

First Aid Management and Myths of Epistaxis among General Adult Saudi population of Al Majmaah, Saudi Arabia

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ABSTRACT

To evaluate the knowledge, awareness, and attitude (myths) of the general population about the first aid management of epistaxis. This cross-sectional study was conducted via an online questionnaire from March to August 2022. We generated google forms for data collection. The link to this google form was randomly shared on WhatsApp and Facebook platforms. A previously used questionnaire was used and tested in the pilot study over a sample of 20 participants. The questionnaire contained socio-demographic information including sex, age, occupation, and residence. Furthermore, the level of awareness was measured on behalf of epistaxis causes and actions which were further subdivided into many categories. Myths were also observed through a questionnaire. For this cross-sectional study 407 participants aged 15 to 55 years were recruited. A total of 325 participants encountered epistaxis once in their lifetime. The 30% participants of in our study reported spontaneous epistaxis while 4.4% and 4.9% encountered it due to nasal trauma and fingernail trauma. In 7.6% of participants, epistaxis occurred due to bleeding disorders while 23% reported hypertension as the major reason. We observed that 94% population was familiar with the proper position that epistaxis patients required to control bleeding. Sitting with the head tilted forward as a coping mechanism was used in 48.9% of participants with 199 individuals practicing this while sitting with the head tilted backward was practiced by 117 (28.7%) participants. The general population had enough knowledge to manage epistaxis. The awareness levels of the population show a positive reflection of the healthcare system. However, we recommend that further studies should be conducted with a large sample size to evaluate the validity of our research.

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INTRODUCTION

Epistaxis also known as nose bleeding is one of the common medical emergencies reported in emergency rooms. This medical emergency is associated with the ear, nose, and throat and can occur due to a rupture of blood vessels inside the nasal mucosa.¹ Two forms of epistaxis have been identified; a rupture in the anterior region and a rupture in the posterior, however, anterior epistaxis is more common than posterior epistaxis.² Many environmental and medicinal factors play key roles in the development of epistaxis illness.³ It is considered a nonfatal medical condition however, in some rare circumstances it can turn into a life-threatening situation.^{4,5} The management of epistaxis is highly subject to the type of nosebleed being experienced still first aid management is the major preference of physicians to stop bleeding.⁶ Many other approaches like surgical interventions and conservative therapies are also used for management.⁷

Epistaxis is the most frequent medical condition in the United States which affect 60% of its population once in their life. However, only 6% of people seek medical attention.⁸ A study conducted in the United States revealed that first aid management is the best treatment but there is a lack of awareness among the population about first aid management of epistaxis despite the frequent occurrence.⁹ United Kingdom's study revealed a lack of first aid management of epistaxis among the general population and medical healthcare.¹⁰ A study was conducted in the Glasgow region to identify the awareness of first aid epistaxis management among medical staff in the emergency and accident departments. Their study shows no significant awareness among the study population.¹¹ Lack of awareness was

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also reported among patients having a history of epistaxis episodes.¹² The research was conducted in Germany to explore the effect of ice packs as the first-aid management option. In their study, no significant results were obtained. They revealed that no significant difference can occur in the blood vessels of nasal mucosa after applying the ice packs on the neck area.¹³ Studies have suggested that aggressive first aid management is compulsory to avoid incidents of life loss.^{14, 15}

One of the prospective cross-sectional studies investigated the knowledge and attitude regarding epistaxis management among medical practitioners of Kenya's major hospitals. They found a lack of awareness about the first aid management of epistaxis among medical practitioners.¹⁶ One of the Turkish studies suggested training sessions for school teachers on the improvement of first aid management.¹⁷ Study conducted in Cairo Egypt explore the impact of training sessions on management of epistaxis.¹⁸ However, contradictory results were noticed in a study done in Saudi Arabia, found that medical students had satisfactory knowledge of epistaxis management.¹⁹ However, the general population had less or not enough knowledge or awareness about epistaxis management.²⁰⁻²⁴ Hence this study was carried out to evaluate the knowledge, awareness, and attitude (myths) of the general population about the first aid management of epistaxis.

METHODOLOGY

This cross-sectional study was conducted to examine the knowledge, practices, and attitude of the Saudi general population. We conducted this study via an online questionnaire from March to August 20... The research was initiated after the approval from the ethical committee and voluntary participation was encouraged. People having social media accounts, and Saudi nationality were included while non-Saudi residents or people on visiting visas were excluded. We ensured that their provided information was kept confidential. The sample size was calculated using the EPI info program. A total of 5% error margin was estimated at a 95% confidence interval. The minimum sample size of 384 was computed. We used convenient non-probability sampling for data collection. We generated google forms for data collection. The link to this google form was randomly shared on WhatsApp and Facebook platforms. A previously used questionnaire was used and tested in the pilot study over a sample of 20 participants. The questionnaire contained socio-demographic information including sex, age, occupation, and residence. Furthermore, the level of awareness was measured on behalf of epistaxis causes and actions which were further subdivided into many categories. Myths were also observed through a questionnaire. A common grading method was used for each variable 2 points were given to the correct option, 1 for neutral, and 0 for the incorrect option. We considered good knowledge if obtaining points were more than 27. Coded data was transferred to the Excel sheets for performing statistical analysis using the Student package for Social Science 23.0. Descriptive statistics were used for data presentation.

RESULTS

For this cross-sectional study 407 participants aged 15 to 55 years were recruited. We observed high (68.3%) participation from the age range of 15 to 23. Female participants were

Table 1: Socio-demographic status of study participants (N=407)

Variable	Category	Frequency	Percent
Age:	15 - 29 years	278	68.3
	30 - 40 years	62	15.2
	Over 40 years	67	16.5
Gender:	Male	31	7.6
	Female	376	92.4
Social state:	Single	274	67.3
	Married	127	31.2
	Divorce	6	1.5
Level of education:	None	4	1.0
	High school	198	48.6
	Middle School	38	9.3
	Bachelor	151	37.1
	PhD	16	3.9

high in number than males (92.4% vs 7.6%). Demographic information also contains information on marital status and education level. Table 1 enlisted detailed socio-demographic information.

In table 2, the level of awareness among participants was presented. A total of 325 participants encountered epistaxis once in their lifetime. The 30% participants of in our study reported spontaneous epistaxis while 4.4% and 4.9% encountered it due to nasal trauma and fingernail trauma. In 7.6% of participants, epistaxis occurred due to bleeding disorders while 23% reported hypertension as the major reason. We observed that 94% population was familiar with the proper position that epistaxis patients required to control bleeding. Sitting with the head tilted forward as a coping mechanism was used in 48.9% of participants with 199 individuals practicing this while sitting with the head tilted backward was practiced by 117 (28.7%) participants. Lying down and elevating the legs and an ice pack over the nasal bridge were practiced by 12 (2.9%) and 52 (12.8%) participants respectively.

Furthermore, our study also revealed the attitude in terms of actions that epistaxis patients practiced. We observed that 58.2% of exposed cases pinched their noses while 16.2% of cases used cold water on their faces. We observed that 14.3% of cases did not know their exposure to epistaxis. People who know about the nose pinch were also familiar with the location to pinch the nose to stop bleeding. Pinching on the cartilaginous part (lower down) was reported by 86 (21.1%) participants while 209 (51.1%) participants reported pinching on the bony part. We also observed that 68% population considered epistaxis as an emergency (Table 2).

In our study major misconceptions were HTN cause epistaxis (71.4%; n=267), hot shower or weather cause epistaxis (46.5%; n=174), beverage cause epistaxis (7.5%; n=28), lying down on the back (11.5%; n=43), blow the nose (16%; n=60), and place any objects inside the nose to stop the bleeding (40.4%; n=151) (Table 3). Majority of the respondents (73%) thought that they need to seek the emergency care if they have persistent nose bleeding for more than 10-20 min and about 58% of the participants thought recurrent nasal bleeding warrants seeking

Table 2: Level of awareness regarding first aid management (N=407)

		Frequency	Percent
Do you ever had nose bleed or see someone with bleeding nose?	Yes	325	79.9
	No	82	20.1
What is the most common cause of epistaxis?	Spontaneous	122	30.0
	Nasal fracture	18	4.4
	Finger nail trauma	20	4.9
	Bleeding disorder	31	7.6
	Hypertension	97	23.8
What is the proper position that patient with epistaxis should do?	I don't know	119	29.2
	Sitting with head tilted forward	199	48.9
	Sitting with head tilted backward	117	28.7
	Lying down and elevate the legs	12	2.9
	Lying down with ice pack over the nasal bridge	52	12.8
What are the actions that patient with epistaxis should do?	I don't know	27	6.6
	Pinch the nose	237	58.2
	Put ice or cold water on the face	66	16.2
	Put ice or cold water on the back of the neck	20	4.9
	Blow the nose	26	6.4
Pinching the nose as primary measure to stop epistaxis should be at:	I don't know	58	14.3
	Cartilaginous part (lower down)	86	21.1
	Bony part (higher up)	209	51.4
	Both	43	10.6
Epistaxis is considered as one of the emergency situations:	I don't know	69	17.0
	Yes	268	65.8
	No	139	34.2

Table 3: Myths\Misconceptions regarding first aid management

		Frequency	Percent
When patient with epistaxis should seek emergency care? ^a	Persistent nose bleeding for more than 10-20 min with direct nasal compression	297	73.0
	Recurrent nasal bleeding more than four times per week despite all preventive measures	236	58.0
	Massive nasal bleeding	265	65.1
Which of these are true regarding epistaxis? ^a	After direct nasal trauma	161	39.6
	HTN cause epistaxis	267	71.4
	Hot shower\weather cause epistaxis	174	46.5
	Beverage cause epistaxis	28	7.5
	Lie down on back	43	11.5
	Blow the nose	60	16.0
	Place any objects inside nose to stop the bleeding	151	40.4

Table 4: Sources of information regarding first aid management

		Frequency	Percent
What is the source of your knowledge?	Self-taught	300	73.7
	First aid course	20	4.9
	Media	33	8.1
	Observation of senior doctor	7	1.7
	Medical books	12	2.9
	Others	35	8.6
	Total	407	100.0

information. The first aid training course was attempted by 4.9% of participants (Table 4).

DISCUSSION

Epistaxis is one of the major problems of ENT practice and enhanced the burden on the emergency and ENT departments.²⁵ Each individual suffers from epistaxis once in their life which causes anxiety in clinicians and patients. This condition ranges from mild to severe and some cases turn into life-threatening rhinological emergencies.²⁶ Life-threatening conditions which continue for more than 60 minutes become a challenge for otolaryngologists.²⁷ During recent years 10% to 60% of incidents of epistaxis were reported from which only 6% seek medical attention to control the nasal hemorrhage.¹¹ The current study was conducted to evaluate the knowledge level regarding epistaxis first aid management among the general population. We observed that 86% population had awareness of epistaxis management. Our study revealed that 94% population was familiar with the proper position that epistaxis patients required to control bleeding. We observed that more than 68% population were well known about the head position during epistaxis while 12.8% were aware of the ice pack over the nasal bridge. Only 2% population was aware of the information that lying down and elevating the legs help them in epistaxis.

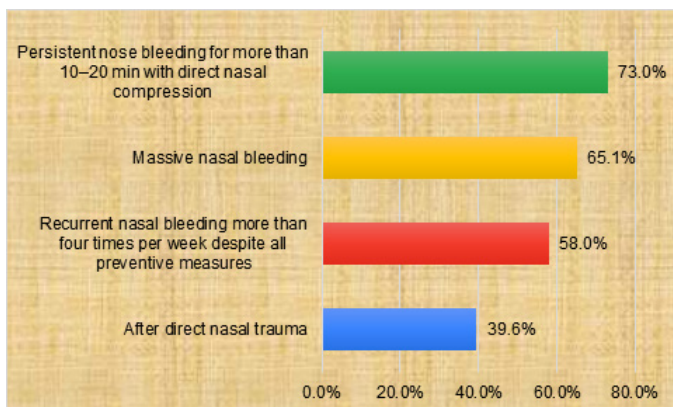


Fig. 1: When patient with epistaxis should seek emergency care?

emergency care.(Figure 1) The majority of the participants were self-taught (73.7%; n=300) while media (8.1%; n=33) and medical books (2.9%; n=12) were also the major sources of

Furthermore, our study also revealed the attitude in terms of actions that epistaxis patients practiced. We observed that 58.2% of exposed cases pinched their noses while 16.2% of cases used cold water on their faces. We observed that 14.3% of cases did not know their exposure to epistaxis. People who know about the nose pinch were also familiar with the location of the nose pinch. We also observed that 68% population considered epistaxis as an emergency.

The general population of the Saudi region was cognizant of epistaxis emergency care. Our results revealed that 73% population agreed to seek medical attention if nasal bleeding exceeds 10-12 minutes, 39.6% agreed to gain medical attention after nasal trauma and 58% coincided to look for treatment if epistaxis occurred four times a week.

In the current study, we expected that people of the Saudi region had moderate knowledge of first aid epistaxis management but surprisingly our results indicate that 86% population was well-informed. This ratio was above that of the recent study by Mehmood et al conducted in Riyadh to explore the knowledge and practice of epistaxis first aid among the adult population. They revealed that 75% population of Riyadh had enough knowledge and 75% answered the questionnaire correctly.²⁸ In 2019 study by Al-Kubaisy et al²¹ disclosed a lack of knowledge about epistaxis management in most teachers. Only one-third population of the study had enough knowledge about first aid epistaxis management. Similar results were observed in Alshehri et al²⁰ study reported low awareness in the Alhassa region. However, another study by Alshehri et al²² observed a fair level of knowledge of epistaxis first aid among school students. Furthermore, medical practitioners in Saudi Arabia had low to moderate or high levels of knowledge related to epistaxis. Alyahya et al¹⁹., conducted a study which revealed that medical students are unable to provide first aid for epistaxis. Contrastingly, students of King Fahad Armed Force Hospital had very low knowledge.²⁴ In our study participants had knowledgeable information related to the risk factors and reasons for epistaxis and knew the primary steps of epistaxis management. The majority of the participants knew about the nose-pinching positions and these results were parallel to another previous study of the Saudi region.²⁶

CONCLUSION

The general population of the Saudi region had enough knowledge to manage epistaxis. The awareness levels of the population show a positive reflection of the healthcare system. Enhancing health education on epistaxis control and first aid management is a crucial first step in preventing the problems. Additional media campaigns are required to increase public awareness of first aid administration and epistaxis prevention.

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