

Prevalence of Epistaxis in Saudi Population

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Abstract

Introduction: Epistaxis is nose bleeding that occurs due to the bursting of a nose blood vessel. It is categorized into anterior and posterior, based on where it originates. Although epistaxis is a benign medical condition sometimes, it might turn to be dramatic one and life threatening.

Aim of the Study: The aim of this study is to evaluate the prevalence of epistaxis among Saudi Arabia population.

Materials and Methods: A random sample of 1,114 participants were involved in the study with the age range of 1→60 years. 549 were epistaxis patient, and 565 were controlled. All required information of the participants was collected on a structured questionnaire that involved several sections covering sociodemographic data, the use of anticoagulants, and the presence of other medical condition accompanied by the occurrence of epistaxis.

Results: Our study showed that 49% of the participants were epistaxis patients. Of the involved patients, 61.2% were males which indicate that the prevalence of epistaxis in males is higher than the female patients.

Conclusion: The true prevalence of epistaxis in Saudi Arabia is not precisely known because most episodes are self-limited and thus are not reported. When medical attention is needed, it is usually because of either the recurrent or severe nature of the problem.

Key words: Epistaxis, Prevalence, Saudi population

INTRODUCTION

Epistaxis means bleeding from the nostril, nasal cavity, or nasopharynx. It occurs due to the bursting of a blood vessel in the nose. Although epistaxis in most cases is relatively minor and usually manageable at home, sometimes, it can be dramatic and can be a life-threatening problem.

The nasal blood supply comes from both internal and external carotid artery systems. The external carotid provides arterial flow through the facial and internal maxillary artery. The internal carotid artery supplies the nose through the terminal branches of the ophthalmic artery and the anterior and posterior ethmoid arteries. Two

anastomotic areas within the nose often provide a source of epistaxis.^[1]

Epistaxis is categorized based on where it originates and is described as either anterior (originating from the front of the nose) or posterior (originating from the back of the nose).^[1]

- Anterior epistaxis makes up most severe, non-traumatic nosebleeds. The bleeding usually arises from a blood vessel on the nasal septum, where a network of vessels converge (Kiesselbach plexus). Anterior nosebleeds are usually easy to control, either at home or by a healthcare practitioner.
- Posterior epistaxis is much less common than anterior ones. It tends to happen more often in old people. The bleeding usually originates from an artery in the back part of the nose. This epistaxis is more complicated and usually requires admission to the hospital and management by an otolaryngologist (an ear, nose, and throat specialist).

Epistaxis can be divided into local and systemic etiologies.^[2] Trauma is one of the most common local

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causes of nosebleeds. Other local causes that predispose a person to nosebleeds include exposure to warm, dry air for prolonged periods of time, nasal and sinus infections, allergic rhinitis, nasal foreign body, vigorous nose blowing, nasal surgery, deviated or perforated nasal septum, and cocaine use.^[2]

The most common systemic causes of epistaxis include hypertension may contribute to bleeding, aberrations in clotting ability due to blood-thinning medications taken such as (nonsteroidal anti-inflammatory drugs or aspirin), inherited bleeding diatheses, and vascular/ cardiovascular diseases such as congestive heart failure, arteriosclerosis, liver dysfunction, vascular malformations in the nose, and nasal tumors are rare causes of nosebleeds.^[1,3]

Furthermore, the most common causes of epistaxis will change as the patient ages. One constant among etiologies, though, is that epistaxis increases in frequency during winter months because of the decreased humidity along with decreased temperature inhibits nasal humidification. Therefore, nasal mucosa is subject to poor local wound healing and become more susceptible to bleeding.^[4]

Treatment of epistaxis may include sitting up, lean forward, and apply pressure to the front of the bleeding nostril for 10–15 min and breathe through the mouth. Methods of treatment include decongestant nasal sprays, chemical or electric cautery (burning the vessel shut), hemostatic agents (topical therapies to stop bleeding), nasal packing, embolization (a procedure to place material within the vessel to block it off), and surgical arterial ligation (tying off the vessel). There is no single definitive treatment for the management of nosebleeds and many factors including severity of the bleeding, use of anticoagulants, and other medical conditions can play a role in which treatment is utilized.^[2]

In Saudi Arabia, in summer, the weather is extremely hot causing dryness in the thin lining of the nose and increases the chances of epistaxis. As well as in winter, the weather is extremely dry, and due the decreased humidity, nose bleeding occurs. Hence, it is recommended to gently apply Vaseline or another ointment to the front of the nose with a Q-tip on a daily basis which would also help to moisturize the nose and prevent nosebleeds due to dryness and also keeping yourself hydrated in summer would help.

Our study aimed to evaluate the prevalence of epistaxis among Saudi Arabians, as well as its association with some medical conditions such as hypertension and diabetes.

MATERIALS AND METHODS

This cross-sectional study of 1,114 participants was conducted in the kingdom of Saudi Arabia to evaluate the prevalence of epistaxis among its population. A total of random 549 patients participated in the study including both males and females aged between 1 and >60 years old. All required information was collected on a structured questionnaire that involved several sections covering sociodemographic data, the use of anticoagulants, and the presence of other medical condition accompanied by the occurrence of epistaxis.

The collected data were analyzed using SPSS version 22.0. Data were presented using frequencies, mean and standard deviation as appropriate. The respondents' data were assessed, analyzed, and compared using Chi-square. A $P < 0.05$ was considered statistically significant.

RESULTS

A total of 1,114 participants were enrolled in this study with the age range from 1 to more than 60 years old. Of the participants, 209 (18.7%) were in the age group of 1–20, 539 (48.3%) were representing the age group of 21–34, and 241 (21.6%) in the age group of 35–50, while 150 (13.4%) participants represent the age group of 51–60, and 23 (2%) represent those participant aged more than 60 years old. There were 753 females (67.5%) and 361 males (32.4%). Regarding marital status, 576 were single, 517 were married participants, while 21 were divorced ones [Table 1].

Among the participants, 1031 were urban residents who represent 92.5% of the sample study, while 83 were rural residents who represent only 7.4% of the whole sample study.

Considering the education level of the participants, 74.6% have high education level, while 25% were school students, and only 0.4% of the whole sample study were illiterates.

The sample study was divided into two groups: Epistaxis group with 549 (49%) patient, and 565 (51%) representing the control group as shown in Chart 1.

Regarding the epistaxis patients who represent 549 (49%) of the sample study, 328 were females (60%), and 221 were males (40%). Of the patients, 53 (9.6%) were rural residents, while 496 (90.3%) were urban residents.

As shown in Table 2, among the 549 epistaxis patients participated in our study, 328 were females which represent

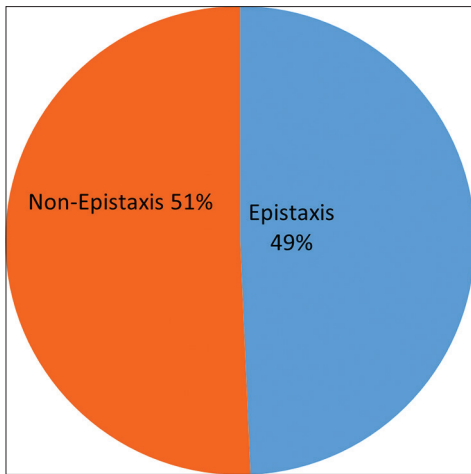


Chart 1: The prevalence of epistaxis

43.6% of the whole participating females. On the other hand, 100% of the participating males were epistaxis patients.

Regarding the age range of the epistaxis patients in the sample study, 103 (62.2%) were in the age group of 1–20, while 265 (49.2%) were in the age group of 21–34, 241 (43.6%) represented the age group of 35–50, and 49 (39.2%) represent epistaxis patients above 50 years old.

Considering residency, 53 (63.9%) were rural residents, and 496 (48.1%) of the participating were urban residents were epistaxis patients.

Taking into consideration the usage of anticoagulants, 53 of the participants do not use anticoagulants, of which 39.6% (21) are epistaxis patients, while of the 1061 participants who do not use anticoagulants, there are 528 (498%) epistaxis patients [Table 3].

Our study discussed the presence of some medical conditions that might be accompanied with epistaxis. As shown in Table 4, 565 participants were healthy, and 549 were having epistaxis either associated with a medical condition or not. 149 (27.2%) of the epistaxis patients have a chronic medical condition, 99 (18%) were having hypertension, while 450 (82%) of the epistaxis patients did not experience it. 538 (50.8%) of the epistaxis patients do not suffer from diabetes, while 27 (49.1%) were diabetics. Of the epistaxis patients, 37 (7%) were anemic, while 512 (93%) were not.

DISCUSSION

Our study showed that 49% of the participants were epistaxis patients. Of the involved patients, 61.2% were

Table 1: The sociodemographic characteristics of the participants

Variables	n (%)
Age	
1–20 (years)	209 (18.8)
21–34	539 (48.4)
35–50	241 (21.6)
51–60	102 (9.2)
>60	23 (2.1)
Sex	
Female	753 (67.6)
Male	361 (32.4)
Marital status	
Single	576 (51.7)
Married	517 (46.4)
Divorced	21 (1.9)
Residence	
Rural	83 (7.5)
Urban	1031 (92.5)
Education level	
Illiterate	4 (0.4)
Primary	15 (1.3)
Intermediate	30 (2.7)
Secondary	234 (21.0)
University	793 (71.2)
Postgraduate	38 (3.4)

Table 2: Comparing sociodemographic characteristics of epistaxis patients to the whole sample study

Variables	Prevalence rate n (%)	X ²	P
Age			
1–20 years (209)	130 (62.2)	22.19	<0.001
21–34 (539)	265 (49.2)		
35–50 (241)	105 (43.6)		
51–60 (102)	40 (39.2)		
>60 (23)	9 (39.1)		
Sex			
Females (753)	328 (43.6)	30.4	<0.001
Males (221)	221 (61.2)		
Residence			
Rural (83)	53 (63.9)	7.621	0.006
Urban (1031)	496 (48.1)		
Marital status			
Single (576)	315 (54.7)	14.198	0.001
Married (517)	226 (43.7)		
Divorced (21)	8 (38.1)		
Education level			
Illiterate (4)	4 (100.0)	17.916	0.003
Primary (15)	14 (93.3)		
Intermediate (30)	16 (53.3)		
Secondary (234)	115 (49.1)		
University (793)	378 (47.7)		
Postgraduate (38)	22 (57.9)		

males which indicate that the prevalence of epistaxis in males is higher than the female patients, and this was similar to results of another study done in internally displaced persons of North Waziristan Agency.^[5]

Table 3: The relation between epistaxis and the usage of anticoagulants

Prevalence cases n=549 (%)	549(%)	P
Anticoagulant use		
Yes (53)	21 (39.6)	0.150
No (1061)	528 (49.8)	

Table 4: The presence of some medical conditions that might be accompanied with epistaxis

Medical condition	Yes/no	Having epistaxis 549 (%)	Free cases 565 (%)	P
Having chronic conditions	No	400 (72.8)	300 (53)	<0.0001
	Yes	149 (27.2)	265 (47)	
Hypertension	No	450 (82)	523 (92.5)	<0.001
	Yes	99 (18)	42 (7.5)	
Diabetes	No	538 (97.9)	521 (49.2)	0.804
	Yes	27 (2.1)	28 (50.9)	
Anemia	No	512 (93)	450 (79.6)	<0.0001
	Yes	37 (7)	115 (20.4)	

We also found no definite relationship between epistaxis and hypertension, and this was also confirmed in a study done in Saudi Arabia.^[6] However, our results were in contrast with the results of Herkner *et al.* who found that patients with epistaxis have a higher blood pressure compared to that of a control group.^[7] Also, Isezuo *et al.* found an association between epistaxis and hypertension.^[8]

Our study indicates that only 7% of the involved epistaxis patients are suffering from anemia, which indicates that there is no correlation between being an epistaxis patient and having anemia. It also found that there is no association

between epistaxis and being diabetic, as only 2.1% among all involved epistaxis patients were diabetics.

CONCLUSION

The true prevalence of epistaxis is not known because most episodes are self-limited and thus are not reported. When medical attention is needed, it is usually because of either the recurrent or severe nature of the problem. In our study, we assessed that the prevalence of epistaxis among Saudi Arabia population was 49% of the Saudis experienced epistaxis. Epistaxis in Saudis was not found to be associated with hypertension, anemia, or diabetes. In most cases, epistaxis is a benign medical condition, but sometimes it can be a critical medical condition.

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