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 (ENT) department and Accident & 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.

Methods: A cross-sectional community-based study was conducted 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 was collected from 300 medical students from all over the kingdom of Saudi Arabia using questionnaires, which were filled electronically. Majority of the respondents were female (75.7%) while (24.3%) of the respondents were male. Most of the participants were from 4th and 5th year with (25.0%)/(24.3%) respectively. (39.7%) of the participants respond that fingernail trauma is the commonest cause of the epistaxis followed by bleeding disorder with (17.3%). (64.0%) of the respondents think that epistaxis is an emergency condition requiring early intervention. (71%) of the respondents demonstrated the correct position as epistaxis first aid measure 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%). In Conclusion: Medical students in Saudi Arabia have an adequate knowledge about epistaxis and first aid measures which can be used to manage epistaxis.

KEYWORDS: epistaxis, first aid, Kiesselblach’s plexus.

INTRODUCTION

Epistaxis is one of the most common emergencies presenting in Ear, Nose and Throat (ENT) department and Accident & Emergency department worldwide. It affects around 10-12% of the population and 10% requires special medical attention. Although epistaxis can be originated from anterior or posterior sources, approximately 90% of the nose bleeding cases are originated from Kiesselblach’s plexus (Little’s area) on the anterior part of the nasal septum at which most of these cases can be controlled at home. While 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. 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. Despite the fact that many studies have been published on the treatment of epistaxis, there is lack of documenting 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.

METHODOLOGY

1- Study design

This is a cross-sectional community-based study to determine the level of medical students awareness of epistaxis in kingdom of Saudi Arabia. The study was conducted between September and January 2018.

2. Study population

Randomly selected medical students from all regions of Saudi Arabia, between 19-28 years of age with assumption that the awareness level of epistaxis is 25%, study power 80% and the degree of precision 5% at 95% level of significant. The sample size was determined to be at least 289 attendants.

3- Methods

A questionnaire was done by distributing electronic questionnaire 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 minutes. 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**

**Age**
- Male
- Female

**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 minute with direct nasal compression
- Recurrent nasal bleeding more than 4 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

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

5. 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 was collected from 300 medical students from all over the kingdom of Saudi Arabia using questionnaires which were filled electronically.

227 (75.7%) of the respondents were female while 73 (24.3%) were male. Most of the participant were from 4th and 5th year with (25.0%)(24.3%) respectively. Majority of the response were from eastern region with 43.0% followed by central region with 26.7%. (Table1-3)
Table 1-3: Demographical data

Table 1: Gender

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male   | 73        | 24.3    |
| Female | 227       | 75.7    |
| Total  | 300       | 100     |

Table 2: Academic year

| Year    | Frequency | Percent |
|---------|-----------|---------|
| 1st     | 21        | 7       |
| 2nd     | 30        | 10      |
| 3rd     | 62        | 20.7    |
| 4th     | 75        | 25      |
| 5th     | 73        | 24.3    |
| Intern  | 39        | 13      |
| Total   | 300       | 100     |

Table 3: Collage of medicine in

| Region       | Frequency | Percent |
|--------------|-----------|---------|
| 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   |

85.67% of the participants have had epistaxis or saw someone with nose bleed at least once in their life. Regarding the knowledge of epistaxis, 64.0% of the respondents think that epistaxis is an emergency case (Graph 1-2).

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% answer I don't know for this question. (Table 4)

Table 4: The most common cause of epistaxis is

| Cause              | Frequency | Percent |
|--------------------|-----------|---------|
| Valid 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   |
The results regarding the knowledge of seeking medical care during the attack among participants 226(75.3%) showed that nose bleed cannot be stopped after 10 to 20 minutes of direct nasal compression is one of the commonest cause to seek emergency care followed by massive nasal bleeding with 212 (70.7%). 193 (64.3%) of the respondents said that recurrent nasal bleeding more than four time per week is considered as one of the causes to seek medical care followed by direct nasal trauma with 53%. (Graph3)

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% of the respondents demonstrated the incorrect site picture (B) (table 5-6).

Table 5: What is the proper position that patient with epistaxis should do?

| Position                                           | 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 6: 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   |

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%) (Graph4).

DISCUSSION

Acute hemorrhage from the nostril, nasal cavity, or nasopharynx is an emergency condition called epistaxis [9]. 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 is an emergent case. Similarly, one of the studies conducted by Alhouq et al. [9] (74.6 %) of the respondents considered that epistaxis is an emergent case. (39.7%) of our respondents respond that finger nail trauma is the commonest cause of epistaxis, next common cause was bleeding disorder with (17.3%). The study by Alhouq et al. [9] 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 among participants 75.3% showed that nose bleed cannot be stopped after 10 to 20 minutes of direct nasal compression which is considered one of the commonest causes to seek...
emergency care. According to the study by Alboq et al. [10] who 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 knows 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 Alboq et al. [9] in which (80.6%) of the respondents knows the correct position which a patient with epistaxis should be placed. Another study conducted by Mugwe [10] in which (60%) of respondents knows the correct position. Unlike the study done by Strachan [11] 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 which is pinching the cartilaginous part of the nose, while (42.3%) of the respondents chose the incorrect site. In accordance to Alboq et al. [9], 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 [10] showed 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 their main source knowledge was self-taught. While the study conducted by Alboq et al. [9], (38.3%) of the respondents medical curriculum was 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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