

## A EVALUATION STUDY ON THE PREVALENCE OF EPISTAXIS AND ITS CONTRIBUTORY RISK FACTORS AMONG THE 20 TO 55 YEARS AGE GROUP IN WEST BENGAL

Dr. Amin Manojkumar GovindBhai<sup>1</sup>, Dr. Anurag Vinay Shah<sup>2</sup>, Dr. Mehul Desai Surendra<sup>3</sup>, Dr. Naresh Kumar Munda<sup>4</sup>

<sup>1</sup> Assistant Professor, Department of Otorhinolaryngology, Faculty of Icare Institute of Medical Sciences and Research and Dr. B C Roy Hospital, Haldia, India.

<sup>2</sup> Assistant Professor, Department of General Medicine, Faculty of Icare Institute of Medical Sciences and Research and Dr. B C Roy Hospital, Haldia, India.

<sup>3</sup> Assistant Professor, Department of General Medicine, Faculty of Icare Institute of Medical Sciences and Research and Dr. B C Roy Hospital, Haldia, India.

<sup>4</sup> Assistant Professor, Department of Community Medicine, Faculty of Icare Institute of Medical Sciences and Research and Dr. B C Roy Hospital, Haldia, India.

### Corresponding Author

**Dr. Naresh Kumar Munda**

*Assistant Professor, Department of Community Medicine, Faculty of Icare Institute of Medical Sciences and Research and Dr. B C Roy Hospital, Haldia, India  
drnaresh2k@gmail.com*

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### ABSTRACT

**Background:** Epistaxis (nosebleed) is a common ENT emergency that affects individuals of all ages. This study focuses on the prevalence and contributory risk factors of epistaxis in individuals aged 20 to 55 years in West Bengal. **Objective:** To assess the prevalence of epistaxis and identify significant associated risk factors in a selected population. **Methods:** A cross-sectional observational study was conducted with 48 participants. Detailed history, physical examination, and relevant investigations were performed. Risk factors like hypertension, trauma, smoking, alcohol use, climatic conditions, and nasal infections were analyzed. **Results:** Among 48 participants, 18 (37.5%) reported episodes of epistaxis. The most prevalent risk factors were hypertension (33.3%), nasal trauma (27.8%), and smoking (22.2%). **Conclusion:** Epistaxis is relatively prevalent among adults in West Bengal, with hypertension and trauma being significant contributing factors. Early identification and management of these risk factors can help reduce incidence.

**KEYWORDS:** Epistaxis, Nosebleed.

### INTRODUCTION

Epistaxis is defined as bleeding from the nasal cavity, often resulting from the rupture of blood vessels within the Kiesselbach's plexus. While often self-limiting, it can occasionally be life-threatening or recurrent. The incidence and severity can vary based on environmental, physiological, and pathological conditions. This study aims to evaluate the prevalence of epistaxis among individuals aged 20–55 years in West Bengal and identify contributory risk factors. Epistaxis, or nosebleeds, are a common occurrence in India, with about 60% of the population experiencing at least one episode in their lifetime[1].

While most cases are minor and easily managed, around 6% require medical intervention. The prevalence of epistaxis varies across different age groups and is influenced by factors like age, gender, and seasonal changes[2].

**General Prevalence:** Around 60% of individuals in India have experienced epistaxis at some point in their lives. **Severity:** Approximately 6% of those experiencing epistaxis require medical treatment[3-5]. **Age Distribution:** Epistaxis is common in both childhood and older age groups, with a peak in the 5–10-year range and again in the 51-70 year range. **Gender:** Epistaxis tends to be more prevalent in males than females. **Seasonality:** Studies suggest a higher incidence during colder, drier months (winter) [6-8]. **Aetiology:** Idiopathic causes and trauma are frequently cited, with other contributing factors including infections, adenoiditis, and foreign bodies. **Management:** Most cases are managed conservatively (non-surgical), while a smaller percentage require surgical intervention

## MATERIALS AND METHODS

This study was conducted in tertiary hospital of purba Medinipur After obtaining institutional ethical committee approval It was a Observational cross-sectional study. study conducted on 42 patients in the department of Otorhinolaryngology, at a tertiary care centre, from April/ 2017–October/2017. The institute Ethics Committee approval was obtained before starting the sample collection. A written and informed consent was taken from the patient regarding the study in his/her vernacular language and English. In this study Patients were subjected to: A detailed history of sign & symptoms and its duration. Detailed history of systemic diseases and its duration, medication were noted.

All Patients were subjected to General physical examination. Patient were counselling about the study so that dropout rate can be reduced and biased should be removed carefully for that questionnaire should be framed carefully

**Study Design:** Cross-sectional observational study

**Study Period:** 6 months

**Location:** ENT Department, a tertiary care hospital in West Bengal

**Sample Size:** 48 participants aged 20–55 years

**Inclusion Criteria:**

- Age between 20 to 55 years
- History of at least one episode of epistaxis

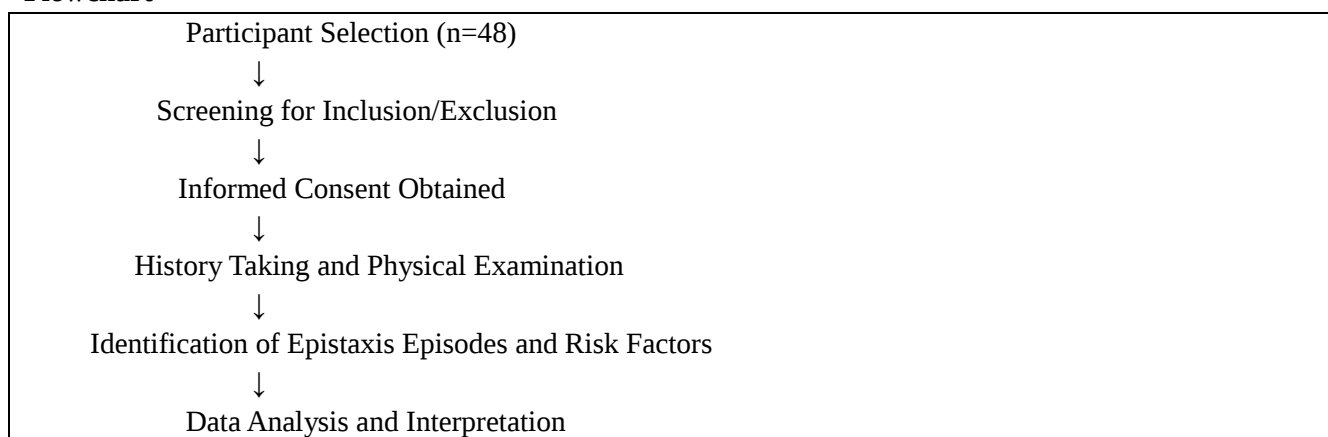
**Exclusion Criteria:**

- Bleeding disorders
- Current anticoagulant therapy
- Nasal malignancy

**Data Collection:**

A structured questionnaire and clinical examination were used. Risk factors were assessed using clinical parameters, past medical history, and patient-reported data.

## Flowchart



All the data is put in excel sheet then mean, median and association is analysed by SPSS version 20. Chi-square test was used as test of significance for qualitative data. Continuous data was represented as mean and SD. MS Excel and MS word was used to obtain various types of graphs such as bar diagram. P value (Probability that the result is true) of P value <0.05 was considered as statistically significant after assuming all the rules of statistical tests. Statistical software: MS Excel, SPSS version 22 (IBM SPSS Statistics, Somers NY, USA) was used to analyse data. Sample size is calculated by N master statistical software.

## RESULTS

In this study we got knew that that Epistaxis is associated with demographic profile of patient. 37.5% patient suffered of Epistaxis is belongs to 41 to 55 years age group followed by 33.3% belong to 31 to 40 years ag group.

Malé (62.5%) was more prone to suffered of Epistaxis as compared to female gender. Prevalence in indoor worker is 54.5% as compared to outdoors worker (Table 1)

**Demographic Profile (Table 1)**

| Characteristic           | Frequency (n=48) | Percentage (%) |
|--------------------------|------------------|----------------|
| <b>Age Group (years)</b> |                  |                |
| 20–30                    | 14               | 29.2           |
| 31–40                    | 16               | 33.3           |
| 41–55                    | 18               | 37.5           |
| <b>Gender</b>            |                  |                |
| Male                     | 30               | 62.5           |
| Female                   | 18               | 37.5           |
| <b>Occupation</b>        |                  |                |
| Outdoor workers          | 22               | 45.8           |
| Indoor workers           | 26               | 54.2           |

In this study 33.3% Epistaxis patient were due to Hypertension followed by 27.8 % Nasal trauma. (Table 2)

Alcohol and smoking is also important risk factors for epistaxis. alcohol prevalence is 16.7% and smoking prevalence is 20.8% (Table 2)

**Risk Factors Identified in Epistaxis Patients (n=48) – Table 2**

| Risk Factor                 | Frequency | Percentage (%) |
|-----------------------------|-----------|----------------|
| Hypertension                | 16        | 33.3           |
| Nasal Trauma                | 15        | 31.25          |
| Smoking                     | 10        | 20.8           |
| Alcohol Use                 | 3         | 16.7           |
| Upper Respiratory Infection | 2         | 4.16           |
| Seasonal Dryness            | 2         | 4.16           |

(Note: Some participants had multiple risk factors.)

## DISCUSSION

This study reveals that 37.5% of the sampled population experienced at least one episode of epistaxis, indicating its moderate prevalence in the adult population of West Bengal. The high association with hypertension supports prior studies that demonstrate the impact of vascular fragility [9]. Trauma, either

accidental or due to nose picking, was another significant contributor. Smoking and alcohol use may exacerbate mucosal dryness and hypertension, indirectly increasing the risk. The predominance of cases in outdoor workers suggests environmental and climatic influences like heat and dust exposure [10-12].

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A study on epistaxis (nosebleeds) and its risk factors among adults aged 20-55 in West Bengal would investigate the prevalence of nosebleeds within this age group and identify factors that may contribute to their occurrence[13-15]. This research would likely involve analysing data on patient demographics, medical history, and environmental factors to understand why some individuals experience nosebleeds more frequently than others. Prevalence: Determining how many individuals in the 20-55 age group in West Bengal experience nosebleeds (epistaxis). DemographicsExamining if there are differences in prevalence based on gender, urban/rural residence, or occupation[16].

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RiskFactors: Investigating the potential links between epistaxis and factors such as: Hypertension: High blood pressure is a known risk factor for nosebleeds. Trauma: Injuries to the nose or face can cause bleeding. Inflammatory Conditions: Nasal or sinus infections can make the nasal passages more prone to bleeding. Medications: Certain medications, like blood thinners, can increase the risk of nosebleeds[17-21]. Environmental Factors: Dry air, seasonal changes, and air pollution may play a role. Underlying Medical Conditions: Conditions like allergies, sinusitis, and blood disorders can also be associated with epistaxis. aetiology: Management: Analysing how nosebleeds are managed in this age group, including the types of treatments used (e.g., cautery, packing) and their effectiveness

## CONCLUSION

Epistaxis is fairly prevalent in adults aged 20–55 in West Bengal. Hypertension and nasal trauma are primary contributors. Preventive strategies, public awareness, and prompt treatment of underlying conditions can significantly lower its occurrence. Further large-scale studies are needed to strengthen these observations.

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**CONFLICT OF INTEREST:** The authors report no conflicts of interest.

**SUBMISSION DECLARATION:** This submission has not been published anywhere previously and that it is not simultaneously being considered for any other Journal.

## REFERENCES

1. Early and Late Recurrent Epistaxis Admissions: Patterns of Incidence and Risk Factors. Cohen Oded, Shoffel-Havakuk Hagit, Warman Meir, Tzelnick Sharon, Haimovich Yaara, Kohlberg Gavriel D., Halperin Doron, Lahav Yonatan. May 2;2017 Otolaryngology–Head and Neck Surgery. 157(3):424–431. doi: 10.1177/0194599817705619. doi: 10.1177/0194599817705619.
2. Clinical Practice Guideline: Nosebleed (Epistaxis) Tunkel David E., Anne Samantha, Payne Spencer C., Ishman Stacey L., Rosenfeld Richard M., Abramson Peter J., Alikhaani Jacqueline D., Benoit Margo McKenna, Bercovitz Rachel S., Brown Michael D., Chernobilsky Boris, Feldstein David A., Hackell Jesse M., Holbrook Eric H., Holdsworth Sarah M., Lin Kenneth W., Lind Meredith Merz, Poetker David M., Riley Charles A., Schneider John S., Seidman Michael D., Vadlamudi Venu, Valdez Tulio A., Nnacheta

- Lorraine C., Monjur Taskin M. Jan;2020 *Otolaryngology–Head and Neck Surgery*. 162(1\_suppl):S1–S38. doi: 10.1177/0194599819890327. doi: 10.1177/0194599819890327.
3. Demographic, Seasonal, and Geographic Differences in Emergency Department Visits for Epistaxis. Chaaban Mohamad R., Zhang Dong, Resto Vicente, Goodwin James S. 2017*Otolaryngology–Head and Neck Surgery*. 156(1):81–86. doi: 10.1177/0194599816667295. doi: 10.1177/0194599816667295.
  4. Epidemiology of epistaxis in US emergency departments, 1992 to 2001. Pallin Daniel J., Chng Yi-Mei, McKay Mary Patricia, Emond Jennifer A., Pelletier Andrea J., Camargo Carlos A. Jr. Jul;2005 *Annals of Emergency Medicine*. 46(1):77–81. doi: 10.1016/j.annemergmed.2004.12.014. doi: 10.1016/j.annemergmed.2004.12.014.
  5. Risk factors for recurrent spontaneous epistaxis. Abrich Victor, Brozek Annabelle, Boyle Timothy R., Chyou Po-Huang, Yale Steven H. Dec;2014 *Mayo Clinic Proceedings*. 89(12):1636–1643. doi: 10.1016/j.mayocp.2014.09.009. doi: 10.1016/j.mayocp.2014.09.009.
  6. Tabassom A., Cho J.J. StatPearls. StatPearls Publishing; In: Epistaxis.
  7. Guidelines for the management of idiopathic epistaxis in adults: how we do it. Daudia A., Jaiswal V., Jones N.S. Dec;2008 *Clinical Otolaryngology*. 33(6):618–620. doi: 10.1111/j.1749-4486.2008.01795.x. doi: 10.1111/j.1749-4486.2008.01795.x.
  8. Simmen Daniel B., et al. In: Cummings *Otolaryngology: Head and Neck Surgery*, 3-Volume Set. Flint P.W., Haughey B.H., Lund V.J., et al., editors. Elsevier; Epistaxis; pp. 678–690.
  9. Johnson J. Bailey’s *Head and Neck Surgery: Otolaryngology*. Lippincott Williams & Wilkins;
  10. Epidemiology of epistaxis in the emergency department of a southern European tertiary care hospital. Reis Luis Roque, Correia Filipe, Castelhana Luis, Escada Pedro. Nov;2018 *Acta Otorrinolaringológica Española*. 69(6):331–338. doi: 10.1016/j.otorri.2017.11.002. doi: 10.1016/j.otorri.2017.11.002.
  11. Assessment of the Use of Humidified Nasal Cannulas for Oxygen Therapy in Patients with Epistaxis. Liu Jingjing, Chen Tengfang, LvZhenggang, Wu Dezhong. 2021*ORL*. 83(6):434–438. doi: 10.1159/000514460. doi: 10.1159/000514460.
  12. Association between Hypertension and Epistaxis: Systematic Review and Meta-analysis. Min Hyun Jin, Kang Hyun, Choi Geun Joo, Kim Kyung Soo. Jul 25;2017 *Otolaryngology–Head and Neck Surgery*. 157(6):921–927. doi: 10.1177/0194599817721445. doi: 10.1177/0194599817721445.
  13. Association of Hypertension With the Risk and Severity of Epistaxis. Byun Hayoung, Chung Jae Ho, Lee Seung Hwan, Ryu Jiin, Kim Changsun, Shin Jeong-Hun. Sep 10;2020 *JAMA Otolaryngology–Head & Neck Surgery*. 147(1):34. doi: 10.1001/jamaoto.2020.2906. doi: 10.1001/jamaoto.2020.2906.
  14. Initial assessment in the management of adult epistaxis: systematic review. Khan M, Conroy K, Ubayasiri K, Constable J, Smith M E, Williams R J, Kuhn I, Smith M, Philpott C. Dec;2017 *The Journal of Laryngology & Otology*. 131(12):1035–1055. doi: 10.1017/s0022215117002031. doi: 10.1017/s0022215117002031.
  15. Epistaxis: A retrospective review of hospitalized patients. Pollice P, Yoder M. Jul;1997 *Otolaryngology - Head and Neck Surgery*. 117(1):49–53. doi: 10.1016/s0194-5998(97)70205-5. doi: 10.1016/s0194-5998(97)70205-5.
  16. Treatment disparities in the management of epistaxis in United States emergency departments. Sethi Rosh K. V., Kozin Elliott D., Abt Nicholas B., Bergmark Regan, Gray Stacey T. Jul 8;2017 *The Laryngoscope*. 128(2):356–362. doi: 10.1002/lary.26683. doi: 10.1002/lary.26683.
  17. The Impact of Traditional Anticoagulants, Novel Anticoagulants, and Antiplatelets on Epistaxis. Yaniv Dan, Zavdy Ofir, Sapir Einav, Levi Lirit, Soudry Ethan. Feb 3;2021 *The Laryngoscope*. 131(9):1946–1951. doi: 10.1002/lary.29417. doi: 10.1002/lary.29417.
  18. Epistaxis in patients taking oral anticoagulant and antiplatelet medication: prospective cohort study. Smith J, Siddiq S, Dyer C, Rainsbury J, Kim D. 2011*The Journal of Laryngology & Otology*. 125(1):38–42. doi: 10.1017/s0022215110001921. doi: 10.1017/s0022215110001921.

19. The role of oral anticoagulants in epistaxis. Buchberger A. M. S., Baumann A., Johnson F., Peters N., Piontek G., Storck K., Pickhard A. Jun 23;2018 European Archives of Oto-Rhino-Laryngology. 275(8):2035–2043. doi: 10.1007/s00405-018-5043-z. doi: 10.1007/s00405-018-5043-z.
20. Is humidified better than non-humidified low-flow oxygen therapy? A systematic review and meta-analysis. Wen Zunjia, Wang Wenting, Zhang Haiying, Wu Chao, Ding Jianping, Shen Meifen. May 30;2017 Journal of Advanced Nursing. 73(11):2522–2533. doi: 10.1111/jan.13323. doi: 10.1111/jan.13323.
21. A prospective, single-blind, randomized controlled trial of petroleum jelly/Vaseline for recurrent paediatric epistaxis. Loughran S., Spinou E., Clement W.A., Cathcart R., Kubba H., Geddes N.K. Jun;2004 Clinical Otolaryngology and Allied Sciences. 29(3):266–269. doi: 10.1111/j.1365-2273.2004.00813.x.doi: 10.1111/j.1365-2273.2004.00813.x.