

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

Nora Abd El-Alim Ebrahim¹, Amal Abd El-Aziz Abd El-Salam², Rawia Abd El-Ghany Mohamed³ and Hanan El-Sayed Metwally⁴

(1) Demonstrator of Pediatric Nursing, Faculty of Nursing - Benha University, Egypt, (2,3) Assist. Professor of Pediatric Nursing Faculty of Nursing - Benha University, Egypt, and (4) Lecturer of Pediatric Nursing, Faculty of Nursing, Benha University, Egypt

Abstract

Background: Epistaxis is acute bleeding from the nasal cavity or nasopharynx. Nosebleeds are fairly common during childhood and are typically self-limiting in nature. Repeated or excessive instances of epistaxis, however, can cause significant distress to both children and parents alike. **Aim of study:** Evaluating how educational guidelines affect mothers' performance regarding care of children with epistaxis. **Research design:** The present study used a quasi-experimental design. **Setting:** The study was performed at both inpatient department and outpatient Ear, Nose and Throat clinic at Benha University Hospital. **Subjects:** A purposive sample of 70 mothers and their children who were suffering from epistaxis were included. **Tools of data collection:** Three tools have been employed: **I.** A structured interview questionnaire sheet consisted of 3 parts, part one: Mothers characteristics, part two: Children characteristics and part three: Mother's knowledge towards epistaxis. **II.** Mother's attitude towards epistaxis and **III.** Mother's reported practice regarding epistaxis. **Results:** A highly statistical significance difference was observed between total level of knowledge, attitude and reported practice of the participated mothers concerning epistaxis in pre compared to in post educational guidelines implementation. **Conclusion:** The implementation of the educational guidelines resulted in a significant enhancement of mothers' knowledge, attitude, and practice in managing epistaxis in children, compared to pre-implementation levels. **Recommendation:** Further studies should be applied on all health problems related with epistaxis as hemorrhagic disorders, vitamins deficiency and chronic diseases and future researches should aim to replicate this study on a large sample of mothers in diverse settings which are needed for generalization of the obtained results.

Keywords: Educational guidelines, Mothers' performance, Children, Epistaxis.

Introduction

Epistaxis is considered severe bleeding from nose, nasal cavity, or nasopharynx, caused by a broken blood vessel. Bleeding from the nasal septum is responsible for the majority of epistaxis cases. Also, epistaxis is a prevalent Ear, Nose and Throat (ENT) emergency that frequently presents to the primary care or emergency room. Although epistaxis is not typically a life-threatening condition, it can be a cause

for great concern, particularly for parents of young children (**Bamimore, 2021**).

Epistaxis often results from benign activities, including child picking their nose, blowing too forcefully or getting knocked during play especially preschool and school age. Also, epistaxis may be caused from environmental factors as dry climate, dust, inflammatory and sensitive causes but in many cases idiopathic (**Constantini, 2021**).

The main symptom of epistaxis is blood dripping or running from the nose. The symptoms of epistaxis can be like other health conditions may be associated with fatigue, dizziness, blurred vision, tiredness, loss of energy, tachycardia and tachypnea during recurrent or excessive bleeding (**Whittaker, 2020**).

Severe epistaxis in children is rare, and hospital admission is rarely necessary. Although not typically serious, recurring episodes of minor epistaxis can be distressing and worrisome for both children and their parents. Epistaxis in children is a minor issue and can be simply handled by applying direct pressure to the nasal cartilage for 5-10 minutes. During a nosebleed, a child may become upset and distressed by the sight and taste of blood. Mother should provide reassurance to the child because crying will make the bleeding worse (**Tabassom, 2020**).

The majority of children with epistaxis experience spontaneous anterior nasal bleeding that does not result in hemodynamic instability or airway obstruction. But some children exposed to health problems and complications as general weakness, disturbance in vital signs, impair in airway clearance. So, it is still crucial to rapidly assess the general appearance, vital signs, airway stability, and mental status to recognize children who necessitate airway intervention and/or fluid resuscitation. Airway intervention is required for children experiencing spitting or regurgitating blood and with hemorrhagic shock (**Viljoen, 2019**).

Epistaxis is a common health problem that can be prevented easily through using a saline nose drops or saline nasal spray 2-3 times per day in nostrils of child to keep nasal passages moist, adding a humidifier to child bedroom at night and moisture the air, spread water-soluble nasal ointments or gels in child nostrils with a cotton swab. Mothers

should educate the child to avoid forceful nose blowing, sneezing with an open mouth, refraining from inserting any solid objects into the nose, and keeping fingernails trimmed short (**Sachdev, 2021**).

Mothers' role towards epistaxis focused on maintaining child health, improving immunity, avoiding recurrent episodes of epistaxis and preventing complications. So, mothers learned first aid of epistaxis, nose and mouth care, drug administration through nose and mouth also measures which improve immunity as balanced nutrition, increase fluids intake, avoid smoking dust areas and practices suitable type of exercises according child age (**Hassan et al., 2018**).

Nurses' role towards epistaxis initiates on correct mothers' myths and mistakes, nurse helps mother to improve knowledge, has positive attitude and correct practices regarding epistaxis because mother first care giver to child. Also, decrease child and parents' anxiety, perform first aid of epistaxis, provide full assessment and resuscitation if necessary to preserve child health. Nurses' role not confined to previous points but continue until provide all mothers and children needs (**Rushing, 2021**).

Significance of the study:

Epistaxis commonly occurs in children aged between 3-10 years, whereas it is rare among neonates, under 2 years and its frequency decreases in adulthood. Worldwide, epistaxis is believed to affect 60% of children during their lifetime, 50% of all adults had been presented with epistaxis during childhood (**Fishman et al., 2018**).

Epistaxis is considered the most common health problem between children in Egypt as a result of spearing dust, hot, dry weather and respiratory infection. Epistaxis represents 30% of children below 5 years, 56% aged between 6-10 years, 64% in those

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

between 11-15 years who have experienced at least one epistaxis episode during their lifetime and generally boys are slightly more affected than girls. So, application of educational guidelines for mothers about caring their children with epistaxis is highly required to improve mothers' performance and prevent further complication (Kumar et al., 2018).

Aim of the study

The aim of the current study was to evaluate the effect of educational guidelines on mothers' performance regarding care of children with epistaxis.

Research hypothesis:

1-The educational guidelines would improve mothers' knowledge about caring their children during epistaxis.

2- The educational guidelines would improve mothers' attitude towards care of children with epistaxis.

3- The educational guidelines would improve mothers' practice about caring their children during epistaxis.

Subject and Method

Research design:

The study utilized a quasi-experimental research design.

Setting:

The study was performed at both inpatient department and outpatient Ear, Nose and Throat clinic at Benha University Hospital.

Sample:

A purposive sample of 70 mothers and their children, who met the inclusion criteria and were willing to participate in the study, were selected from the study setting over a period of 6 months.

- Children from 3 to 10 years old who have epistaxis.

- Male & female children.

Tools for data collection:

Tool I: A structured interviewing questionnaire: The researcher prepared it in an Arabic language after conducting a thorough review for the literature related to the topic. It was composed of 3 parts:

-Part (1). Characteristics of the studied mothers such as: Age, education level, occupation, and residence.

-Part (2). Children characteristics such as: Age, gender, child rank, level of education and past history as: age at first time of epistaxis, cause of child's epistaxis for the first time, frequency, duration of epistaxis in minutes, family history for epistaxis, if the child need a blood transfusion due to previous epistaxis and if the child need medical intervention to stop the epistaxis.

-Part (3). Mother's knowledge regarding epistaxis: It was prepared according to **Alshehri et al., (2018) & Kim et al., (2019)** and modified by the researcher to judge knowledge of mothers towards epistaxis in children, it consists of 8 questions related to definition, causes, signs and symptoms, the most effective measures to stop epistaxis, the suitable time to go the emergency department, complication of recurrent epistaxis, prevention and treatment methods of epistaxis. Total degrees of questions are 0-16 degree.

Scoring system of mothers' knowledge:

The scoring system for evaluating the knowledge of the participating mothers was categorized as follows: the mothers' responses were compared to a model answer, and scores were assigned accordingly. A score of 2 was given for a complete and correct answer, a score of 1 was given for an incomplete but correct answer, and a score of 0 was given for an incorrect answer or if the mother did not know the answer.

-The total scores were allocated as follows:

- Good knowledge: 75% or higher
- Average knowledge: 60-75%
- Poor knowledge: below 60%

Tool II: Mothers' attitude towards epistaxis: It was prepared according to **Ganfure et al., (2018) & Alhejaily et al., (2019)** and modified to judge mothers' attitude towards caring for children with epistaxis, it consists of 20 items such as, if mother prefer go to doctor when child exposed to frequent epistaxis, if mother feels stable and able to deal with increased amount of epistaxis and if mother keeps child attending nursery school or school when exposed to frequent epistaxis. Total degrees of questions are 20-60 degree.

Scoring system of mothers' attitude:

The scoring system used to assess the participating mothers' attitude was calculated as follows: The mothers' attitude was categorized into (3) scores for agree response, (2) scores for unsure, and (1) score for disagree response.

-The total scores were calculated as the following:

- Positive attitude $\geq 60\%$.
- Negative attitude $< 60\%$.

Tool III: Mother's reported practice regarding epistaxis: It was prepared according to **Saleem et al., (2018) Marchisio et al., (2014) & Mohammad et al., (2020)** and modified to judge mother's reported practice towards caring for children with epistaxis, it included mother's actual intervention regarding epistaxis which included 5 parts: **Part one** first aid regarding epistaxis and total degrees of this part are 0-12 degree. **Part two** nose and mouth care and total degrees of this part are 0-11 degree. **Part three** drug administration through nose and total degrees of this part are 0-10 degree.

Part four drug administration through mouth and total degrees of this part are 0-14 degree.

Part five measures of immunity improvement and total degrees of this part are 0-12 degree.

Scoring system of mothers' reported practice:

The scoring system for reported practice of the participating mothers was categorized as follows: The mothers' reported practice was categorized into correct and completely done (1) scores, incorrectly done or not done (0) score.

-The total scores were calculated as the following:

- Satisfactory practice $\geq 75\%$.
- Unsatisfactory practice $< 75\%$.

Content validity:

The data collection tools were evaluated by a panel of three Pediatric Nursing experts from Benha University's Faculty of Nursing. Their review aimed to ensure the items were interrelated, relevant to the study, and to revise the tools' clarity, comprehensiveness, simplicity, and applicability as necessary. The recommended modifications were made, and reliability testing was conducted to confirm the study tools' validity.

Reliability:

To assess the reliability of the study tools, the internal consistency was tested utilizing Cronbach's alpha coefficient test. Knowledge reliability statistics Cronbach's alpha = 0.934 Attitude reliability statistics Cronbach's alpha = 0.965 Practice reliability statistics Cronbach's alpha = 0.979. Accordingly, the study tools were considered as of high reliability for data collection.

Ethical consideration:

The study received ethical approval from the Ethics Committee at Benha University's Faculty of Nursing. Prior to

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

collecting any data, the participating mothers were asked to provide both oral and written consent. The mothers were assured complete privacy, and a full description of the study's purpose and nature was provided to them. The confidentiality of their responses was also guaranteed. All mothers informed that they had the right to retract from the study at any time without explanation of their rationale and their data is secured.

Pilot study

In April 2021, a pilot study was conducted involving 10% of the total sample size (7 mothers and their children attending to the previously mentioned setting). The purpose of the pilot study was to test the applicability and reliability of the study tools and determine the appropriate time for completing the questionnaire. Since no significant changes were needed to the study tools based on the pilot study results, all participants from the pilot study were included in the final sample.

Field work:

The researcher employed a four-phase approach to achieve the study's objective, which included assessment, planning, implementation, and evaluation. These phases covering 6 months period (from the beginning of May 2021 to the end of October 2021). Study was collected according to the policy of the study setting. Data were collected 3 days/week (Saturday, Monday and Wednesday from 8 AM until 12 PM in ENT clinic and from 12 PM until 4 PM in ENT department).

(a) Assessment phase:-

Data collected in this phase before implementing the educational guidelines. Individual questionnaire sheets were provided to each mother to evaluate mother's performance and determine mothers needs

regarding epistaxis using the previous study tools. The time needed for filling all data collection tools were 30- 40 minutes, the average time needed to answer mothers, children characteristics and knowledge questions 10-15 minutes, attitude questions 5-10 minutes and reported practice steps are 10-15 minutes. The period of assessment phase (pre-test) took one month (May 2021). the researcher conducted interviews with an average of 5-6 mothers per day, 3 days weekly, at Benha University Hospital.

(b) Planning phase:-

During the planning phase, the researcher analyzed the findings of the pre-test assessment and identified the specific demands of the participating mothers. Based on this analysis, the researcher designed educational guidelines for the mothers in simple Arabic language and with the use of pictures to promote their understanding.

(c) Implementation phase:-

It was implemented after assessed mother's performance and determined their needs regarding epistaxis. It involved conducting 5 sessions over a period of 3 days/week. At the beginning of each educational session, the objectives of the new session were presented, and a summary of the previous session was provided. The educational sessions were conducted in Arabic language that was appropriate for the mothers' educational level. During session, mothers, children and researcher sit together in circle and take turns sharing; every mother had a chance to ask questions and share information with other mothers.

The total number of sessions were 5 sessions, each session was taken 45-60 minutes at a period of 4 months starting from June 2021 until the end of September 2021.

Additionally, the study objectives were covered over the course of 5 sessions, incorporating 3 theoretical and affective sessions and 2 practical sessions, utilizing various teaching methods and media.

A schedule was created for mothers, including the date, time, location, topics, and sessions duration. However, accommodating all the mothers together proved to be difficult, so they were divided into 12 groups, with 5-6 mothers in each session, considering necessary precautions. Each mother was supplemented with a copy of guidelines and share video to her mobile or received a copy of video on CD. Researchers develop group on WhatsApp and mothers were added for motivation, communication, interaction, support and follow up.

During data collection and sessions, various **precautionary measures** were implemented, such as the use of personal protective equipment including gloves, face masks, and hand sanitizers for maintaining hand hygiene. Personal distancing was enforced to ensure a minimum distance of 1.5 meters. As a preventive measure, shaking hands or hugging was avoided. It is also emphasized to cover one's mouth while sneezing and coughing to prevent droplet transmission, and to avoid touching one's nose, mouth, or eyes to restrict the infection spread.

(d) Evaluation phase:-

After the educational guidelines for mothers on caring for their children with epistaxis were implemented, an immediate posttest was conducted using the same pretest forms to evaluate the effect of the guidelines on the mothers' knowledge, attitude, and reported practice. This assisted in assessing the impact of the educational guidelines that were implemented. The post-test took one month (October 2021).

Statistical analysis:

The collected data was coded and converted into specially designed form that was appropriate for computer entry process. Data was analyzed by SPSS (Statistical Package of Social Science) version 20. The software graphics were created utilizing Microsoft Office Excel (version 2010). The mean and standard deviation were used to present the quantitative data, while the qualitative data was expressed in frequency distribution tables (in number and percentage). A Chi-square (X^2) test was conducted to analyze the qualitative data. The significance level was categorized into three levels: highly statistically significant difference ($P \leq 0.001$), statistically significant difference ($P > 0.05$), and no statistically significant difference ($P > 0.05$).

Results:

Table (1): Shows that, more than half (58.6%) of them in the age group of $20 > 30$ years and the mean age attained 27.01 ± 5.81 years. Less than two-thirds (62.9%) of the participants had a secondary level of education. Concerning occupation, less than two thirds (65.7%) of them were housewives and about three-quarters (75.7%) of the mothers lived in rural regions.

Table (2): Demonstrates that, less than half (45.7%) of the participating children were between $5 > 7$ years and the mean age was 6.31 ± 1.66 years. Concerning gender, less than three quarters (72.9%) of them were males. Regarding child ranking, half (50.0%) of them were the first child. Also, less than two thirds (65.7%) of them were in primary school.

Table (3): Indicated that, over half (55.7%) of the involved children experience epistaxis for the first time, in the age group 5

Effect of Educational Guidelines on Mothers’ Performance regarding Care of Children with Epistaxis

> 7 years and the mean age attained 3.98±1.04 years. Concerning causes of epistaxis at first time, less than one third (32.8%) of them exposed to dry air and had nasal sensitivity and inflammatory diseases. Concerning duration of epistaxis, more than one third (35.7%) of them were 5 > 10 minutes epistaxis episodes. Regarding family history of epistaxis, it was observed that, less than three quarters (70.0%) of them had family history of epistaxis. Also, the majority (100.0%) & nearly three quarters (74.3%) of studied children not needed to blood transfusion and not need medical intervention respectively.

Figure (1): Revealed that about 15.7% of the participating mothers demonstrated good knowledge prior to the implementation of educational guidelines, while less than three quarters (71.4%) of

them demonstrated good knowledge in post educational guidelines implementation.

Figure (2): Cleared that, about three quarters (75.7%) of the mothers exhibited positive attitude in post compared to (27.1%) in pre-educational guidelines implementation.

Figure (3): Indicated that most (82.9%) participating mothers exhibited satisfactory reported practice in post educational guidelines implementation relative to about one third (31.4%) after implementing the educational guidelines.

Table 4 shows a significant positive correlation between mothers' knowledge, attitude, and reported practice regarding the care of their children with epistaxis before and after the implementation of educational guidelines ($P \leq 0.000$).

Table (1). Frequency distribution of the studied mothers regarding their characteristics (n=70).

Mothers’ characteristics	No.	%
Age (years)		
< 20	6	8.6
20 > 30	41	58.6
30 > 40	19	27.1
≤ 40	4	5.7
Min-Max	19-41	
Mean ±SD	27.01±5.81	
Educational level		
Primary education	3	4.3
Secondary education	44	62.9
University education	23	32.9
Job		
Working	24	34.3
Not working	46	65.7
Residence		
Rural	53	75.7
Urban	17	24.3

Table (2). Frequency distribution of the studied children regarding their characteristics (n=70).

Children' characteristics	No.	%
Age (years)		
3 > 5	15	21.4
5 > 7	32	45.7
7 ≥10	23	32.9
Min-Max	4-10	
Mean ±SD	6.31±1.66	
Gender		
Male	51	72.9
Female	19	27.1
Child ranking		
First	35	50.0
Second	30	42.9
Third	5	7.1
Educational level		
Nursery school	24	34.3
Primary school	46	65.7

Table (3). Frequency distribution of the studied children regarding their medical history (n=70).

Past history	No.	%
Age at first time of epistaxis (years)		
3 > 5	25	35.7
5 > 7	39	55.7
7 ≥10	6	8.6
Min-Max	3-8	
Mean ±SD	3.98±1.04	
Causes of epistaxis at first time		
Nose impingement and trauma	15	21.4
Dry air	23	32.8
Insertion of a foreign object into the nose	6	8.6
Nasal sensitivity and inflammatory diseases	23	32.8
Deviation of the nasal septum	3	4.4
Duration of nose bleeding / minutes		
< 1	6	8.6
1 > 5	23	32.8
5 > 10	25	35.7
10 > 15	9	12.9
15 > 20	3	4.3
≤ 20	4	5.7
Family history		
Yes	49	70.0
No	21	30.0
Child need blood transfusion		
No	70	100.0
Child need medical intervention		
Yes	18	25.7
No	52	74.3
Types of medical intervention (n=18)		
Cauterization of the blood vessels in the nose	13	72.2
Anterior nasal packing	5	27.8

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

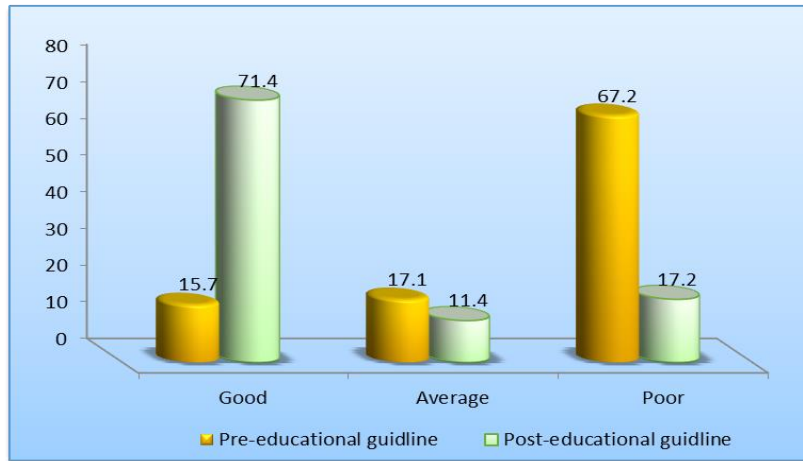


Figure (1). Total mothers' knowledge towards epistaxis in pre and post educational guidelines implementation (n=70).

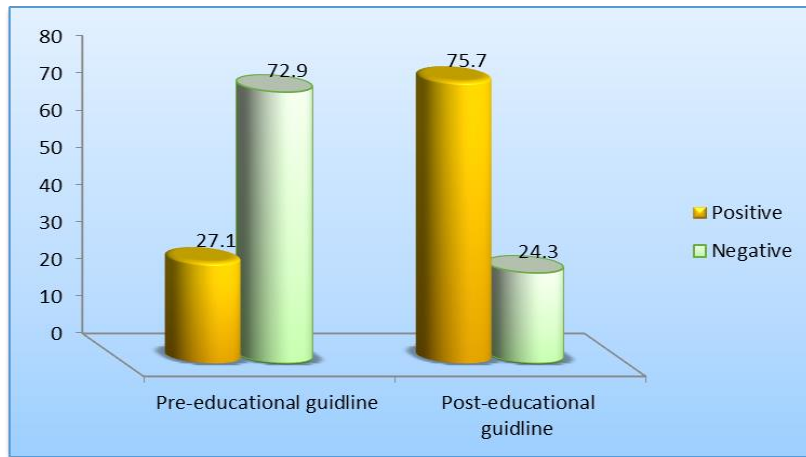


Figure (2). Total mothers' attitude towards epistaxis in pre and post educational guidelines implementation (n=70).

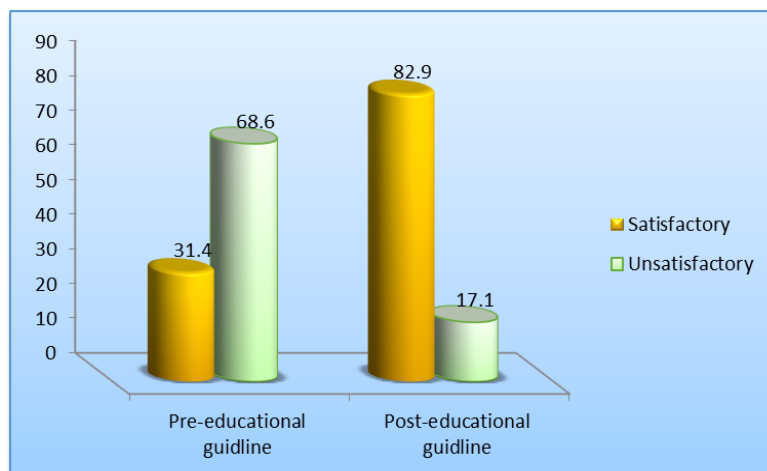


Figure (3). Total mothers' practices level about epistaxis in pre and post educational guidelines implementation (n=70).

Table (4). Correlation matrix between mothers' total knowledge, attitude and reported practices in pre and post educational guidelines implementation. (n=70).

Variables		Pre- educational guidelines implementation (n=70)			Post educational guidelines implementation (n=70)		
		Total knowledge	Total attitude	Total reported practices	Total knowledge	Total attitude	Total reported practices
Total knowledge	R	1	.834	.939	1	.909	.989
	p-value		.000**	.000**		.000**	.000**
Total attitude	R	.834	1	.848	.909	1	.915
	p-value	.000**		.000**	.000**		.000**
Total reported practices	R	.939	.848	1	.989	.915	1
	p-value	.000**	.000**		.000**	.000**	

Discussion:

The present study revealed that over half of the participating mothers were 20 < 30 years. Also, less than two thirds not working, and over three-quarters of them were lived in rural regions. These finding was congruent with **Hema& Babu. (2016)** that entitled "A descriptive study to assess the level of knowledge regarding first aid management among mothers of under five children and safety practices at home in rural village, chennai, tjprc" and found that, two thirds (66%) of the mothers in the study were aged from 21 to 30 years, two thirds (66.1%) unemployed and all mothers in rural setting.

As regards characteristics of the participating children, the present study revealed that less than half were 5 < 7 years. This outcome was reinforced by **Misra et al.,**

(2016) who that documented that less than half (46.0%) of the included children were aged between 5 and 7 years in their study for managing pediatric epistaxis in various age groups in a tertiary care centre. Additionally, this finding was matched with **Alqarni et al., (2019)** whose study entitled "Prevalence, causes, treatment, and outcome of epistaxis" and found that less than half (46.5%) of them aged between 5 and 6 years. From the researcher perspective, children in the age group 5 < 7 years were motion and hyperactive, so they exposed to trauma, falling and other problems caused epistaxis.

As found in the same table less than three quarters were males. This finding was matched with **Cailou & Johnson. (2019)** that entitled "Hemostasis of idiopathic recurrent epistaxis in children with microwave ablation: a prospective pilot case series" and stated that, two thirds (66.0%) of them were males.

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

Alternatively, this finding was incongruent with **Moran & Das. (2016)** that entitled "Epistaxis, incidence, etiology, and management: A hospital-based study" and found that, less than three quarters (73.6%) were females. This difference may be due to boys tend to force activity and exercises more females.

Concerning children past history related to causes of epistaxis at first time, it was stated that, more than one fifth of them are affected due to nose impingement and trauma, slightly less than one third exposed to dry air and other one third due to nasal sensitivity and inflammatory diseases. This finding was consistent with **Gilyoma & Chalya, (2011)**, who reported that over one-fifth (24.8%) of their participants experienced epistaxis due to nasal trauma in their study on the etiological profile and treatment outcome of epistaxis at a tertiary care hospital in Northwestern Tanzania. On the other hand, the current study incomparable with **Higuera, (2019)** that entitled "What causes nosebleeds and how to treat them" and documented that over half (55.6%) of children were subjected to dry air. Another disagreed study conducted by **Alqarni et al., (2019)** who found in a study entitled "Prevalence, causes, treatment, and outcome of epistaxis" slightly more than half (50.5%) of children had epistaxis due to inflammatory diseases. Researcher explained this difference by the most common causes of epistaxis which affect according to many factors as: child age, immunity status, nutrition and type of exercises.

Regarding to duration of nose bleeding in the same table, it was clarified that, more than one third were $5 < 10$ minutes, less than one fifth were $10 < 15$ minutes and the minority ≤ 20 minutes of the participating children. This finding was contradicted with

Mohammed et al., (2020) who conducted a study in Riyadh, Saudi Arabia on the knowledge and practice of epistaxis first aid among the population and indicated that a relatively small percentage (3.8%) of the examined children had nosebleeds lasting for at least 10 minutes, while a considerably larger proportion (43%) experienced nosebleeds lasting for 20 minutes or more. From researcher viewpoint, duration of bleeding depends on way of coping with bleeding and causes of epistaxis.

Concerning total mothers' knowledge of epistaxis, it was revealed that less than three quarters of the mothers in the study exhibited good knowledge in post educational guidelines implementation. The present study's results are consistent with those of **Mahrous et al. (2019)**, who investigated the impact of an educational intervention on mothers' knowledge of first aid measures and showed that following the implementation of the intervention program, over two-thirds (66.5%) of the participating mothers had good knowledge pertaining to epistaxis. This emphasized the importance of educational guidelines in improving mothers' knowledge as it provide them with the baseline for practicing first aid measures with proper skills.

Concerning mothers' total attitude of epistaxis, it was found that, over three quarters of the participating mothers exhibited positive attitude in post educational guidelines implementation. Similar to the present study's finding, **Ganfure et al. (2018)** conducted a study in Lideta sub-city Addis Ababa, Ethiopia on first aid knowledge, attitude, practice, and associated factors and revealed that most participants (82.0%) had a positive attitude towards first aid after completing an educational program. This indicated the

significance of educational guidelines for enhancing mothers' attitude about epistaxis.

Regarding total reported practice of the studied mothers in pre/ post educational guidelines implementation. The majority of the studied mothers had satisfactory practices in post educational guideline implementation. This finding was consistent with **Saleem et al., (2018)** whose study entitled "Epistaxis: what do people know and what do they do? " and found that, the majority of participants had satisfactory practices in post educational guideline implementation. Regarding the researcher opinion the present study finding reflect the importance of conducting educational guideline for improving mothers practice because it based on mother's needs.

The present study mentioned that, there was positive correlation between mothers knowledge, attitude and practice of epistaxis management in pre/ post educational guidelines implementation. This finding was congruent with **Almulhim et al., (2017)** that entitled "Assessment of knowledge attitude and practice of epistaxis in Saudi population" and found that, there was positive correlation between knowledge, attitude and practice of participants. The researcher rationalized that, mothers` knowledge, attitude and practice factors related to each other's, as increasing knowledge led to positive attitude and correct done practices.

Conclusion:

There was a strong significant statistical improvement in mothers' knowledge, attitude and reported practice scores about caring for children with epistaxis when compared with pre- educational guidelines implementation.

Recommendations:

•Significantly reducing stress and intensity of disease may be achieved by increasing awareness of basic management strategies among parents and primary care physicians.

•To decrease the incidence of bleeding, it is important to take preventative measures against epistaxis.

•Schools should also prioritize the care of students with the disease by providing routine nursing attention, as they may experience higher levels of anemia and reduced attention in class compared to their peers.

•In order to generalize the obtained results, future research should replicate the study on a large random sample in different settings.

•Further studies should be applied on all health problems related with epistaxis as hemorrhagic disorders and vitamins deficiency.

•Teaching programs comprise problem solving related to social media, TV and mobile abuse should be conducted broadly as children exposure to television or telephone screens for long periods can cause blood congestion which enhancing epistaxis.

References:

Alhejaily, M., Alatawi, A., Alatawi, A. &Mrighani, H. (2019). Evaluation of knowledge, attitude and practice of epistaxis among the general population of Tabuk City, Saudi Arabia, *The Egyptian Journal of Hospital Medicine*, 75 (1), PP. 1923-1931.

Almulhim, K., Mubarak, I., Hussain, M., Alhaddad, M., Alotaibi, N. & Alyahya, K. (2017). Assessment of knowledge attitude and practice of epistaxis in Saudi population, *The Egyptian Journal of Hospital Medicine*, 69 (6), PP. 2675-2679.

Alqarni, Z ., Alajmi, T., Alhumaidi, H., Alhussain, A., Alotaibi, Y. & Alzahrani, H. (2019). Prevalence, causes, treatment, and outcome of epistaxis, *International Journal of Medicine in Developing Countries*, 3(5), PP.446– 449.

Effect of Educational Guidelines on Mothers' Performance regarding Care of Children with Epistaxis

Alshehri, F., Alluwaim, F.& Alyahya, K. (2018). Teachers' awareness regarding emergency management of epistaxis inside the school; Alahssa, Saudi Arabia. *Open J Prev Med.* 08(02), PP. 44– 55.

Bamimore, O. (2021). Acute epistaxis, Available at: [https:// e medicine. medscape. com/article/ 764719-overview](https://e.medicines.net/article/764719-overview), Accessed on: 27/4/2021, at 10.49AM.

Cailou, Z. & Johnson, A. (2019). Hemostasis of idiopathic recurrent epistaxis in children, *Journal of Otolaryngology - Head & Neck Surgery*, 3(4), PP.48:72.

Constantini, L. (2021). Epistaxis: What is it, types, causes, prevention, treatment, and more, Available at: [https:// www. osmosis. org/ answers /epistaxis](https://www.osmosis.org/answers/epistaxis), Accessed on: 19/12/2021, at 6.51 AM.

Fishman, J., Fisher, E. & Hussain, M. (2018). Epistaxis audit revisited, *J Laryngology Otol*, 132(12), P.1045.

Ganfure, G., Ameya, G., Tamirat, A., Lencha, B. & Bikila, D. (2018). First aid knowledge, attitude, practice, and associated factors among kindergarten, *PLoS ONE journal*, 13(3), PP.42-63.

Gilyoma, J.& Chalya, P. (2011). Etiological profile and treatment outcome of epistaxis at a tertiary care hospital in Northwestern Tanzania: a prospective review of 104 cases, *BMC Ear, Nose and Throat Disorders*, 11 (8), PP. 2-6.

Hassan, A., Mohamed, N., Mohammed, F. & Gad , E. (2018). Impact of an educational program for mothers about preventing oral medications misuse for children under five years, *American Journal of Nursing Research*, 6(3), PP. 125-136.

Hema, H. & Babu, M. (2016). A Descriptive study to assess the level of knowledge

regarding first aid management among mothers of under five children and safety practices at home in rural village, chennai, *tjprc, TJPRC: International Journal of Nursing and Patient Safety & Care (TJPRC: IJNPSC)*, 1(1), PP. 31- 38.

Higuera, V. (2019). What Causes Nosebleeds and How to Treat Them, Available at: [https://www.healthline.com/ health/ nose- bleeds-at-night#picking](https://www.healthline.com/health/nosebleeds-at-night#picking), Accessed on: 6/9/2021, 7.49PM.

Kim, Y., Kim, N., Jee, S. & Hwangbo, M. (2019). 7 Cases of nose bleeding child treated by Hwanggigunjung-tang, *J Korean Med Ophthalmol Otolaryngology Dermatol*, 32(2), PP.131-138.

Kumar, P., Rajasekar, S. & Vikram, V. (2018). Epistaxis in children: a clinical study, recurrent epistaxis in children, *International Journal of Otorhinolaryngology and Head and Neck Surgery*, 4(3), P.95.

Mahrous, E., Mohamed, H., Fayed, S.& Saber, M. (2019). Effect of an Educational Intervention about Home First Aid Measures on Mothers' Knowledge, 6(3), P.1000.

Marchisio, P., Picca, M., Torretta, S., Baggi, E. & Pasinato, A. (2014). Nasal saline irrigation in preschool children: a survey of attitudes and prescribing habits of primary care pediatricians working in northern Italy, *Journal of Pediatrics*, 40(47), PP. 2-8.

Misra, A, Basu, A, Mandal, P. & Mahapatra, N. (2016). Management of pediatric epistaxis in different age group in a tertiary care center, *International Journal of Contemporary Pediatrics*, 3(4), PP.1206-1209.

Mohammad, S., Alsharidah, A., Alshehri, M., AlAsim, F., Alotaibi, A., Alghamdi, E., Alghamdi, G., Alnukhaysh, S., Aljehani, A. & Alramih, A. (2020). Knowledge and

practice of epistaxis first aid among adult population in Riyadh, Saudi Arabia, *International Journal of Medicine in Developing Countries*, 4(12), PP.2215– 2221.

Moran, N.& Das, D. (2016). Epistaxis—incidence, etiology, and management: A hospital-based study, *Clin Rhinology Journal*, 9(1), PP. 18– 20.

Rushing, J. (2021). Clinical do's & don'ts: managing epistaxis, *Nursing 2021*, at 39(6), P. 12.

Sachdev, P. (2021). Nosebleeds, Available at: [https:// www.webmd.com /first-aid/nosebleeds- causes- and- treatments](https://www.webmd.com/first-aid/nosebleeds-causes-and-treatments), Accessed on: 19/12/2021, at 7.01AM.

Saleem, A., Alahwal, A., Al-Sayed, A., Bin-Manie, M. &Marzouki, H. (2018). Epistaxis: what do people know and what do they do?, *Journal of nature and science of medicine*, 1(1), PP.22-27.

Tabassom, A. (2020). Epistaxis, Available at: [https:// www. ncbi. nlm .nih.gov /books/NBK435997/](https://www.ncbi.nlm.nih.gov/books/NBK435997/), Accessed on: 23/4/2021, at11.41AM.

Viljoen, J. (2019). Epistaxis in children: approach and management, *Main Topic journal*, 21(11), P.665.

Whittaker, D. (2020). Epistaxis, Available at: [https:// www. Rcem learning. co.uk/ reference/epistaxis](https://www.rcemlearning.co.uk/reference/epistaxis), accessed on: 11/12/2020, 7 PM.

تأثير الإرشادات التعليمية علي أداء الأمهات تجاه رعاية أطفالهن الذين يعانون من النزيف الأنفي نورا عبد العليم إبراهيم - أمل عبد العزيز عبد السلام - راويه عبدالغني محمد- حنان السيد متولي

يعتبر النزيف الأنفي من أكثر المشاكل شيوعاً بين الأطفال. فكثيراً ما يصاب الأطفال بنزيف من الأنف أثناء اللعب. ويصاحب له بعض الأعراض مثل الدوخة، زغللة بالعين، زيادة معدل النبض والتنفس، قلة التركيز، قلة التحصيل الدراسي وفقد الشهية. لذلك هدفت الدراسة إلي تقييم تأثير الإرشادات التعليمية علي أداء الأمهات تجاه رعاية أطفالهن الذين يعانون من النزيف الأنفي. و أجريت هذه الدراسة في قسم الأنف والأذن والحنجرة والعيادات الخارجية التابعة له بمستشفى بنها الجامعي. وقد تم اخذ عينة غرضية مكونة من ٧٠ أم وأطفالهن الذين يعانون من النزيف الأنفي. وفقاً لمعايير الشمول والاستبعاد وقد تم تقسيم الأمهات إلى ١٢ مجموعة من ٥- ٦ أمهات في كل جلسة مع مراعاة التدابير الاحترازية. وتم تزويد كل أم بنسخة من الإرشادات التعليمية ومشاركة الفيديوهات على هاتفها المحمول أو تلقي نسخة من الفيديوهات على إسطوانة وأيضاً قامت الباحثة بإنشاء مجموعة على (الواتس أب) وإضافة الأمهات للتحفيز والتواصل والتفاعل والدعم والمتابعة. حيث كشفت النتائج ان أقل من ثلاثة أرباع الأمهات لديهن معلومات جيدة حول النزيف الأنفي بعد تطبيق الإرشادات التعليمية مقارنة بالأقلية منهن قبل تطبيق الإرشادات التعليمية. أكثر من ثلاثة أرباع الأمهات أظهرن سلوكيات إيجابية بعد تطبيق الإرشادات التعليمية مقارنة بأقل من الثلث منهن قبل تطبيق الإرشادات التعليمية. الغالبية العظمى من الأمهات كانت ممارساتهن مرضية بعد تطبيق الإرشادات التعليمية مقارنة بأقل من الثلث منهن قبل تطبيق الإرشادات التعليمية. هناك علاقة طردية ذات دلالة إحصائية بين مستوى معلومات، سلوكيات وممارسات الأمهات تجاه رعاية أطفالهن المصابين بالنزيف الأنفي قبل / بعد تطبيق الإرشادات التعليمية. وأوصت الدراسة بأن هناك حاجة لتطوير برامج تدريبية مستمرة حول التعامل مع النزيف الأنفي وتوفيرها للأمهات اللاتي تترددن على مراكز الأنف والأذن والحنجرة.