International Journal of Otorhinolaryngology and Head and Neck Surgery
Musleh A et al. Int J Otorhinolaryngol Head Neck Surg. 2019 Nov;5(6):1457-1462
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

Original Research Article

DOI: http://dx.doi.org/10.18203/issn.2454-5929.ijohns20194560

A study of the knowledge and attitude of physicians in the first aid management of epistaxis in Aseer region, Saudi Arabia

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Received: 18 August 2019
Revised: 25 September 2019
Accepted: 01 October 2019

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ABSTRACT

Background: Epistaxis is the common occurrence of bleeding from the nose. It is usually noticed when blood drains out through the nostrils. There are two types: anterior (the most common), and posterior (less common, more likely to require medical attention). Sometimes in more severe cases, the blood can come up the nasolacrimal duct and out from the eye.
Methods: A cross-sectional study was conducted in main five hospitals in Aseer region targeting residents dealing with emergency room (ER) cases during the period from 1st July to 31st July, 2018. Data were collected using a pre-structured written questionnaire by the researchers. The questionnaire composed of three parts. First part was for residents' demographic data. Second part considered epistaxis cases rate and treatment. Third part covered 10 questions for knowledge regarding epistaxis.
Results: A total sample of 165 residents was involved with ages ranged from 27 years to 32 years old and 65.5% of the sampled residents were males. Exact of 47.3% of the residents were ER residents and 24.2% were general practitioners (GPs).
Conclusions: Nearly one out of each four residents had good awareness level regarding epistaxis especially GPs and ER residents. Position of patients with epistaxis and sites of epistaxis were the only items well known by residents.

Keywords: Epistaxis, Nasal bleeding, Bleeding per nose, Nasal trauma, Awareness, Attitude, Knowledge

INTRODUCTION

A nosebleed, also known as epistaxis is the common occurrence of bleeding from the nose. It is usually noticed when blood drains out through the nostrils.[1] There are two types: anterior (the most common), and posterior (less common, more likely to require medical attention). Sometimes in more severe cases, the blood can come up the nasolacrimal duct and out from the eye. Fresh blood and clotted blood can also flow down into the stomach and cause nausea and vomiting.[2] About 60% of people have a nosebleed at some point in their life.[3] About 10% of nosebleeds are serious.[3] Nosebleeds

appear to have a bimodal distribution, most commonly affecting those younger than 10 and older than 50.[4]

Physicians frequently examine patients with epistaxis (nasal bleeding). The vast majority of nose bleeds (90%) arises from little's area on the anterior part of the nasal septum, which usually response to first-aid measures such as compression.[5] When epistaxis doesn't respond to simple measures, the source of bleeding should be located and treated appropriately, treatments to be considered include chemical cautery, electro cautery, nasal packing (anterior or posterior), use of Balloon system, arterial ligation or embolization of some cases might be needed. Antibiotics should be used in selected patients. Hospital admission will be reserved for patients with co-morbidities or for those who develop bleeding complications.[6]

The majority of patients with epistaxis can dealt with standard first aid measures. However, some epistaxis episodes required hospital admission.[7] First aid is the emergency treatment of injury or illness to prevent deterioration of condition of which epistaxis,[8] especially in persistent bleeding cases.[9] The emergency room (ER) of Aseer Central Hospital is considered one of the largest ER in the region and it receives large number of patients having this common problem.[10]

This study aimed to assess the physicians' knowledge, attitude, and practice of epistaxis first aid measures in Aseer region, Saudi Arabia.

METHODS

A cross-sectional study was conducted in the main five hospitals in Aseer region targeting all residents dealing with ER cases during the period from 1st July to 31st July, 2018. Data were collected by the researchers using a pre-structured written questionnaire. The questionnaire composed of three parts. First part includes demographic data of the residents. Second part described epistaxis cases rate and treatment. Third part covered 10 questions for knowledge regarding epistaxis. The questionnaire was developed in English by experts through intensive literature review. A pilot study was conducted on a sample of 20 residents to assess the reliability of the questionnaire and to check for ease and clarity of items. Questions that were unclear or distracting were then modified. The residents involved in the pilot study were excluded from the final study. A self-reporting questionnaire was distributed to the sampled residents after giving brief explanation about the main aims of the study before distributing the questionnaires. The residents were informed that their participation was vital and all the information would be confidential. Anonymity and confidentiality was assured and emphasized. Oral consent was obtained from all participants before completing the questionnaires.

Data analysis

Data were collected, revised, coded and fed to statistical software IBM SPSS version 25. The given graph was constructed using Microsoft excel software. All statistical analysis was done using two tailed tests and alpha error of 0.05. P value less than or equal to 0.05 was considered to be statistically significant. Each correct answer for awareness items was scored one point, otherwise zero score was given. All discrete scores of the items were summed to have an overall awareness score of 10 degrees which categorized into poor for those who had a score of less than 60% of the maximum summation. Good awareness was considered for those who scored 60% or more of the maximum score. Frequency and percentage were used to describe the frequency distribution of each category for different variables. Chi square or Fishers exact tests were used to test for the association between residents' characteristics and their awareness level. Exact testes were used if there are small frequencies where chi square is invalid.

RESULTS

A total sample of 165 residents was involved with ages ranged from 27 years to 32 years old and 65.5% of the sampled residents were males. Exact of 47.3% of the residents were ER residents and 24.2% were general practitioners (GPs) (Table 1).

Table 1: Demographic data of residents included in epistaxis study.

Personal data	N	%
Gender		
Male	108	65.5
Female	57	34.5
Specialty		
General physician	40	24.2
Emergency resident	78	47.3
Other Specialty resident	47	28.5

Table 2 illustrates epistaxis data including rate and treatment. Sixty percent of the residents exposed to at least 5 cases of epistaxis monthly while 8% saw 10 cases or more. Also 64.2% of the residents referred at least 5 cases to ENT specialist while 7.9% referred 10 or more cases. Cauterization was used by 29.1% of the residents who saw epistaxis cases and half of this cautery was chemical. Majority (96%) of the residents perform nasal packing for epistaxis cases using lidocaine as an analgesic among half of their cases and 43.6% used absorbable packs.

Regarding awareness, Table 3 shows knowledge regarding epistaxis according to physician specialty. Exact 88.5% of the residents know about the right position of patients with epistaxis which was recorded by 80% of GPs and 92.3% of ER residents without statistical

significant difference. Regarding the most common site of epistaxis, 73.9% of the residents identified this site as it was recorded by 73.1% of ER residents and 65% of GPs without statistical significance. Almost two-thirds (67.3%) of the residents identified the risk factors of epistaxis which was recorded among 70.5% of ER residents and 52.5% of GPs. Also 66.7% of the residents recorded keeping epistaxis cases on antibiotics which was the action of 70.5% of the ER residents and 75% of GPs with recorded borderline statistical significance (p=0.050). As for first step to control bleeding, 60.6% of the residents gave the correct answer which was recorded among 66.7% of ER residents compared to 32.5% of GPs with statistically significant difference (p=0.001). The most common cause of epistaxis was identified by 56.4% of the residents as 57.7% of the ER residents recorded the correct cause compared to 37.5% of GPs with significant difference (p=0.009). As for discharge of patients, 55.8% of the residents recorded home discharge as it was recorded by 64.1% of ER residents and 57.5% of GPs (p=0.035). Generally, 23% of the residents recorded good awareness level regarding epistaxis risk factors, causes, and management (Figure 1).

Table 2: Epistaxis data as recorded by sampled physicians.

Epistaxis data	Categories	No	%
In a week, roughly how many patients would attend the ER with epistaxis	Less than 5	99	60.0
	5-10	53	32.1
	More than 10	13	7.9
How many patient presenting with epistaxis per month do you refer to ENT	2-5	106	64.2
	6-10	46	27.9
	More than 10	13	7.9
Is cauterization used in your department	Yes	48	29.1
	No	117	70.9
Method of cautery	Chemical cautery	24	50.0
	Electrical cautery	24	50.0
Is nasal packing performed in the department	Yes	110	95.7
	No	5	4.3%
Type of local anesthetic applied prior to packing (n=110)	None	46	41.8
	Lidocaine	55	50.0
	Other	9	8.2
Type of packs used (n=110)	Absorbable packing gauze	48	43.6
	Non absorbable packing gauze	62	56.4

Table 3: Knowledge regarding epistaxis according to physician specialty.

Knowledge items		Total (%)	Speciality						P value
			General physician		Emergency resident		Other specialty resident		
			No	%	No	%	No	%	
How will you position a patent having epistaxis?	Incorrect answer	19 (11.5)	8	20.0	6	7.7	5	10.6	0.137
	Correct answer	146 (88.5)	32	80.0	72	92.3	42	89.4	
Where is the correct site for pinching the nose during epistaxis?	Incorrect answer	103 (62.4)	23	57.5	47	60.3	33	70.2	0.410
	Correct answer	62 (37.6)	17	42.5	31	39.7	14	29.8	
What is the most common site of epistaxis?	Incorrect answer	43 (26.1)	14	35.0	21	26.9	8	17.0	0.159
	Correct answer	122 (73.9)	26	65.0	57	73.1	39	83.0	
What is the most common cause of epistaxis?	Incorrect answer	72 (43.6)	25	62.5	33	42.3	14	29.8	0.009*
	Correct answer	93 (56.4)	15	37.5	45	57.7	33	70.2	
What is first step to control anterior epistaxis?	Incorrect answer	65 (39.4)	27	67.5	26	33.3	12	25.5	0.001*
	Correct answer	100 (60.6)	13	32.5	52	66.7	35	74.5	

Continued.

Knowledge items		Total (%)	Speciality						P value
			General physician		Emergency resident		Other specialty resident		
			No	%	No	%	No	%	
What is the most frequent risk factor for nasal bleeding	Incorrect answer	54 (32.7)	19	47.5	23	29.5	12	25.5	0.066
	Correct answer	111 (67.3)	21	52.5	55	70.5	35	74.5	
If you do nasal packing, will you discharge the patient home?	No	73 (44.2)	17	42.5	28	35.9	28	59.6	0.035*
	Yes	92 (55.8)	23	57.5	50	64.1	19	40.4	
If yes, are the packs removed by?	ER resident	103 (62.4)	23	57.5	49	62.8	31	66.0	0.716
	ET specialist	62 (37.6)	17	42.5	29	37.2	16	34.0	
How long you keep the nasal pack?	Incorrect answer	138 (83.6)	32	80.0	70	89.7	36	76.6	0.122
	Correct answer	27 (16.4)	8	20.0	8	10.3	11	23.4	
Do you start he patient on any antibiotic with nasal packing	No	55 (33.3)	10	25.0	23	29.5	22	46.8	0.050*
	Yes	110 (66.7)	30	75.0	55	70.5	25	53.2	

* p≤0.05 (significant).

Table 4: Overall knowledge regarding epistaxis according to physician characteristics.

Factor		Knowledge level				P value
		Poor		Good		
		No	%	No	%	
Specialty	General physician	38	95.0	2	5.0	0.001*
	Emergency resident	61	78.2	17	21.8	
	Other specialty resident	28	59.6	19	40.4	
In a week, roughly how many patients would attend the ER with epistaxis	Less than 5	83	83.8	16	16.2	0.018*
	5-10	37	69.8	16	30.2	
	More than 10	7	53.8	6	46.2	
How many patient presenting with epistaxis per month do you refer to ENT	2-5	87	82.1	19	17.9	0.045*
	6-10	33	71.7	13	28.3	
	More than 10	7	53.8	6	46.2	
Is nasal packing performed in the department	Yes	76	69.1	34	30.9	0.002*
	No	1	20.0	4	80.0	

*p≤0.05 (significant).

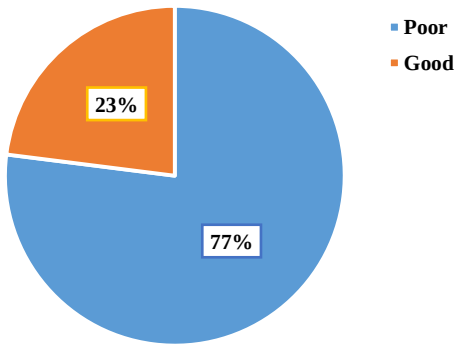

Figure 1: Overall physicians' knowledge regarding epistaxis.

On relating awareness regarding epistaxis with resident's characteristics (Table 4), 40.4% of residents in different departments other than ER had good awareness level compared to 21.8% of ER residents and 5% of GPs (p=0.001). Considering monthly rate of epistaxis cases, 46.2% of residents who deal with 10 cases or more recorded good awareness level compared to 16.2% of those who deal with less than 5 cases (p=0.018). Regarding referral to ENT specialist, 46.2% of the residents who refer cases to the specialist had good awareness level compared to 17.9% of those who refer fewer cases (p=0.045). About 31% of residents who perform nasal packing had good awareness level compared to 80% of those who did not (p=0.002).

DISCUSSION

The current study was established to assess residents' awareness regarding epistaxis in Aseer region which is in the southern part of Saudi Arabia. The current study included 165 residents form the main hospitals in Aseer region. As for exposure to epistaxis cases, majority of residents exposed to less than 5 cases monthly which mainly were referred to ENT specialist based on the hospitals' protocol. Regarding that, the majority of resident referred cases after packing which mean failure to stop bleeding so referral rate is high (two thirds of cases).

Regarding knowledge of participants' poor percent, 23% of resident knew about epistaxis risk factors, causes and first aids management. Position of patients with epistaxis, causes and risk factors of epistaxis, post packing treatment, and steps to control for bleeding were the most identified items regarding epistaxis especially among ER residents but not exceeded 70% of the residents and may be 37% for some items that made in general the awareness if poor as 23% only recorded score exceeding 60% which mean one out each four of the resident were knowledgeable regarding epistaxis as emergent cases. This is completely different for GPs who were very poor regarding epistaxis management and control. In another recent Saudi study carried out among senior medical students all over the country, 64% considered epistaxis as an emergent case and 40% considered finger nail trauma as the commonest cause, followed by bleeding disorder (17.3%).[12] However in Al-Madinah city, Albouq et al reported that 74.9% of the medical students considered epistaxis as an emergent case and 87.1% of them reported that the commonest cause of epistaxis is bleeding disorder.[13] Comparison with the present study is not practical as we conducted the present study among residents. Also, the current study findings were discordant with another study conducted by Almulhim et al among Saudi Arabia general population, where 67.4% of participants knew about epistaxis management.[11] Another study was conducted by Mugwe et al among accident and emergency clinical staff in Kenya revealed that only 38.1% of respondents identified the correct site for pinching the nose.[14] On positioning of patient with epistaxis, in this study, 60% of residents identified the correct position while 51% correctly said patient should be referred if epistaxis persists. All the 70 respondents felt that first aid was necessary in treatment of epistaxis. Majority (72.9%) of the respondents said they had ever given first aid to a patient with epistaxis.

The present study had strong points as it was the first Saudi study to evaluate epistaxis first aids, knowledge, attitude, and practice of the resident in southern region and may be in the whole kingdom. The sample size was large relative to the total number of available resident.

Limitation of this study was that we couldn't compare the results of this study with other studies as there was no study performed before on this subject between residents.

CONCLUSION

Nearly one out of each four residents had good awareness level regarding epistaxis especially GPs and ER residents. Position of patients with epistaxis and sites of epistaxis were the only items well known by residents. Residents with poor awareness perform packing more than knowledgeable resident which means simulation action. More attention and time should be paid for residents especially at ER to know how to diagnose and deal with epistaxis as emergency conditions.

ACKNOWLEDGEMENTS

The authors would like to thank all directors of the involved hospitals as well as chairs of Otolaryngology departments at these hospitals for their kind assistance and cooperation.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Morgan DJ, Kellerman R. Epistaxis. Primary Care: Clinics in Office Practice. 2014;41(1):63-73.
2. Chiu TW, Shaw-Dunn J, McGarry GW. Woodruff's plexus. J Laryngol Otol. 2008;122(10):1074–7.
3. Killick N, Malik V, Kumar NB. Nasal packing for epistaxis: an evidence-based review. Br J Hosp Med (Lond). 2014;75(3):143-4, 6-7.
4. Svider P, Arianpour K, Mutchnick S. Management of Epistaxis in Children and Adolescents. Pediatr Clin North Am. 2018;65(3):607–21.
5. Rains AJH, Ritchie HD (eds). Bailey and Love's Short Practice of Surgery. 19th Edition. Lewis, London; 1984: 567.
6. Kucik CJ1, Clenney T. Management of Epistaxis. Am Fam Physician. 2005;71(2):305-11.
7. Mcgarry GW, Moulton C. The first aid management of epistaxis by accident and emergency department staff. Arch Emer Med. 1993;10:298-300.
8. The University of Western Australia, Safety, Health and Wellbeing, First Aid, 2003. Available at: http://www.safety.uwa.edu.au/incidentsinjuries-emergency/first-aid. Accessed on 28th November 2013.
9. First Aid Science Advisory Board Evidence Evaluation Conference, hosted by the American Heart Association and the American Red Cross in Dallas, Texas, 2005. Available at: http://circ.ahajournals.org/content/112/22_suppl/III115.full. Accessed on 23rd January 2005.

10. Frazee TA, Hauser MS. Nonsurgical management of epistaxis. J Oral Maxillofac Surg. 2000;58:419-22.
11. Almulhim KS, Al Sheikh Mubarak IA, Hussain AS, Rahman MA, Alhaddad MS, Alotaibi NK, et al. Assessment of Knowledge Attitude and Practice of Epistaxis in Saudi Population. Egyptian J Hospital Med. 2017;69(6):2675-9.
12. Alyahya K, Alsaad S, Alsuliman S, Alsuliman N. Awareness about first aid management of epistaxis among medical students in Kingdom of Saudi Arabia. J Family Med Prim Care. 2019;8(3):914–8.
13. Albouq N, Aljeraisi 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.
14. Mugwe P, Kamau KJ, Nyambaka OK. Knowledge, attitude and practice in first aid management of epistaxis by accident and emergency clinical staff at Kenyatta National Hospital. East Cent Afr J. 2014;19(1):17-21.

Cite this article as: Musleh A, AlShehri SA, AlShehri AM, Kadasah SK, Alshahrani MS, Almuqaytif AM, et al. A study of the knowledge and attitude of physicians in the first aid management of epistaxis in Aseer region, Saudi Arabia. Int J Otorhinolaryngol Head Neck Surg 2019;5:1457-62.