



Shendi University

Faculty of Graduate Studies and Scientific Research



Research ON

**Assessment of nurses' knowledge regarding
application of nursing triage in Omdurman military
hospital on {March to September 2017}**

Thesis submitted for fulfillment of MSC degree in critical and
emergency care nursing

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2017

Dedication

To my mother who give me love

To my lovely sisters & brothers

*To my all family members & teachers to support
me to all who love me?*

Acknowledgement

It is my great pleasure to have the chance in order to say thank you to my university especially my supervisor Dr. Mariam Mohamed Alnageeb .

Also wish to thank the hospital management that give me permission to conduct this research and to all nurses working in the emergency department for their priced time to fill my questionnaire.

Abstract

Introduction: The emergency department is one of the key and essential departments in a hospital. Triage is the first point of clinical contact for all people presenting to the Emergency Department and the point at which care begins. Triage is a brief clinical assessment that determines the clinical urgency of the patient's presenting problem who has a need for immediate interventions. The assurance of the best possible care in emergency situations depends on the implementation of a rapid triage system .

Objectives: The study was carry out to assess of nurses knowledge regarding quality of nursing triage.

Methodology: is a descriptive cross- sectional, Hospital based- study design. A sample of 50 nurses was selected from the emergency department in Omdurman military hospital by using the method of probability sampling. Data was collected by face to face interview questionnaire. The data was analyzed by SPSS version 16 and was represented in the form of simple frequency table.

Results: About the definition of triage, it was found that 42% they had good knowledge. Knowledge of participant regarding Level of triage, the result shown that 62% had good knowledge. Knowledge of participant regarding initiate appropriate triage assessment you need to assess, the result shown that majority of respondents 80% had good knowledge. When asking regarding training course the result found that most of participants 60% lecture. Finally overall participants' knowledge about assessment of quality nursing triage the result found that majority of the participants 44% had good knowledge .Then knowledge of participants regarding Factor can effect on triage, the result shown that most 58% of them had good knowledge.

Conclusion: Based on the findings of this study concluded that nurses have good knowledge about the level of triage and appropriate assessment of triage. Nurses have poor knowledge about definition of triage .

مستخلص البحث:

مقدمة: قسم الطوارئ هي واحدة من الإدارات المهمة والأساسية في المستشفى. الفرز هو النقطة الأولى

للاتصال السريري لجميع الأشخاص الذين يقدمون إلى قسم الطوارئ والنقطة التي تبدأ الرعاية. الفرز هو تقييم سريري موجز يحدد الإلحاح السريري لمشكلة عرض المريض الذي يحتاج إلى تدخلات فورية. ويتوقف ضمان أفضل رعاية ممكنة في حالات الطوارئ على تنفيذ نظام الفرز السريع.

الأهداف: نفذت الدراسة لتقييم معرفة الممرضات فيما يتعلق بنوعية الفرز التمريضي.

المنهجية: هو وصفية مستعرضة، تصميم الدراسة المستندة إلى المستشفى. تم اختيار عينة من 50 ممرضة من قسم الطوارئ بمستشفى السلاح الطبي باستخدام طريقة أخذ العينات الاحتمالية. تم جمع البيانات عن طريق استبيان مقابلة وجها لوجه. تم تحليل البيانات من قبل الإصدار 16 من الحزم الاحصائية للعلوم وتم تمثيلها في شكل جدول تردد بسيط.

النتائج: حول تعريف الفرز، وجد أن 42% لديهم معرفة جيدة. معرفة المشاركين فيما يتعلق بمستوى الفرز، أظهرت النتيجة أن 62% كانوا على دراية جيدة. معرفة المشاركين بشأن بدء تقييم الفرز المناسب تحتاج إلى تقييم، أظهرت النتيجة أن غالبية المستطلعين 80% كانت معرفة جيدة. عند سؤالهم عن الدورة التدريبية وجدت النتيجة أن معظم المشاركين 60% محاضرة. وأخيرا، فإن معرفة المشاركين بشكل عام حول تقييم الفرز التمريضي الجيد وجدت أن غالبية المشاركين 44% كانوا على دراية جيدة. ثم معرفة المشاركين فيما يتعلق بالعامل يمكن أن تؤثر على الفرز، والنتيجة أظهرت أن معظم 58% منهم كانت معرفة جيدة.

التوجيهات: استنادا إلى نتائج هذه الدراسة خلص إلى أن الممرضات لديهم معرفة جيدة عن مستوى الفرز والتقييم المناسب للفرز. الممرضات لديهم معرفة ضعيفة حول تعريف الفرز

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List of Abbreviation

Abbreviation	Full Name
ATS	Australasian Triage Scale
AVPU	Alert ,response to Voice, response to Pain, Unresponsive
CENA	College of Emergency Nursing Australasia
CTAS	Canadian Triage and Acuity Scale
ED	Emergency Department
ESI	Emergency Severity Index
GCS	Glasgow Coma Scale
ICU	Intensive Care Unit
MTS	Manchester Triage Scale
SARS	Sever Acute Respiratory Syndrome

1.Introduction

1.1 Background: Triage is a French verb meaning to sort. Most patients entering an emergency department (ED) are greeted by a triage nurse, who will perform a brief evaluation of the patient to determine a level of acuity or priority of care. Thus, the role of the triage nurse is to make acuity determinations and set priorities⁽¹⁾.

The purpose of this position statement is to define the role of the triage nurse and the minimum triage nurse practice standards. The aim is to promote national triage consistency in the application of the Australasian Triage Scale (ATS). It is acknowledged that triage may be performed in a number of settings other than an Emergency Department . However, the College of Emergency Nursing Australasia (CENA,) produces this position statement to define the role and practice of triage nurses working in Emergency Departments offering 24 hour triage service⁽²⁾.

Triage is the first point of clinical contact for all people presenting to the Emergency Department and the point at which care begins. Triage is a brief clinical assessment that determines the clinical urgency of the patient's presenting problem and culminates with the allocation of an ATS category, which determines the time and sequence in which they receive emergency care. 'Although primarily a clinical tool for ensuring that patients are seen in a timely manner, commensurate with their clinical urgency, the ATS is also a useful case mix measure. The scale directly relates triage code with a range of outcome measures (inpatient length of stay, ICU admission, mortality rate) and resource consumption (staff time, cost). It provides an opportunity for analysis of a number of performance parameters in the Emergency Department (case mix, operational efficiency, utilization review, outcome effectiveness and costs) ⁽²⁾.

Triage was introduced to the emergency departments(EDs) to overcome the problem of overcrowding and to provide immediate care to the most urgent patient. Some of the triage systems use computerized algorithms, others are nurse triage systems, and some use telephone triage systems with contradictory results.

In Israel, even while writing this article, there is no formal training in emergency medicine, and EDs are divided into sections: medical, surgical, pediatric, orthopedic, and gynecologic. Permanent physicians staff the EDs in the morning and residents from the different hospital wards staff the EDs during the evening and night shifts. Until the late 1980s, registration clerk directed patients to the most appropriate section in the ED.

The nurses in some of the EDs performed some informal triage. During the late 1980s and the beginning of the 1990s, only 2 EDs in Israel performed formal but partial nurse triage. In late 1992 we decided to implement nurse triage system in our ED, using the American model as the basis, but with some modification of the classifications to meet the needs of the Israeli regulations. All the nurses in the ED were instructed about this method of triaging patients and the goals of patient triage were clearly defined. Guidelines were written to standardize the performance of the nurses.

Nurses were instructed to triage patients into 3 urgency categories according to the initial complaint, the vital signs, and other objective criteria, such as peak flow rate, pulse oximetry, urine test, and bedside blood glucose test. In case of doubt or difficulty, the nurse was advised to consult a senior physician. The urgency categories were defined strictly to set the priority for treatment. In no way it was meant to predict hospital admission. It is important to emphasize that all the patients are examined in the ED. We have no separate examination area for the non-emergent

patients. The design of the ED is old and the number of examination beds is far less than sufficient. Late in 1995, and as a part of the quality assurance program of the ED, we conducted a study to evaluate the capability of the triage nurse to categorize correctly emergency patients and its impact on the waiting time for physician examination. We also deliberately chose to evaluate separately the triage of patients with an initial complaint of chest pain. In 1998 we repeated the same study as a part of the quality assurance program and also to confirm the consistency of the results⁽³⁾.

Triage system in Sudan in 2001, triage-based emergency care was introduced by the Federal Ministry of Health into the three largest hospitals in the country (Khartoum Teaching Hospital, Khartoum North Teaching Hospital, and Omdurman Teaching Hospital), as a possible solution to the increased morbidity and mortality observed in non-triaged patients. In the former system, both urgent and non-urgent patients were seen directly by the very junior doctors (house-officers) together in the same clinic. With the new triage-based system, patients are initially assessed by a nurse who performs primary triage and then transfers them to the appropriate different levels of care⁽⁴⁾.

1.2 JUSTIFICATION:

The most hospitals in Sudan have not more idea about nursing triage and this problem lead to poor nursing care about patient, this increase rate of death.

Nursing triage is very important to know information about patient condition to do good triage .

To decrease overcrowding of the patient need urgent care.

If the triage nurse have good knowledge about nursing triage can decrease loss of time that the patient need to treat.

If the triage nurse become more qualified in performance that can lead to high quality of patient care.

1.3 Objectives:

1.3.1 General objectives:

To study of nurses knowledge and performance regarding quality of nursing triage.

1.3.2 Specific objectives:

- 1- To assess nurses knowledge about triage .
- 2- To assess quality of nursing care regarding triage nurse.
- 3- To assess following of nurses to updates for nursing triage.
- 4- To determine relation between nurses knowledge and year of experience of triage nurse.

2. Literature review

Emergency care is one of the most sensitive areas of health care. This sensitivity is commonly based on a combination of factors such as urgency and crowding ⁽⁵⁾. Urgency of care results from a combination of physical and psychological distress, which appears in all emergency situations in which a sudden, unexpected, agonizing and at times life threatening condition leads a patient to the emergency department (ED).

The Australasian College for Emergency Medicine (ACEM) defines ED overcrowding as the situation where ED function is impeded primarily because the number of patients waiting to be seen, undergoing assessment and treatment, or waiting to leave exceeds the physical and/or staffing capacity of the ED ⁽⁵⁾. ED overcrowding is a common scenario across the globe ⁽⁶⁾ and resources like staff, space and equipment are limited. Patients often have to wait for a long time before being seen by a doctor and even longer before being transferred to a hospital bed ⁽⁷⁾. The result is not merely inconvenience but a degradation of the entire care experience - quality of care is compromised, the patient's safety may be endangered, staff morale is impaired and the cost of care increases.

The inappropriate use and/or misuse of ED services are one of the common problems leading to overcrowding. Socio-demographic characteristics are predictors of non-urgent use of emergency department. Public orientation, strengthening and expanding primary care services can be a solution to the problem ⁽⁸⁾.

2.1. Definitions of triage:

Medical screening of patients to determine their relative priority for treatment order, the separation of a large number of casualties, in military or civilian disaster medical care, into three groups: those who cannot be

expected to survive even with treatment; those who will recover without treatment; and the highest priority group, those who will not survive without treatment⁽⁹⁾

A process for sorting injured people into groups based on their need for or likely benefit from immediate medical treatment. Triage is used on the battlefield, at disaster sites, and in hospital emergency rooms when limited medical resources must be allocated⁽¹⁰⁾

Medical screening of patients to determine their relative priority for treatment; the separation of a large number of casualties, in military or civilian disaster medical care, into three groups: 1) those who cannot be expected to survive even with treatment; 2) those who will recover without treatment; 3) the highest priority group, those who will not survive without treatment⁽¹¹⁾

2.2. Levels of emergency triage

2.2.1. Table [1] The five triage categories used in the National Triage Scale [NTS]⁽¹²⁾

Numeric Color Code	Code Category	Treatment Acuity
1 Red	Resuscitation	Immediate
2 Orange	Emergency	Minutes (< 10 mins)
3 Green	Urgent	Half hour
4 Blue	Semi-urgent	One hour
5 White	Non-urgent	Two hours

2.2.2. Table [2] Canadian triage and acuity scale (CTAS) national guidelines⁽¹³⁾

CTAS Level 1	Patients need to be seen by a physician immediately 98% of the time.
CTAS Level 2	Patients need to be seen by a physician within 15 minutes 95% of the time.
CTAS Level 3	Patients need to be seen by a physician within 30 minutes 90% of the time.
CTAS Level 4	Patients need to be seen by a physician within 60 minutes 85% of the time.
CTAS Level 5	Patients need to be seen by a physician within 120 minutes 80 % of the time.

2.2.3. Table [3] The ESI levels are numbered one through five, with level one indicating the greatest urgency the levels are as follows:⁽¹⁴⁾

Level	Name	Description	Examples
1	Resuscitation	Immediate, life-saving intervention required without delay	Cardiac arrest Massive bleeding
2	Emergent	High risk of deterioration, or signs of a time-critical problem	Cardiac-related chest pain Asthma attack
3	Urgent	Stable, with multiple types of resources needed to investigate or treat (such as lab tests plus X-ray imaging)	Abdominal pain High fever with cough

4	Less Urgent	Stable, with only one type of resource anticipated (such as only an X-ray, or only sutures)	Simple laceration Pain on urination
5	Non-urgent	Stable, with no resources anticipated except oral or topical medications, or prescriptions	Rash Prescription refill

2.2.4. Table [4] The Australasian Triage Scale (ATS) was formulated in 2000 by Australasian College for Emergency Medicine [ACEM] ⁽¹⁵⁾

ATS Category	Description of Category	Response
1	Immediately life-threatening	Immediate
2	Imminently life-threatening or important time-critical treatment or very severe pain	Assessment and treatment within 10 minutes
3	Potentially life-threatening or situational urgency or human practice mandates the relief of severe discomfort or distress within 30 minutes	Assessment and treatment start within 30 minutes
4	Potentially life-serious or situational urgency or significant complexity or severity or human practice mandates the relief of severe discomfort or distress within 60 minutes	Assessment and treatment start within 60 minutes
5	Less urgent or clinico-administrative problems	Assessment and treatment start within 120 minutes

2.3. Initial emergency triage assessment

2.3.1. General appearance

This is an essential component of the triage assessment. Observation of the patient's appearance and behavior when they arrive guide about the patient's physiological and psychological status. Take particular notice of the following:

- Observe the patient's mobility as they approach the reception area. Is it normal or restricted?
- If it is restricted, in what way?
- Some question rose 'Does this patient look sick?'
- Observe how the patient is behaving.

The primary survey underpins safe practice in the ED. When an assessment of the environment and general appearance is complete (this should take seconds), the primary survey should begin⁽¹⁶⁾

2.3.2. Airway

Always check the airway for patency, and consider cervical spine precautions where indicated. An occluded airway or an immediate risk to airway must be allocated category 1 (this includes unresponsiveness with GCS of <9 and ongoing or prolonged seizure).

In adults, stridor occurs when in excess of 75% of the airway lumen has been obstructed: these patients have failed their primary survey and require definitive airway management, so warrant allocation to a high triage category⁽¹⁷⁾

2.3.3. Breathing

Assessment of breathing includes determination of respiratory rate and work of breathing.

Patients with evidence of respiratory dysfunction during the triage assessment warrant allocation to a high triage category. Patients allocated to lower triage categories should have normal respiratory function. It is important to detect hypoxemia. This can be detected using pulse oximetry⁽¹⁸⁾

2.3.4. Circulation

Assessment of circulation includes determining heart rate, pulse and pulse characteristics, skin indicators, oral intake and output. It is important that hypotension be detected during the triage assessment to facilitate early and aggressive intervention. Although it may not be possible to measure blood pressure at triage, other indicators of hemodynamic status should be considered, including peripheral pulses, skin status, conscious state and alterations in heart rate. Patients with evidence of hemodynamic compromise (hypotension, severe hypertension, tachycardia or bradycardia) during the triage assessment warrant allocation to a high triage category. Patients allocated to lower triage categories should have normal circulatory function⁽¹⁹⁾

2.3.5. Disability

This assessment includes determining AVPU, GCS and/or activity level, assessing for loss of consciousness, and pain assessment. Altered level of consciousness is an important indicator of risk for serious illness or injury. Patients with conscious-state abnormalities should be allocated to a high triage category⁽²⁰⁾

2.4. Prioritization of multiple patients at triage

Although there is no research relating to triage of multiple patients who present simultaneously, a primary-survey approach theoretically prioritizes patients in order of life threat. This approach means that patients with airway problems should take precedence over patients with

breathing problems, who take precedence over patients with circulation problems⁽²¹⁾

2.5. Triage in Health Care:

Common contexts of triage in contemporary health care practices are pre-hospital care, emergency care, intensive care (who to admit), waiting lists (e.g. for lifesaving treatments such as organ transplants) and battlefield situations. In case of emergencies and disasters, three stages of triage have emerged in modern healthcare systems⁽²²⁾.

1. First, pre-hospital triage in order to dispatch ambulance and pre-hospital care resources.
2. Second, triage at the scene by the first clinician attending the patient.
3. Third, triage on arrival at the hospital ED.

During the last decade, the issue of pandemic triage has entered the discussion of triage. The emerging infectious diseases like Severe Acute Respiratory Syndrome (SARS) and Pandemic Influenza have alerted emergency departments to the need for contingency plans. This applies to triage for intensive care services as well. In such public health emergencies, the managerial emphasis shifts from the individual to the population, from "individual" to "statistical" lives, trying to realize a maximal outcome out of the available resources. Nevertheless, emergency staff continues to be confronted, on a face-to-face level, with the care for individual patients in need, whom they might not be able to help⁽²²⁾.

2.6. Emergency Department Triage

Triage is a system of clinical risk management employed in emergency departments worldwide to manage patient flow safely when clinical needs exceed capacity. It promulgates a system that delivers a teachable, auditable method of assigning clinical priority in emergency settings⁽²³⁾.

In contemporary emergency care, triage is regarded as an essential function not only during massive influx of patients as in disasters, epidemics and pandemics but also in regular emergency care departments. The burden in emergency care is increasing and so are the expectations of patients. In hospitals that apply triage for regular emergency care, triage is the first point of contact with the ED. Assessment by the triage officers involves a combination of the chief complaint of the patient, general appearance and at times, recording of vital signs ⁽²⁴⁾.

2.7. Guidelines for Emergency Department Triage

Triage guidelines score emergency patients into several categories and relate it to the maximum waiting time based on specific criteria of clinical urgency. Initial versions of triage guidelines had three levels of categorization mostly termed as emergent, urgent and non-urgent ^[25]. Studies have revealed that five-level triage systems are more effective, valid and reliable ⁽²⁶⁾. In contemporary emergency care, most triage systems sort out patients into five categories or levels including the time within which the patient should be seen by the emergency care provider ⁽²⁷⁾.

2.8. Five-level Triage Systems

The most commonly used guidelines for ED triage on the international literature are The Manchester Triage Score, The Canadian Triage and Acuity Scale ⁽²⁸⁾, The Australasian Triage Scale and Emergency severity Index. In ESI, there are five-levels of these triage score. In addition national and institutional guidelines are also developed and used in practice ⁽²⁹⁾.

2.9. Validity and reliability of five-level triage instruments ⁽³⁰⁾

2.9.1. Manchester Triage Scale (MTS)

- ❖ Four analyses in adult patients (n = 50 to 167):
 - Analysis conducted by nursing staff
 - Validity of instrument only descriptively assessed in two studies: 67% of patients with high priority (MTS levels 1 and 2; endpoint: transfer to intensive care unit) were correctly identified. Of patients with cardiac chest pain, 86.8% were correctly identified by nursing staff
 - The MTS shows moderate (to good) reliability ($\kappa = 0.31$ to 0.62)
- ❖ Two analyses in children (<16 years, n = 1065 to 13 554):
 - No statistics on reliability
 - In 40% to 54% of the children there was over-triage; in 12% to 15%, under-triage
 - Authors suggest modification of the instrument for children; validity in children rated as satisfactory⁽³⁰⁾

2.9.2. Australasian Triage Scale (ATS)

- ❖ Six analyses in adult emergency patients (n = 20 to 3650):
 - One analysis to evaluate validity of instrument showed correlation with inpatient admission rate and agreement with mortality data published in Australia
 - Five studies in adult emergency patients yielded adequate to satisfactory reliability ($\kappa = 0.25$ to 0.56)
 - One study assessed dependability in evaluation of psychiatric patients (video recording); the rate of agreement in triage assessment was only about 60%. The authors conclude that the ATS is inadequate for correct evaluation of psychiatric patients⁽³⁰⁾

2.9.3. Canadian Triage and Acuity Scale (CTAS)

- ❖ Eight analyses in adult emergency patients (n = 50 to 32 261):
 - Significant correlation with hospital mortality and resource utilization ($p < 0.01$)
 - Inter observer reliability reported as good to excellent ($\kappa = 0.68$ to 0.89)
 - The instrument has become established in European countries
- ❖ Four analyses in children:
 - Study size 54 to 1618 children
 - Good validity of the instrument, significant correlation between triage level and resource utilization
 - Good reliability of the instrument in initial evaluation of young emergency patients ($\kappa = 0.51$ to 0.72)⁽³⁰⁾

2.9.4. Emergency Severity Index (ESI)

- ❖ Twelve analyses in adult emergency patients (n = 202 to 3172):
 - The ESI triage system correlates significantly ($p < 0.01$) with hospital mortality and resource utilization
 - Inter observer reliability reported as good to excellent ($\kappa = 0.46$ to 0.91)
 - The instrument has become established in European countries
- ❖ One analysis in children (<16 years, n = 150):
 - Good validity and very good inter observer reliability of the instrument ($\kappa = 0.82$)⁽³⁰⁾

2.10. Triage system in Sudan:

In 2001, triage-based emergency care was introduced by the Federal Ministry of Health into the three largest hospitals in the country (Khartoum Teaching Hospital, Khartoum North Teaching Hospital, and Omdurman Teaching Hospital), as a possible solution to the increased morbidity and mortality observed in non-triaged patients. In the former system, both urgent and non-urgent patients were seen directly by the

very junior doctors (house-officers) together in the same clinic. With the new triage-based system, patients are initially assessed by a nurse who performs primary triage and then transfers them to the appropriate different levels of care ⁽³¹⁾.

Since then, there have been other difficulties in the delivery of emergency care: There is a need for an Emergency Specialist 24/7 in the ED, however at the moment house-officers and registrars are the main physicians caring for these critical patients ⁽³²⁾.

In addition, the Emergency Department has poor infrastructure and is thus unequipped to deal with disasters and other times when surge capacity is necessary. Nursing staff and other ancillary providers are also still catching up in numbers. In 2001, 5 senior nurses were sent to Malaysia to be formally trained in the Malaysian Triage System ⁽³³⁾

3. Methodology

3.1. Study Design:

Is a descriptive cross- sectional, Hospital based- study. The duration of data collecting was from march to September 2017

3.2. Study area and setting:

Omdurman military Hospital emergency and accident hospital. It located in Khartoum state, Omdurman city, west blue Nile bridge, south youth and children palace, near Aliaa hospital .it consist from three floor , ground floor it consist from emergency rooms(A,B,C1,C2, truma , asthma ,) and cold clinic, minor theater ,laboratory and X-ray and CT- department .And first floor which consist of medical and surgical word, and matron office and major theater, CCR1.

Second floor consist of VIP rooms, CCR2, administration office and medical director office and in the roof we found cafeteria. ER hospital it received military patients and non-military in case of emergency and also received war traumatic patients

3.3. Study population:

The nurses working in the emergency department of military Hospital, All certified nurse's Working in the ER on day of commencing the study male/female, nurse.

3.4. Including criteria:

Nurse who have experience in triage system + were enrolled and who have bachelors, master, PHD degree .

3.5. Excluding criteria:

Nurse who have diploma degree + national services

3.6. Sampling: all nurses were enrolled

3.7. Sample size: 50 nurses

3.8. Data collection tool:

By face to face interview questionnaire containing; domain one is demographic characteristics criteria and domain two is nursing knowledge. The pretest was done in homogeneous population for evaluation of questionnaire. The questionnaire was being taken during nursing rest time for ethical consideration.

The ranking of knowledge after data collection categorized into three groups, good knowledge (75-100%) fair (74-50%) and poor knowledge (less than 50%)

3.9. Data analysis:

The data entry and analysis tool is SPSS version 16. The collected data were edited for pre-entry quality check, entered into the statistical packages of social sciences (SPSS) program, and endured second round post entry quality check for missing data, and consistency errors.

3.10. Data presentation:

Simple frequency table, percentage and cross tabulation table

3.11. Study variables:

Age

Gender

Qualifications

Experiences

Definition of triage

Categorizing your patient you use

Levels of triage

Criteria of resuscitation

Criteria of emergent

Criteria of urgent

Criteria of less urgent

Criteria of non-urgent

Initiate appropriate triage assessment you need to assess

Goals of triage

Advantages of Triage

Training courses in triage are received

Place of training course

Factor can effect on triage of patient

3.12. Ethical consideration

The research is respecting the right of participants, treat data with confidentiality no harm for the subject, since here is no intervention.

Approval from research committee in Shendi University (graduate college)

Approval from general director of emergency and accident hospital

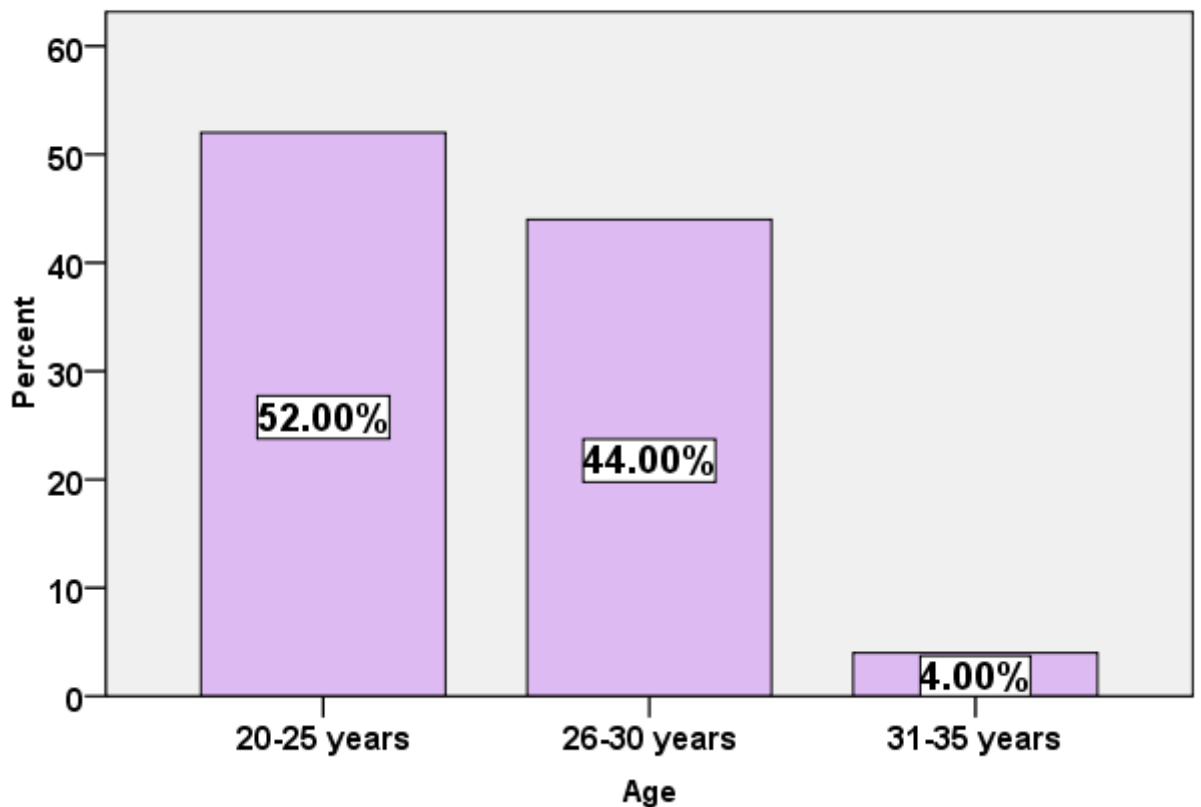
All study subjects provided verbal consent prior to participation in the study.

4. Result

The total numbers of subjects involved in this study were (50) people, the subject were met and interviewed. They were cooperative in giving answers to the questions. The answers were computerized and analyzed using (SPSS). The following result was obtained and presented in tables and figures as below:-

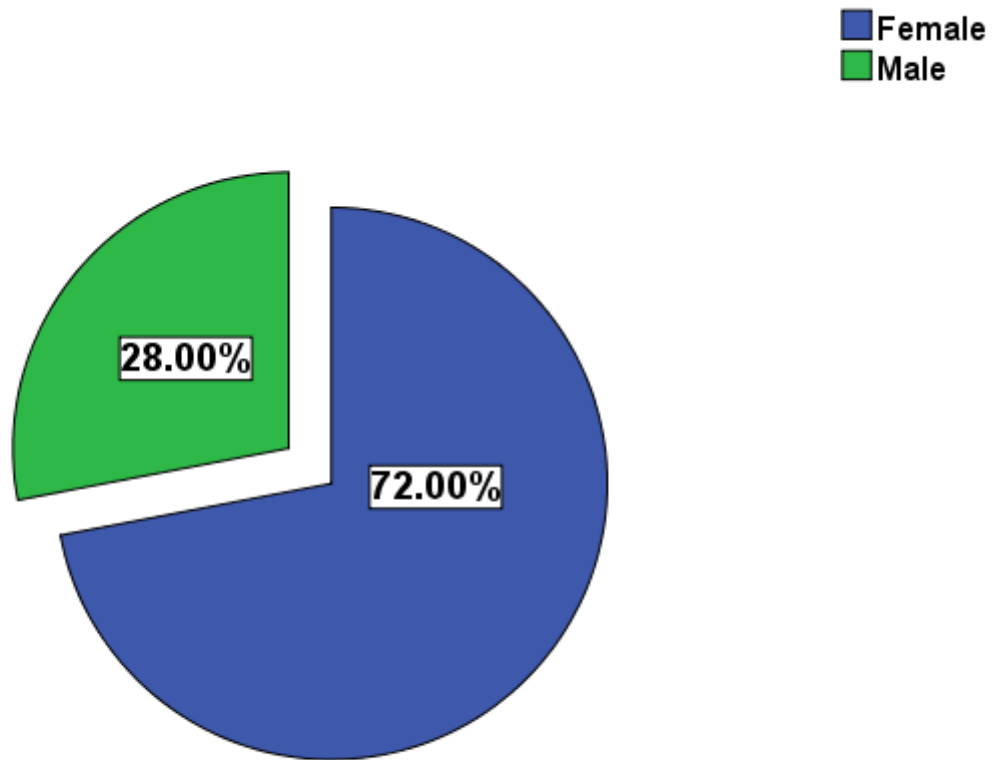
4.1. Demographic Data:

Age :



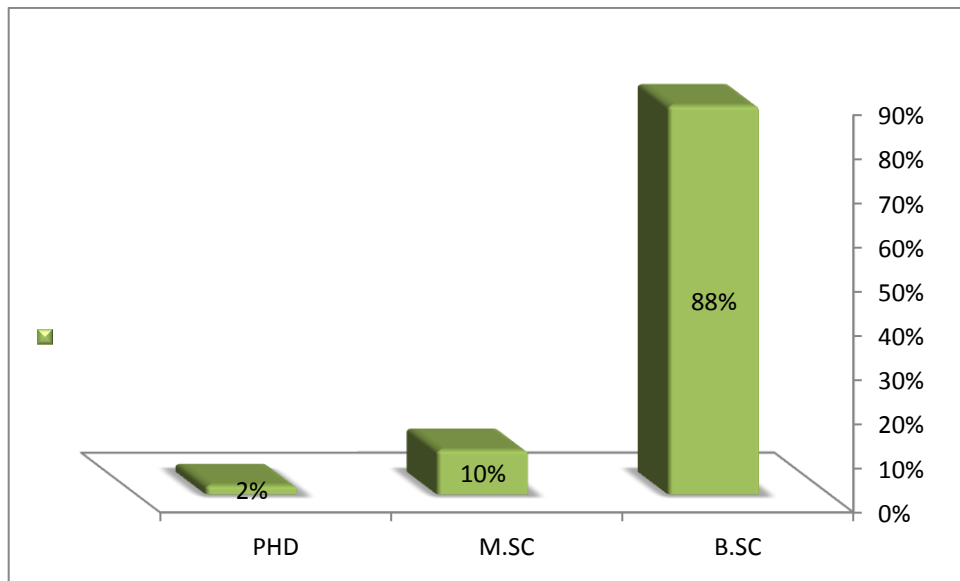
4.1.1. Figure (1): Distribution of study group according to their age(n=50)

Gender:



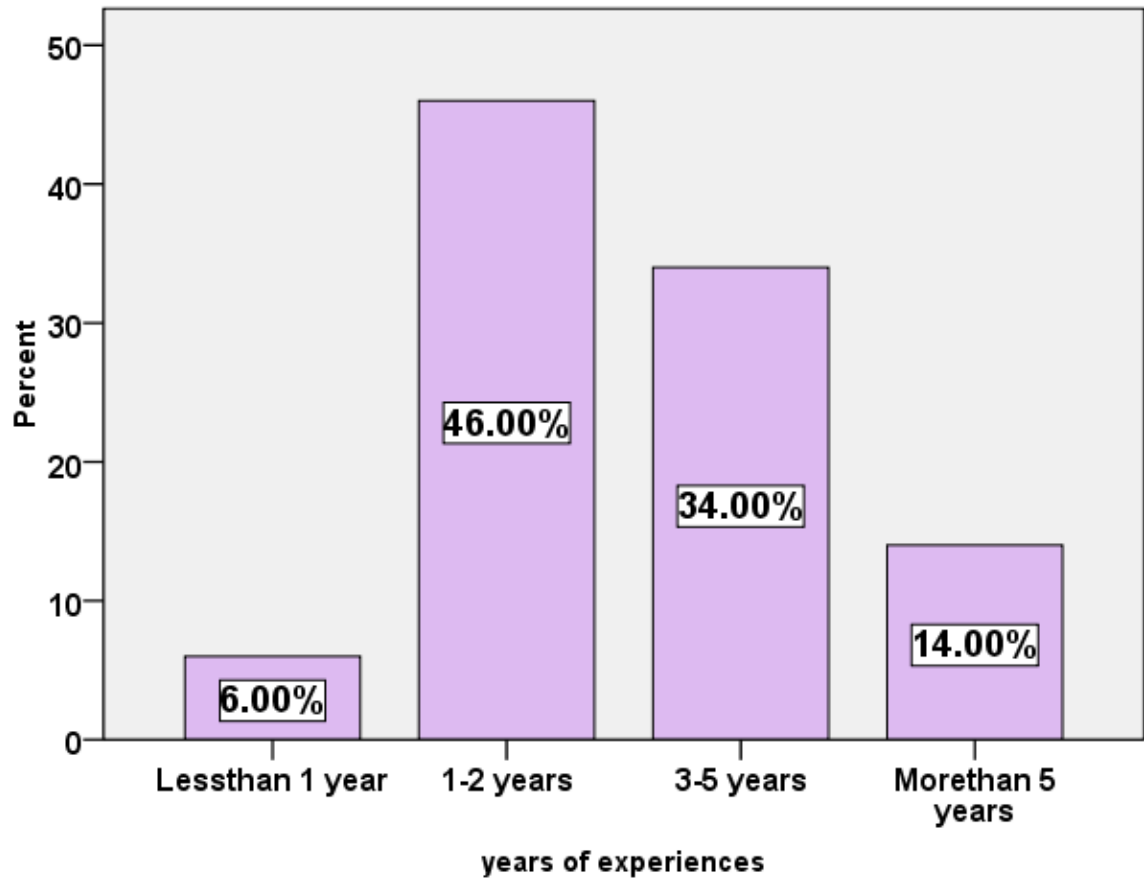
4.1.2.Figure (2): Distribution of study group according to their gender (n=50)

Qualification:



4.1.3Figure (3):) Distribution of study group according to their level of education (n=50)

Years of experience:



4.1.4.Figure (4): Distribution of study group according to their experience (n=50)

4.2 .Knowledge assessment:

4.2.1 Table (1): Distribution of study group according to definition of triage(n=50)

Level of knowledge	Frequency	Percent
Good knowledge	21	42.0
Fair knowledge	13	26.0
Poor Knowledge	16	32.0
Total	50	100.0

Table (1): Showed that 42% of study group had good knowledge about definition of triage,32%had poor knowledge and 26% had fair knowledge about the definition .

4.2.2. Table (2): Distribution of study group according to their knowledge about categorizing your patient you use(N=50).

Level of knowledge	Frequency	Percent
Good knowledge	25	50.0
Fair knowledge	13	26.0
Poor knowledge	12	24.0
Total	50	100.0

Table 2: showed that the 50% of study group had good knowledge about categorizing your patient you use , 26% had fair knowledge and 24% had poor knowledge .

4.2.3.Table (3): Distribution levels knowledge of participants regarding How many level of triage (N=50).

	Frequency	Percent
Known	34	68.0
Unknown	16	32.0
Total	50	100.0

Table (3): Showed that the 68% of study group were known regarding How many level of triage and 32% were unknown.

4.2.4.Table (4): Distribution levels knowledge of participants regarding Level of triage (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	31	62.0
Fair knowledge	11	22.0
Poor knowledge	8	16.0
Total	50	100.0

Table (4): Showed that the 62% of study group had good knowledge regarding Level of triage, 22% had fair knowledge and 16% had poor knowledge.

4.2.5.Table (5): Distribution levels knowledge of participants regarding Criteria of (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	27	54.0
Fair Knowledge	9	18.0
Poor knowledge	14	28.0
Total	50	100.0

Table (5): Showed that the 54% of study group had good knowledge , 18% had fair knowledge and 28% had poor knowledge.

4.2.6.Table (6): Distribution levels knowledge of participants regarding Criteria of emergent (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	24	48.0
Fair knowledge	16	32.0
Poor knowledge	10	20.0
Total	50	100.0

Table (6): Showed that the 48% of study group had good knowledge regarding criteria of emergent , 32% had fair knowledge and 20% had poor knowledge .

4.2.7.Table (7): Distribution levels knowledge of participants regarding Criteria of urgent (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	23	46.0
Fair knowledge	14	28.0
Poor knowledge	13	26.0
Total	50	100.0

Table (7): Showed that the 46% had good knowledge regarding criteria of urgent , 28% had fair knowledge and 26% had poor knowledge.

4.2.8.Table (8): Distribution levels knowledge of participants regarding Criteria of less urgent (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	25	50.0
Fair knowledge	14	28.0
Poor knowledge	11	22.0
Total	50	100.0

Table (8): Showed that the 50% of study group had good knowledge regarding criteria of less urgent , 28% had fair knowledge and 22% had poor knowledge.

4.2.9.Table (9): Distribution levels knowledge of participants regarding Criteria of non-urgent (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	30	60.0
Fair knowledge	10	20.0

Poor knowledge	10	20.0
Total	50	100.0

Table (9): Showed that the 60% of study group had good knowledge regarding criteria of non-urgent , 20% had fair knowledge and 20% had poor knowledge .

4.2.10.Table (10): Distribution levels knowledge of participants regarding initiate appropriate triage assessment you need to assess (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	40	80.0
Fair knowledge	4	8.0
Poor knowledge	6	12.0
Total	50	100.0

Table (10): Showed that the 80% of study group had good knowledge regarding initiate appropriate triage assessment you need to assess , 8% had fair knowledge and 12% had poor knowledge .

4.2.11.Table (11): Distribution levels knowledge of participants regarding Goals of triage (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	30	60.0
Fair knowledge	13	26.0
Poor knowledge	7	14.0
Total	50	100.0

Table (11): Showed that the 60% of study group had good knowledge regarding goals of triage , 26% had fair knowledge and 14% had poor knowledge .

4.2.12.Table (12): Distribution levels knowledge of participants regarding Advantages of triage(N=50)

Level of knowledge	Frequency	Percent
Good knowledge	34	68.0
Fair knowledge	10	20.0
Poor knowledge	6	12.0
Total	50	100.0

Table (12): Showed that the 68% of study group had good knowledge regarding advantages of triage , 20% had fair knowledge and 12% had poor knowledge .

4.2.13.Table (13): Distribution levels knowledge of participants regarding Training course (N=50)

Type of training course	Frequency	Percent
Lecture	30	60.0
Workshop	8	16.0
Scientific mission	4	8.0
lecture and workshop	8	16.0
Total	50	100.0

Table (13): Showed that the 60% of study group were done lecture regarding training course ,16 % were done workshop , 8% were done scientific mission and 16% were done lecture and workshop .

4.2.14.Table (14): Distribution levels knowledge of participants regarding Place of training course (N=50)

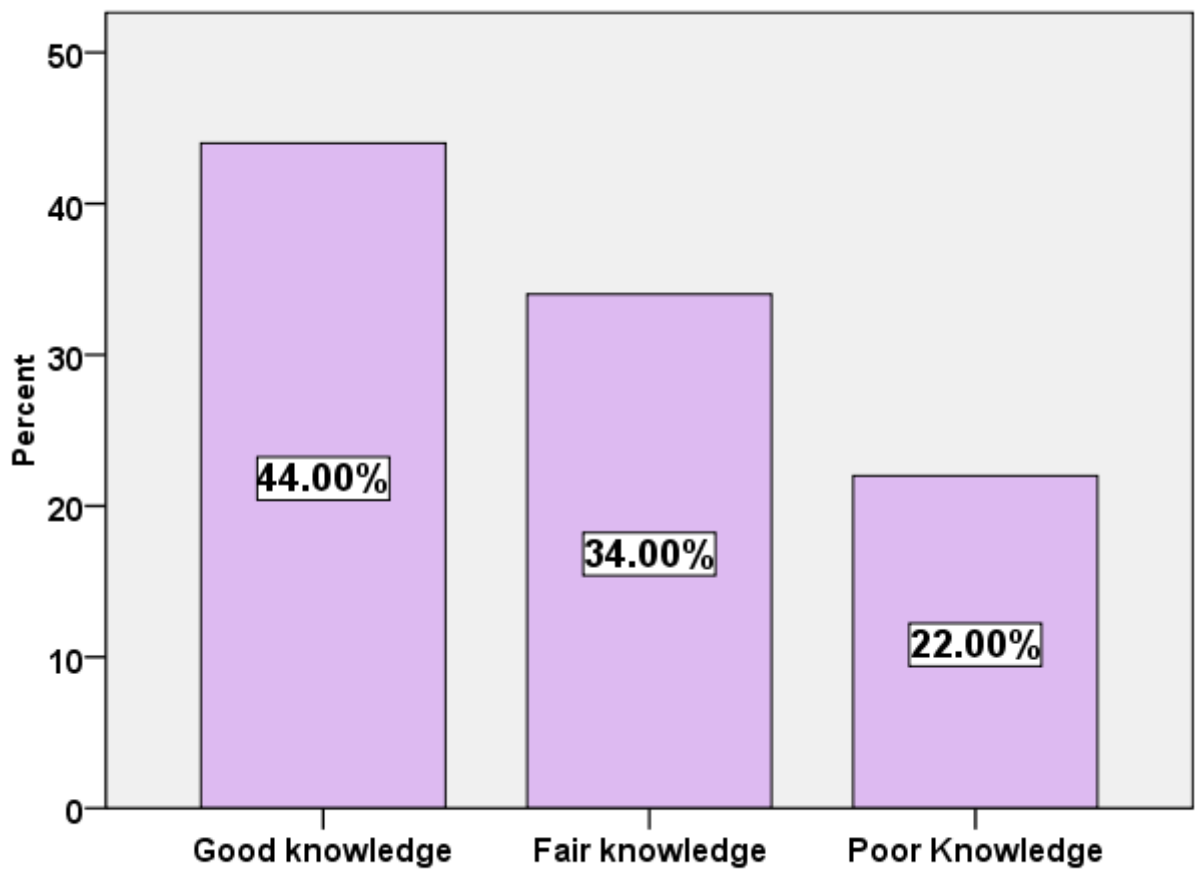
Place of training course	Frequency	Percent
Inside country	41	82.0
Outside country	9	18.0
Total	50	100.0

Table (14): Showed that the 82% of study group had done inside country regarding place of training course and 18% had done outside country .

4.2.15.Table (15): Distribution levels knowledge of participants regarding Factor can effect on triage (N=50)

Level of knowledge	Frequency	Percent
Good knowledge	29	58.0
Fair knowledge	11	22.0
Poor knowledge	10	20.0
Total	50	100.0

Table (15): Showed that the 58% of study group had good knowledge regarding factor can effect on triage , 22% had fair knowledge and 20% had poor knowledge .



4.2.16.Fig (5): Distribution overall knowledge of participants regarding quality of nursing triage (N=50)

5.1. Discussion

This is a descriptive cross sectional hospital base study done in emergency and accident hospital of Omdurman military Hospital from March – August 2017 it was total coverage, sample confined 50 nurses, the half of them (52%) they aged ranged between 20-25 years. And most of participants had female (72%) because classically in our country nursing are practice by female.

Majority of the participants' levels of qualification had 80% B.Sc. of nursing. Also about job experiences, less than two third of them(46%) their ranged between 1-2 years because most of senior staff was been migrated or working in privet hospital related to financial issue .

Then the participant asked some questions and their answers categorized into good knowledge, fair knowledge, and poor knowledge. To assess their knowledge about the following:

About the definition of triage, it had found less than two third (42%) they had good knowledge because the most nursing staff unknown scientific definition of triage. Regarding the knowledge in categorizing your patient you use, half of participants(50%) had good knowledge because nursing staff haven't triaging patient by international triage scale .

Two third of participant (68%) know the number of triage level . Knowledge of participant regarding level of triage , it had found two third of them (62%) had good knowledge.

More than half of respondents (54%) had good knowledge regarding criteria of resuscitation . The study revealed that less than two third (48%) of participants had good knowledge regarding criteria of emergent .Knowledge of respondents regarding criteria of urgent, less than two third of them (46%) had good knowledge .About the knowledge of participant regarding Criteria of less urgent, it had found half of them

(50%) had good knowledge .The knowledge of participant regarding Criteria of non-urgent two third(60%) of them had good knowledge because nursing staff not use international triage scale .

Knowledge of participant regarding initiate appropriate triage assessment you need to assess, the majority of them (80%) had good knowledge .Also showed that the knowledge of participant regarding goals of triage two third (60%) of them had good knowledge .

Regarding the knowledge of participant about advantage of triage two third (68%) of them had good knowledge .When asking regarding training course the result found that two third (60%) of participants lecture .

Also regarding the place of training course majority (82%) of respondents inside country because the ministry of health did not go outside research.

Then knowledge of participants regarding Factor can effect on triage, the result shown that more than half (58%) of them had good knowledge .

Finally overall participants' knowledge about assessment of quality of nursing triage the result found that less than two third(44%) of the participants had good knowledge .

5.2. Conclusion

Based on the findings of this study concluded that nurses had good knowledge about the level of triage and appropriate assessment of triage. Nurses had poor knowledge about definition of triage . overall knowledge about assessment of quality of nursing triage had good .

5.3. Recommendations

To sustain the adequate level of knowledge evident from the study findings, the followings are recommended:

- Maintaining guideline for emergency nursing triage and applied to all ministry of health hospital.
- To ministry of high teaching enrollment of the emergency nursing triage in university curriculum.
- Maintaining sustainable training program on nursing triage to emergency nurses inside and outside the hospital.
- To hospital administration , provide all equipment needs in triage to increase quality of nursing triage.
- Use international triage scale in hospitals.
- Encourage the nurses to conduct researches to be used as evidence based practice.

Appendices:

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Questionnaire

Shendi University

Faculty of Graduate Studies and Scientific Research

Questionnaire about knowledge regarding quality of nursing triage in emergency department of military hospital 2017 .

Section 1: demographic data

1. Age in years

1.	20 – 25	
2.	26 – 30	
3.	31 – 35	
4.	35 – 40	
5.	more than 40 years	

2. Gender:

1.	Female	
2.	Male	

3. Qualification

1.	Diploma	
2.	B.Sc	
3.	M.Sc	
4.	PHD	

4. years of experience in the ER:

1.	Less than 1 year	
2.	1 – 2	
3.	3 – 5	
4.	More than 5 years	

Section 2: knowledge assessment:

5- Triage is:

1	The first point of clinical contact for all people presenting to the Emergency Department and the point at which care begins.	
2	is a French verb meaning sort, will perform a brief evaluation of the patient to determine a level of acuity or priority of care.	
3	Medical screening of patients to determine their relative priority for treatment order, the separation of a large number of casualties, in military or civilian disaster medical care	
4	a brief clinical assessment that determines the clinical urgency of the patient's presenting problem and culminates with the allocation of an ATS category, which determines the time and sequence in which they receive emergency care.	

6- In categorizing your patient you use:

1.	ABCD approach	
2.	Vital signs	
3.	Severity of disease	
4.	International triage scale	

7- How many level of triage :

1	3 level	
2	4 level	

3	5 level	
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8- Level of triage is:

1	Resuscitation	
2	Emergency	
3	Urgent	
4	Semi-urgent	
5	Non-urgent	

9- Criteria of resuscitation is :

1	Conditions that are threats to LIFE or LIMB (or imminent risk of deterioration) requiring aggressive interventions	
2	Need immediate medical response	
3	Need immediate nursing response	
4	Need continuous reassessment	

10- Criteria of emergent is :

1	Conditions that are a potential threat of life, limb or function	
2	requiring rapid medical intervention or delegated acts	
3	Time to Medical Diagnosis : 15 minutes.	
4	Time to Nurse: immediate.	
5	Reassessment time: 15 minutes.	

11- Criteria of urgent is :

1	Conditions that could potentially progress to	
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	a serious problem requiring emergency intervention.	
2	Time to medical diagnosis: 30minutes	
3	Time to nurse: 30 minutes	
4	Reassessment time: 30 minutes	

12- Criteria of less urgent is :

1	Conditions that related to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within (1 –2 hours)	
2	Time to Medical Diagnosis < 60 minutes (1 hr)	
3	Time to Nurse < 60 minutes (1 hr)	
4	Reassessment time: 60 minutes (1 hr)	

13- Criteria of non-urgent is :

1	Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration.	
2	The investigation or interventions could be delayed or even referred to other area of the hospital or health care system.	
3	Time to Medical Diagnosis: 120 minutes.	

4	Time to Nurse: 120 minutes.	
5	Reassessment time: 120 minutes	

14-To initiate appropriate triage assessment you need to assess:

1	Airway	
2	Breathing	
3	Circulation	
4	Disability	
5	General appearance	
6	Chief complain	
7	Vital signs	

15-Goals of triage is:

1	Rapidly identify patients with urgent, life-threatening conditions	
2	Assess/determine severity and acuity of the presenting problem	
3	Direct patients to appropriate treatment areas	
4	Re-evaluate patients awaiting treatment	

16- Advantages of Triage are :

1	Streamlines patient flow	
2	Reduces risk of further injury/deterioration	
3	Improves communication and public relations	
4	Enhances teamwork	
5	Identifies resource requirements	
6	Establishes national benchmarks	

17- Training courses in triage are received:

1.	Lecture	
2.	Workshop	
3.	Scientific mission	

18- Place of training course

1.	Inside country	
2.	Outside country	

19- Factor can effect on triage of patient:

1.	Lack of trained/qualified nurse	
2.	Lack of equipment	
3.	short of staff in triage	
4.	High number of patients	

