

KNOWLEDGE AND PRACTICE OF FIRST AID
MANAGEMENT OF EPISTAXIS AMONG PARENTS OF
UNDER-AGE CHILDREN IN HOSPITAL USM.

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KNOWLEDGE AND PRACTICE OF FIRST AID
MANAGEMENT OF EPISTAXIS AMONG PARENTS OF
UNDER-AGE CHILDREN IN HOSPITAL USM.

by

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Dissertation submitted in partial fulfilment of
the requirements for the
degree of
Bachelor in nursing with Honours

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CERTIFICATE

This is to certify that the dissertation entitled “Knowledge and Practice of First Aid Management of Epistaxis among Parents of under-age Children in Hospital USM” is the bona fide record of research work done by Ms. “Adibah Binti Adnan” during the period from November 2023 to August 2024 under my supervision. I have read this dissertation, and I believe it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfillment for the degree of Bachelor of Nursing (Honors).

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DECLARATION

I hereby declare that this dissertation is the result of my investigation, except where otherwise stated and duly acknowledged, I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at University Sains Malaysia or another institution, I grant University Sains Malaysia the right to use the dissertation for teaching, research, and promotional purposes.



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LIST OF ABBREVIATIONS

USM	Universiti Sains Malaysia
SD	Standard Deviation
df	Degrees of freedoms

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PENGETAHUAN DAN AMALAN PENGURUSAN PERTOLONGAN CEMAS EPISTAXIS DALAM KALANGAN IBU BAPA YANG MEMPUNYAI ANAK BAWAH UMUR DI HOSPITAL USM.

ABSTRAK

Epistaksis, yang lebih dikenali sebagai pendarahan hidung, adalah pendarahan dari saluran darah di hidung. Ia adalah keadaan perubatan yang sering berlaku dan boleh berkisar dari gangguan kecil hingga kecemasan perubatan yang serius. Kajian ini bertujuan untuk menilai tahap pengetahuan dan amalan pertolongan cemas terhadap epistaksis dalam kalangan ibu bapa anak di Hospital USM. Kajian rentas sekerat telah dijalankan di kalangan ibu bapa yang mempunyai anak di bawah umur. Data dikumpulkan menggunakan soal selidik dalam talian yang diisi sendiri. Sebanyak 138 ibu bapa yang menghadiri Hospital USM dan memenuhi kriteria kemasukan kajian ini telah dipilih melalui kaedah pensampelan kemudahan, dan data yang dikumpulkan adalah versi 27. Kajian ini menggunakan statistik deskriptif dan Ujian Chi-Square Pearson. Keputusan menunjukkan bahawa peserta mempunyai tahap pengetahuan yang tinggi tentang epistaksis iaitu 83(60.1%) dan mempunyai tahap amalan yang sederhana dalam pengurusan pertolongan cemas epistaksis iaitu 68(49.3%). Terdapat hubungan yang signifikan antara demografi terpilih dan pengetahuan keseluruhan mengenai epistaksis berdasarkan jantina dengan nilai P ialah 0.008. Sementara itu, tiada hubungan antara faktor demografi terpilih dan amalan keseluruhan dalam pengurusan pertolongan cemas epistaksis. Akibatnya, hanya 18(21.7%) mempunyai tahap pengetahuan yang tinggi dan amalan yang baik dalam pengurusan pertolongan cemas epistaksis. Kesimpulannya, penilaian terhadap tahap pengetahuan dan amalan pertolongan cemas dalam pengurusan epistaksis di kalangan ibu bapa anak di bawah umur perlu dipertingkatkan dan diperbaiki supaya mereka lebih berpengetahuan.

KNOWLEDGE AND PRACTICE OF FIRST AID MANAGEMENT OF EPISTAXIS AMONG PARENTS OF UNDER-AGE CHILDREN IN HOSPITAL USM.

ABSTRACT

Epistaxis, commonly known as a nosebleed, is bleeding from the blood vessels in the nose. It is a frequent medical condition that can range from a minor annoyance to a serious medical emergency. The study aims to assess the level of knowledge and practice of first aid management of epistaxis among parents of underage children in Hospital USM. A cross-sectional study was conducted among parents who have underage children. Data was collected using an online self-administered questionnaire. 138 parents attending the Hospital USM and fulfilled the inclusion criteria of this study. They were selected through a convenient sampling method, and the data collected were version 27. The study used descriptive statistics and Pearson Chi-Square. The results show that participants have a high level of knowledge about epistaxis 83(60.1%) and have an average level of practice in first aid management of epistaxis 68(49.3%). There is a significant association between selected demographics and total knowledge of epistaxis regarding gender where the P-value is 0.008. Meanwhile, there is no association between selected demographic factors and total practice of first aid management of epistaxis. As a result, only 18(21.7%) have a high level of knowledge and good practice in first aid management of epistaxis. In conclusion, the assessment of the level of knowledge and practice of first aid management of epistaxis among parents of underage children should be enhanced and improved so that they are more knowledgeable.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Epistaxis, as well as nostril bleeding, remains one of the most common ear, nose, throat (ENT) emergencies treated in accident and emergency (A&E) departments worldwide. Epistaxis is a condition due to a rupture of blood vessels inside the nasal mucosa (Tabassom A, Cho JJ, 2020). It can happen spontaneously or as a result of trauma and frequent word sickness that affects 60% of the general public (Maeed Alshehri et al., 2023). Meanwhile, it is not usually alarming and may require medical attention. In some cases, epistaxis is more frequent in children and adolescents, but it is highly uncommon among infants (Maeed Alshehri et al., 2023)

Epistaxis can be divided into two categories: anterior and posterior bleeds. The nose is a complex organ with various structures that allow humans to breathe the air. The anatomy of the nose is divided into two parts: external structures. The nose is richly supplied with blood vessels, with substantial contributions from the internal carotid artery (ICA) and superficial carotid artery (ECA). (Abu-Zaid et al., 2020)

The ECA system supplies blood to the nose via the facial and internal maxillary arteries, while the ICA system contributes to nasal vascularity through the ophthalmic artery. Epistaxis is a prevalent condition, with lifetime incidence rates estimated to be around 60%. It can affect individuals of all ages, but it is more common in children aged 2-10 and adults aged 50-80. Some evidence suggests epistaxis is more common during winter when dry air

and indoor heating systems are in use. Dry air can dry out the nasal membranes, making them more susceptible to bleeding. (Alyahya et al., 2019)

Epistaxis can occur at any age, but it is more common in the young and the elderly. In child epistaxis are often due to minor trauma. In older people, they can result from the blood vessels in the nose. There is not a significant gender difference in the occurrence of epistaxis. Certain medical conditions and medications can increase the risk of nos. These include hypertension, bleeding disorders, nasal allergies, and the use of blood-thinning drugs like aspirin or war epistaxis can be caused by trauma to the nose, such as picking the nose, inserting foreign objects, or facial injuries. (Maeed Alshehri et al., 2023)

Some studies suggest that there might be ethnic and geographic variations in the prevalence of epistaxis, although the data is inconsistent. Most cases of epistaxis can be managed at home. Pinching the nostrils together and leaning forward can often stop the bleeding. Applying a cold compress to the nose and avoiding nose-picking can help prevent recurrent episodes. If home remedies are not effective, medical intervention may be necessary. This can range from applying topical medications to the nose to cauterisation (sealing blood vessels) or nasal packing in more severe cases. (Maeed Alshehri et al., 2023)

It is important to note that while most cases of epistaxis are minor and self-limiting, a healthcare professional should evaluate persistent or recurrent epistaxis to rule out underlying medical conditions or structural abnormalities in the nasal passages.

1.2 Problem Statement

Epistaxis is generally not considered a dangerous condition, but it can be a cause for concern, mainly if the bleeding is severe or recurrent. In some cases, epistaxis can lead to

significant blood loss, which can cause anaemia and other complications. Additionally, if the bleeding is not controlled, it can lead to the aspiration of blood into the lungs, which can cause respiratory problems. In rare cases, epistaxis can be a symptom of an underlying medical condition, such as a bleeding disorder or a tumour, which may require further evaluation and treatment. (Maeed Alshehri et al., 2023)

From the previous study (Mahzara et al., 2023), a cross-sectional study was conducted among 622 participants, predominantly females, Saudis, and individuals aged 19 to 25 years, and found that 60% of the participants had experienced epistaxis. However, only 52% had received prior first aid training. Although the majority (91.8%) accurately defined epistaxis, a mere 40.8% correctly identified all the steps for first aid management of epistaxis. There needed to be more insufficiency in understanding the cause, the risk factor, and the appropriate first aid steps. Participants' knowledge was even split, with approximately half exhibiting low knowledge (49.7%) and the remainder showing high knowledge (50.3%). (Mahzara et al., 2023)

In the United States, at least 60% of people experience an epistaxis at some point, and around 6% seek medical help. Therefore, there needs to be knowledge on proper first aid management of epistaxis, which often can be effectively treated without a doctor. Studies from the United Kingdom have shown insufficient awareness of first aid management among the public and health professionals (Ahn & Min, 2023). Research has also found that educating parents on techniques can significantly improve quality-of-life concerns related to epistaxis.

Parents, carers, and healthcare professionals need to assess their knowledge and practice of epistaxis, as it can aid in diagnosing the disorder, understanding its causes, and

administering the proper care. Understanding the symptoms and signs of epistaxis, as well as its typical reasons, which include dust, dry climates, and nose picking, is crucial to understanding how to treat epistaxis when to seek medical assistance and how to administer first aid techniques like pressing on the nose and tilting the head forward. Epistaxis can also be decreased by being aware of preventive actions, such as refraining from picking one's nose and maintaining moisture in the nasal passages.

Knowledge and practice of first aid management of epistaxis are essential for individuals to provide appropriate care and prevent complications. First aid measures for epistaxis include sitting upright, pinching the nostrils together, and applying ice to the nose. These measures can help reduce blood flow and promote clotting.

Individuals need to be trained in the first aid management of epistaxis, particularly parents of young children who may be more prone to this condition. Our study found that educational guidelines can improve mothers' knowledge, attitude, and practice regarding caring for children with epistaxis, leading to aid management and improved outcomes for children with this condition. Therefore, educating individuals on the proper first aid management of epistaxis is essential to ensure they can provide appropriate care and prevent complications.

The previous studies conducted in Saudi Arabia have medical students with sufficient knowledge to apply first aid for epistaxis. Studies in Riya studies in Riyadh and Jeddah have found that school teachers and students are reasonably out of the arrangement. However, there is a noticeable knowledge gap among parents of under-age children, especially when attending Hospital USM.

However, there still needs to be a published study regarding knowledge and practice of first aid management of epistaxis among parents of underage in Hospital USM. This highlights the need to assess knowledge and practice among parents of underage to improve the outcome for children with this condition. Thus, this research study aims to determine the knowledge and practice level and the association between the selected demographic data (age, gender, occupation and level of education) with the level of knowledge of first aid management of epistaxis among parents of under-children Hospital USM.

1.3 Research Questions

1. What is the level of knowledge towards the first aid management of epistaxis among parents of under-age children in Hospital USM?
2. What is the level of practice toward the first aid management of the epistaxis among parents of under-age children in Hospital USM?
3. Is there any association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total knowledge of first aid management of epistaxis among parents of underage children in Hospital USM?
4. Is there any association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total practice of first aid management of epistaxis among parents of underage children in Hospital USM?

1.4 Research Objectives

1.4.1 General Objective

To identify the level of knowledge and practice of the first aid management of epistaxis and factors associated with total knowledge and total practice among parents of under-age children in Hospital USM.

1.4.2 Specific Objectives

1. To determine the level of knowledge towards the first aid management of the epistaxis among parents of under-age children in Hospital USM.
2. To determine the level of practice toward the first aid management of the epistaxis among parents of under-age children in Hospital USM.
3. To identify the association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total knowledge of first aid management of epistaxis among parents of underage children in Hospital USM.
4. To identify the association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total practice of first aid management of epistaxis among parents of underage children in Hospital USM.

1.5 Research Hypothesis

Hypothesis 1

: There is no association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total knowledge of first aid management of epistaxis among parents of underage children in Hospital USM. (**Ho**)

: There is an association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total knowledge of first aid management of epistaxis among parents of underage children in Hospital USM. (**H_A**)

Hypothesis 2:

: There is no association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total practice of first aid management of epistaxis among parents of underage children in Hospital USM. (**H₀**)

: There is an association between sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total practice of first aid management of epistaxis among parents of underage children in Hospital USM. (**H_A**)

1.6 Significance of the Study

The research studies and guidelines on first aid management of epistaxis help raise awareness among parents about the correct procedures to follow during epistaxis episodes. Proper knowledge empowers individuals to respond effectively when they or someone else experiences epistaxis, potentially reducing panic and preventing unnecessary visits to healthcare facilities. Understanding and implementing appropriate first aid measures can prevent complications associated with epistaxis. For example, leaning forward instead of backward during an epistaxis can prevent blood from flowing down the throat, reducing the risk of nausea and aspiration.

Moreover, the first aid techniques encourage timely intervention. When applied with practice, first aid can help control bleeding promptly, prevent excessive blood loss, and reduce the need for medical interventions. The parents are aware of and capable of applying correct first aid techniques for epistaxis, which helps healthcare facilities. Emergency rooms and clinics can focus on more critical cases, efficiently allocating medical resources.

Basic first aid knowledge, including managing epistaxis, enhances community resilience during emergencies. In situations where immediate medical help might not be readily available, individuals trained in first aid can provide essential assistance. Knowing how to manage an epistaxis empowers individuals to independently care for minor health issues. This self-reliance fosters a sense of confidence and independence in managing everyday medical situations, promoting overall well-being.

When the general public is well-informed about epistaxis first aid management, it improves public health outcomes. Prompt and appropriate first aid can prevent complications and, in some cases, avoid the need for medical treatment altogether, leading to better health outcomes at the community level.

In summary, studies and educational initiatives focusing on the first aid management of epistaxis are crucial for the general public. They promote awareness, empower individuals, reduce healthcare burdens, enhance community resilience, and ultimately contribute to improved public health and well-being.

1.7 Conceptual and Operation Definitions

	Conceptual definition	Operation definition
Epistaxis	Epistaxis is active bleeding from the nose, and it is a commonly occurring phenomenon (Vieh et al.son, 2006).	In this study, refers to first aid management of epistaxis among parents of under-age children.
First aid management	First aid is the initial assistance or treatment given to a casualty for any injury or sudden illness before an ambulance, doctor, or other qualified person arrives.(Alyahya et al., 2019).	In this study, refers to first aid management among parents of under-age children.
Knowledge	Knowledge is the information gained through experience or education. In this study, knowledge is the level of understanding verbalised by the adults about the first aid management of selected accidental emergencies, measured by a structured interview schedule and its	In this study, refers to knowledge of epistaxis among parents of underage children.

	scores. (S Al-Johani et al., 2018).	
Practice	Practice is action of doing something regularly or repeatedly to become skilled at it. (Cambridge Dictionary, 2023)	In this study, refers to the practice of first aid management of epistaxis among parents of underage children.
Underage	In Malaysia, the term "underage children" generally refers to individuals who are below the age of 18. This is in line with the Malaysian legal definition where a minor or child is someone who has not yet reached the age of 18. This age threshold is significant in various legal contexts, including family law, child protection laws, and regulations concerning the welfare and rights of children. (Child Act 2001)	In this study, underage refers to children who are under the legal age of majority.

<p>Child</p>	<p>Children are young people below the age of puberty or the legal age of majority. (Oxford English Dictionary, 2023)</p>	<p>In this study, children refer to those below the age of majority who receive the first aid management by their parents.</p>
<p>Parents</p>	<p>A mother or father of a person who looks after a person in the same way that a parent does. (Cambridge Dictionary, 2023)</p>	<p>This study, refers to assessment for knowledge, and practice of first aid management for their underage children in Hospital USM.</p>

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This literature review is to summarize research that has been on the subject. This research focused on knowledge and practice of first aid epistaxis in children among parents attending Hospital USM,

2.2 Review of Literature

2.2.1 Epistaxis

Epistaxis is one of the most common ear, nose, and throat conditions encountered by primary care and emergency physicians, and it is one of the otorhinolaryngological emergencies (Krulowitz & Fix, 2019; Abu-Zaid et al., 2020; Abraham et al., 2017). Epistaxis can be considered severe bleeding located in an area of the nose, nasal cavity, or nasopharynx. The cause of epistaxis or nose bleeding is a rupture in a blood vessel (Bamimore, 2021).

The causes of the rupture maybe two, either systemic or local. The systemic causes could include high arterial blood pressure, coagulopathy, vascular disorders, mainly hereditary hemorrhagic telangiectasia (HHT), and blood dyscrasias as hematologic malignancies. However, the cause of the local infection could include infection in the upper airway, nasal allergic rhinitis, nasal foreign bodies, vigorous nose blowing, and a deviated or perforated nasal septum (Faistauer et al., 2009). Furthermore, environmental factors such as dry climate, dust, inflammation, and sensitivity cases, but in many cases, it is idiopathic (Constantini, 2021).

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

In the United States, epistaxis is the most frequent medical condition, affecting 60% of its population. The incidence of epistaxis was reported from 10% to 60% of individuals (Peterson B and Rubin R et al., 1975). 6% of individuals were admitted to medical treatment to control bleeding. In comparison, 60% of at least one episode of epistaxis. Epistaxis is believed to affect 60% of children and 50% of all adults have been presented with epistaxis during childhood (Fishman et al., 2018)

Throughout their lifetime, epistaxis is prone to males compared to females in experiencing epistaxis (Sarhan et al. et al., 2015). Epistaxis commonly occurs in children aged between 3-20 years, whereas it is rare among neonates under two years and is frequently irregular in adulthood.

2.2.2 Concept of First aid

First aid can be defined as helping behaviour and initial for acute illness or injury. First aid providers' objectives include life preservation and alleviation of suffering. The prevention of future disease or injury and promotion of healing,

First aid is the beginning of the care and treatment that someone gives to a child who is injured or suddenly becomes sick. First aid aims to keep the child's condition from getting worse. The quicker response and appropriate first aid approach in childhood emergencies can

save and improve the child's chances of a good outcome. This can be relied on by parents or carers to train proper first aid skills.

2.2.3 Knowledge of Epistaxis

Epistaxis has been causing a significant workload in accident and emergency departments, and 66.7% of the population experiences epistaxis during their lifetime (Alhejaily et al., 2019; Almuhlim et al., 2017). There are variable causes of epistaxis, which can be local or systemic, and the reported incidence varies from 10% to 60% of individuals (Faistauer et al., 2009). It is more common in males than females and shows an increasing incidence with age (Alhejaily et al., 2019; Almuhlim et al., 2017). The diagnosis of idiopathic epistaxis requires a careful history, physical examination, and laboratory workups to rule out any possible aetiologies (Abraham et al., 2017; Varshney & Saxena, 2005). Though epistaxis is common among young adults and children and rare among neonates, it peaks in the sixth decade (Varshney & Saxena, 2005). Awareness of first aid management of epistaxis

A study showed that 71% of the respondents acknowledge the correct position: holding the head forward rather than backward. In contrast, the results of the previous research by Albouq mentioned the proper position where a patient with epistaxis could be placed. Another study conducted by Mugwe found that 60% of it remains crucial not only in alleviating non-life-threatening episodes of epistaxis but also in lifesaving when epistaxis occurs in the absence of nearby healthcare facilities, where efforts may be directed at preventing the worsening of epistaxis, thus reducing mortality and morbidity (Sowerby et al., 2021).

A cross-sectional study showed that 64% of the respondents thought that epistaxis is an emergency case, and 39.7% responded that fingernail trauma is the commonest cause of

epistaxis. While the cause of the bleeding disorder was recorded at about 17.3%, it is caused by hypertension 14.3% and nasal fracture 5.3%, which I do not know). Meanwhile, the knowledge of seeking medical care during the onset of epistaxis and the percentage of nose bleeds cannot be stopped afterwards. Percentage of studies: The study done by Strachan found that only 36% know the correct position to prevent epistaxis from worsening most. The typical common cause is the right size for pinching the nose as a primary first aid to stop nose bleeding. Only 41.3% of the respondents know the correct size, that is, opinion of the correct size for pinching the nose as a primary first aid to stop nose bleeding; only 41.3% of the respondents know that is pinching the cartilaginous part of the nose. Meanwhile, 42.3% of the respondents chose the incorrect site.

According to the general understanding of epistaxis, most respondents (91.8%) correctly identified that epistaxis refers to bleeding from the nose. When asked about the source of epistaxis, 57.6% rightly pointed out that it originates from the inner part of the nose. In a study about the primary cause of epistaxis, about 42.3% correctly identified trauma and injury as significant factors. The risk factors for epistaxis in apparent tension, which was soon recognised by 46.1% of respondents, and local injury to the nasal blood vessels by 19.9%. Only a few respondents identified anticoagulant medication (1.1%) and prolonged use of non-steroidal anti-inflammatory drugs or steroid nasal sprays (0.3%) as risk factors—knowledge of First aid Management of Epistaxis.

Knowledge about first aid management and other conditions related to methods of prevention of any emergencies is essential to increase public responsibility and strengthen their role in society (Ganfure et al., 2018). Regarding the source of knowledge about first aid management of epistaxis, 53.67% of the respondents were self-taught. In comparison, the

study conducted by Albouq showed that 38.3% of the respondents' medical curriculum was the primary source of their knowledge.

Shows the study participants' knowledge levels of first aid for epistaxis. The results indicate that 49.70% of participants had low knowledge of first aid for epistaxis, while 50.30% demonstrated a high ability for epistaxis. Knowledge levels were split relatively evenly between the low and high knowledge groups.

2.2.5 Practice of First aid Management.

Regarding the source of knowledge about first aid management of epistaxis, a study from Saudi Arabia found that 53.6% of the medical students reported self-teaching as the primary source of information on first aid management of epistaxis (Alyahya et al., 2019). When the attitude of medical students is to be considered about first aid management of epistaxis, a study from Saudi Arabia found 75.3% of the medical students to have reported that if epistaxis cannot be stopped after 10-20 minutes upon direct nasal compression, then it requires seeking of emergency medical care (Alyahya et al., 2019).

Only 40.8% of respondents correctly selected all the steps for first aid management of epistaxis: sitting and leaning the head, pinching the nose, and applying ice. Regarding nose pinching, 37.8% correctly stated that the cartilage part of the nose should be pinched to stop the bleeding. Breathing should be maintained through the mouth to avoid swallowing blood during nose pinching; 42.4% of respondents recognised. When asked about using cooling or icing to manage epistaxis, 60.8% believed it could help reduce blood flow from the nose, and 27.0% thought icing the neck region could benefit. The correct areas to apply ice - the nose and back of the neck - were identified by 44.1% of the respondents.

2.2.6. Association Between Selected Sociodemographic Factors and Total Knowledge and Total Practice.

Regarding various practices on first aid management of epistaxis, a study from Nepal found nasal packing to be the first line measure used by emergency clinical staff (Adhikari et al., 2006). In Saudi Arabia, 34.3% of medical students chose nose compression. In comparison, 33.8% chose nasal packing as the first line measure in the management of epistaxis (Al-Musa et al., 2017), and both were non-surgical measures. Even though several published studies on epistaxis have yet to determine medical students' awareness of first aid management of epistaxis, even students were front liners in the direct epistaxis upon graduating. This is to explore medical students' understanding of first aid management of epistaxis at the State University of Zanzibar, the largest significant city in Zanzibar. (Almutairi et al., 2023)

Significant associations were observed between first aid training status and factors such as female gender, youth, single level, and prior epistaxis knowledge. Females, often the primary caregivers in domestic settings, might be motivated to acquire first aid skills through training. Younger, unmarried adults likely have more free time and willingness to attend such programs. Prior experience or knowledge about epistaxis would logically spark interest in further self-education through first-aid courses (Maeed Alshehri et al., 2023)

Based on the previous studies, the younger age groups (19-25 years) were more likely to have received training than the older age groups—more females (56.0%) receiving than males (46.1%). Single individuals (59.2%) were more likely to receive than married duals

(40.4%). Employed individuals were less likely to have received training (43.4%) than retirees and those in other occupations.

Those with prior experience with epistaxis were more likely to have received training (54.3%) than those without previous experience (48.0%). Individuals with high total knowledge about epistaxis were more likely to have received training (60.7%) than those with low knowledge (43.0%). No statistically significant associations were found between receiving training and nationality ($p=0.323$), residency ($p=0.074$), or level of education ($p=0.177$)

2.3 Theoretical Framework.

The Health Belief Model (HBM) was used in this study as the theoretical framework that established theoretical models was designed to understand the disease from health behaviour better. Based on this framework, it proposes that people respond the best of health promotion or disease prevention when the following conditions exist: HBM composed of components: perceived severity, perceived benefits, perceived barriers, cue to action and self-efficacy. Perceived susceptibility is the belief of an individual about the probability of getting; perceived diversity is the individual judgment of the seriousness of health conditions, perceived benefit is the confidence in positive outcome of health behaviour, perceived opinion about the idea hindrance of the health action, cue of action is readiness to take action after perceived susceptibility and benefit a self-efficacy is the self- motivation the individual to execute the health behaviour to produce the positive outcome, the demographic variables such as age, gender, level of education and occupation may indirectly influence the behaviour (Conner & Norman, 2015) Figure1 summarises the elements of the model.

The Health Belief Model

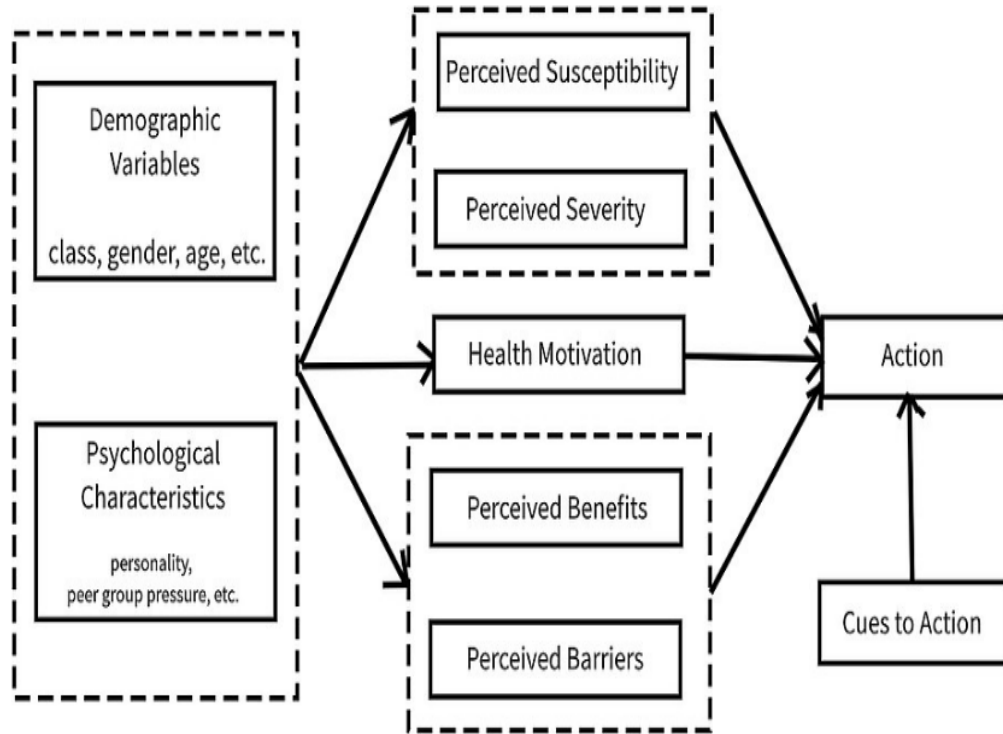


Figure 2. 1 The Health Belief Model. source: Glanz., k., Rimer, B.K. & Lewis, F.M (2020).

2.4 Conceptual framework

The conceptual framework of this study was adapted from a health belief model developed by a group of social psychologists at the United States Public Health Service in the early 1950s. Based on the figure below, perceived susceptibility refers to an individual feeling vulnerable towards the cause and risk of epistaxis. Individuals' willingness to alter their perspective to avoid consequences is inversely related to how severe they believe the results will be. For example, most parents are not exposed to the correct way to give first aid to their children if epistaxis happens. By knowing the consequences of the risk of epistaxis, parents become more alert about how to provide first aid.

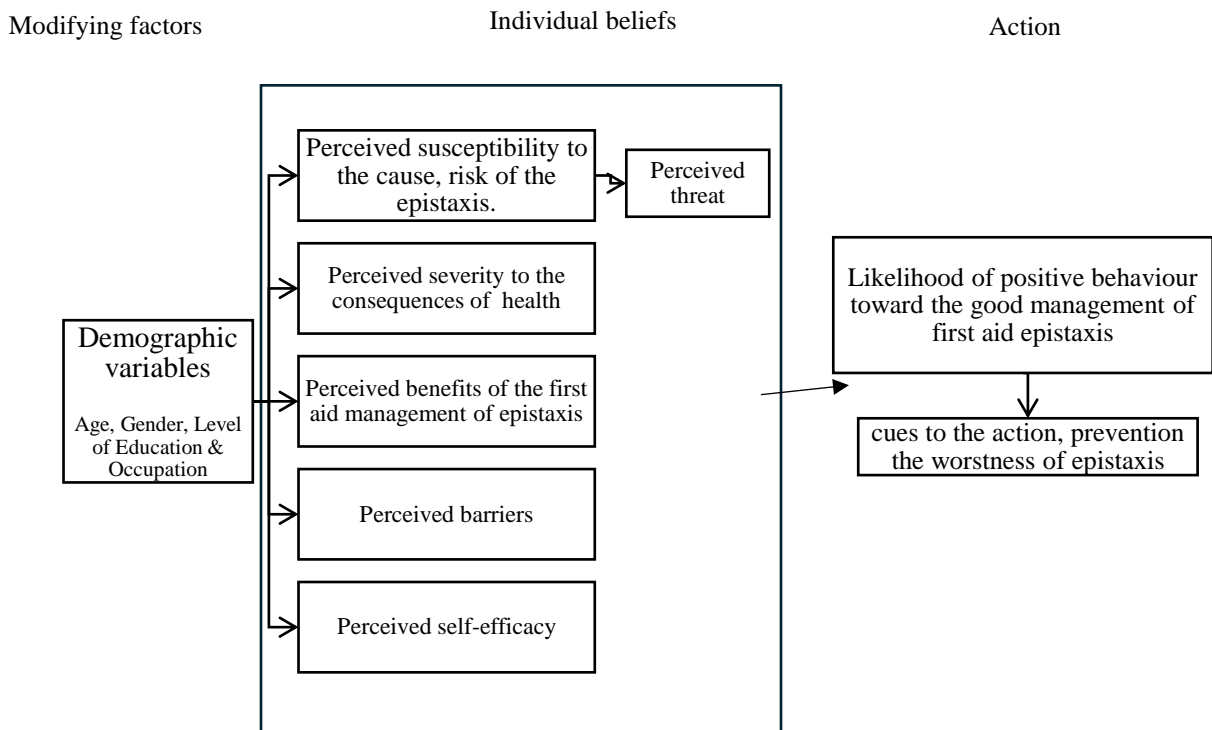


Figure 2. 2 The adopted theory of the Health Belief Model (HBM).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, a detailed explanation of the research design which is a cross-sectional design and justification for choosing this approach is described. A description of the study regarding population, and setting, sampling plan, participant selection criteria, sample size determination, instrumentation, variables and data collection plan is written. The final section explained the method for data, ethical consideration and expected research outcome.

3.2 Research Design

The study used a cross-sectional study design. Cross-sectional design is a descriptive study, data are collected on the whole population at a single point in time to examine variables of interest (Saleh, 2018). This allows the researcher to measure the outcome and exposure of the respondents simultaneously based on the researcher's objective. This study aims to determine the knowledge and practice of first aid management of epistaxis among parents of underage children and the association between demographic characteristics with the practice of first aid management of epistaxis among parents of underage children in Hospital USM.

3.3 Research Location

This study was conducted in all areas of the Hospital USM (Hospital USM), the participants included the outpatient pharmacy, outpatient clinic, café around Hospital USM (Gloria Jeans, Kopitiam, Koperasi Hospital USM (Ko-op), Red Square and Café Harmony)

3.4 Research Duration

The duration of the data collection was from October 2023 until August 2024.

3.5 Research Population

This study was conducted among parents of underage children in Hospital USM within the data collection period that fulfils the inclusion and exclusion criteria.

3.6 Subject Criteria

Inclusion Criteria	Exclusion criteria
1. Age 19 years old and above	1. Cognitive impairment, for example, traumatic brain injury.
2. Parents have children underage at least one child.	2. All clinical staff working in the department ENT.
3. Able to understand and respond in Malay or English.	3. Parents are not able to answer the Google forms.

3.7 Sampling Plan

3.7.1 Sample Size Estimation

The sample size was calculated for objectives 1, 2, and 3. The reasonable sample size is taken as the study sample size.

Objectives 1 and 2 used a single proportion formula, and the population proportion was taken based on a previous study conducted by (Abu-Zaid et al., 2020)

Where,

n = Sample size

p = Anticipated population proportion

z = Value of standard normal distribution = 1.96

Δ = Precision = 0.05

Meanwhile, two proportions calculate the sample's third objective. Population proportion is taken based on a previous study conducted by (Mahzara et al., 2023)

n = required sample size

z = value of the standard normal distribution curve cutting off probability Alpha (α) in one tail for one-sided alternative or in each tail for a two-sided alternative ($z_{0.05}=1.96$)

z = Power of study, 80% ($z = 0.84$)

p = estimated proportion of an attribute that is present in the population.

Table 3. 1: Calculation for sample size

Research objective	Type of formula	Estimation proportion	N	Drop out 10 %
1. To determine the level of knowledge towards the first aid management of the epistaxis among parents of under-age children in Hospital USM.	Single proportion	P = 0.026 Refer to the high knowledge regarding first aid management epistaxis. (Abu-Zaid et al., 2020)	39	44
2. To determine the level of practice toward the first aid management of the epistaxis among parents of under-age children in Hospital USM.	Single proportion	P = 0.087 Refer to the management of first aid epistaxis	123	137
3. To examine the association between hearing, seeing, or experiencing epistaxis with sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total knowledge of first aid management of epistaxis among parents of under-age children in Hospital USM	Two proportion	P1 = 60 % P2= 33% This refers to P1=high hearing, seeing, / experiencing epistaxis P2=low hearing, seeing, / experiencing epistaxis.(Mahzara et al., 2023)	106	118

<p>4. To examine the association between receiving first aid training or awareness programs for epistaxis and sociodemographic factors (age, gender, race, marital status, residency place, and level of education) and total practice</p>	<p>Two proportion</p>	<p>P1 = 36 % P2= 74% This refers to receiving first aid training or awareness. Which consists of p1= receive first aid training & awareness P2= no receive first aid raining & awareness.(Mahzara et al., 2023)</p>	<p>52</p>	<p>58</p>
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In conclusion, based on the calculation above, the minimum sample size required to complete analyses of all objectives was 123 respondents, with a 10% dropout rate, the total number of participants needed to be recruited was 137.

3.7.2 Sampling Method

This study used a convenience sampling method for data collection. Convenience sampling was a non-probability sampling method. Non-probability sampling is a chosen sample instead of randomly selecting it, so not all the population members have an equal chance of participating in this study. (Galloway, 2005). Convenience samples are collected from easily accessible and available groups of people. This method was chosen because it best meets the needs of the study as a respondent is best to represent the population of the study. The researcher only approached the potential participants who visited Hospital USM which was