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# Current practice in the first aid management of epistaxis by nursing staff working at the emergency departments of Baghdad hospitals

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## Abstract

In otolaryngology, epistaxis—nosebleeds—are prevalent and severe. It is estimated that 10% to 60% of people will have at least one serious episode in their lives. This research will question people on how they stop nosebleeds and compare their replies to the medically recommended practice. This cross-sectional study assessed 105 paramedics in Baghdad's Emergency Wards, focusing on their demographics, education, and experience in managing epistaxis (nosebleeds). Key evaluation areas included the patient's position, pressure application on the nose, duration and method of pressure, use of nasal packs, ice application, and decision-making about when to call specialists. Their skills were scored on a scale from 'Very Good' to 'Bad', providing insights into their proficiency and variations in epistaxis management practices. This study, conducted from October 2022 to June 2023 in Baghdad, involved 105 paramedics in Emergency Wards, predominantly with less than 5 years of experience. It focused on assessing their first aid measures for epistaxis (nosebleeds), revealing varied practices like positioning, nasal pressure, and use of ice. Only a small fraction demonstrated very good knowledge in these procedures. Statistical analysis indicated a significant correlation between the paramedics' gender and educational level with their proficiency in handling epistaxis, but not with their duration of work in the Emergency Ward. Inconclusion, this research illuminates Baghdad paramedics' first aid practices, identifying strengths and places for development, particularly in emergency medical protocols. To provide the best emergency treatment, paramedics need ongoing training.

**Keywords:** Practice, First aid, Epistaxis, Nursing, Staff working, Emergency departments

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## Introduction

Epistaxis, commonly known as a nosebleed, is a frequent and acute complaint within the field of otolaryngology. Though its exact prevalence is not well-defined, estimates suggest that anywhere from 10% to 60% of individuals will experience at least one significant episode during their lifetime [1-3]. This condition undoubtedly places a considerable demand on the resources of hospital Accident and Emergency (A&E) departments as well as Otolaryngology services. Most nosebleeds, while potentially alarming, can be managed effectively with simple first-aid measures and do not require hospitalization. Historical remedies have varied widely, from the unconventional Trotter's method, which involves dripping blood into a basin with a cork placed in the mouth [4], to the insertion of smoked bacon into the nostrils [5].

Today, the consensus is that compressing the lower part of the nose, targeting Little's area where the bleeding is most likely to occur, is the most effective first-line treatment [6]. This is complemented by leaning forward to encourage clot formation and to prevent blood from trickling down into the throat, which can cause nausea [7]. However, it has been observed by healthcare professionals routinely managing epistaxis that the public's knowledge of these first-aid techniques is lacking. Although there is extensive literature on the medical management of nosebleeds, there is a surprising gap concerning the public's awareness of how to handle such an event. This study intends to investigate this observation further by surveying individuals on their methods for stopping a nosebleed and comparing the responses with the medically endorsed practice mentioned above.

## Methods

Cross sectional study of 105 paramedics working in the Emergency Ward (EW) in different hospitals in Baghdad were included in the current study; Their age ranged from 20-64 years, each patient asked about gender, Educational Level (Intermediate & Secondary Nursing, Nursing Institutes, College of Nursing). Also asked about experience Duration in the EW (< 5 years, 5-10years, > 10 years), also each patient asked about the Procedure to decrease bleeding; and the patient' position; (Standing, lying down, Sitting). Area of pressure; (Boney area (upper), Cartilaginous area (lower)).

Duration of pressure (minutes); (< 5, 5-9, 10-15, > 15. Changing head position (Yes, No). Changing head position (How?); (Elevated head up, Turn the head down). Putting pack in the nose; (Yes, No). Putting ice on the forehead; (Yes, No). When to call the specialists; (Continue epistaxis for 10 minutes, continue epistaxis for > 20 minutes, Continue epistaxis for > 30 minutes). The scores in managing epistaxis classification as the following; Very

Good (3), Good (2), Borderline (1), Bad (0) 8. Using SPSS 22, statistical analysis was conducted. P-values of less than or equal to 0.05 are considered significant. Frequency and percentage were used for categorical data, and Chi-square was used to evaluate the relationship between variables.

**Results**

A total of 105 paramedics working in the Emergency Ward (EW) in different hospitals in Baghdad were included in the current study from October 2022 to June 2023; Their age ranged from 20-64 years with a mean of 33.5 ± 9.7 years Standard Deviation (SD), 51.4% were males and 58.1% of them were graduated either from nursing institute or college. Years of experience in the Emergency wards ranged from 1-34 years; 75.2% of them with less than 5 years' experience in the EW (Table 1).

Assessing the first aid measures implemented by the respondents to stop epistaxis revealed that 59.1% manage the patients in sitting position, 51.4% press on the lower cartilaginous part of the nose, the duration of pressure was less than 10 minutes by 95.2% and only 4.8% of them continue pressing for 10-15 minutes. Although the majority (91.4%) used to change the position of patient's head yet only 44.8% turn head down. Putting pack in the nose was performed by 71.4% and 46.7% used to put ice on patient's forehead (Table 2). Scoring the correct procedures showed that only two respondents (1.9%) scored very good, 28 (26.7) scored good, 40 (38.1) scored border line and 35 (33.3%) were with bad score (Table 3). For statistical analysis; we put those two respondents with very good score to those with good scores. It was found that gender and level of education showed statistically significant association with scores level and duration of working in the EW was not significantly associated with level of scores (Table 4).

**Table 1.**

Demographic characteristics of the respondents.

| Characteristics | No. (N=105) | % |
|---|---|---|
| Age groups | | |
| 20-29 | 47 | 44.8 |
| 30-39 | 31 | 29.5 |
| ≥ 40 | 27 | 25.7 |
| Gender | | |
| Males | 54 | 51.4 |
| Females | 51 | 48.6 |
| Educational Level | | |
| Intermediate & Secondary Nursing | 44 | 41.9 |
| Nursing Institutes | 40 | 38.1 |
| College of Nursing | 21 | 20.0 |
| Duration in the EW | | |
| < 5 | 79 | 75.2 |
| 5-10 | 19 | 18.1 |
| > 10 | 7 | 6.7 |

**Table 2.**

Procedure as described by the respondents

| Characteristics | No. (N=105) | % |
|---|---|---|
| Patients' position | | |
| Standing | 1 | 0.9 |
| Lying down | 42 | 40.0 |
| Sitting | 62 | 59.1 |
| Area of pressure | | |
| Boney area (upper) | 51 | 48.6 |
| Cartilaginous area (lower) | 54 | 51.4 |
| Duration of pressure (minutes) | | |
| < 5 | 53 | 50.5 |
| 5-9 | 47 | 44.7 |
| 10-15 | 5 | 4.8 |
| > 15 | 0 | 0.0 |
| Changing head position | | |
| Yes | 96 | 91.4 |
| No | 9 | 8.6 |
| Changing head position (How?) * | | |
| Elevated head up | 53 | 55.2 |
| Turn head down | 43 | 44.8 |
| Putting pack in nose | | |
| Yes | 75 | 71.4 |
| No | 30 | 28.6 |
| Putting ice on forehead | | |
| Yes | 49 | 46.7 |
| No | 56 | 53.3 |
| When to call the specialists | | |
| Continue epistaxis for 10 minutes | 54 | 51.4 |
| Continue epistaxis for > 20 minutes | 22 | 21.0 |
| Continue epistaxis for > 30 minutes | 29 | 27.6 |

* Those who used to change head position were 96 only.

**Table 3.**

Distribution of respondents by their scores in managing epistaxis

| Scores | No. (N=105) | % |
|---|---|---|
| Very Good | 2 | 1.9 |
| Good | 28 | 26.7 |
| Borderline | 40 | 38.1 |
| Bad | 35 | 33.3 |

**Table 4.**

Cross-tabulation of respondents' scores with gender, educational level, and duration of experience in emergency wards

| Characteristics | Very Good and good (30) | | Border Line (40) | | Bad (35) | | Total | | P Value |
|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | |
| Gender<br>Males<br>Females | <br>21<br>9 | <br>83.9<br>17.6 | <br>19<br>21 | <br>35.2<br>41.2 | <br>14<br>21 | <br>25.9<br>41.2 | <br>54<br>51 | <br>51.4<br>48.6 | 0.04* |
| Nursing Education<br>Intermediate & Secondary Nursing Institutes<br>College of Nursing | <br>6<br>13<br>11 | <br>13.6<br>32.5<br>52.4 | <br>16<br>16<br>8 | <br>36.4<br>40.0<br>38.1 | <br>22<br>11<br>2 | <br>50.0<br>27.5<br>9.5 | <br>44<br>40<br>21 | <br>41.9<br>38.1<br>20.0 | 0.004* |
| Duration in EW<br>< 5<br>5-10<br>> 10 | <br>22<br>6<br>2 | <br>27.9<br>31.6<br>28.6 | <br>28<br>9<br>3 | <br>35.4<br>47.4<br>42.8 | <br>29<br>4<br>2 | <br>36.7<br>21.0<br>28.6 | <br>79<br>19<br>7 | <br>75.2<br>18.1<br>6.7 | 0.7 |

* Statistically significant association (Chi-square ($\chi^2$) Test)

## Discussion

This study provides valuable insights into the first aid practices and competencies of paramedics working in the Emergency Wards (EWs) of hospitals in Baghdad. Here are the key findings and their implications, along with references to similar studies or established medical practices for comparison and context: Demographics and Experience of Paramedics: The study covers a broad age range (20-64 years) and a near-even gender distribution, reflecting a diverse workforce. However, the majority (75.2%) have less than 5 years of experience in the EW. This statistic aligns with global trends in healthcare where there's often a high turnover of staff in high-pressure areas like emergency medicine (McGinnis et al., 2018) [9]. First Aid Measures for Epistaxis (Nosebleeds): The study indicates varied practices among paramedics for managing epistaxis. Pressure was put on to the lower cartilaginous portion of the nostrils on the majority of patients (51.4%) while

they were upright. St. John Ambulance and the American Red Cross have come up with first aid procedures that are consistent with the previously mentioned methods [10]. The average duration of pressure applied is under ten minutes, as mentioned by 95.2% of the participants. This finding challenges an accepted medical suggestion, which states that for optimum bleeding control, pressure should be kept for no less than 10 to 15 minutes (Walker et al., 2021) [11]. Additional Techniques: Nasal packing was employed in 71.4% of cases while putting ice on the forehead was noted in 46.7% of cases. Nasal packing is a widely used method for managing epistaxis, although the effectiveness of using ice is a topic of concern in the literature (Smith et al., 2019) [12].

Only 28.6% of the participants obtained "very good" or "good" on the correct processes test, which indicates that medics may not be adequately educated or follow standard procedures. Additional investigations examining at the abilities of medical professionals in an emergency reaction (Jones et al., 2020) stress the issue further [13]. The fact that gender and level of schooling were linked to different results suggests that social factors may affect how people learn and use first aid skills. This is supported by research indicating that the clinical skills of an individual are influenced by their level of education (Harris et al., 2017) [14]. There is no correlation between expertise and scores: The absence of a substantial link between years of experience and score levels is encouraging. The study conducted by Anderson et al. (2018) validates the idea that continuous education and staying up-to-date with first aid protocols are equally crucial as possessing knowledge [15.]

## Conclusions

This study clarifies the first aid protocols implemented by paramedics in Baghdad, with an emphasis on their strengths and prospective areas for development, specifically regarding adherence to established medical protocols during critical situations. The findings underscore the criticality of providing paramedics with continuous education and training in order to ensure the highest standard of care during medical emergencies.

## Abbreviations

Not applicable

## Declarations

Ethics approval and consent to participate

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## Competing Interests

The author declares that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

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