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Faculty Of Graduate Studies & Scientific Research

Master Of Nursing Sciences

NURES SATISFACTION REGARDING TRIAGE SERVICES IN EMERGENCY AND ACCIDENT DEPARTMENT AT OMDURMAN MILLITARY HOSPITAL (2018)

A thesis Submitted in Partial Fulfillment of the Requirements for Master Degree In emergency and Critical Care Nursing

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Dedication

To my mother who give me love

To my lovely sisters & brothers

To my all family members & teachers whose

support me to all who love me..!

Acknowledgement

Firstly and lastly thank you my *god*.

I would like to express my thanks to my university and all members of nursing faculty.

Special thanks to my supervisor: Dr: Safa Mohammed Mohammed Nour

Thank you for everybody who helped me.

ABSTRACT

Background: Triage is the process and one of the most important system in patient prioritizing at the same of arrival to the hospital and is a critical component of any emergency department, the aim of triage is to improve the quality of emergency care and prioritize according to urgency. **This study aimed to** investigate nurse's satisfaction regarding triage service in Omdurman military hospital. **A descriptive cross-sectional** study design was adopted in the current study. **A purposive sample** of nurses (60 nurses) was included. Data collected through **self an administered questionnaire sheet** and analysis was done by using computer programs Microsoft Excel and statistical package for social science (SPSS). **Results** the most of respondents (80%) were satisfied with triage services in emergency department, the majority (88.3%) of study population believed that triage can be performed by most senior and core competent nurse, (90%) of them said that patient wait time is decreased after using triage service. Regarding factors that affect the triage services all most (90.0%) of study group were said that the lake of training to staff can affect the triage service, (73.3%) of them believed that the shortage of staff was affected in services, and (71.6%) of them commented that the workload in triage area can affect in services, while (66.7%) of study population identified that the number seriousness patients who arrive at same time can affect in making triage decision. **The current study concluded** that the nurses are satisfied with care provided by triage services, many of respondents there were knowledgeable, and also known about the factors that can affect the implementation of Emergency triage services and decision making, this need for researches on triage system and continuous education program so as to enhance and promote the triage services implementation in Omdurman military hospital then it lead to completely satisfaction.

المستخلص

عمليه الفرز وحده من الانظمه المهمه في تحديد اولويه دخول المرضي عند وصولهم الي المستشفي وهو مكون حاسم لأي قسم في الطؤاري، والهدف من عمليه الفرز هو تحسين وجوده الرعايه المقدمه في مستشفي الطؤاري والاصابات.

الهدف من الدراسه:

اجريت هذه الدراسه الوصفيه في مستشفي الطوارى والاصابات العسكري في امدرمان حيث انها تهدف الي تقيم رضا الممرض عن خدمه الفرز المقدمه في مستشفي الطؤاري والاصابات العسكري امدرمان.

منهجيه البحث:

تم اعتماد تصميم دراسه مقطعيه وصفيه في الدراسه الحاليه .ادرجت عينه هادفه من الممرضات (60ممرضه). البيانات تم جمعها من خلال ورقه استبيان والتحليل الذاتي تم اجراؤها باستخدام برامج الكمبيوتر اكسل والحزمه الإحصائيه للعلوم الاجتماعيه (اس بي اس اس) وذلك لحساب العدد والنسبه المئوية.

النتائج:

وضحت النتائج أن معظم المستجيبين (80%) اعلنوا عن رضاهم عن خدمات الفرز في قسم الطؤاري, اعتقدت الاغلبيه (80%)من مجموعه الدراسه أن الفرز يقوم به تقني فرز مؤهل وذو كفاءه، (90%) منهم يقولون ان وقت الانتظار المريض انتخفض بعد استخدام عمليه الفرز. فيما يتعلق بالعوامل التي تؤثر علي خدمات الفرز قيل ان معظم (90%) من مجموعه الدراسه ان التدريب يؤثر في خدمه الفرز، (73.3%) منهم يعتقدؤن ان قله الكادرالعامل له تاثير في عمليه خدمه الفرز، و(71.6%)علقوا بأن عبء العمل في منطقه الفرز يؤثر في الخدمه المقدمه، في حين ان (66.7%) من مجموعه الدراسه بعتقدون ان وصول عدد من الحالات الحرجه الي الطؤاري في نفس الوقت يؤثر في عمليه اتخاذ قرار الفرز.

الخلاصه:

وخلصت الدراسه الحاليه أن الممرضين يشعرون بالرضا عن خدمات الفرز، معظم افراد البحث لديهم ومعرفه ودرايه بنظام الفرز، كما يعرفون ايضا بالعوامل التي يمكن أن يؤثر في خدمات الفرز في حالات الطؤاري واتخاذ القرارات.

هذه الرساله قامت بوضع توصيات كالحاجه الي المزيد من الأبحاث حول نظم الفرز وادراج التدريب علي الفرزمن اجل تعزيز وتطوير خدمات الفرز بمستشفي الطؤاري والأصابات، مما يؤدي إلي الرضا التام.

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Chapter One

1. Introduction

1.1 Background:

The term ‘triage’ is derived from the French work trier that meaning to pick or to sort, the practice of triage arose from the exigencies of war, and it remains closely associated with military medicine, the earliest documented systems designed to distribute health care systematically among wounded and sick warriors, [1].

Triage systems were first used to prioritize medical care during the Napoleonic wars of the late 18th century. Subsequent wars have led to the refinement of systems for the rapid removal of the injured from the battlefield to places providing definitive care. Mass Casualty Incident (MCI) triaging has also been developed and continues to evolve. The underlying principle of MCI triage is to achieve the greatest good for the greatest number of casualties in a setting where clinical demand overwhelms the available resources, in civilian medicine triage systems have been refined and adapted for use within a Range of settings, in all health care environments the triage process is underpinned by the premise that a reduction in the time taken to access definitive medical care will improve patient outcomes [2].

Triage is described as putting the patient in the right place at the right time to receive the right level of care, the allocation of appropriate resources to meet the patient’s medical needs, triage is the process of sorting and prioritizing patients according to their level of acuity to determine which individuals need specialized care for either actual or potential injuries or complications, if this is done successfully each patient can be directed to the most appropriate facility, specialist or unit with the least possible delay, rendering the most appropriate type of care within the shortest time possible is one of the most important aspects in the prevention of death and disability in any emergency unit, emphasize the following positive aspects with regard to the triaging of patients on their arrival at an emergency unit.

The unknown factor of the illnesses and injuries of patients in the waiting room can be assessed immediately, overcrowding in the waiting room area can be prevented and/or managed the flow of patients through the emergency unit and wastage of time can be controlled, deterioration of already severely ill/injured persons can be assessed and managed, long waiting times without being seen by any health professional can be prevented as every patient is given immediate attention, life threatening injuries are managed appropriately and timeously

according to priorities potentially disabling injuries are treated immediately to minimize functional impairment, pain and psychological suffering [3].

Satisfaction:

Is a judgment of a pleasurable level of consumption related fulfillment Consumers can experience satisfaction when a product or service gives greater pleasure than anticipated, satisfaction fulfillment is achieved by removing any negativity, under-Fulfillment or over-fulfillment satisfaction is experienced when unexpected pleasure is achieved internal state highlights the meanings that operate in the consumer field, of awareness sociably and culturally, satisfaction of staff who works in emergency department is important because there were in stressful area to remain them happy and deliver best [1].

Problem statement:

Triage assessment of patients on arrival at an emergency unit is an essential function in quality emergency care provision and is a cost effective and time saving, there are number of nurses who were still ignorant of consequences of triage, this ignorance may be due to lack of knowledge and factor that affect decision making and implement triage services.

This study was conduct in nurses who working in emergency and accident hospital to assess their satisfaction regarding triage service.

1.2 Justification:

The triage system is the process that has been shown to yield beneficial results in many settings and has been very effective towards achieving a reduction in waiting times in certain categories of patients. It allows a program for the efficient detection and appropriate response to those patients that cannot afford to wait due to the severity of their illnesses or injury. Compliance to this policy would be a potential alleviation of challenges related to overcrowding and ultimately could form a needed, contribution to increasing the quality of services rendered at the emergency areas, hospital triage is one of the most challenging filed for emergency staff it requires clinical knowledge and practice as well as the staff ability to manage multiple tasks at the same time, a nursing staff with unsatisfactory knowledge and practices regarding hospital triage can life-threaten patients presenting to the emergency department in need of immediate assessment and decision, assessment of knowledge and practices of nurses regarding hospital triage systems enable the national health planners and decision-makers to implement future strategies regarding formal triage systems in the various emergency departments at primary and secondary levels developmental research, training in hospital triage systems and comprehensive educational programs are required to support diagnostic and therapeutic interventions in triage practice by nurses staff, so the study was conducted to assess nurses satisfaction**.**

1.3 Research objective:

1.3.1 General objective:

Assess nurse's satisfaction regarding triage services in emergency and accident department.

1.3.2 Specific objective:

1-To determine the level of nurse's Knowledge about the triage.
2- To identify nurses satisfaction regarding triage service.
3-To determine factors that affect the decision making and implementation.
4- To determine the relationship between nurses knowledge about the definition and aims of triage and level of education.

Chapter Two

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 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, the Australasian College for Emergency Medicine (ACEM) defines emergency department (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 [4].

ED overcrowding is a common scenario across the globe resources like staff, space and equipment are limited so 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 [5]

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 [6].

2.1 Definitions of triage:

- **The term ''triage**" originates from the French word “trier” which means to sort, pick out, classify or choose [7].

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: 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 [8].

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 [9].

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 [10].

2.2 Aims of triage:

Hospital triage systems aims to promote the safety of patients by ensuring that timing of care and resource allocation is requisite to the degree of illness [11].

An effective triage system classifies patients into groups according to acuity of illness or injury and aims to rapidly identify the patients with life threatening illness or injury well receive immediate intervention [12].

Assess severity and acuity of the presenting problem and direct patients to appropriate areas also it aims to re-evaluate patients waiting treatment, in-order to avoid patients backed up waiting to be seen by the triage nurse a two-tier triage system is usually applied, with the triage nurse determining from the chief

complaint, and an observation or "across the room" assessment for immediate patient care accordingly initial assessment is done and the patient is left only for additional assessment a registration, the two-tiered triage system includes a primary nurse and a sorter nurse, and may be used to achieve comprehensive triage during high-volume period [13].

2.3 Role of nurse in triage:

Hospital triage is usually performed in the ED by nursing staff who allocate a triage designation and initiate emergency care before the patient is examined by a doctor. Triage may be done by ED physicians as well; in pre-hospital disaster sites, ambulance personnel also need to use triage systems to prioritize multiple cases for immediate mass evacuation for urgent medical help in nearby hospitals. Triage nurses usually have advanced training in decision-making. They have been shown to have the necessary skills to make appropriate triage decisions and provide a highly effective service to ED patients in health care settings [14].

The increasing use of triage and increasing numbers of ED visits by patients raises the important issue of need to increase the number of triage nurses [15]. Triage decisions are complex clinical decisions often made under conditions of uncertainty with limited information and minimal time [16].

Accordingly triage nurses must also be able to discriminate useful cues from large amounts of information in order to perform triage safely [17].

It is the responsibility of the triage nurse to rapidly identify and respond to actual life-threatening states and to also make judgments as to the potential for life threatening states to occur [18].

Triage decisions are made in response to the patient's presenting signs or symptoms and do not attempt to formulate a medical diagnosis, the allocation of a triage category is made on the basis of necessity for time-critical intervention to improve patient outcome, potential threat to life or need to relieve suffering [19].

The decisions made by a triage nurse are pivotal factors in initiation of emergency care, therefore the accuracy of triage decisions is a major influence on the health outcomes of ED patients [20].

2.4 Triage Categories:

An Emergency Department triage has several functions including identification of patients who should not wait to be seen, and prioritization of incoming patients this is accomplished by determining the patient's illness/injury severity or acuity, various triage systems have been used throughout the world, the Australian Triage Scale, the Manchester Triage Scale, the Canadian Triage and Acuity Scale, and the Emergency Severity Index (ESI) [21].

All four of these scales have been validated for reliability and validity in adults [22]

2.5. Validity and reliability of five-level triage instruments

2.5.1. 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

2.5.2. 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 [23].

2.5.3. 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)

2.5.4. 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 (κ = 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 (κ = 0.82) [23].

2.6. 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 [24].

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 [25].

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 [26].

Factors that affecting in performance in triage service:

There are many factors affecting in triage includes numbers of staff at side work, lack of training also work load can affect in performance in triage service in

addition to availability of resources and number of seriousness patient arrive to emergency department at same time are affect in the performance of triage service.

Satisfaction:

Satisfaction can be defined as the extent of an individual's experience compared with his or her expectations, health professionals may benefit from satisfaction Surveys that identify potential areas for service improvement and health expenditure maybe optimized through patient-guided planning and evaluation, satisfaction is not some pre-existing phenomenon waiting to be measured but a judgment people form over time as they reflect on their experience, the emphasis of the most recent literature review focused on identifying a positive association between the triage services and improves of care and lead to satisfaction [27].

Previous studies:

There is certain study was done in triage services in another country and it support my research, one of this study is done in South Africa by Augustyn (2009) it conclude that After the implementation of the triage Score the rungs increased to over 90% judging the newly implemented triage system to be acceptable or good, and respondent generally perceived the newly implemented triage system as being positive, enhancing the operations of the unit.

Another study about the Implementation of a Rapid Triage and Treatment System In West J Emery by Karen L Murrell, it conclude that, the changes in ED processes using thinking and available resources can improve efficiency and decreased patient wait times and LWBS rates [28].Problems related to operational failures that could improve over time, including inexperience, the triage process' initial implementation problems and the shortages of equipment and nurses [16].

Another study done by JE Augustyn, VJ Ehlers about implementing a triage system in an emergency unit and summarized that Workloads will be distributed between nurses and triage nurse allocates patients systematically, triage also helps to manage infection control in the emergency unit more efficiently if a patient is assessed by the triage nurse, as potentially having an infectious disease, this patient can be isolated immediately until further clarification is obtained, triage can also improve patient safety, the triage nurse can determine whether he/she needs a safe

environment, core competencies that the triage nurse should possess include initial assessment, the lack of agreement on triage decision making has important implications for ED in which the priority of care is based on nursing triage categorization, detailed chart recording and continued work is necessary to improve the agreement, the triage nurse has several key roles in the emergency unit, most importantly, he/she should initially assess all patients on their arrival at the emergency unit, prioritize them, and then appropriately refer them once the correct decision has been made, all staff will know where the patient is at any particular moment [29].

The triage nurse's role of controlling flow should help the doctor to know which patient requires assistance in order and initial side room tests may be initiated (vital sign monitoring, ask about recent chief complain and pass history of illness patient flow management also helps to alleviate overcrowding in the waiting room because seriously ill/injured patients will be moved to the nurses' general area of the emergency unit [29].

Chapter Three

3. Methodology

3.1 Study design:

Descriptive cross sectional hospital based study design.

3.2 Study area:

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

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

The medical staff include: ER consultants, Respiratory therapist, ER registrars, Anesthetist, Pharmacists, physicians, RRT team, Nurses, Dietitians and other technicians.

Setting:

Emergency and Accident department.

3.3 Study population

All certified nurs*es who work at emergency and accident department* during the study period approval consent was obtained from study group.

Inclusion criteria:

Nurses who have experience in triage system and who have bachelors, master and PHD degree.

Exclusion criteria:

Nurses who have diploma degree and nurses who haven't experiences in triage system and how refused to participate.

3.4 The sampling size:

Total coverage (n=60)

3.5. Variables of the study:

Demographic data (In dependent variables): *Age- Gender. Years of experience in triag**e*** and nursing educational qualifications.

Dependent variables: Knowledge about triage service and factor that affect in triage services.

3.6. Data collection tool:

Based on relevant literature a self-administered close ended interview questioner was developed by researcher to answer the research question and composed of four Parts

Part I: - socio demographic data contain (4) questions

Part II: - about *knowledge and experience to triage service (8) questions.*

Part III: - about satisfaction regarding *triage service (3) questions.*

Part IV: - about factors that affect to triage service (4) questions.

3.7. Scoring system:

The questionnaire composed of 4 choices, when the participant answered from (3-4) right answers their knowledge was Good, 2 right answers their knowledge was Fair and less than 2 their knowledge was Poor.

3.8. Data collection technique:

The data was collected from morning shift nurses staff and after noon nightshift nurse's staff and the consumed time for questionnaire filling with each participant take about10 minutes interviewing questionnaire, these after verbal agreement of participants.

3.9. Data analysis:

Data was gathered categorized and coded then entered into the computer, the data was captured in Excel, basic descriptive statistic was done using the Excel environment, the database was imported into social package of statistical analyses (SPSS) for windows to perform complex statistical analyses, descriptive statistics was used to describe the demographic factors. SPSS widows was used for data management and statistical analysis, descriptive statistics were performed on the Study variables.

3.10. Data presentation:

Simple frequency table, percentage and cross tabulation table**.**

3.11. Ethical consideration:

The researcher took permission from the hospital of the study with an official letter from the Faculty of Nursing Sciences to the director of the hospital with the agreement of the target population, every individual observed once. Verbal consent from the interviewed persons was also taken after explaining the study and its objectives to them. Confidentiality was given consideration and the information is used for the research purpose only.

Chapter Four

4- Results

Table No(1) Distribution of study group according to their age

Phrase	Frequency	Percent
20- 25 years	40	66.7%
26-30 years	12	20.0%
31-35 years	7	11.7%
More than 35years	1	1.7%
Total	**60**	**100.0%**

Table No (1) showed that 66.7% of nurses age ranged between 20-25years, 20% between 26-30 years, 11.7%%between31-35years and1.7%are more than 35 years old.

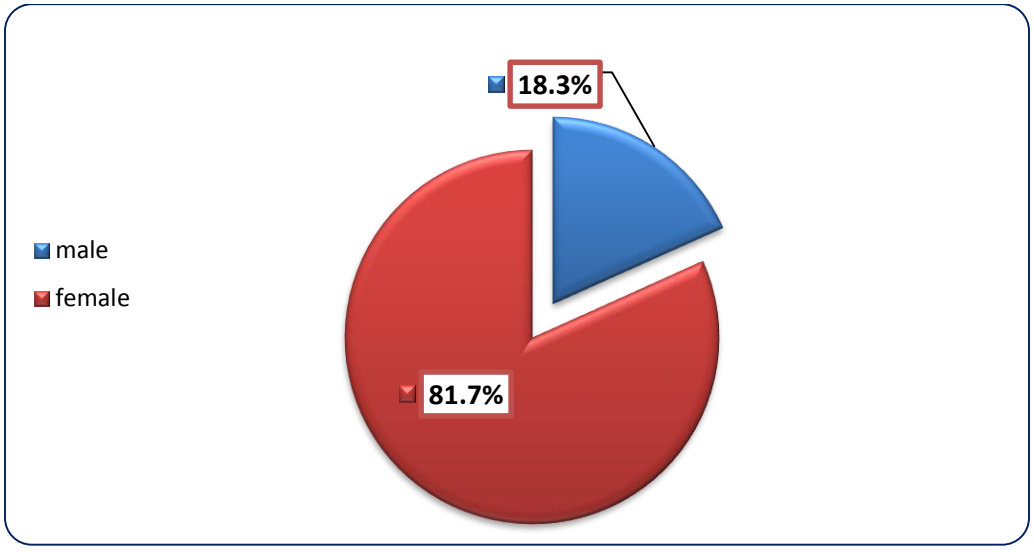

Figure No (1) Distribution of study group according to their gender (n=60)

Figure No (1)showed that 81.7% of nurses are female and 18.3% of them are male

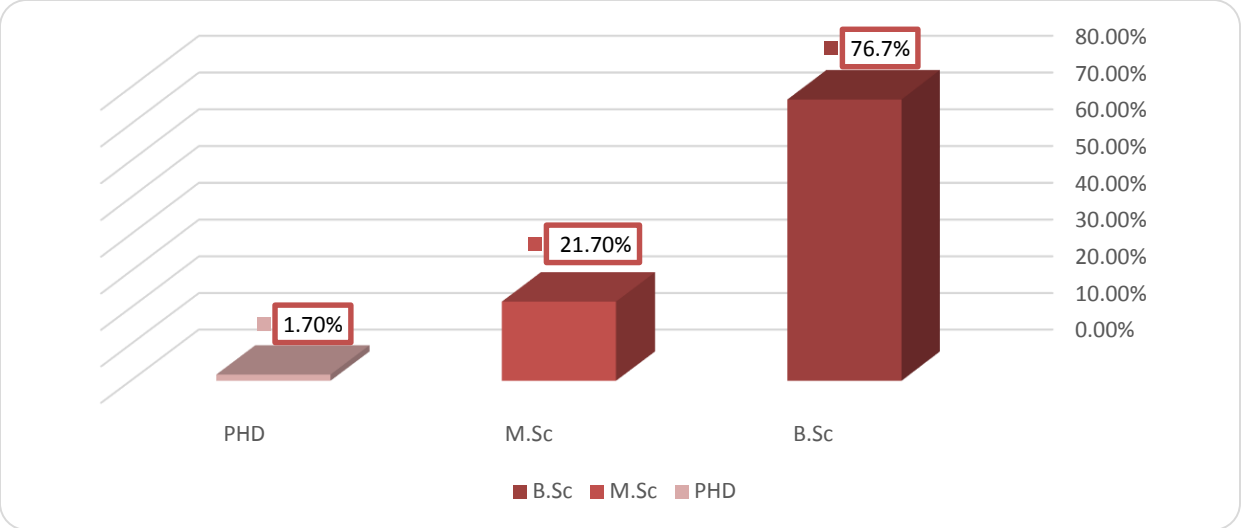

Figure No (2) Distribution of study group according to their level of education (n=60)

Figure No (2) showed that 67.7% of nurses BSc holder 21.7% of them MSc holder and 1.7% PHD holder.

Table No (2) Distribution of study group according to their experience

Phrase	Frequency	Percent
less than 1 years	25	41.7%
1-2 years	16	26.7%
3-5 years	16	26.7%
More than 5 years	3	5.0%
Total	**60**	**100.0%**

Table No (2) showed that 41.7% of nurses had experience less than 1 year, 26.7% had experience bwtween1-2years, 26.7% had experience between3-5 years and 5% had experience more than 5 years in ED.

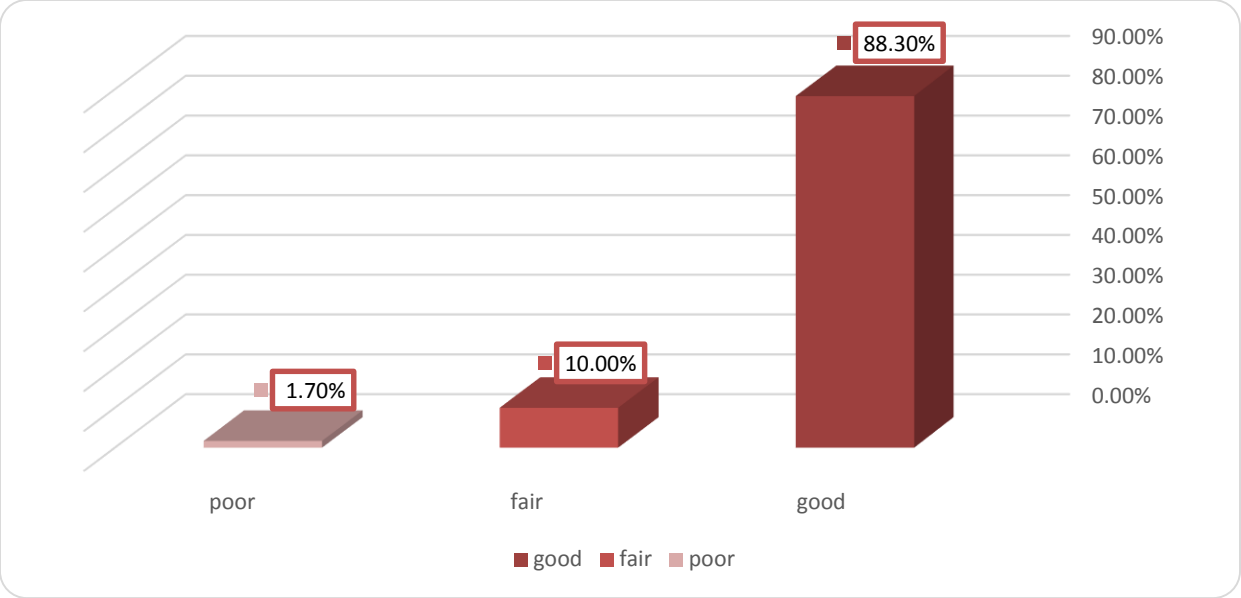

Figure No (3) Distribution of study group according to their knowledge about definition of triage (n=60)

Figure No (3) Showed that 88.3% of study group had good knowledge about definition of triage, 10%had fair knowledge and 1.7% had poor knowledge about the definition.

Table No (3) Distribution of study group according to their knowledge about the aims of triage

Phrase	Frequency	Percent
Good	54	90.0%
Fair	4	6.7%
poor	2	3.3%
Total	**60**	**100.0%**

Table No (3) Showed that 90% of them had good knowledge about the aims of triage and 6.7%had fair knowledge about the aims of triage and only 3.3%had poor knowledge about the aims of triage.

Table No (4) Distribution of study group according to the categorizing uses in triage

Phrase	Frequency	Percent
good	52	86.7%
Fair	8	13.3%
Poor	0	0%
Total	**60**	**100.0%**

Table No (4) show that 86.7%had good use of categorizing, only 13.3%had fair use categorizing in triage.

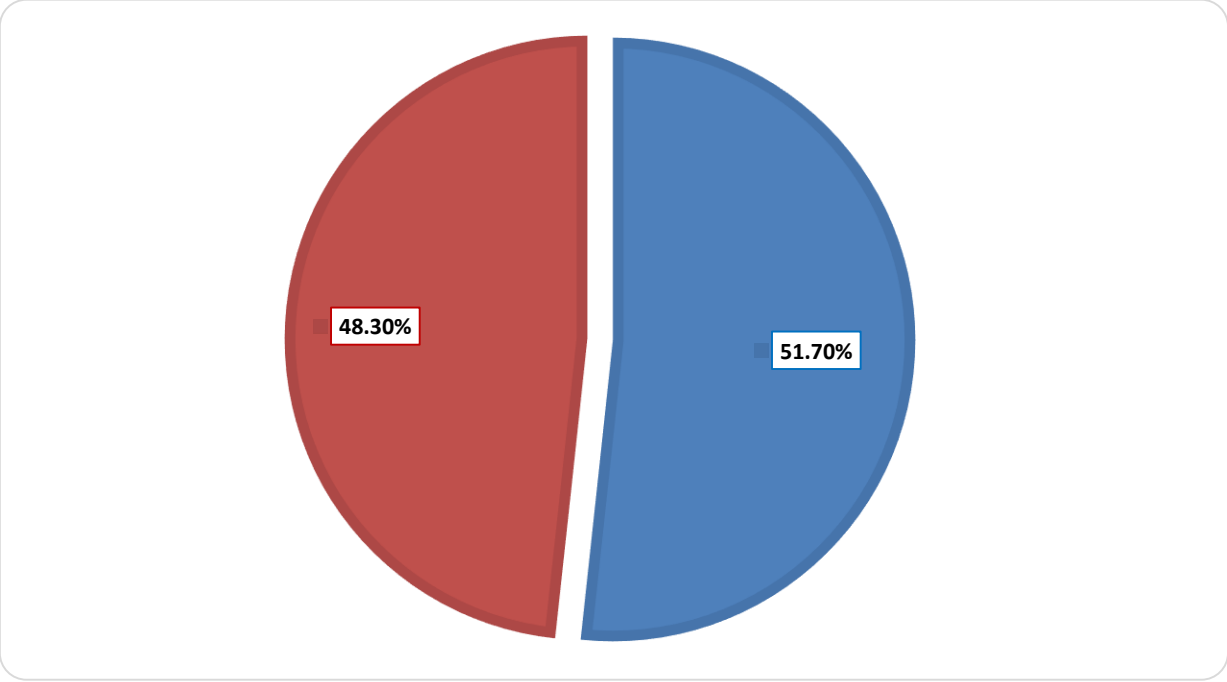

Figure No(4) Distribution of study group according to the training in triage (n=60)

Figure No(4) show that 51.7% of nurses are not receive any courses in triage and about48.3%of them have course in triage.

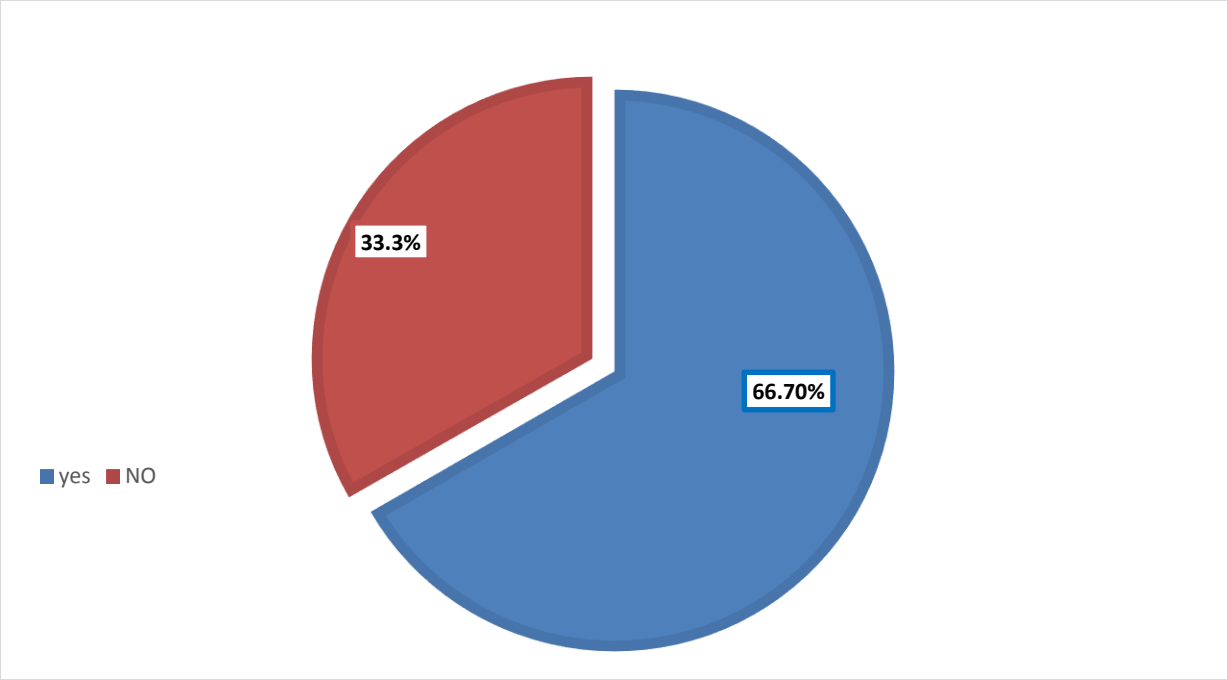

Figure No (5) Distribution of study group according to application of triage (n=60)

Figure No (5) show that66.7%of nurses say that the triage system is easy to application and 33.3%of nurses are say the triage is not easy to application.

Table No(5) Distribution of study group according to their satisfaction regarding triage service in emergency department

Phrase	Frequency	Percent
strongly agree	17	28.3%
Agree	31	51.7%
Disagree	9	15.0%
strongly disagree	3	5.0%
Total	**60**	**100.0%**

Table No(5) show that 28.3% of nurses under study are strongly agree regarding triage service,51.7% are agree,15.0%are disagree and 5.0% of them are strongly disagree regarding triage service in ED.

Table No(6) Distribution of study group according to the availability of resources in triage

Phrase	Frequency	Percent
Completely available	28	46.7%
Incomplete	27	45.0%
Not available	5	8.3%
Total	**60**	**100.0%**

Table No (6) Distribution of study group to the availability of resources in triage (n=60)

Table No (6) show that 46.7% of resources are completely available, 45.0% are incomplete and 8.3% of resources are not available.

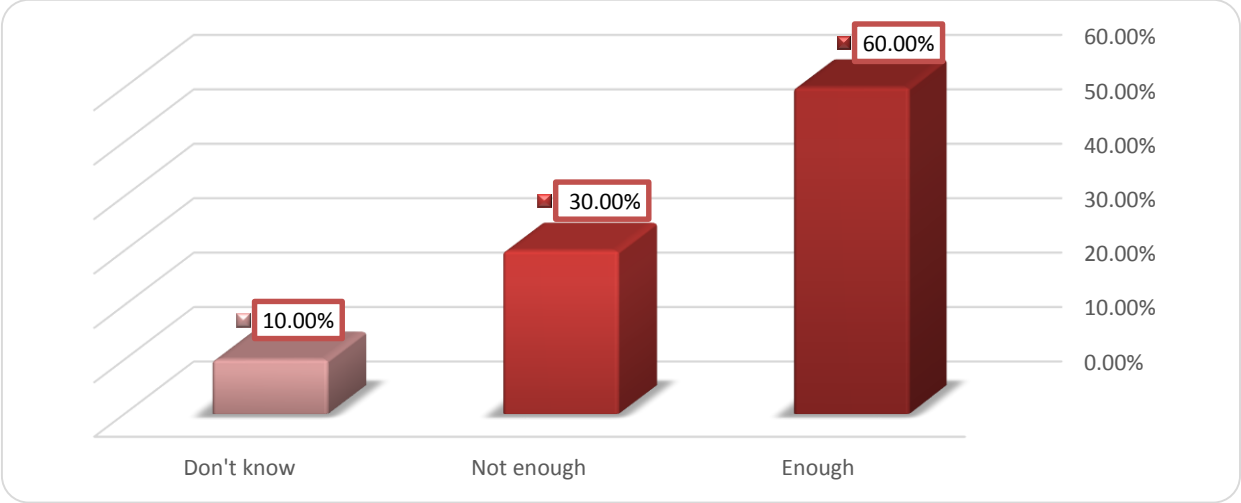

Figure No (6) Distribution of study group according to the number of staff at side of work (n=60)

Figure No (6) Show that 60.0% of nurses say that the number of staff at the side of work is enough,30.0%are not enough and 10.0% of them are don't know.

Table No(7) Distribution of study group according to improve of triaging practice

Phrase	Frequency	Percent
Equipment & Training & Decision making & Staff	18	30.0%
Equipment & Training & Decision making	9	15.0%
Equipment & Training & Staff	21	35.0%
Training & Staff	12	20.0%
Total	**60**	**100.0%**

Table No(7) show that 35.0% of nurses say that the triage practice can be improve by equipment, training & staff, 30.0% by equipment, training, decision making and staff,20.0%by training &staff and 15.0% by equipment, training & decision making.

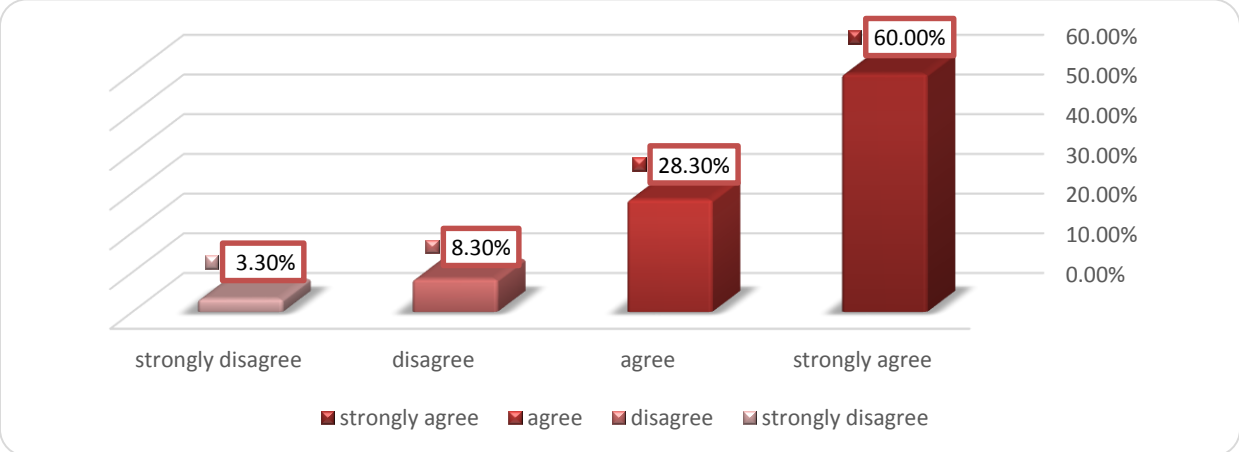

Figure No (7) Distribution of study group according to the nurses competencies (n=60)

Figure No(7) show that 60.0% of nurses under study are strongly agree that the nurse must be core competency, 28.3% are agree, 8.3%are disagree and 3.3% of them are strongly disagree.

Table No(8) Distribution of study group according to the effect of lack of training in performance in triage service

Phrase	Frequency	Percent
strongly agree	32	53.3%
Agree	22	36.7%
Disagree	4	6.7%
strongly disagree	2	3.3%
Total	**60**	**100.0%**

Table No(8) Show that 53.3% of nurses are strongly agree about the lake of training affect in the performance in triage, 36.7% are agree, 6.7% are disagree and 3.3% of them are strongly disagree.

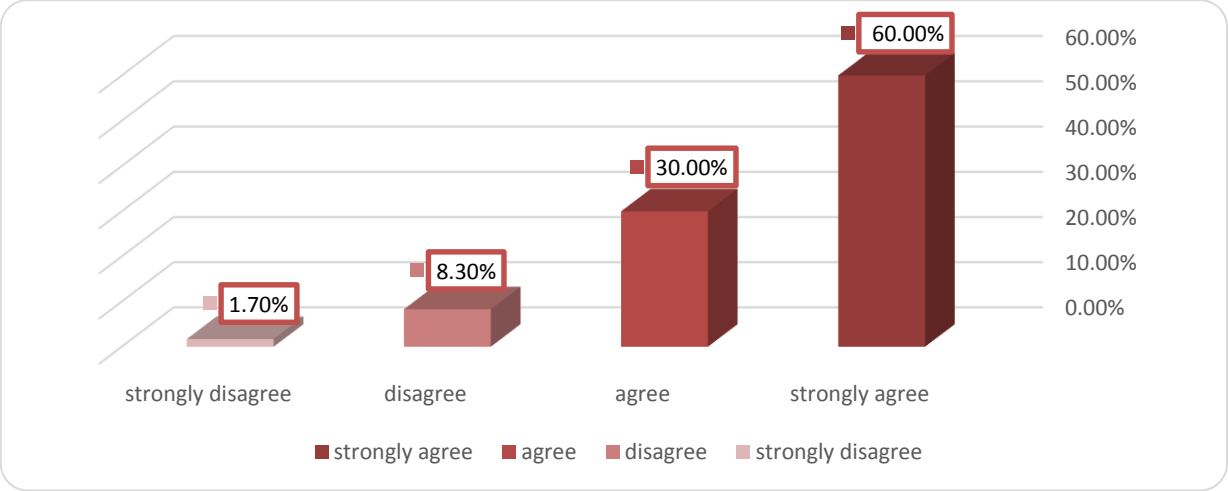

Figure No (8) Distribution of study group according to the decrease of patient wait time after using triage service (n=60)

Figure No (8) show that 60.05% of nurses under study are strongly agree that the patient wait time is decrease after using triage service, 30.0% agree, 8.3% of them are disagree and 1.7% are strongly disagree.

Table No(9) Distribution of group study according to the number of the seriousness patient arrive to emergency department at same time affect decision making

Phrase	Frequency	Percent
strongly agree	36	60.0%
Agree	16	26.7%
Disagree	4	6.7%
strongly disagree	4	6.7%
Total	**60**	**100.0%**

Table No(9) show that 60.0% of nurses are strongly agree that the number of the seriousness patient arrive at same time is affect decision making, 26.7% are agree, 6.7% of them are disagree and 6.7%are strongly disagree.

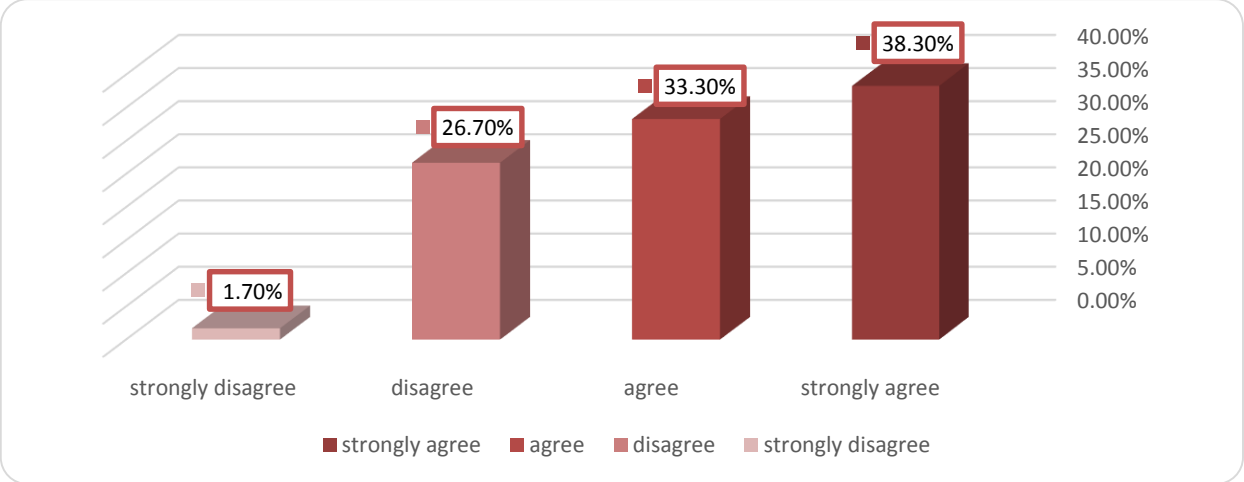

Figure No (9) Distribution of study group to the work load in performance in triage service (n=60)

Figure No(9) show that 38.3% of nurses are strongly agree that the work load is affect in performance in triage service, 33.3% are agree, 26.7% of them are disagree and 1.7% strongly disagree.

Table No(10) Distribution of study group according to the impact of Shortage of staff on triage service

Phrase	Frequency	Percent
strongly agree	26	43.3%
Agree	18	30.0%
Disagree	9	15.0%
strongly disagree	7	11.7%
Total	**60**	**100.0%**

Table No(10) show that 43.3% of nurses under study are strongly agree that the shortage of staff is effect an triage service, 30.0% are agree, 15.0% of them are disagree and 11.7% strongly disagree.

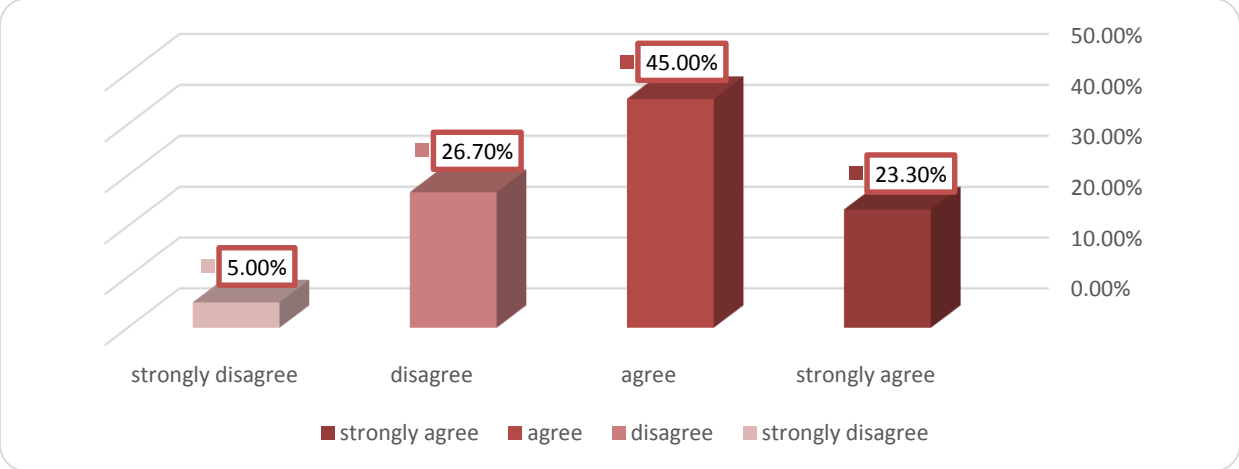

Figure No (10) Distribution of study group according to the affect number of patient in performance in triage (n=60)

Figure No(10) show that 45.0% of nurses under study are agree about the number of patients are affect in performance in triage, 26.7% are disagree, 23.3% of them are strongly agree and 5.0% are strongly disagree.

Table No(11) (n = 60) Correlation between nurses knowledge regarding triage and level of education

Knowledge	Correlation Coefficient	Level of education
	P. value	
Triage is...	0.646	0.012
Aims of triage are…….	0.725	0.023
In categorizing your patient you use….	0.815	0.004

Table No (10) showed that there is statistical significance with their level of education p value (0.012) this refer to nurses knowledge about definition of triage and there is statistical significance with their knowledge p value (0.023) this refer to nurses knowledge about causes the aims of triage also there is statistical significance with their knowledge p value (0.004) this refer to nurses knowledge about the categorizing your patient you use.

Chapter Five

5.1 Discussion

Triage in emergency department is an important aspect of health care regard less of the setting applied using standard principle remains a complex issues according to results, triage decision should be done by most senior and competence nurse, this study is a descriptive cross sectional hospital based study was conducted to assess nurse's satisfaction regarding triage service in Omdurman military hospital, the researcher went through the result and elected the following facts and information.

This study showed that two third (66.7%) of studied group their age ranged between (20-25 years) and more than two third (81.7%) were female, According to this study more than two third of nurses (76.7%) BSc holder and more than half (53.4%) of study population had experience in emergency department between(2-5years), Regarding their knowledge about definition of triage the study showed that most of participant (88.3%) had good knowledge, (10%) had fair knowledge and about (1.7%) of nurses had poor knowledge about the definition, Majority (90%) of nurses participated had good knowledge about the aims of triage, (6.7%) had fair knowledge, and (3.3%) of them had poor knowledge about the aims of triage, Regarding categorizing use in triage most (86.7%) of study population had good knowledge, and (13.3%) of them are fair knowledge, More than half (51.7%) of study population aren't receive any course in triage, (48.3%) had courses in triage. Also the study showed two third (66.7%) of nurses under study say that the triage system is easy to application, and more than one third (33.3%) say that is not easy to application, In assessment of nurse's satisfaction regarding triage service the study showed that major (80%) of study group are satisfy, and less than quarter of nurses (20%) are unsatisfied, According to availability of resources in triage less than two third (46.7%) of study population say that the resources are complete available, (45%) in complete, and (8.3%) not available, More than half of nurses (60%) under study say that the staff at side work is enough, and less than one third (30%) not enough, and (10%) of them are don't know.

The study showed more than one third of study group (35%) say that the triage practice can be improve by equipment, training & staff, (30%) by equipment, training, decision making and staff, (20%) by training &staff and less than quarter of them (15%) say the triage can be improve by equipment, training &decision making the result of recurrent research is same the line **Augustyn, J.E, & Hattingh, S.P** (2009). Regarding competency of nurse's triage more than half of nurses (60%) are strongly agree, (28.3%) are agree, (8.3%)are disagree and (3.3%) of them are strongly disagree, Regarding factors that affecting performance in triage more than half (53.3%) of study population are strongly agree that the lake of training is affect in performance in triage, more than third of nurses (36.7%) are agree, (6.7%) are disagree and (3.3%) of them are strongly disagree, also the study showed that more than half of nurses (60.%) are strongly agree that the patient wait time is decrease after using triage service, the current result were similar to the study **Katren L.Murrell, MD.** less than one third (30%) agree, (8.3%) of them are disagree and (1.7%) are strongly disagree, According to the number of the seriousness patient arrive to emergency department at same time affect decision making more than half (60%) of study population are strongly agree, less than one third of nurses (26.7%) are agree, (6.7%) of them are disagree and (6.7%)are strongly disagree, Also more than one third (38.3%) of study group are strongly agree that the work load is affect in performance in triage service, and the current study also were similar to the study that done by **VJ Ehlers** one third of them (33.3%) are agree, less than one third of nurses (26.7%) are disagree and (1.7%) strongly disagree. This study showed that less than two third (43.3%) of study less group are strongly agree that the shortage of staff is affect in triage service, than one third of nurses(30%) are agree, (15%) of them are disagree and (11.7%) strongly disagree, Also the study show that number of patient can affect in performance in triage less than two third of study population (45%) are agree about the number of patients are affect in performance in triage, less than one third (26.7%) are disagree, less than quarter of study group (23.3%) are strongly agree and (5%) are strongly disagree.

Finally the study showed that there is statistical significance with their level of education p value (0.012) this refer to nurses knowledge about definition of triage and there is statistical significance with their knowledge p value (0.023) this refer to nurses knowledge about causes the aims of triage also there is statistical significance with their knowledge p value (0.004) this refer to nurses knowledge about the categorizing your patient you use.

5-2 conclusion

This study concluded that more than two third of nurses had good knowledge about the definition of triage and major of them had good knowledge about the aims of triage, more than two third had good use of categorizing in triage, also the study showed that lack of training, inadequate staff, and limited resources well affect the profession and performance of triage service, most of study group believed the current triage service was improved by training staff, decision making, number of staff and availability of equipment. On the other hand the study revealed that the most of study group they were knowledgeable and known about factors that affect decision making and triage service, the majority of study group are satisfy regarding triage service.

5.3 Recommendation

This study carried out to assess nurse's satisfaction regarding triage service, most of nurses are BSC certificate and most of them are good knowledge about the definition and aims of triage. So in this study I recommended the flowing:

1-research and training is limited and this highlights the need for more research on triage system and for the inclusion of training on triage in medical education programmers.

2-nurses should be trained specifically to perform triage function on a rotating basis.

3-many of respondents nurses need more training, increase number of staff, and supplies this well reduce the risk of adverse patient outcomes and finally lead to satisfaction among triage services.

Appendix

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Published online November 2017(http://www.sciencepublishinggroup.com/j/ajns. Karen L. Murrell, 28. MD, MBASteven R. Offerman, MDMark B. Kauffman, RN, MBA Medical Center Applying Lean: Implementation of a Rapid Triage and Treatment System *Supervising Section Editor:* Larry Raney, MDSubmiΣed: March 19, 2010; Revision received June 18, 2010; Accepted July

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University Of Shendi

Faculty Of Graduate Studies &Scientific Research
MSc Nursing Batch (2)

Questionnaire Form:

Nurse's Satisfaction Regarding Triage Services In Emergency And Accident Department At Omdurman Military Hospital (2018)

Thank you for agreeing to participate in this research by responding to the questions below. Please Kindly tick the response that you best agree with.

DATE OF INTERVIEW: _____\ _____ \ _2018

1. Serial number: ☐

2. Age: 20-25years ☐ 26-30 years ☐ 31-35years ☐

More than 35years ☐

3. Gender: Male ☐ Female ☐

4. Educational status: Diploma ☐ B.Sc. ☐ M.Sc. ☐ PHD ☐

5. Work of experience in the ER:
Less than 1year ☐ 1-2 years ☐ 3-5years ☐

More than 5 years ☐

6. Triage is...

a. The first point of clinical contact for all people presenting to the Emergency Department and the point at which care begins ( )

b. A brief evaluation of the patient to determine a level of acuity or priority of care(

C. Medical screening of patients to determine their relative priority for treatment order ( )

d. 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 ( )

7. Aims of triage are...

a. Rapidly identify with urgent, life-threatening conditions ( )

b. Assess /determine severity and acuity of the presenting problem ( )

c. Direct patients to appropriate areas ( )

d. Re-evaluate patients awaiting treatment ( )

8. In categorizing your patient you use…

a. ABCD approach ( )

b. Vital signs ( )

c. Severity of disease ( )

d. International triage scale ( )

9. Are you received any training course in triage?

a. Yes ( )

b. No ( )

10. The triage system is easy to application…

a. Yes ( )

b. No ( )

11. Are you agree with triage service in emergency department?

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

12. The availability of resources in triage are…

a. Completely available ( )

b. Incomplete ( )

c. Not available ( )

13. The number of staff at side of work is…

a. Enough ( )

b. Not enough ( )

c. Don't know ( )

14. The current triaging practice can be improved by…

a. Equipment ( )

b. Training ( )

c. Decision making ( )

d. Staff ( )

15. Triage nurses must be core competencies...

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

16. Lack of training affected in performance in triage service…

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

17. After using triage service the patient wait time is decrease...

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

18. Number of the seriousness patient arrive to emergency department at same time affect decision making...

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

19. The work load affect in performance in triage service...

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

20. Shortage of staff have great impact on triage service...

a. Strongly agree ( )

b. Agree ( )

c. Disagree ( )

d. Strongly disagree ( )

21. Number of patient affected in performance in triage...

a. Strongly agree ( )

b. Agree ( )

c. disagree ( )

d. Strongly disagree ( )