

Demography of Epistaxis at Tertiary Level Hospital

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Abstract:

Background: Epistaxis is a common otolaryngological emergency worldwide. Many of the population suffer from it in their lifetime. This study was conducted to describe demography of epistaxis among the patients who came to Pabna Medical College Hospital and Dhaka medical college hospital.

Objective: To evaluate the frequency of epistaxis among populations of different groups of age, sex, habitat, and circadian variation.

Methods: This cross sectional study was conducted among 100 patients who came with epistaxis at Pabna Medical College Hospital and Dhaka Medical College hospital of Bangladesh from January 2021 to December 2021.

Results: Male was found to be affected more than female with male to female ratio of 3:1. Eighty percent of the patients were from 5th to 7th decade, 60% were from urban and 40% were from rural habitat. Regarding etiology and sex there were no significant differences between rural and urban habitats. Frequency of epistaxis showed circadian variation, 40% reported to the hospital in the evening, 35% in the morning, and remaining 25% at late night. The frequency (55%) of epistaxis was more from November to March.

Conclusion: A high incidence in young adults was reported with the preponderance of male over female. The occurrence of epistaxis was strongly related to certain demographic factors. These are the age, sex, and habitats of the patient. This study supports the credibility of management procedure by finding some factors that make a difference the frequency of epistaxis.

Key Words:

Demography, Epistaxis

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Introduction:

Epistaxis, bleeding from nose, is common in ear nose and throat emergency and can be severe even fatal. The cause can be local or systemic illness. Epistaxis is classified as anterior or posterior on the basis of primary bleeding site. Hemorrhage is most commonly anterior, originating from nasal septum. A common source of anterior epistaxis is

the Kiesselbach's plexus, an anastomotic network of vessels on the anterior portion of the nasal septum.¹

Epistaxis occurs in up to 60% of general population at sometimes in their life time. About 6% of this people seek medical attention.² Usually it is spontaneous and stops by itself or may be controlled with home remedies. However at times it could be massive and may be fatal.^{3,4}

The etiology of epistaxis may be local or systemic. Inflammatory-infectious (rhinitis, rhino-sinusitis), traumatic (mucosal injury by nail, fracture nasal bones, nasal surgeries) anatomic (Septal deviation and perforation), foreign body, chemical and climatic agents, and nasal tumors (nasopharyngeal angiofibroma, nasal poliposis, inverted papilloma, carcinoma. Among the systemic causes the arterial hypertension is the most frequently associated clinical factor, blood dyscrasias, drugs (acetylsalicylic acid, anticoagulant, non steroidal anti-inflammatory), neoplasm etc. It is important to find the bleeding site and define its etiology (local or systemic) for offering best treatment. Severe epistaxis, associated to prevailing factor such as

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systemic arterial hypertension, and coagulopathy may need a surgical approach, refractory to conservative treatment such as cauterization and nasal splint⁵. Traumatic epistaxis is more common in younger individual (under age 15 years) and is most often due to digital trauma, facial injury, or a foreign body in the nasal cavity.^{6,7} Non traumatic epistaxis more characteristic of older patients (over age 50 years) and may be due to organ failure, neoplastic conditions, inflammation or environmental factors (temperature, humidity, altitude)⁷. Epistaxis that occurs in children younger than 10 years usually is mild and originates in the anterior nose, whereas epistaxis that occurs in individuals older than 50 years is more likely to be severe and originate posteriorly⁸. Epistaxis and arterial hypertension are frequent in these population, but an association is still controversial, it occurs in patients with severe epistaxis and the pressure levels are higher when compared to other patients in emergency services.⁹ In some studies the arterial hypertension would determine structural alterations of the nasal vessels similar to those verified in the cerebral circulation and retinal examination. The loss of the elastic layer and of contractile properties of the arteries in the elderly would explain a more severe bleeding than that of younger people with arterial hypertension: the dilation of the vessels would represent some degree of degeneration of the vessels wall that would favor bleeding. The association of epistaxis, hypertension and hypertrophy of the left ventricle would be a consequence of the long duration of hypertension.¹⁰ The association with blood dyscrasia is more frequent with the use of non-hormonal anti-inflammatory, drugs that alter the metabolism of the arachidonic acid and the function of the platelets which leads to bleeding. In hemophilia, Von Willebrand's disease and thrombocytopenia there occurs intermittent nasal bleeding due to the abnormal coagulation function; epistaxis is the most common symptom in approximately 60% of the patients with Von Willebrand's disease.¹¹ The nasal trauma (digital, fracture of nasal bones, trauma to skull bones) may cause epistaxis; the high prevalence in younger. The anticoagulants or anti platelets sometimes cause epistaxis. The initial otorhinolaryngological examination should be thorough with the aim of finding the bleeding point.¹² In geriatric age no significant difference between sex was reported, the ratio is close to 1:1.¹³ The higher prevalence in younger male is most probably related to more exposure to trauma on account of active involvement in out-door activities eg. sports, traveling and inter-personal violence, whereas, in the older group vascular pathology and hypertension are responsible in the majority. Some authors portray epistaxis as a disease of the young and others have noted epistaxis to be more common in the elderly¹⁵.

The results of this study will provide associated prevailing factors in patients with epistaxis.

Objectives:

1. Study was carried out with an objective to evaluate demography of epistaxis.

Materials and Methods:

Study design: This study was a cross-sectional observational study.

1. **Place of study:** The study was conducted at the Dept. of Otolaryngology and Head- Neck Surgery, Pabna Medical College Hospital, Pabna and Dhaka Medical College Hospital, Dhaka.

Period of Study: The study was carried out from January 2021 to December 2021.

1. **Sources of Materials:** All the Patients of epistaxis who were attended in the department of otolaryngology and Head- Neck Surgery, Pabna Medical College Hospital, Pabna and Dhaka Medical College. Dhaka during the study period constituted the study population.

Sampling technique: Purposive sampling technique was used for collecting samples. A total number of 100 patients with epistaxis were included consecutively in this study.

1. **Inclusion criteria:** All Patients of epistaxis who were attended in the department of otolaryngology and Head- Neck Surgery Pabna medical College Hospital, Pabna and Dhaka Medical College. Dhaka.

Exclusion criteria: Patients who are physically or mentally retarded and unwilling to comply with study protocol, epistaxis after surgery.

Instrument: Standard, predetermined data collection sheet.

Data analysis: Data was processed and analyzed using computer software SPSS (Statistical Package for Social Sciences).

Data collection: Data was collected through a structured questionnaire to collect the relevant information from the selected patient and clinical examination with certain investigations. In case of children, information was taken from patients/ guardians. One data sheet was used for each respondent for collection of data. The findings were recorded in the data sheet.

Ethical consideration: Proper explanation of the study was given to the parents. Written informed consent was taken. The right and healths of the participants were safe guarded. The freedom of the participants was ensured and they were allowed to withdraw themselves from the study anytime they want. The confidentiality of subjects

and findings were ensured. The interest and benefits of the study was explained. The adequate facilities to manage any risk or adverse condition developed by the participants during the study were ensured.

Results:

Table-I

<i>Age distribution of patients (n=100)</i>		
Age (yrs)	No. of patients	Percentage (%)
5-12	20	20
12-50	25	25
51-above	55	55
Total	100	100.00

Majority of the patients in this study were in 5th decade (55%).

Table-II

<i>Geographic distribution of patients with epistaxis (n=100)</i>		
Sites	Frequency	%
Rural	40	40
Urban	60	60
Total	100	100

Significantly incidence is more among urban population.)

Table-III

<i>Distribution of patient according to time of attendance. (n=100)</i>		
Site of bleeding	Frequency	%
Evening	20	20
Night	15	15
Late night	25	25
Morning	40	40
Total	100	100

Majority of the patient were admitted in the evening and late night (50.%).

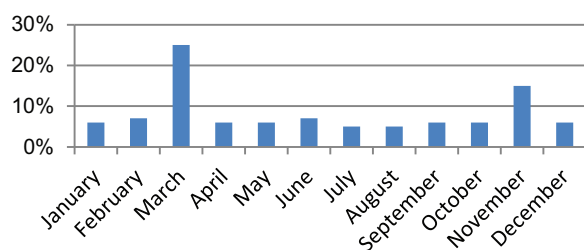


Fig.-1: Distribution of patients according to monthly admission)(n=100)

Discussion:

During the period under study, a total of 100 patients were studied. Male were affected more frequently than female in this study. There were 75 (75%) male and 25 (25%) females with a male female ratio of 3:1. In different studies, it was shown that epistaxis affected more male than female. In some studies where no significant sex difference exists.^{18, 19}

In this study, age distribution varies widely, the youngest patient was 4 years of age and the oldest was 92 years old. Mean age of the patients in this series was 40 years, which is in accordance with other study 35.06 years.¹⁷. Majority of the patients in this study were in above 5th decade (55%) followed by 2nd to 5th decade (25%) According to another study, the maximum number of patient were in 3rd decade (26.61)¹², followed by 4th and 2nd decade.⁶ There is a pronounced bimodal distribution in the age of onset of epistaxis were reported from north America¹⁹, and in this subcontinent.^{20, 21} The study, Shaheen et al shows an increase frequency between the age of 15-25 years and later from 45 to 65 years with no evidence of sex predilection²². It is more common in children with upper respiratory tract allergy.²³ It is rare in children younger than two years and peak prevalence is in three to eight years age group.²⁴

A literature in India reported most of their patients to be older than 40 years (63.64%) with a mean age of 47.8 years which correlates with other reports which showed that epistaxis is a geriatric problem.¹² The peak presentation is the sixth decade and most large case series reveal a slight male predominance.²⁵

Among the 100 patients with epistaxis 60 (60%) were urban habitat and 40 (40%) were rural habitat. Significantly more patients were from urban resident.

Regarding habitat there were no significant differences between urban and rural habitat. This may due to the difficulties in transportation in addition to that most patients from rural areas are managed by local health centers and not referred to the hospital especially if one remember that, in general nose bleed in the young person either are easy to treat or stop spontaneously.

The frequency of admission is greater in the autumn and winter month.²⁶ The seasonal variation correlates with fluctuation in environmental temperature and humidity.²⁷ A chronobiological rhythm is also observed at the circadian level where onset of bleeding and hospitalization show a biphasic pattern with peak in the morning and late evening.²⁸

There was no mortality in this study.

Limitation of the study:

Considering significant outcome of the study, it had tried to overcome the limitations as far as possible. Beyond the scope, following limitations were encountered in the study.

1. Proper history was sometimes difficult to take.
2. Limitation of time and sample.

Conclusion:

Epistaxis is a common otolaryngological emergency and is often due to lesions within or around the nose and systemic conditions. A high incidence in young adults was reported with preponderance of males over females. Occurrence of different types of epistaxis was strongly related with the certain demographic factors like age, sex and habitat of the patient and circadian and seasonal variation. This study support management of epistaxis by establishing different of demographic factor in different population.

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