

## Original Research

### Evaluation of risk factors for the occurrence of epistaxis in a known population

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#### ABSTRACT:

**Background:** The present study was conducted for evaluating the risk factors for the occurrence of epistaxis in a known population. **Materials & methods:** Gender, age, comorbidities, regular medications, previous episodes of epistaxis or nasal trauma, the presence of a septal deviation, and blood pressure (BP) values at admission were compared between patients admitted for epistaxis (group A) (n=100) and a control group (n=100) made up of patients who returned to the facility during the same time period but with other symptoms (group B). All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software. **Results:** Mean age of the patients of group A and group B was 61.3 years and 45.8 years respectively. There were 76 males in group A and 52 males in group B. History of hypertension, diabetes, dyslipidaemia, cardiovascular disease and epistaxis were significant risk factors for occurrence of epistaxis. **Conclusion:** According to the results of this study, epistaxis is associated with male gender, advanced age and a history of epistaxis.

**Key words:** Epistaxis, Risk factors

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#### INTRODUCTION

Epistaxis (nosebleed) is one of the most common ear, nose, and throat (ENT) emergencies that present to the emergency department or the primary care clinic. There are two types of nosebleeds: anterior (more common), and posterior (less common, but more likely to require medical attention). The source of 90% of anterior nosebleeds is within Kiesselbach's plexus (also known as Little's area) on the anterior nasal septum.<sup>1,2</sup>

Nosebleeds are rarely fatal, accounting for only four of the 2.4 million deaths in the United States. About 60% of people have experienced a nosebleed during their life, and only 10% of nosebleeds are severe enough to warrant treatment/medical intervention. They occur most commonly in children ranging from 2 to 10 years old and the elderly ranging from 50 to 80 years old.<sup>3,4</sup>

Epistaxis, or nose bleed, is a common problem, affecting up to 60 million Americans each year. Although most cases of epistaxis are relatively minor and manageable with conservative measures,

sometimes the malady can present as a life-threatening problem. Mild episodes of epistaxis stop spontaneously or are treated, often successfully, by the primary care physician or by the emergency physician. Only when nosebleeds are recurrent or severe are patients referred to an otorhinolaryngologist or to an accident and emergency department for further diagnostic assessment and treatment.<sup>5-7</sup> Hence; the present study was conducted for evaluating the risk factors for the occurrence of epistaxis in a known population.

#### MATERIALS & METHODS

The present study was conducted for evaluating the risk factors for the occurrence of epistaxis in a known population. A total of 100 patients who were admitted to the emergency room with epistaxis were enrolled. Complete demographic and clinical details of all the patients were obtained. Gender, age, comorbidities, regular medications, previous episodes of epistaxis or nasal trauma, the presence of a septal deviation, and blood pressure (BP) values at

admission were compared between patients admitted for epistaxis (group A) (n=100) and a control group (n=100) made up of patients who returned to the facility during the same time period but with other symptoms (group B). All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

## RESULTS

Mean age of the patients of group A and group B was 61.3 years and 45.8 years respectively. There were 76 males in group A and 52 males in group B. History of hypertension, diabetes, dyslipidaemia, cardiovascular disease and epistaxis were significant risk factors for occurrence of epistaxis.

**Table 1:** Risk factors

Variable		Group A	Group B	p-value
Mean age (years)		61.3	45.8	0.001*
Gender	Males	76	52	0.021*
	Females	24	48	
Past history	Hypertension	61	33	0.000*
	Diabetes	23	8	0.000*
	Dyslipidaemia	20	5	0.000*
	Cardiovascular disease	43	9	0.024*
	Epistaxis	61	21	0.037*

\*: Significant

## DISCUSSION

Literature from international sources are flooded with studies on epistaxis, a condition defined as hemorrhage from the nostril, nasal cavity, and/or the nasopharynx. It is a common worldwide otorhinolaryngological emergency presenting as a life-threatening condition especially in resource-constrained hospitals with limited health-care facilities for adequate management. It occurs in an estimated 60% of the global population from which approximately 6% will seek treatment as a result of the failure of remedies which erstwhile will control nasal bleeding. Both genders and all the age groups commonly affected but young males usually are more affected as a result of a greater exposure to trauma. The etiological factors in epistaxis are varied and are classified as either local, i.e., resulting from damage to the nasal epithelial mucosal lining or systemic with some studies reporting another group referred to as idiopathic in which a cause cannot be ascribed. This is the most common type reported in most available literature while trauma is more common in the younger age group mostly males. The non-traumatic variant is more common in the elderly as a result of organ failure, malignancies, and commonly in association with hypertension.<sup>8-10</sup> Hence; the present study was conducted for evaluating the risk factors for the occurrence of epistaxis in a known population. Mean age of the patients of group A and group B was 61.3 years and 45.8 years respectively. There were 76

males in group A and 52 males in group B. History of hypertension, diabetes, dyslipidaemia, cardiovascular disease and epistaxis were significant risk factors for occurrence of epistaxis. Côte, F. C et al compared the characteristics of patients with epistaxis admitted to the otolaryngology emergency department. Comparison of gender, age, co-morbidities, usual medication, history of epistaxis or nasal trauma, presence of septal deviation and blood pressure value on admission, between the elements that were admitted to the emergency due to epistaxis (group 1) and a group composed of patients with other symptoms (group 2). Male gender, older age, existence of peripheral vascular disease, cardiovascular disease and previous history of epistaxis were predictors of epistaxis when adjusted for the presence of elevated blood pressure, history of hypertension, cerebrovascular disease and chronic use of anticoagulants or antiplatelet drugs. The model revealed a good applicability. The only predictive factors of admission to the emergency department due to epistaxis were male gender, older age, peripheral vascular disease, cardiovascular disease and history of epistaxis.<sup>11</sup>

Liao, Zhenpeng et al analyzed the clinical data of 90 patients with intractable epistaxis who were admitted to hospital. The incidence of hypertension was the highest in the olfactory sulcus of the middle turbinate region at about 60%. In addition, age was also identified as a factor that affects the distribution of intractable epistaxis. The incidence of intractable epistaxis on the vault of inferiornasal meatus region was highest (63%) in young patients. On the other hand, the olfactory sulcus of the middle turbinate region accounted for the highest incidence in the middle-aged and elderly group (66.7%). There was no obvious relation between the bleeding site of intractable epistaxis with diabetes, cardiovascular disease, chronic sinusitis and allergic rhinitis. The bleeding site of intractable epistaxis is related to hypertension and age.<sup>12</sup>

## CONCLUSION

According to the results of this study, epistaxis is associated with male gender, advanced age and a history of epistaxis.

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