

# Awareness about first aid management of epistaxis among medical students in Kingdom of Saudi Arabia

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## ABSTRACT

**Background:** Epistaxis is the bleeding from nose or nasal cavity and it is considered as one of the most common emergencies presenting in ear, nose, and throat department and accident and emergency department worldwide. **Objective and Aim:** The aim of this study was to assess and evaluate knowledge, attitude, and practice of first aid management of epistaxis among medical students in the Kingdom of Saudi Arabia. **Materials and Methods:** A cross-sectional community-based studies were collected using electronic questionnaire distributed among medical students all over the Kingdom of Saudi Arabia. The study was conducted between September and January 2018. **Results:** Data were collected from 300 medical students from all over the Kingdom of Saudi Arabia using questionnaires, which were filled electronically. Majority of the respondents were females (75.7%), whereas 24.3% of the respondents were males. Most of the participants were from fourth and fifth year with 25.0 and 24.3%, respectively. 39.7% of the participants responded that fingernail trauma as the commonest cause of the epistaxis, followed by bleeding disorder in 17.3%. 64% of the respondents think that epistaxis is an emergency condition that requires early intervention. 71% of the respondents demonstrated the correct position as first aid measure of epistaxis and only 41.3% of respondents demonstrated the correct site for pinching the nose. The main source of the respondent's knowledge regarding first aid management of epistaxis was self-taught (53.67%) followed by medical books (23.33%). **Conclusion:** Medical students in Saudi Arabia have an adequate knowledge about epistaxis and first aid measure that can be used to manage epistaxis.

**Keywords:** Epistaxis, first aid, Kiesselbach's plexus

## Introduction

Epistaxis is one of the most common emergencies presented to ear, nose, and throat department and accident and emergency department worldwide.<sup>[1]</sup> It affects around 10–12% of the population and 10% requires special medical attention.<sup>[2]</sup> Although epistaxis can be originated from anterior or posterior sources, approximately 90% of the nose bleeding cases originated from Kiesselbach's plexus (Little's area) on the anterior part of nasal septum<sup>[3,4]</sup> at which most of these cases can be controlled at home. Although some epistaxis requires intervention and necessitates hospital admission, vast majority of epistaxis conditions are self-limiting, benign and spontaneously settle down with simple

first aid measures such as simple digital compression.<sup>[5]</sup> First aid measures with adequate knowledge required to manage acute epistaxis without hospital facilities are essential but poorly known, even though the prevalence of epistaxis is high.<sup>[5-7]</sup> Despite the fact that many studies have been published on the treatment of epistaxis, there is lack of documentation on the awareness and attitude of medical students about this subject. Thus, the aim of this study is to assess and evaluate knowledge, attitude, and practice of first aid management of epistaxis among medical students in the Kingdom of Saudi Arabia.

## Materials and Methods

### Study design

This is a cross-sectional community-based study to determine the level of medical students' awareness of epistaxis in the Kingdom

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of Saudi Arabia. The study was conducted between September and January 2018.

### Study population

Medical students were randomly selected from all regions of Saudi Arabia, between 19 and 28 years of age with the assumption that the awareness level of epistaxis is 25%, study power 80%, and the degree of precision 5% at 95% level of significance. The sample size was determined to be at least 289 attendants.<sup>[8]</sup>

### Methods

An electronic questionnaire was distributed among medical students all over the kingdom. The questionnaire was written in English. The average time needed to fill the questionnaire was predicted to be 10 min.

The survey was anonymous but included the basic information to assess the level of student awareness, such as questions on gender, age, marital status, region, academic year, knowledge regarding the first aid, and its source.

### Biographical data

The questioner includes question of biographical data such as gender, age, marital status, region, academic year, questions of the basic knowledge regarding the first aid management such as Do you ever had nose bleed or see someone with bleeding nose? What is the most common cause of epistaxis? What is the proper position that patient with epistaxis should do? Place to Pinching the nose as primary measure to stop epistaxis, Epistaxis is considered as one of the emergency situations, When patient with epistaxis should seek emergency care, What should you do if the patient continues to bleed from the nose in the ER after the primary measures have been done and the source of the student information .

**Age:**

**Gender:**

- Male
- Female

**Social state:**

- Single
- Married
- Divorce

**Academic year:**

- First year
- Second year
- Third year
- Forth year
- Fifth year
- Intern

**Collage of medicine in**

- Central region
- Eastern region
- Western region

- North region
- South region.

**1. Do you ever had nose bleed or see someone with bleeding nose?**

- Yes
- No

**2. What is the most common cause of epistaxis?**

- Nasal fracture
- Finger nail trauma
- Bleeding disorder
- Hypertension
- I don't know

**3. What is the proper position that patient with epistaxis should do?**

- Sitting with head tilted forward
- Sitting with head tilted backward
- Lying down and elevate the legs
- Lying down with ice pack over the nasal bridge
- I don't know

**4. Pinching the nose as primary measure to stop epistaxis should be at:**



- Cartilaginous part (lower down)
- Bony part (higher up)
- Both
- I don't know

**5. Epistaxis is considered as one of the emergency situations:**

- Yes
- No

**6. When patient with epistaxis should seek emergency care? (you can choose more than one option)**

- Persistent nose bleeding for more than 10–20 min with direct nasal compression
- Recurrent nasal bleeding more than four times per week despite all preventive measures
- Massive nasal bleeding
- After direct nasal trauma

**7. What should you do if the patient continues to bleed from the nose in the ER after the primary measures have been done?**

- Pinch the nose again for 10–20 min more and reassess after
- Refer the patient to an otolaryngologist to take further care
- Keep the patient under observation in ER and reassess later

**8. What is the source of your knowledge?**

- Self-taught
- First aid course
- Media
- Observation of senior doctor
- Medical book
- Other.

### Statistical analysis

SPSS version 16 will be used for data entry and analysis on personal computers. Data will be presented as frequency and percentage.

### Ethical clearance and confidentiality

Informed consent of all subjects will be obtained. Confidentiality of data will be assured and that data will be used only for the stated purpose of the survey.

## Results

Data were collected from 300 medical students from all over the Kingdom of Saudi Arabia using questionnaires that were filled electronically. Of the respondents 227 (75.7%) were females, whereas 73 (24.3%) were males. Most of the participants were from fourth and fifth year with 25.0 and 24.3%, respectively. Majority of the response were from eastern region with 43.0%, followed by central region with 26.7% [Table 1].

85.67% of the participants have had epistaxis or saw someone with nose bled at least once in their life. Regarding the knowledge of epistaxis, 64.0% of the respondents think that epistaxis is an emergency case [Graphs 1 and 2]. Regarding the etiology, 119 (39.7%) of the participants respond that fingernail trauma is the commonest cause. Next common cause was bleeding disorder with 17.3%, followed by hypertension (43; 14.3%) and nasal fracture (16; 5.3%), while 23.3% answered “I don’t know” for this question [Table 2].

The results regarding the knowledge of seeking medical care during the attack in 226 (75.3%) participants showed that the nose bleed that cannot be stopped after 10–20 min of direct nasal compression is one of the commonest cause to seek emergency care, followed by massive nasal bleeding in 212 (70.7%) respondents. Of the respondents, 193 (64.3%) said that recurrent nasal bleeding more than four times per week is considered as

one of the causes to seek medical care followed by direct nasal trauma with 53% [Graph 3].

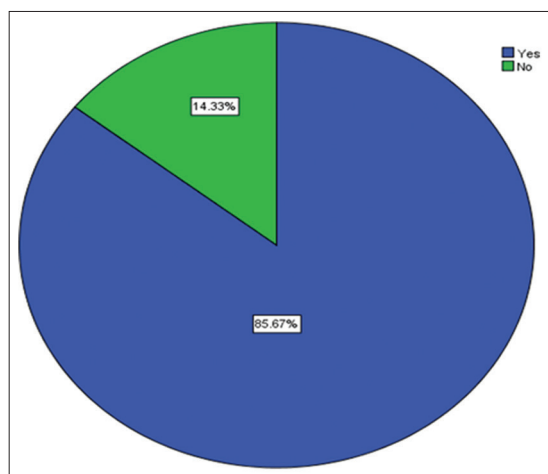
Regarding the attitude toward the first aid management of epistaxis, the majority (71%) of the respondents demonstrated the correct position, which is holding the head forward rather than backward, and only 41.3% of respondents demonstrated the correct site for pinching the nose picture (A), while 42.3%

**Table 1: Demographical data**

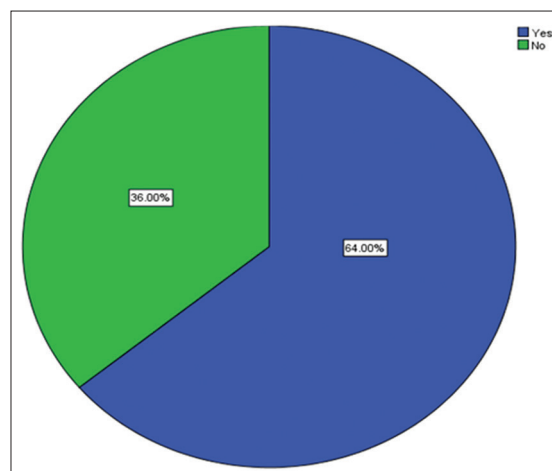
	Frequency	Percent
Male	73	24.3
Female	227	75.7
Total	300	100
Academic year		
1 <sup>st</sup> year	21	7
2 <sup>nd</sup> year	30	10
3 <sup>rd</sup> year	62	20.7
4 <sup>th</sup> year	75	25
5 <sup>th</sup> year	73	24.3
Intern	39	13
Total	300	100
Collage		
Valid central region	80	26.7
Eastern region	129	43.0
Western region	54	18.0
North region	18	6.0
South region	19	6.3
Total	300	100.0

**Table 2: The most common cause of epistaxis is**

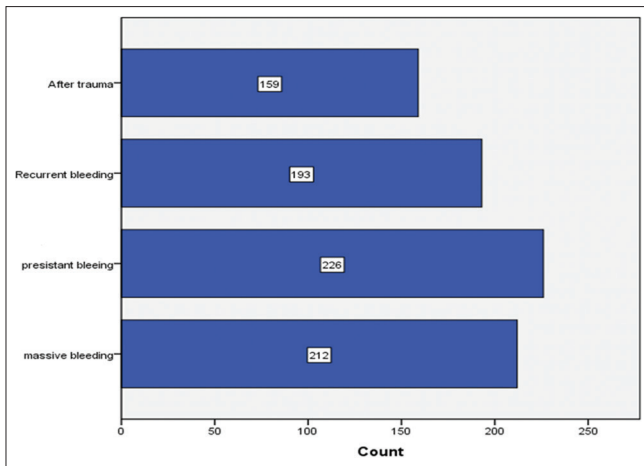
	Frequency	Percent
Nasal fracture	16	5.3
Finger nail trauma	119	39.7
Bleeding disorder	52	17.3
Hypertension	43	14.3
I don't know	70	23.3
Total	300	100.0



**Graph 1:** Do you have ever had nose bleeding or see someone with bleeding nose?



**Graph 2:** Epistaxis considered as one of the emergency situations



**Graph 3:** When to seek emergency medical care in epistaxis

**Table 3: What is the proper position that patient with epistaxis should do?**

	Frequency	Percent
Sitting with head tilted forward	213	71.0
Sitting with head tilted backward	46	15.3
Lying down and elevate the legs	3	1.0
Lying down with ice pack over the nasal bridge	25	8.3
I don't know	13	4.3
Total	300	100.0

**Table 4: Pinching the nose as primary measure to stop epistaxis should be at**

	Frequency	Percent
Bony part (higher up)	127	42.3
Cartilaginous part (lower down)	124	41.3
Both	5	1.7
I don't know	44	14.7
Total	300	100.0

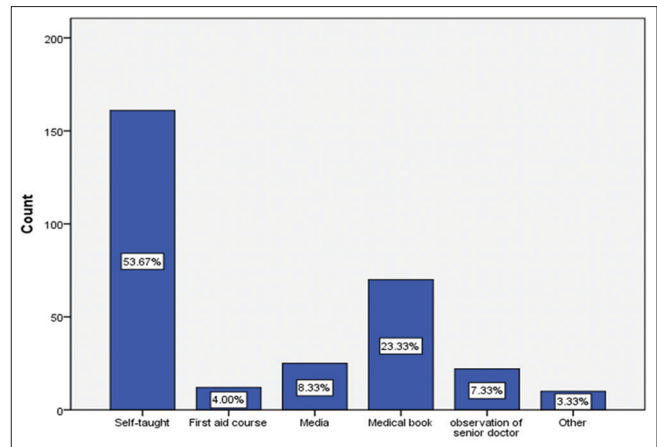
of the respondents demonstrated the incorrect site picture (B) [Tables 3 and 4].

The main source of the respondent's knowledge regarding first aid management of epistaxis was self-taught (53.67%), followed by medical books (23.33%) [Graph 4].

### Discussion

Acute hemorrhage from the nostril, nasal cavity, or nasopharynx is an emergency condition called epistaxis.<sup>[9]</sup> The responders in this study were medical students including the interns all over the Kingdom of Saudi Arabia.

It was expected that their levels of education will positively influence the knowledge and the attitude on the first aid management of epistaxis. Regarding the knowledge of epistaxis, 64% of the respondents considered that epistaxis as an emergent case. Similarly, in one of the studies conducted by Albouq *et al.*,<sup>[9]</sup> 74.6% of the respondents considered that epistaxis as an



**Graph 4:** The source of your knowledge

emergent case; 39.7% of our respondents respond that finger nail trauma is the commonest cause of epistaxis, and the next common cause was bleeding disorder in 17.3%. The study by Albouq *et al.*<sup>[9]</sup> showed that 87.1% of the respondents respond that bleeding disorder is the commonest cause of epistaxis.

Regarding the knowledge of seeking medical care during the attack 75.3% of participants showed that the nose bleed that cannot be stopped after 10–20 min of direct nasal compression is considered one of the commonest causes to seek emergency care. According to the study by Albouq *et al.*,<sup>[10]</sup> it showed that 83.1% of the respondents considered the commonest causes to seek emergency care is after a head trauma.

The study showed that the majority (71%) of the respondents know the correct position, which is holding the head forward rather than backward. The results of our study were not far from the result of study conducted by Albouq *et al.*,<sup>[9]</sup> in which 80.6% of the respondents know the correct position which a patient with epistaxis should be placed. Another study conducted by Mugwe<sup>[10]</sup> showed 60% of the respondents know the correct position, unlike the study done by Strachan<sup>[11]</sup> who found that only 36% knows the correct position.

According to the correct site for pinching the nose as primary measure to stop epistaxis, only 41.3% of the respondents knew the correct site, that is pinching the cartilaginous part of the nose, while 42.3% of the respondents chose the incorrect site. According to Albouq *et al.*,<sup>[9]</sup> only 44.3% of the respondents demonstrated the correct site, while the majority (55.7%) of the respondents demonstrated the incorrect site. Also, the study conducted by Mugwe<sup>[10]</sup> showed that only 38.1% correctly demonstrated pinching the nose at the cartilaginous part.

Regarding the source of knowledge about first aid management of epistaxis, 53.67% of the respondents was self-taught, while the study conducted by Albouq *et al.*,<sup>[9]</sup> showed 38.3% of the respondents responded medical curriculum as the main source of their knowledge.

## Conclusion

Medical students have adequate knowledge about first aid management of epistaxis enabling them to provide first aid management to patients presenting with epistaxis.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. Douglas R, Wormald P. Update on epistaxis. *Curr Opin Otolaryngol Head Neck Surg* 2007;15:180-3.
2. Rockey J, Anand R. A critical audit of the surgical management of intractable epistaxis using sphenopalatine artery ligation/diathermy. *Rhinology* 2002;40:147-9.
3. Kucik CJ, Clenney T. Management of epistaxis. *Am Fam Physician* 2005;71:305-11.
4. Koh E, Frazzini VI, Kagetsu NJ. Epistaxis: Vascular anatomy, origins, and endovascular treatment. *AJR Am J Roentgenol* 2000;174:845-51.
5. McGarry G, Moulton C. The first aid management of epistaxis by accident and emergency department staff. *Emerg Med J* 1993;10:298-300.
6. Khan A, Shaikh S, Shuaib F, Sattar A, Samani SA, Shabbir Q, *et al.* Knowledge attitude and practices of undergraduate students regarding first aid measures. *J Pak Med Assoc* 2010;60:68-72.
7. Tekian A. Have newly graduated physicians mastered essential clinical skills? *Med Educ* 2002;36:406-7.
8. Campbell JM, Swinscoew TDV. *Statistics at Square One*. 11<sup>th</sup> ed. Wiley-Blackwell, BMJ Book; 2009.
9. Albouq N, Aljeraiji T, Arabi S, Neyaz H, Alkhurassi H, Alim B. Knowledge and attitude regarding first aid management of epistaxis among medical specialties students in Al-Madinah, Kingdom of Saudi Arabia. *Int J Sci Eng Res* 2017;4:264-7.
10. Mugwe P, Kamau K, Nyambaka O. Knowledge, attitude and practice in first aid management of epistaxis by accident and emergency clinical staff at Kenyatta National Hospital. *East Cent Afr J Surg* 2014;19:17-21.
11. Strachan D, England J. First-aid treatment of epistaxis-confirmation of widespread ignorance. *Postgrad Med J* 1998;74:113-4.