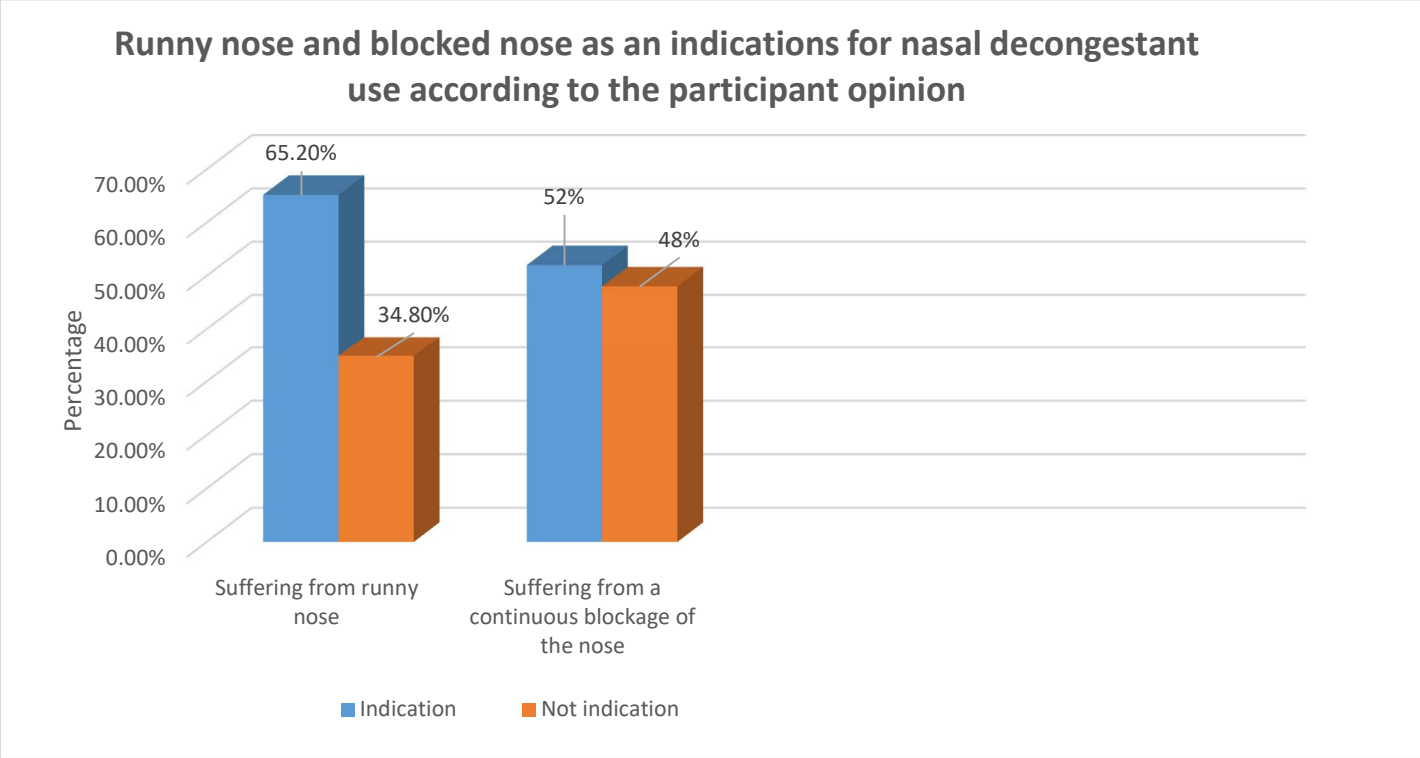

Figure1: Runny Nose And Blocked Nose As An Indication For Nasal Decongestant Use According To The Participant's Opinion

The pattern of nasal decongestant usage is shown in Table II. About 37% of participants reported that they currently use nasal decongestants, while 62.8% stated that they do not. Among those surveyed, 86.8% admitted to having used nasal decongestants at some point in the past, indicating a significant level of familiarity and experience with these medications.

The data also shows participants' consumption patterns of nasal decongestants over varying durations. Most participants (44.7%) reported using nasal decongestants for 2 to 8 weeks. In contrast, 15.6% indicated they had used them for less than 1 week. The majority (55.3%) reported using nasal decongestants once or twice daily, while 40.6% stated they used them three to four times per day.

Table II: The Pattern Of Usage Of Nasal Decongestant

		N	%
Currently Uses Nasal	yes	93	37.2
	no	157	62.8
Has ever used Nasal	yes	217	86.8
	no	33	13.2
How long have used nasal decongestants	< 1weeks	39	15.6
	1- 2 weeks	40	16
	2-8 weeks	97	44.7
	>8 weeks	41	18.89
How often does the patient use nasal	1-2	120	55.3
	٣-4	88	40.6
	>4	9	4.1

Table III analysis offers intriguing data on the impact of demographic variables on nasal decongestant knowledge. The p-values linked with gender are 0.33 for understanding of nasal congestion addiction, this shows that there is no statistically significant difference in knowledge across genders in these domains. The p-value for gender and knowledge of nasal decongestant side effects is 0.61, showing that there is no statistically significant link between gender and knowledge of side effects. However, there is a statistical difference between gender and awareness of the medical time suggested for nasal decongestant usage. On the other Hand, there is statistical difference between age and period of use and the side effect respectively. Furthermore, educational level has statistical significance with all three factors.

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Table III: Demographic Factors Cross Knowledge on Nasal Decongestants

	Knows of	Aware of the	Aware of the
Knowledge	76 (30.4)	68 (27.2 %)	71 (28.4)
Gender male	40 (53%)	27 (39.7%)	33 (46.5%)
	36 (47%)	41 (60.3%)	38 (53.5%
P	0.33	0.027	0.61
Age <20 years	3 (4%)	1 (1.4%)	7
20-40	41 (54%)	55 (80.8%)	39
40-60	30 (39%)	9 (13.2%)	21 (29.6%)
Over 60	2 (3%)	3	4 (5.6%)
P value	0.11	0.019	0.062
Education	0 (0%)	0 (0%)	1 (1.4%)
	0 (0%)	2 (2.9%)	1 (1.4%)
	19 (25%)	26	8 (
Higher	57 (75%)	40	61 (86%)
P	0.02	0.057	0.0019

Discussion

Nasal decongestants are among the most effective treatments for rapid symptom relief; however, their immediate effects also pose a significant risk of overuse. Excessive use of nasal decongestants can lead to adverse side effects and increase the likelihood of undiagnosed chronic underlying conditions .[11]

Our data indicate that only 68 respondents (27.2%) were aware of the recommended usage duration for topical nasal decongestants (less than one week). Similar findings were reported by Gill et al. (2015), who assessed the utilization patterns and knowledge of nasal decongestants among university students in Ajman, United Arab Emirates, where only 30% of participants were aware of the recommended duration for using topical nasal decongestants .[12]

Furthermore, only 71 individuals (28.4%) recognized the adverse effects associated with long-term use of topical nasal decongestants. A comparable study by Lenz et al. examining the Brazilian population

found that 32.9% were aware of these negative effects, which aligns with our findings .[3]

In our study, physicians prescribed medication for 48 participants (22%). This is in line with a Jordanian survey by Aziz et al., which reported that nasal decongestants are among the most commonly obtained medications (61.8%) without a physician's prescription .[13] Conversely, studies by Gill et al. ,[12] Lenz et al. ,[3] and Zareen et al.[14] found that a greater proportion of individuals (45%-55%) received prescriptions and information about dosages and adverse effects from their doctors. This discrepancy raises concerns regarding the prevalence of medication usage without physician consultation in our locality. However, a significant percentage (27.6%) of those who did not consult doctors obtained their medications based on pharmacist recommendations. Health professionals play a crucial role in mitigating the risks associated with self-medication. There is a pressing need to enhance awareness about the appropriate use of topical nasal decongestants. Given that these medications are routinely prescribed by physicians—including pediatricians, general practitioners, and otorhinolaryngologists—these medical professionals should be encouraged to provide comprehensive education to their patients.

Our cross-sectional investigation revealed a strong correlation between gender and awareness of the recommended usage period for nasal decongestants. Results showed that women were more likely than men to be aware of the recommended duration, constituting 60.3% of the informed population compared to 39.7% of men. A previous study in Saudi Arabia by Khalid and colleagues similarly demonstrated the awareness of the population regarding nasal

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decongestants for allergic rhinitis and their side effects .[15]

Regarding education level, knowledge of nasal congestion and decongestants increased with higher literacy levels. Most participants with good knowledge of nasal congestion potential for addiction (75%) and the side effects of nasal decongestants (86%) had higher education levels. Burge et al. found that patients with higher educational attainment are generally more informed about medications and their proper use .[16]

Conclusion:

Knowledge about the optimal duration and adverse effects of topical nasal decongestants is low among the population. However, understanding and appropriate usage of these medications improve with increased literacy levels. Notably, the majority of individuals self-medicate without consulting a doctor, highlighting the need to regulate the availability of these drugs.

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Acknowledgements: The authors would like to express special thanks to all patients who participated in the study.

Financial support: No Financial Support For this Work

Conflict of interest : Authors declare no conflict of interest

Authors' Contributions:

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Work concept and design 1,2,3
Data collection and analysis 1,2
Responsibility for statistical analysis 1
Writing the article 1,2,3
Critical review, 1, 2,3
Final approval of the article 1,2,3
Each author believes that the manuscript represents honest work and certifies that the article is original, is not under consideration by any other journal, and has not been previously published.

Availability of Data and Material: The corresponding author is prompt to supply datasets generated during and/or analyzed during the current study on wise request.

Cite this article: Aljabran, S., alasady, Z., aljabran, M. Awareness Regarding Nasal Decongestant Uses and Side effects in the Basrah Governorate. *Basrahh Journal of Surgery*, 2024; 30(1): 73-82. doi: 10.33762/bsurg.2024.148456.1074