

# Epistaxis prevalence and Its Associated Factors Among people in Asser region

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## ABSTRACT

**Study Design:** Cross sectional

**Background :** Epistaxis is one of the most common otorhinolaryngological emergencies affecting the majority of the population in their lifetime, with some of population requiring serious medical attention. This study aimed to assess the prevalence and associated factors of epistaxis among random people lives in Asser region in Saudi Arabia

**Method:** A cross-sectional study of Saudi community in Asser region . This study intended to assess the prevalence of Epistaxis among male and female. Other objectives, included exploring any associated risk factors of Epistaxis among Saudi community in Asser region. Data were collected through pre-tested interviewee administered questionnaire divided into several sections.

**Result :** 400 participants, 80.3% of them were female and 19.7% of them were male . The overall epistaxis prevalence was 22.9% . This study found a link between epistaxis and duration, frequency of epistaxis, seasons, psychological stress, a family history of epistaxis, high blood pressure, cardiac disease, hematological disease, smoking, allergy, use of nasal spray, and head trauma. and duration of epistaxis

**Conclusion:** This study revealed that the level of epistaxis among Asser region population is significantly associated with summer season, hypertension ,cardiac diseases ,hematological diseases ,face trauma ,allergy ,stress and smoking .It is better to work on increase the awareness about the meaning of epistaxis and identify the main and important causes and factors may lead to it.

**Keywords:** Epistaxis, Diseases, Emergency

## INTRODUCTION

Epistaxis is defined as bleeding from the nose due to rupture of, distended tiny vessels in the mucous membrane of the nose . There are a variety of causes associated with epistaxis, which are mainly divided into two part first one is idiopathic some causes have been identified so far in different studies. Trauma, hematological disorders, ana- tonic deformities, inflammatory reactions, organ failure, intranasal vigorous nose blowing, and nose picking have been identified associated factors with epistaxis and second type will be associated with other disease And there is two site of bleeding Anterior site which is most common which are responsible for about –95% of the cases<sup>1-5</sup>. And the most common site in anterior part is anteroinferior aspect of the nasal septum in the anterior nasal cavity plexus vessels. posterior epistaxis it is very rare and difficult to find the bleeding point and it is highly intense in many cases, it accounts for only 5–10% of cases<sup>6</sup> . The most common blood group associated with epistaxis is -O This blood group also has a longer bleeding time compared to other blood groups, which confers the relative bleeding tendency This blood type is associated with a lower expression of von Willebrand factor compared with non O-blood groups.

The most common inherited bleeding disorders associated with epistaxis are von Willebrand , hemophilia A, hemophilia B, diseases. Epistaxis is the most common symptom in von Willebrand's which represents approximately 60% of the patients with von Willebrand's disease.

Superficial bleeding like epistaxis is usually associated with platelet defects or vascular disorders. Epistaxis is a common bleeding event therefore this study helps to describe the extent of epistaxis and to predict the most likely factors . associated with epistaxis . there is no study done in our region to identify the prevalence or associated factors on epistaxis. The true prevalence of epistaxis is hard to investigate because of the self-limiting characteristics of the disease. An episode of self-limiting epistaxis does not get reported. The main reason of this study is to determine the prevalence and associated factors of epistaxis among people who lives in Asser region<sup>7-15</sup>.

## METHODOLOGY

**Study Design:** A cross-sectional study of Saudi community in Asser region .This study intended to investigate the prevalence of Epistaxis

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among male and female. Other objectives, included exploring any associated risk factors of Epistaxis among Saudi community in Asser region. Data were collected electronically utilizing a questionnaire divided into several sections.

**Study Duration:** Data collection occurred from 1/6/2022 to 30/6/2022.

**Sample Size Estimation:** By using a electrical calculator. We assume the prevalence of Epistaxis to be about 50% as the safest choice and a 95% confidence interval for single population proportion and a 5% precision. The sample size was 383. Inclusion criteria The participating were included if they are Saudi population older than 7 years .

**Exclusion Criteria:** The participating were excluded if they are non-Saudi population younger than 7 years .Ethics The study was approved by The Ethical Committee of Asser Institutional Review Board 091) . -B-06-(Aseer Central Hospital )Abha, researchers sought consent from the participants before answering the questionnaire.

**Questionnaire:** The data was collected by an Arabic and a close-ended questionnaire. the questionnaire was divided into two sections; The first section was about socio-demographic characteristics (age, gender, blood type ).The second section assessed Epistaxis. In this section participants were asked about the presence of Epistaxis, duration, frequency, the impact of season, stress, family history, hypertension, heart disease, coagulation disease, smoking, allergic rhinitis, nasal spray and facial trauma.

**Recruitment:** The participants engaged in the study were male and female Saudi population from Asser region in the KSA, participants were invited to participate in an electronic survey distributed by social media like Twitter, Telegram, and WhatsApp. For the participants who are younger than 18 years old the parents asked to answer the survey instead of their child.

**Data Analysis:** The statistical analysis was performed using SPSS (version 26). The primary outcomes were the presence of Epistaxis as mean with standard deviations. The chi-square test was applied to assess the association between categorical variables and the Mann–Whitney test for continuous variables. The statistical significance was set at  $p \leq 0.05$ .

**RESULTS**

Of 400 participants, 80.3% (n=322) of them were female and 19.7% (n=79) of them were male. The overall epistaxis prevalence was 22.9% (n=92). This study found a link between epistaxis and duration, frequency of epistaxis, seasons, psychological stress, a family history of epistaxis, high blood pressure, cardiac disease, hematological disease, smoking, allergy, use of nasal spray, and head trauma.

**Table 1:** Bleeding Frequencies

Bleeding times during a week	
Less than 3 times (n,%)	77 (19.2%)
More than 3 times Total	15 (3.7%)
	92 (22.9%)
Bleeding times within minutes	
Less than 5 minutes	66 (16.5%)
More than 5 minutes	26 (6.5%)
Total	92 (22.9%)

The prevalence of epistaxis less than 3 times weekly was 19.2% (n=77), and 3.7% (n=15) was more than 3 times weekly. p- value= 0.000, there was relation between epistaxis and frequency of epistaxis (Table 1 & 2).

The prevalence of epistaxis less than 5 minutes was 16.5% (n=66), while the prevalence of epistaxis more than 5 minutes was 6.5% (n=26).

p- value= 0.000, there was relation between epistaxis and duration of epistaxis (Table 3 & Table 4).

**Table 2:** Epistaxis Vs Non-Epistaxis

Factors	Epistaxis, n=92	No epistaxis, n=309	p-Value
<b>Gender</b>			
Male (n=79)	n=23, 5.7%	n=56, 14%	0.145
Female (n=322)	n=69, 17.2%	n=253, 63.1%	
<b>Blood group</b>			
+O (n=188)	n=45, 11.2%	n=143, 35.7%	0.452
-O (n=22)	n=3, 0.7%	n=19, 4.7%	
+A (n=135)	n=36, 9%	n=99, 24.7%	
-A (n=10)	n=0, 0%	n=10, 2.5%	
+B (n=35)	n=7, 1.7%	n=28, 7%	
-B (n=1)	n=0, 0%	n=1, 0.2%	
+AB (n=8)	n=1, 0.2%	n=7, 1.7%	
-AB (n=2)	n=0, 0%	n=2, 0.5%	

**Table 2b:** Demographics and Clinical Characteristics of Participants

<b>Epistaxis family history</b>			
Yes	n=5, 13.7%	n=0 n=0	0.000
No	n=37, 9.2%		
<b>Chronic disease</b>			
<b>Hypertension</b>			
Yes	n=13, 3.2%		0.000
No	n=79, 19.7%	n=0 n=0	
<b>Cardiac disease</b>			
Yes	n=3, 0.7%	n=0 n=0	0.000
No	n=86, 21.4%	n=0 n=0	
<b>Hematological disease</b>			
Yes	n=3, 0.7%		0.000
No	n=89, 22.2%		
<b>Seasons</b>			
Winter	n=22, 5.5%		0.000
Fall	n=4, 1%		
Spring	n=29, 7.2%		
Winter, Fall	n=2, 0.5%		
Winter, Summer	n=5, 1.2%	n=0 n=0 n=0	
Winter, Spring	n=4, 1%	n=0 n=0 n=0	
Fall, Summer	n=4, 1%	n=0 n=0 n=0	
Summer, Spring	n=123%	n=0 n=0 n=0	
Winter, Fall,	n=2 0.5%	n=0	
Summer Winter,	n=3 0.7%		
Fall, Spring	n=1 0.2%		
Fall, Summer,	n=1 0.2%		
Spring Winter	n=3 0.7%		
<b>Allergy</b>			
Yes	n=5 13.2%		0.000
No	n=3 9.5%	n=0 n=0	
<b>Nasal spray for allergy</b>			
Yes	n=164%	n=0 n=0	0.000
No	n=7518.7%		
<b>Psychological stress</b>			
Yes	n=62 15.5%	n=0 n=0	0.000
No	n=307.5%		
<b>Head trauma</b>			
Yes	n=15 3.7%	n=0 n=0	0.000
No	n=77 19.2%		
<b>Smoking</b>			
Yes	n=5 1.2%	n=0 n=0	0.000
No	n=87 21.7%		

Demographics and clinical characteristics of participants. Among these risks, the gender, blood group, and clinical manifestations such as hypertension, cardiovascular disease, hematological diseases (thrombocytopenia, hemophilia), head trauma, epistaxis family history, allergy with or without use of nasal spray, seasonal epistaxis (Table 2b).

**Table 3:** Blood Group Distribution

Percent	Blood Group
46.90%	O+(n=188)
5.50%	O-(n=22)
33.70%	A+(n=135)
2.50%	A-(n=10)
8.70%	B+(n=35)
0.20%	B-(n=1)
2%	AB+(n=8)
AB-(n=2)	

**Table 4:** Gender Distribution

PERCENT	GENDER
17.20%	Female with epistaxis(n=69)
63.10%	Female without epistaxis(n=253)
5.70%	Male with epistaxis(n=23)
male without epistaxis(n=56)	

**Study Limitation:** This study has several limitation, the number of male and female participants was unequal the female participants was more than male participants, the age distribution was not accurate.

## DISCUSSION

In our research we found that 22.9% (95% CI=23–32%) of the participants had epistaxis. This finding is in line with the research performed in Wolaita Sodo, Ethiopia (27.9 %).and in Dar es Saaam, Tanzania (23.4 %) also, we found the level of epistaxis in our research was more elevated compare with the findings of researchers performed in India (7.5 %) and Nigeria (0.5 %)3,28<sup>16-25</sup>. This disagreement may be due to the research finding just represents the result from one hospital and could be because the inadequate samples in the Nigerian study .The most of epistaxis cases are self-limiting, and just a few number of patient call for medical care, so this is the reason of why the number of epistaxis cases presented in a hospital are few cases, despite of Many researchers performed on epistaxis are hospital-based. This study showed that the level of epistaxis is low in assert region of Saudi Arabia, Where the level of epistaxis was 22 %.This low outcome may be possibly assignable to an incorporated small number of participants that were found in a seer region. In this case the lack of accord may be due to inaccurate age distribution, and the data collected for extended time<sup>25-30</sup>.

in our research the participants had a different blood type and we did not find any relationship between epistaxis and blood type ,On the contrary the findings in Ethiopian study. This discrepancy may be due to inadequate sampis in our research . Out of the 92 participants with epistaxis, 13.7 % of them were known to have family history with epistaxis which was also significantly associated with the case .

This indicates the prevalence of epistaxis is higher run with family in the participants more than other factors . The second higher cause was nasal allergy (13.2 %) due to allergens which are drying nasal membrane, resulting in irritation and epistaxis. Similar findings observed in Vancouver, Canada showing the relationship between nasal allergy and epistaxis<sup>30,31</sup>.

## CONCLUSION

**This study revealed that the level of epistaxis among asser region population is relatively low. Summer season ,hypertension ,cardiac diseases, hematological diseases ,face trauma , allergy ,stress and smoking we significantly associated with epistaxis. It is better to work on increase the awareness about the meaning of epistaxis and identify the main and important causes and factors may lead to epistaxis Intensifying studies and information to learn how to deal with epistaxis ,especially in the summer and high temperature areas.**

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**Competing Interest:** None.

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