SHANDI UNIVERCITY

Faculty of Graduate Studies and Scientific Research

Research about

Assessment of nurses Knowledge Regarding emergency care of traumatic patients in emergency department hospital in military hospital on[march to august 2017]

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

Right by; Zeinab Mohammed Ibrahim Ahmed

BSC - Khartoum university

2007

Superviser :

Dr; Sania Ahmed Mohammed Salih

Assistant professor in medical surgical nursing

2017

Dedication

I dedicate this research:

To the spring that never stop giving. Whose weaves my happiness with string of merciful heart

My father Mohammed and my mother Fatima

To whom love flow in my veins and my heart always

To my husband Osman Ahmed

To my beloved Sisters and Brothers

For this encouragement and support during years of study.

Acknowledgement

Firstly all thanks to my God who created me and made me alive till this moment.

Special thanks to Shandi University

And I would like to express my sincere gratitude to my supervisor. Dr: Sania Ahmed Mohammed Salih

to provide support, guideline and encouragement through conducting the research.

Great thanks to my beloved husband Osman Ahmed

for his big patient, support and motivation that he gave me

And finally I don't forget my family, my friend and all of them who support and give me advice during this work.

مستخلص الدراسة

تعتبر الاصابات او الصدمة من اكثر المشاكل وجودا في قسم الطوارى والمريض المصاب هو عرضة لمجموعة من المضاعفات مثلا هبوط في الدورة الدموية نسبة للنزيف الحاد او فقدان الوعي

نسبة لاهمية المشكلة فقد تم اجراء هذه الدراسة الوصفية لتقييم معرفة الممرضين فيما يتعلق بالمصابين بقسم الطوارى والاصابات وذلك خلال الفترة مابين(مارس – اغسطس 2017)

في قسم الطوارى والاصابات بالمستشفي العسكري من خلال اخذ عينة عشوائية بسيطة عبارة عن 120 ممرضة و قد تم جمع البيانات عن طريق استبيان مغلق الاسئلة وقد توصلت الدراسة الي ان معظم مجموعة الدراسة من جملة البكالريوس عبارة عن(79.0) وان سنين خبرتهم تتروح ما بين (1 – 5) سنة حول(41* 66.1).

تبين من خلال الدراسة ان معظمهم قد تلقي برانامج تدريبي عن الاصابات حوالي (41* 64.1%).

توصلت الدراسة الي ان هناك علاقة معنوية قوية بين عدد سنين الخبرة والمعرفة تجاه المضاعافات والزمن المنقذ (الساعة الذهبية) للمريض المصاب وايضا بين مستوي التعليم ومعرفة الاسباب التي تؤدي الي الاصابة وعلاجها.

وقد خرجت الدراسة ببعض التوصيات التي من شأنها زيادة المستوي المعرفي والفني للمرضين والممرضات وهي عبارة فترات تدريبية , زيادة التعليم المستمر المكثف وتقديم مصادر تحتوي علي لوائح تطبيقية.

Abstract

Trauma is the most problem in the emergency departement , patient with trauma is risk for complications .

A descriptive study was done to assess nurses knowledge regarding traumatic patients in emergency department ,it was done during period (march –august 2017) in emergency department of military hospital by simple random sample size from 120 nurses ,data was collected using questionnaire with closed ended question .

The study finding revealed that there is (49,79.0%) from nurses are has bachaloria degree and most of experience group between (1-5) years about (41,66.1%) ,the study group they are received training program about trauma management about (40,64.5%).

The study group have significant relationship between years of experience and knowledge about golden hour and complication (p-value=0.00), and other significant relationship between level of education and trauma management and causes of trauma(p-value-0.00) .

The present study recommended by increase the periodic training and intensive contenuing education and provide resources including practice quid line.

List of contents

List of figures

List of tables

Chapter one

introduction

1-1. Introduction :

Unfortunately , most of the victims of trauma are young individuals ,injury is the commonest cause of the death among people age [1-34]years and a leading cause of disability and major contributer the most health costs.(1)World health organization suggests that 1 in 10 deaths worldwide is result of un injury.

Injury is defined by the national committee for injury prevention and control as [unintentional or intentional damage to the body resulting from acute exposure to thermal, mechanical , electrical or chemical energy or from the absence of such essential at heat.Mechanical injuries such as those resulting from motor vehicle crashes , falls and fire arms (1).Trauma is the leading cause of critical illness and death in united state .One third of all trauma patients seen as level 1 trauma centers or admitted to critical care units , where they have mean stay of 5days.When assessing the victim of major trauma it is important to determine the mechanism of injury , injuries are classified as either penetrating or open may be cause by any sharp object.Between 20and 50 million more people suffer non –fatal injuries, with many incurring a disability as a result of their injuries. In the Sudan road traffic accident is the eights cause of death, while the first cause is the influenza and pneumonia.(9).

Trauma is the best manage by team approach there is NO ONE in strauma care in cases of emergency trauma requires the health services and professional to use variety of practices ,to meet high complexity and seriousness presented by violence or accident victims ,who need specific health action , intervention in emergency trauma units .the nurses routine work involves care for the most seriously ill patients .

1-2. Problem statement:

Major trauma or injury the sixth leading cause of death world wide , among those under 35 years of age it's the leading cause of death and disability .

Traffic accident alone are main cause , fundimently in low and middle income countries .(11).

Patients over 65years of age are increasing affected group for similar levels of injury, those patients have twice the mortality rate of young individuals, due to the extence of important comorbidity and associated treatment and more likely to die of medical complications late during hospital admission .

1-3.Justification

Trauma is the most problem in the emergency departement , patient with trauma is risk for complications .

Trauma is the best managed by the team approach [there is no one in trauma

Although primary and secondary survey is key to identify life threatening injuries .once a life threatening injuries is dis covered , intervention should not delayed .

Disposition is determined by patient condition as well as available resources .

The first hours after injury is very important ‘’golden hours’’ of resuscitation .

1-4. Objectives

1-4-1.general objective:

- To assess of nurses knowledge regarding trauma care.

1-4-2.Specific objective:

1.To identify nurses knowledge about Air way patency and breathing in trauma care.

2.To determine nurses knowledge about Circulation in trauma care

3.To define nurses knowledge about disability and exposure in trauma care.

Chapter two

Literature review

2-1. Introdution

Major trauma is the fifth leading cause of death in the united states it is mainly affect persons under age 36.young men have the highest over all incidence of traumatic injury [2]

2-2. Definition of trauma

Trauma is a physical injury or wound that's inflicted by an external or violent act. Trauma may be intentional or unintentional. Multiple traumas involve injuries to more than one body area or organ and are the leading cause of death in persons younger than age 45[5]

Injury is defined by the intentional committee for injury prevention and control as ''unintentional or intentional damage to the body resulting from acute exposure to thermal , mechanical ,electrical or chemical energy or from the absence of such essentials as heat or oxygen .[1,4]

2-3. Classification or types:

The type of trauma determines the extent of injury:

• blunt trauma—leaves the body intact

• penetrating trauma—disrupts the body surface

perforating trauma—leaves entrance and exit wounds as an object passes through the body other Types eg; Head injury, Spinaltrauma ,Abdominal trauma,Chest trauma,Orthopedic trauma.[2,5].

2-4. Causes:

Trauma may be caused by weapons, automobile crashes, physical confrontation, falls, or any other unnatural occurrence to the body(5) Kinetic ; is the most common such as motor vehicle collisions, falls ,gun shot wounds,Thermal,Chemical,Electrical[4]

.

2-4. Manifestation:

The primary pathophysiologic process that occurs with major trauma is shock . major trauma patient are at risk for all type of shock but the common type hypovolemic shock due to haemorrhage[1,4]

2-5. Assessment:

2-5-1. Primary assessment:

During the primary assessment the patient is assessed for life threatening problems involving his airway, breathing, circulation, disability, and exposure (ABCDEs).[5,6] Sport some life support Monitor cardiac rhythm, initiate CPR, and administer drugs and electrical shock therapy (defibrillation and synchronized cardioversion) as appropriate for cardiac arrhythmias[5]. This assessment guideline was developed for the multiple trauma patient, brought into the emergency department (ED). However, the basic primary survey—the ABCs (airway, breathing, circulation)—take precedent in any emergency situation, whether in the ED, ICU, or general care floor. The primary survey should be accomplished within the first few minutes [3]

- Put on gloves and face mask with visor, Check that needed equipment is readily available ,Ensure that needed staff is available.[3,4]
- Goal of system assessment;

Evaluate and treat life threatening injuries .[1,4] The primary survey is a crucial, rapid (less than 5 minutes) assessment. The highest priorities are to establish an airway, supplement breathing or provide ventilation, and support circulation. These are the ABCs and must always be addressed first in any situation in which a patient's status is deteriorating. The order of assessment is critical (a blunt clinical saying: "If you do not have A and B, you can forget about C."). If the team encounters a problem with the ABCs, an intervention to correct or improve the problem is initiated immediately, and its efficacy is assessed before proceeding. Once ABC is established, proceed to D (disability) and E (expose) and then to the secondary survey. Throughout, the team ALWAYS reassesses ABCs—if problems arise in ABCs , all attention is directed to the problem.[3,10]

During the primary survey all patients are Given high-flow O2, Assessed multiple times by cardiac monitoring, pulse oximetry, and BP measurement , Penetrating objects are NOT removed, This should be done only in the OR[operation room] Otherwise, catastrophic bleeding or additional injury can occur.3. during primary survey , life threatening injury are identify and managed ,each priority of care is dealt with in order [eg; patent air way should be ensure before breathing and ventilation can be established .[1,6]

Air way assessment; Determine air way patency,Is the air way open,Can the patient maintain the open air way,If there is potential for air way obstruction,Inspect the face and neck for signs of trauma,Look in the mouth for secretion ,blood ,vomitus or loos of

teeth,Palpate the neck for crepitus.[1,4] in interventions:Immobilize cervical spine. Establish patent airway with Jaw thrust/chin lift maneuver,Consider a nasal airway. Do not use an oral airway in a conscious, patient as it may induce vomiting and aspiration.[3]·Suction fluid from oropharynx,If patient is not breathing or the airway cannot be cleared, endotracheal intubation will be attempted. This will help to Protect airway and ensure patency,Correct hypoxemia,Provide access for some medications,If the patient cannot be intubated, a tracheotomy will be performed.[3,10]

Breathing assessment;ifThere is adequate air exchang,Inspect the chest for signs of trauma that could interfere with chest excursion ,Inspect the neck for tracheal deviation and jugular vein distention [JVD],Palpate the chest for crepitus ,tenderness over ribs or sternum ,Auscultate breath sounds ,What is the oxygen saturation [1,4]. Some patients are not breathing in an emergency (start CPR quickly),In a hospital, the code team will take over, and an anesthesiologist, respiratory therapist, or other highly skilled individual will assess the airway. If the patient is breathing and you hear any noises with breathing, open the mouth, and inspect the airway. Remove any obstructing material by sweeping with a gloved finger. Assess rate and ease of breathing. Check nailbed and circumoral area for cyanosis. Is the patient restless, thrashing about, extremely anxious? You will see this in an emergency unless the patient has had a head injury and is unconscious.[3] Feel trachea, examine the chest, and auscultate lungs.Evaluate ABG results.[10]

Interventions: Provide high-flow supplemental O2; manually ventilate if necessary.Identify and treat major thoracic injuries: Pneumothorax (simple, open, or tension),Hemo-pneumothorax,Rib fractures and Flail chest.[3,10]

Circulatery assessment; Observe skin color,Is there any obvious bleeding,Palpate for pulses and note strength and rate ,Palpate skin for temperature,Auscultate heart sound and Bp.[4] Check cardiac rate and rhythm and BP. Recheck every few minutes.[3] Check peripheral perfusion.

Interventions: Control external bleeding, Insert two large-bore IV accesses, Send blood for laboratory tests, and type and crossmatch,Infuse a warmed crystalloid[3,10]

Disability assessment ;Observe the patients responsive ness,If not alert ,does patient respond to pain,Determine patients GCS,Assess pupils size ,equality ,and responsiveness,Initial neurological assessment is limited to checking pupils and assessing,LOC (responsiveness) using the AVPU scale:[3,4,10]

- A _ Alert
- V _ responds to Voice
- P _ responds to Pain
- U _ Unresponsive ,Any change in AVPU requires reassessment of ABC.[3,10]

EXPOSURE**; Exposed the patient to observe signs of trauma,** Institute measure to keep the patient warm.[4]. Remove clothing (expose), and inspect for obvious injuries ,Cover patient to reduce heat loss.[3,10]

Other priorities ; assessing for hypovolemia ,External or internal blood loss can lead to inadequate tissue perfusion,Assessing for hypothermia,Obtaining base line data and performing initial interventions , the patient is place on amoniter with pulse oximetry and ECG is obtained, blood work is sent for evaluation of electrolytes ,hemoglobin,and hematocrit , blood type and cross matching , ABGs, indualing urinary catheter and nasogastric or orogastric tube are placed, Imaging studies are obtain first.[1,3,4,10]

2-5-2. **Secondary assessment**:

Gaol ; Identify all injuries to the patient has incurred.[4].Once the primary survey is completed , a more detailed head to toe ,secondary survey is done to detect life and limb threatening injuries , more detailed patient history.[1]. ,Vital signs ,Pulse rate may be elevated if the patient has experienced blood loss or stimulated of the sympathetic nervous system . or be decreased in response to elevated intra crainial pressure[ICP] from severe head injuries.[4], Respiratory rate may also increased due to SNS stimulation or hypoxia or may decreased secondary to decreased level of consciousness.4,BP will be elevated with SNS stimulation or increased ICP or decreased due to haemorrhage[3,4],Temperture may be decreased from exposure to cold environment and development of hemorrhagic shock.

History taken;AMPLE;

[allergies ,medication ,past surgeries ,pertinent medical condition ,last meal and event lead to accident],Last menstrual period for women of child bearing age,Determine the mechanism of

trauma,Determine any injury modifiers,Identify safety device used,Determine the use of intoxicants,Tetanus status ,Head to toe assessment.3,4Head to toe assessment, Inspect and palpate head and face for lacerations, contusions, fractures, orother injury, Eyes (injury, hemorrhage, contact lens, dislocation of lens), Ears and nose for CSF. Mouth.Cranial nerves, Cervical Spine and Neck, Inspect for signs of injury, tracheal deviation.Palpate for tenderness, deformity, swelling, subcutaneous emphysema.Auscultate for carotid bruits,ChestInspect for injury, use of accessory muscles.Auscultate lungs, and compare left with right, Palpate entire chest for tenderness, crepitation, and injury,Percuss Abdomen Inspect for distention, skin condition, Auscultate for bowel sounds,Percuss.Palpate; soft or rigid, tender or nontender Extremities Inspect for signs of injury or deformity. Palpate for sensation, tenderness, crepitation, abnormal movement. Check all pulses, Perineum, Inspect for rectal blood, sphincter tone. Assess for bleeding or other injury to genitalia,Back Inspect for injuries, swelling,Assess for flank pain, hematoma,Fractures Assess for bone/joint deformity. Assess for loss of function.3NeurologicalReevaluate pupils and LOC.Determine GCS,Evaluate for paralysis, paresis, motor and sensory responses of extremities[3,4]

2-6. DIAGNOSTIS STUDIES:

The diagnostic tests performed are based on the body system affected by the trauma. For example, a patient with a blunt chest injury would require a chest X-ray to detect rib and sternal fractures,pneumothorax, flail chest, pulmonary contusion, and a lacerated or ruptured aorta. Angiography studies would also be performed with suspected aortic laceration or rupture. Diagnostictests for a patient with head trauma may include a CT scan, cervicalspine X-rays, skull X-rays, or an angiogram.

Here are some other diagnostic tests that may be performed on the patient with multiple trauma:

• ABG analysis is used to evaluate respiratory status and determines acidotic and alkalotic states.

• CBC indicates the amount of blood loss.

• Coagulation studies are used to evaluate clotting ability.

• Serum electrolyte levels may indicate the presence of electrolyte imbalances.[5,6]

2-7. Management:

Trauma care basics include:

• triage

• assessing and maintaining ABCs

• protecting the cervical spine

• assessing the LOC

• preparing the patient for transport and possible surgery.Assessment of injured patient (Primary survey)

- Advanced trauma life support (ATLS)[10]

ABCDE and immediately treat the life –threatening problems, such as bleeding, pneumothorax or obstructed airway. Less urgent problems must wait until the patient is stable; they will be picked up in the secondary survey and should be treated appropriately in the definitive phase.

- Aims of ATLS:To provide an immediate treatment of patient with multiple injuries,To standardize trauma resuscitation.

- Features of ATLS:Frequent re-evaluation of patient condition,Response to treatment,A deteriorating condition necessitates a re-evaluation and treatment of ABC.
- Phases of ATLS: Initial care,Definitive care.

Initial care: Identification of a seriously injured patient relies on observation, history and physical examination. At first contact (primary survey) e.g. Abcs (Airway patency, and cervical spine control, adequacy of breathing and circulation) are quickly assessed. If there is an abnormality in anyone of these, life support\resuscitation must be initiated immediately, followed by a quick assessment of the other two parameters, e.g. The D&E (Dysfunction of the CNS, conscious level exposure and environment)The finer point of history taking (Secondary survey) including detailed examination may have wait until later.ABCDEF:

Airway obstruction:by foreign bodies, blood, saliva, or vomitus. Cervical spine injuries with or without paralysis ,Secure a patent airway: A patent airway must be secured when a GCS score less than 8.or potential for airway compromise is possible and/or the patient has respiratory failure ,requiring mechanical ventilation. The airway is secured by intubation using a rapid,sequence intubation protocol to prevent patient movement during the procedure. If the patient is unable to be intubated, a surgical airway must be performed. The surgical .4 airway of choice in an emergency situation is a cricothyroidotomy. If the cervical spinehas not been cleared, the spine must be stabilized during the procedure by maintaining constant in-line positioning with gentle traction.[4,10]

Breathing: head injuries, chest injuries, fracture ribs, open chest wound, hemothorax, tension pneumothorax, flail chest or cardiac tamponade Diagnosed by breathless or gasping, chest pain, cyanotic or pale, tachycardia, hypotensionand X-ray chest, head, cervical spine – confirms clinical diagnosis. Support ventilation: If the patient is not adequately ventilating to maintain oxygen ,saturations above 95%, the patient should be placed on supplemental oxygen. Most major trauma patients will require supplemental oxygen. Blood loss creates reduced oxygen carrying capacity, and tissue demand for oxygen is greatly increased during the hypermetabolic phase. High-flow oxygen by mask is indicated initially. Oxygen therapycan be titrated according to ABG and pulse oximetry values. Mechanical ventilation may be required if the patient is not ventilating well enough to remove CO2. If the patientdoes not have equal breath sounds, a pneumothorax or hemothorax should be suspectedand a tube thoracotomy may be indicated.(10)

Circulation disturbance (hemorrhage and shock): external or internal hemorrhage due to; fracture pelvis, chest and abdominal injuries.external hemorrhage is revealed type, while internal hemorrhage is concealed type.Signs: deep sighing respiration, restlessness, thirst, pallor or cyanotic, cold clammy skin, tachycardia, hypotension, unconsciousness in case of shock.(3). Manage hemorrhage and hypovolemia: Stopping blood loss and restoring adequate circulating blood volume are imperative. Lack of resuscitation will lead to increasing oxygen debt and eventually to MODS and death. The goal of resuscitation in any trauma patient should be to restore adequate tissue perfusion. Two or more large-bore (^16-gauge) short catheters should be placed to maximize

delivery of fluids and blood. Use of intravenous (IV)tubing with an exceptionally large internal diameter (trauma tubing), absence of stopcocks,and use of external pressure are techniques used to promote rapid fluid volume therapy when indicated. In some cases the patient may require large central venous access, such as an 8.5 Fr introducer. When rapid infusion of large amounts of fluid is required, all fluid should be warmed to body temperature to prevent hypothermia. Rapid warmer/infuser devices are available to facilitate rapid administration of blood products[6,10]

Fluid resuscitation ;should be used more judiciously in pediatric and older patients, as well as patients with Crystalloids: Initial fluid used for resuscitation should be an isotonic electrolyte solution such as 0.9% normal saline (NS), or lactated Ringer's (LR). Other balanced electrolyte solutions, such as Normosol-R pH 7.4 (Hospira) or Plasmalyte-A 7.4(Baxter) may be used after initial fluid resuscitation has been completed..Rapid bolus: From 1 to 2 L of rapid IV fluid infusion for adults and 20 ml/kg for pediatric patients should be initiated in the prehospital setting. If the patient continues to show signs of shock after the bolus is complete, blood transfusions should be considered. Packed red blood cells (PRBCs): Typed and cross-matched blood is ideal, but in theimmediate resuscitation period, if cross-matched blood is not available, type O blood may be used. Once the patient has been typed, type-specific blood can be used. Those patients requiring continuous blood transfusions need reassessment to identify the source of bleeding and definitive treatment to stop ongoing blood loss. A massive transfusion protocol may also need to be initiated.Massive transfusion is defined as replacement of one half of the patient's

blood volume at one time or complete replacement of the patient's blood volume over 24 hours

Disability syn. Dysfunction of the CNS (assessment of the conscious level), head injury, infection, diabetes, psychiatric-epilepsy, alcohol abuse-opiates, poisoning, shock, Assessment of conscious level made by AVPU system, i.e.,Alert, Response to verbal stimulant,Response pain, Unresponsive to any stimulus Pupil -size and reaction, Ensure urinary drainage: An indwelling catheter is inserted to obtain a specimen forurinalysis and to monitor hourly urine output , Prevent infection with antibiotics: Broad-spectrum antibiotics are used initially to prevent infections if there are open wounds or compound fractures. More specific antimicrobial agents are used when results from culture and sensitivity tests are available.Control pain and anxiety with analgesics and anxiolytics: Relief of pain and anxiety areaccomplished using IV opiates and anxiolytics.(11) All IV agents should be carefully titrated todesired effect, while avoiding respiratory depression, masking injury, or disguising changesin physiologic parameters. Use of the World HealthOrganization (WHO) ladder for painmanagement and a pain-rating scale are essential for the trauma population.(12)

Exposure and environment: With the consent and co-operative of patient/attendant, clothing be removed as per requirement for examination in a warm and well lit examination room, but subsequently cover the patient as much as possible, in order to decrease the anxiety and to prevent excessive heat loss. thepurpose to Identify, prevent, and/or manage hypothermia: Warmed blankets, forced warm airblankets, and warmers for IV fluids and blood should be used to prevent hypothermia. If the patient is already

hypothermic, more aggressive measures to rewarm the patient may be necessary. Warming lights are useful for pediatric patients. Core rewarming measurescan include irrigation of the peritoneal and/or thoracic cavities with warmed saline, useof heated humidified oxygen, and extracorporeal blood rewarming(11)Monitor vital signs: Pulse, BP, respiratory rate, temperature, ECG, catheterization, IV lines, monitor input/output.10-Provide gastric decompression: Gastric intubation permits gastric decompression, aids inremoval of gastric contents, and helps to prevent vomiting or possible aspiration. The nasal route is contraindicated in patients with basilar skull fractures (BSFs) because of the need to prevent tubes entering the cranial vault via abnormal openings in the fractured skull. In patients with facial trauma or suspected or known BSF, gastric tubes should be placed orally.(10)

2-7-1. Protocol of trauma management:

Disaster planning: Designating a senior person to be team leader.Defining the roles and responsibilities of each staff member.Establishing disaster management protocols.Setting up systems for:Identification of key personnelCommunication with the hospitals ,Calling for extra staff, if required,Obtaining additional supplies if required,Triage,Communicating patients' triage level and medical needs,Transportation of patients to other hospital, if possible,Evacuation,Identifying training needs,Responsibilities of trauma team leader:,Perform the primary survey and coordinate the management of airway, breathing and circulation,Ensure that a good history has been taken,Perform secondary survey,Consider tetanus

and antibiotics prophylaxis,Reassess the patient,Documentation,Communication,Prepare the patient for transfer,Communicate with relatives,Ask from input from the team, put ensure that all directions come from only one person,Comprehensive review was done, and there are many studies related to the topic of the research,The following studies are some of them:[8]

The pre- STP group was hospitalized between August 2010 & August 2011, the post -STP group between September 2011 and June 2012. There were 108 patients meeting inclusion criteria, 68 pre-STP implementation and 40post-STP. The pre and post-STP groups were similar in age (mean 37.1 vs. 38.6, p=0.644), head AIS (median 4.5 vs. 4.0, p=0.857), Injury Severity Scale (median 25 vs. 25, p=0.757), and initial GCS (median 7 vs. 7, p=0.384). Post-STP in-hospital mortality de*-creased (38% vs. 18%, p=0.024), and discharge GCS increased (median10 vs. 14, p=0.034). After controlling for potential confounders, odds of in-hospital mortality post-STP compared to pre-STP were0.248 (95%CL: 0.074-0.838, p=0.025). Hospital and ICU stay did not significantly change. The use of many ED intervention increased post-STP, including bladder catheterization (49% vs. 73%, p=0.015), hypertonic saline (38% vs. 63%, p=0.014), arterial blood gas draws (25% vs. 43%, p=0.059), and blood transfusions (3% vs. 18%, p=0.008).

Objective: Trauma is one of the most common cause of morbidity and mortality in modern society, and traumatic brain injuries (TBI) are the single leading cause of mortality among young adults, pre-hospital acute care management has developed during recent years and guidelines have shown positive effects on the pre-hospital

treatment and outcome for patients with severe traumatic brain injury However, reports of impacts on improved nursing competence level has had an impact on pre-hospital assessment and intervention in severe TBI patients in the ambulance services.

Method: A retrospective study was conducted. It included all severe TBI patients (>15years of age)with GCS of less than eight measured on admission to a level one trauma centre hospital, and requiring intensive care during2000-2009[8]

Result: 651 patients were included, and between the years 2000-2005, 395(60.7%)severe TBI patients were injured, while during 2006-2009, there were 256 (39.3%) patients. The performed assessment and interventions made at the scene of the injury and the mortality in hospital showed no significant difference between the two groups. however, the assessment of saturation was measured more frequently and length of stay in the ICU was significantly less in the group of TBI patients treated between 2006-2009.[8]

2-8. Complications of MultipleTrauma:

Hematologic; Hemorrhage, coagulopathy, disseminated intravascular,coagulation (DIC).

- Cardiac,Dysrhythmia, heart failure, ventricular aneurysm
- Pulmonary,Atelectasis, pneumonia, emboli (fat or thrombotic),acute respiratory distress syndrome (ARDS)

- Gastrointestinal;Peritonitis, adynamic ileus, mechanical bowel obstruction,acalculous cholecystitis, anastomotic leak, fi stula,bleeding, abdominal compartment syndrome
- Hepatic,Liver abscess, liver failure
- Renal; Hypertension, myoglobinuria, kidney failure
- Orthopedic

• Compartment syndrome;Skin Wound infection, dehiscence, skin breakdown

Systemic; Sepsis

NURSING Management 2-9 •

Nursing assessment and initial intervention will differfrom department to department depending onthe experience of the nurse and the resources available.A systematic approach to assessment ,so that the nurse has a framework to either assessindividual patients as they arrive in the department,or competently take part in a trauma team.Airway with cervical spine control The airwaymust be assessed and maintained while the cervicalspine is immobilised. It should be assumed thatany patient who has suffered a blunt trauma injurymay have a cervical spine injury . Therefore,manual in-line immobilisation or fullimmobilisationusing a semi-rigid collar, head blocks and tape
is essential. The only exception to this is the combativeor restless patient where forceful immobilisationmay result in further spinal damage.

Thepriority for this type of patient is to identify andtreat the cause of restlessness, for example, hypoxiaor head injury .

A sequential approach to airway assessment is needed:Talk Initially the patient should be spoken to, to elicita response. If the patient can talk it demonstrates that he or she has a patent airway and it will allow the nurse to assess the patient's level of consciousness.If the patient does not respond to verbal stimuli, then a clear airway cannot be presumed.

Look The nurse should open the patient's mouth,

looking for foreign objects that may be restricting a verbal response – teeth, blood and saliva forexample. These should be carefully removed with gentle suction using a rigid Yankauer suction catheter. The tip of the catheter must be kept in sight to ensure that it is not inserted too deeply,

causing the patient's gag reflex to be stimulated.Blind finger sweeps to remove foreign bodies shouldnot used as this may push foreign objects further into the airway. Magill forceps may be considered to remove solid foreign bodies.

Manoeuvre and adjunct The unresponsive trauma

patient should have his or her airway maintained by a jaw-thrust manoeuvre . This will allow the nurse to open the airway without extending the neck and potentially damaging the cervical spine. A correctly sized oropharyngeal airway should be inserted to further maintain airway. The jaw

thrust and airway should be sustained until help arrives to allow the patient to have a definitive airway,such as endotracheal intubation.

Breathing and ventilation All trauma patientsshould be given 100 per cent oxygen (15 litres viaan oxygen mask with a reservoir bag) because of the risk of hypoxia caused by chest injury or hypovolaemia.A careful assessment of the chest shouldbe made to detect any potential or actual life-threateningthoracic problems that may need urgent intervention

by medical staff, such as insertion of a chestdrain for a pneumothorax. Life-threatening thoracicproblems include :Major vessel disruption. Tension pneumothorax. Haemothorax. Open pneumothorax. Flail chest causing pulmonary oedema.The nurse should assess:

Respiratory rate – rapid respirations may indicate a patient who is shocked or in pain. Extremelyslow or absent respirations may indicate the needto start artificial ventilation using a bag, valvemask device. Respiratory depth – shallow breaths may be indicative of an injury that is causing pain or a restriction in lung or chest movement. Respiratory symmetry – breathing that is unequal or asymmetrical may indicate bony rib injury or an underlying pneumothorax. Observe the chest – for any wounds, bruises or other signs of injury.(8).Nurses with the prerequisite knowledge and skills should auscultate the patient's chest to listen for air entry and breath sounds. Oxygen saturation monitoring should be applied, however, it must be remembered that the reading may not be accurate in a shocked, cold or burned trauma patient . Any abnormalities in breathing should result in the nurse seeking more senior or expert help if the trauma team is not yet present.(7) .

Management of traumatic wounds usually depends on the specific type of wound and degree of contamination. Treatment may include: controlling bleeding, usually by applying firm, direct pressure and elevating the extremity ,cleaning the wound ,administering pain medication ,administering antibiotic therapy and surgery.(5).

Firstly; Assess ABCs and initiate emergency measures if necessary; administer supplemental oxygen as ordered,Immobilize the head and neck with an immobilization device,sandbags, backboard, and tape. Assist with cervical spine X-rays,Monitor vital signs and note significant changes,Monitor oxygen saturation and cardiac rhythm for arrhythmias, Assess neurologic status, including LOC and pupillary and motor

response.[5]·Obtain blood studies, including type and crossmatch,Insert two large-bore I.V. catheters and infuse normal saline or lactated Ringer's solution,Quickly and carefully assess for multiple injuries,Assess wounds and provide wound care as appropriate. Cover open wounds and control bleeding by applying pressure and elevating extremities,Assess for increased abdominal distention and increased diameter of extremities,Administer blood products as appropriate,Monitor for signs of hypovolemic shock.Provide pain medication, as appropriate.Provide reassurance to the patient and his family,Explain diagnostic tests and treatments.[5].

Chapter three

Material and methods

3.material and methods:

3-1. Study design:

This study is descriptive, cross-sectional, Hospital based study.

Study time: this study was conducted on period [march-august 2017].

3-2. Study area:

The study was conducted on Sudan, Khartoum state which is the capital of Sudan, located at the confluence point of the White Nile Blue Nile, governance center in Sudan. The city is characterized by its location Alastrateja in central Sudan. The population density on Khartoum state (2.682.431) people.

Omdurman is the second largest city in Sudan and Khartoum state, lying on the western banks of the River Nile, opposite the capital, Khartoum..

3-3. Study setting.

Trauma and emergency hospital in military hospital is located in baanet localization ,lying on the western lie of white river nile ,ites a largest medical city in Khartoum state ,there are six department [medical, surgical , pediatric , obesth and gyne ,psychiatric and ortheopedic department ,and ICU , CCU, lab, nutrition department and educational department and fasilities. other……]

Trauma and emergency hospital located near the junction of blue and white nile from western line and behind Aalia hospital ,limited by gasr of young and children from northen area,its has triage , trauma unit ,asthma unit,[C1-

C2],room Aand B [resuscitation room],2 critical care unit,2 ward VIP and LAB other ..

3-4. Study population:

all the nurses working in trauma unit during study period were included .

3-4-1. Inclusion criteria:

The Registered Nurses in the ED were included in the study.

3-4-2. Exclusion criteria:

Nurses with less than one year experience were excluded and military nurses.

3-5. Sample size and technique:

Simple random sample was taken from all nurses accept who was refused.

Variables: education level, years of experience ….

The sample size was calculated by the equation:

n=N/2 + (d)2

N=population size

n=sample size

d=sample error (.05)

Total population were 120

Sample size were (62)

3-6. Data collection tools:

Closed ended, standard questionnaire used, composed of 3parts, part one demographic data (3questions), part two[4question] and part three[16question] about nurses knowledge about emergency care.

Rational scaling (good, fair, or poor knowledge)

Good knowledge for more or equal 75percent

Fair knowledge for more or equal 50percent

Poor knowledge for less than 50 percent

Data collection teqhnique ; the data was collected during 2wks three shift were covered after explain the purpose of study .

3-7. Data analysis :

The data was coded and analyzed manually by simple statistical technique (master sheet) then entered into the computer by use of the statistical package of social scientific (SPSS) 22), different statistical measures were used e.g. (frequency, percentage, mean, median, standard deviation, and CHI-squire). Then the data was presented in the forms of figures and tables.

3-8. Ethical consideration:

Approval from military hospital and Emergency Hospital (Training Administration), verbal consent from the nurses were taken.

Chapter four

Result

4-1. figure picture:

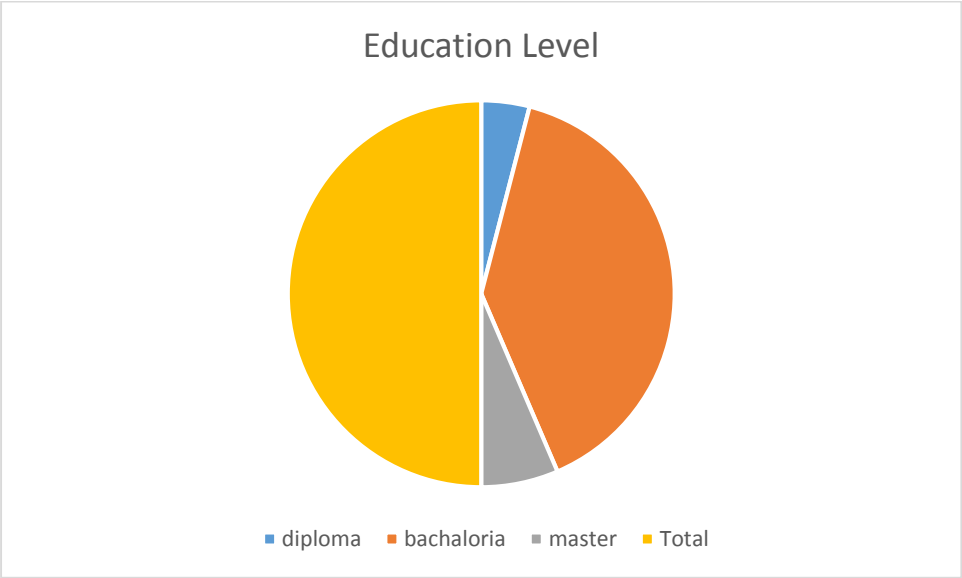

Figure 1; study group level of education

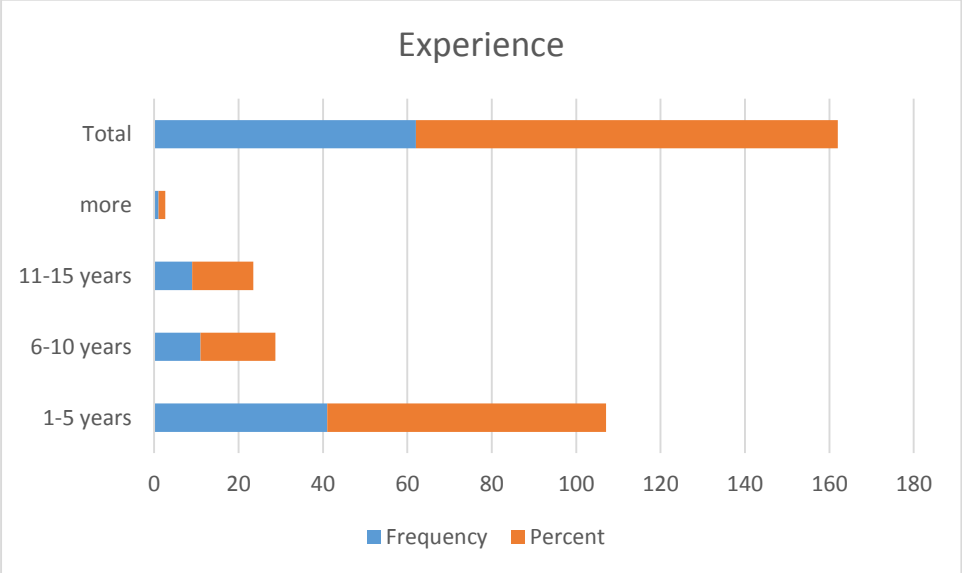

Figure 2 ;study group years of experience

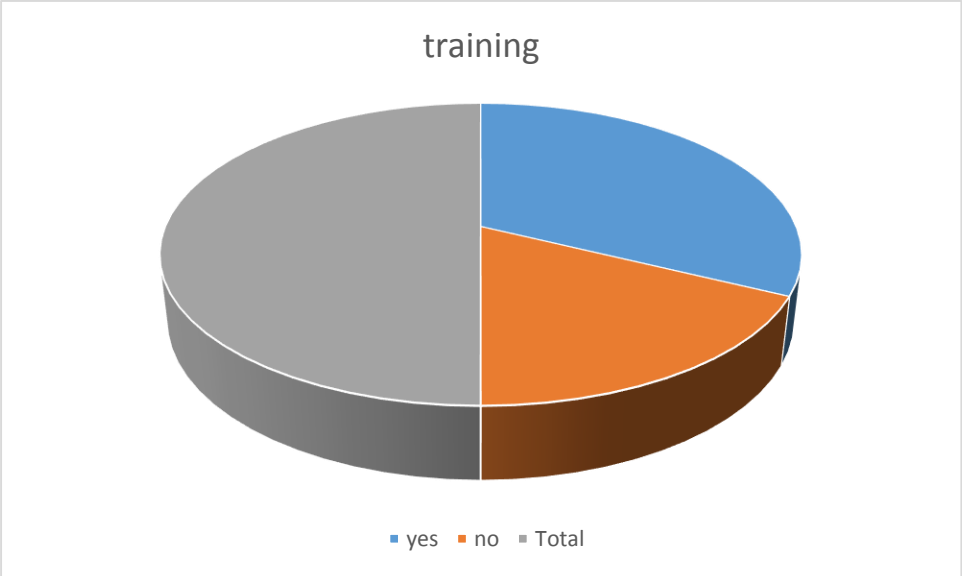

Figure 3 ;study group of training program

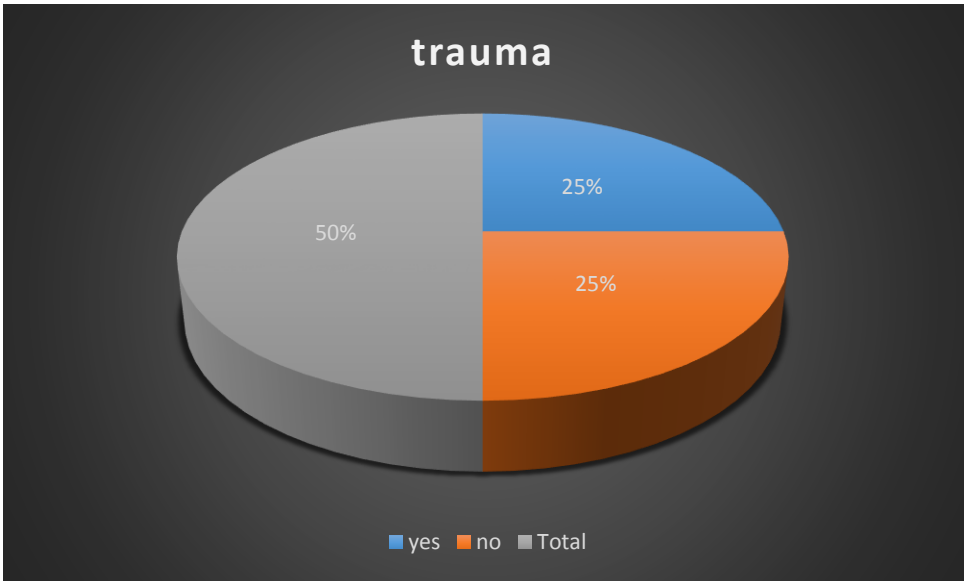

Figure 4;study group trauma definition

4-2. frequent table:

Table (1) : study group level of knowledge about causes of trauma

Level of knowledge	Frequency	Percent
Good	10	16.1
Fair	32	51.6
Poor	20	32.3
Total	62	100.0

Table above showed that (16.1%)of group study has good knowledge about causes of trauma , (51.6%) has fair knowledge and about (32.3%) has poor knowledge .

Table(2): study group level of knowledge about management of trauma

Level of knowledge	Frequency	Percent
Good	27	43.5
Fair	20	32.3
Poor	15	24.2
Total	62	100.0

The above table revealed that more than one third has good knowledge about trauma management (43.5%),(32.3%)has fair knowledge and (24.2%) has poor knowledge.

Table (3): study group level of knowledge about golden hour

Level of knowledge	Frequency	Percent
Good	23	37.1
Fair	34	54.8
Poor	5	8.1
Total	62	100.0

the above table showed that more than one half of study group (54.8%) has fair knowledge about golden hour ,(37.1%) has fair knowledge and about (8.1%) has poor level .

Table(4): study group level of knowledge about phases of management

Level of knowledge	Frequency	Percent
good	12	19.4
fair	45	72.6
poor	5	8.1
Total	62	100.0

The above table revealed that more than two third of study group (72.6%) has fair knowledge regarding phases of management , about (19.4%) has good knowledge and (8.1%) has poor level of knowledge .

Table (5):study group level of knowledge about component of primary survey

Level of knowledge	Frequency	Percent
Good	14	22.6
Fair	44	71.0
Poor	4	6.5
Total	62	100.0

The above table showed (22.6%) of study group with good level of knowledge ,(71.0%) has fair knowledge and (6.5%) has poor knowledge.

Table(6): study group level of knowledge about primary survey

Level of knowledge	Frequency	Percent
good	20	32.3
fair	40	64.5
poor	2	3.2
Total	62	100.0

The above table showed (32.3%)from study group has good knowledge regarding primary survey, (64.5%) has fair knowledge and (3.2%)has poor knowledge.

Table(7): study group level of knowledge about initial support

Level of knowledge	Frequency	Percent
Good	15	24.2
Fair	37	59.7
Poor	10	16.1
Total	62	100.0

The above table showed more than one half of group study (59.7%)has fair knowledge ,(24.2%) has good knowledge and (16.1%)has poor knowledge.

Table(8): study group level of knowledge about air way

Level of knowledge	Frequency	Percent
Good	16	25.8
Fair	39	62.9
Poor	7	11.3
Total	62	100.0

The above table showed that about (62.9%) of group study has fair knowledge regarding air way patency ,(25.8%)has good level and (11.3%)with poor level.

Table(9):study group level of knowledge about breathing assessment

Level of knowledge	Frequency	Percent
Good	17	27.4
Fair	40	64.5
Poor	5	8.1
Total	62	100.0

The above table showed that are (27.4%) of group study has good knowledge about breathing assessment ,(64.5%) has fair knowledge and (8.1%)has poor knowledge.

Table(10): study group level of knowledge about intubation

Level of knowledge	Frequency	Percent
Good	20	32.3
Fair	36	58.1
Poor	6	9.7
Total	62	100.0

The above table revealed more than one half of group study has fair knowledge (58.1%)regarding important of intubation ,(32.3%)has good knowledge management and (9.7%)has poor level.

Table (11):study group level of knowledge about circulation assessment

Level of knowledge	Frequency	Percent
Good	20	32.3
Fair	32	51.6
Poor	10	16.1
Total	62	100.0

The above table showed that (51.6%)from group study has fair knowledge regarding circulation assessment (32.3%) has good knowledge and (16.1%) has poor knowledge .

Table(12):study group level of knowledge about bleeding management

Level of knowledge	Frequency	Percent
Good	20	32.3
Fair	36	58.1
Poor	6	9.7
Total	62	100.0

the above table showed there are (32.3%)from study group has good knowledge about bleeding management ,(58.1%) has fair knowledge and (9.7%)has poor knowledge.

Table (13):study group of control of bleeding

Level of knowledge	Frequency	Percent
Good	22	35.5
Fair	36	58.1
Poor	4	6.5
Total	62	100.0

The above table revealed more than one half of group study (58.1%)has fair knowledge ,(35.5%) has good knowledge regarding control of bleeding and (6.5%) has poor knowledge.

Table(14):study group of signs of internal bleeding

Level of knowledge	Frequency	Percent
Good	20	32.3
Fair	34	54.8
Poor	8	12.9
Total	62	100.0

The above table showed that are (32.3%)from group study has good knowledge about internal bleeding ,(54.8%) has fair knowledge and (12.9%) has poor knowledge

Table(15) :study group of fluid resuscitation

Level of knowledge	Frequency	Percent
Good	16	25.8
Fair	40	64.5
Poor	6	9.7
Total	62	100.0

The above table revealed high percent in fair level of knowledge about (64.5%)from study group ,(25.8%)has good level about fluid resuscitation and (9.7%) has poor level.

Table(16) :study group of disability assessment

Level of knowledge	Frequency	Percent
Good	25	40.3
Fair	31	50.0
Poor	6	9.7
Total	62	100.0

The above table showed there are (40.3%)from study group with good knowledge ,(50.0%) has fair knowledge and the poor level about (9.7%)

Table (17):study group important of exposure

Level of knowledge	Frequency	Percent
Good	24	38.7
Fair	28	45.2
Poor	10	16.1
Total	62	100.0

The above table revealed more than one third (38.7%)from group study has good knowledge ,(45.2%) has fair level and poor level about (16.1%)

Table (18): study group about essential consideration

Level of knowledge	Frequency	Percent
Good	36	58.1
Fair	22	35.5
Poor	4	6.5
Total	62	100.0

The above table showed there are high grade in good level about knowledge of essential consideration (58.1%) ,(35.5%)from study group has fair knowledge and the poor level about (6.5%).

Table(19);study group of complication of trauma

Level of knowledge	Frequency	Percent
Good	26	41.9
Fair	30	48.4
Poor	6	9.7
Total	62	100.0

Above table showed (41.9%) from study group with good knowledge regarding complication of trauma ,(48.4%)has fair level and (9.7%) about poor knowledge .

4-3. Crosstab

Table NO (20); correlation between years of experience of study group and their knowledge regarding golden hour in protocol of trauma management

		Golden Hour			Total	P-value
		Good	fair	Poor		
Experience	1-5	23	18	0	41	0.00
	6-10	0	11	0	11	
	11-15	0	5	4	9	
	>15	0	0	1	1	
Total		23	34	5	62	

*significance at p –value =or less 0.05

**highly significance at p-value =or less 0.01

The above table showed that was highly significant relationship (p-value =0.00) between years of experience of study group and their knowledge regarding golden hour for traumatic patients.

Table NO(21); correlation between years of experienceof study group and their knowledge regarding disability assessment

		Disability			Total	P-value
		Good	satisfied	Poor		
Experience	1-5	25	16	0	41	0.00
	6-10	0	11	0	11	
	11-15	0	4	5	9	
	>15	0	0	1	1	
Total		25	31	6	62	

*significance at p-value =or less 0.05

**highly significance at p-value = or less0.01

above table showed was highly significant (p-value=0.00) relationship between year of experience of group study and their knowledge regarding disability assessment.

Table NO (22); correlation between year experience of study group and their knowledge regarding complication of trauma

		Complication			Total	P-value
		Good	satisfied	Poor		
Experience	1-5	26	15	0	41	0.00
	6-10	0	11	0	11	
	11-15	0	4	5	9	
	>15	0	0	1	1	
Total		26	30	6	62	

*significance at p-value =orless 0.05

**highly significance at p-value =or less 0.01

Above table showed was highly significant (p-value=0.00) relationship between years of experience of study group and their knowledge regarding complications of trauma.

Table NO (23);correlation between education level of study group and their knowledge regarding causes of trauma

		Cause			Total	P-value
		Good	satisfied	Poor		
Education	diploma	5	0	0	5	0.00
	Bachaloria	5	32	12	49	
	Master	0	0	8	8	
Total		10	32	20	62	

*significance at p-value =or less 0.05

**highly significance at p-value =or less 0.01

Above table showed was highly significant (p-value=0.00) relationship between education level of study group and their knowledge regarding causes of trauma.

Table NO(5);correlation between education level of study group and their knowledge regarding golden hour

		Golden hour			Total	P-value
		Good	satisfied	Poor		
Education	diploma	5	0	0	5	0.00
	Bachaloria	18	31	O	49	
	Master	0	3	5	8	
Total		23	34	5	62	

*significance at p-value =or less 0.05

**highly significance at p-value =or less 0.01

Above table showed was highly significant (p-value=0.00) relationship between education level of study group and their knowledge regarding golden hour.

4-4. Discussion

The nurses knowledge regarding trauma emergency care is an important because trauma (unintentional injuries) is the fourth leading cause of death in US and the leading cause of death for those age 40-50yr ,90percent of the world fatalities on the roads occur in –middle incomes countries(10),(12),(13) .

The result showed that more than two third (49, 79.0 %)from nurses has bachaloria degree , and about two third (41 , 66.1%) the experience years between (1-5yr) , the study group they received training course about trauma management about two third (40, 64.5%) and more than half (31,50%) from the nurses are know the meaning of trauma .

The study showed that more than half from nurses has good knowledge about the causes(32,51.6%)and less than half (27, 43.5%)about trauma management ,the most common level of knowledge are satisfy ,there are more than half from study group with fair knowledge (34,54.8%)about golden hour, more than two third (45,72.6%) from nurses has fair knowledge about phases of management , also more than two third (44,71.0%,40,61.5%) about component of primary survey and assessment ,and less than two third (37,59,7%)about initial support ,(39,62.9%)also 2third has fair knowledge about air way patency, althaw there 2third from study group with fair knowledge (40,64.5%) about breathing assessment ,and one third(20,32.3%) from nurses has same level of good knowledge about important of intubation and circulation assessment ,(36,58.1%) more than half of nurses about bleeding management and bleeding control also has knowledge is on fair level (36,58.1%) and more than half with fair level (34,54.8%)about signs of internal bleeding ,there are 2 third from study group with fair knowledge (40,64.5%)about fluid rescusitation ,the level of education and experience affected in the nurses knowledge by significant association between the education level and causes, management and golden hour(p-value=o.oo) ,and between year of experience and golden hour ,disability and complication.(p-value=o.oo)

By the result of previous study on pre hospital assessment and intervention in sever traumatic brain injury showed ;651 patients were included, and

between the year2000-2005 ,395,(60.7%) sever TBI patients was injured .while during 2006-2009 ,there were 256(39,3%) patients . the performed assessment and intervention made at the scene of the injury and the mortality in the hospital showed no significant difference between the two groups.

However ,the assessment of saturation was measured more frequently and length of stay in the ICU was significantly less in the group of TBI patients treated between 2006-2009 .

The study showed more than half with good knowledge about disability ,exposure , essential consideration (36,58,1%) and complication .

4-5. Conclusion :

The current study revealed that that mostly of study group had good knowledge regarding trauma management ,disability assessment ,essential consideration and complication of trauma, and some one has poor knowledge about the common causes .

Most of nurses has fair knowledge regarding golden hour ,phases of management ,component of primary survey ,initial support , air way clearance ,breathing assessment ,circulation ,disability and exposure and environmental assessment.

• 4-6. Recommendation:

- Enhance nurses education level by periodic training .
- Provide educational posters in ED and trauma unit about protocol of trauma care and management.
- Utility from the researches finding to improve nurses knowledge.
- Intensives and continuing education .
- Provide resources including practice quidelines.

References:

1.Particia gonce morton , Dorrie K. Fontaine . ESSENTIAL OF CRITICAL CARE NURSING aholistic Approach . (9thed.) .China . Walters Layered health / Lippincott Williams and Wikins ; c2013.p 471,472,473.

2.Linda williams , Paula d hopper , under standing medical surgical nursing (3rd ed.) .United State of Amirica ;FA Davis company ;

C 2007 . p 210 .

3.Tracy Hopkins ,When Myers .Med Surg Notes Nurses clinical Poker Guide.(2nd Edition ed.). China by Imago ; FA Davis Company .c 2008 .p 160- 164 .

4. Marianne Saunorus baird ,Susan bethel .Manual of Critical Care Nursing NURSING INTERVENTION AND COLLABORATIVE MANAGEMENT .(6th Edition ed.).Pat Joiner –myers ;c 2011. p 237 - 240 .

5.J christopher burghardt ,Joan. M Robinson ,Lucia Kubik ,Melissa c morris .Critical Care nursing made Incredibly Easy .(3rd Edition ed.). china ; Walter Layered health /Lippincott Williams and Wilkins ;c 2012.

6. Marianne chulay , Susanne m burns ,Lucia Kubik ,Melissa c morris .AACN essential of critical care nursing .(1st ed .) .

United State Of America; MC Graw- Hill Companies ; c2006 .

7. assessment and management of trauma patient (N S 247cole E – 18, 41, 45, -51 date of acceptance April /20/2004.

8.ann.ch –falk , Annika ALM ,Veronica lindstrem , has increased nursing competence in the ampulance services impacted on pre hospital assessment and intervention in sever traumatic brain injured patient, journal of trauma resuscitation and emergency medicine 2014.

9.health profile sudan . www.world liffeexpectency.com at 11;37pm ,23 feb 2017.

10.PS Kapoor ,accident and emergency , Etiology , diagnosis and management 1st Edition 2012.

11.Hana Nichlos ,the top 10 leading causes of death in united states , www.medical news today .com in 23 feb 2017 at 11;34pm.

12. WHO/road traffic injuries ,www.who.int ,3/7/2017 at 1;10am.

shandi university

faculty of graduate studies and scientific research

questionare about nurses knowledge regarding emergency care of traumatic patients in emergency departement in military hospital

part one;

1.level of education;

A, diploma ( ) b. bachaloria ( )

c.master ( ) d. PHD ( )

2.years of experiance;

A.1-5 year ( ) b. 6-10year ( )

c. 11-15year ( ) d. more ( )

3. do you attend training program of trauma management previously

yes ( ) NO( )

part two;

please answer next question

1. **do you know trauma definition ?**

yes( ) NO( )

2.What is the common causes of trauma

a.motor vehechle collisions ( ) b. full down ( )

c,guns shot ( ) d.fire arms ( )

3.do you know about trauma managment and ABCDE approach

a.few information ( ) b. little information ( )

c.full information ( ) d. Idon't know ( )

part 3;

please tick all the right answer;

1.the golden hours in trauma patients is

a.first 2hrs after injury ( ) b, the moment of accident ( )

c.few minute to hour ( ) d, all above ( )

2.what the phases of trauma managenet

a.ABCDE approach ( ) b. primary survey ( )

c.secondery survey ( ) d. stabilization of the patient ( )

3.the componant of primary assessment of traumatic patients are;

A,triage **( )** b.ABCDE approach ( )

c.call for help ( ) d. send blood sample for blood type , hemoglobine and cross mathing ( )

4.what do you do during primay assessment

a.identify life threatening injury and managed ( ) b.ensure air way patency ( )
c.edequate air exchang ( ) d, observe any sign of bleeding ( )

5.the initial support in primary assessment are

a.given high flow oxygiene ( ) b. cervical cola ( )

c.put patient on cardiac monitering ( )

d.peneterating objects are not remove except in opeation room ( )

6.to maintain air way patent put patient on;

a.jaw thrust maneuvvar ( ) b.consider anasal air way ,use oropharyngeal air way ( ) c. suction fluid from oropharynx ( ) d. endotracheal intubation ( )

7.to assess adequacy of breathing check for;

a.respiratory rate ( ) b.sign of hypoxia by po2 satoration ( )

c.ABGs sample ( ) d. auscultate chest for hemo or pneumothorax ( )

8.the important of intubation is;

a. airway and ensure patency( ) b. correct hypoxemia( )

c.treat of respiratory acidosis( ) d. provide acess for some medication( )

9.in circulation assessment observe by ;

a.heart rate ( ) b. blood pressure ( )

c.capillary refill time ( ) d. level of conscious ness ( )

10.the first two line in bleeding management are

a.control bleeding ( ) b.insert two large I.V acess or large ceteral venous chatheter( )
c.send blood sample for cross matching ,tests,eg Hb( ) d. infused awarmed crystalliod**( )**

11.controlling of bleedig by ;

a. applying pressue on site of bleeding( ) b.elevating the extremities( )

c.dont remove the sharp object( ) d. suturing( )

12.the signs of internal bleeding are;

a.Tachycardia ( ) b. hypotention ( )

c.Loss of consciousness ( ) d.cold exterimities ( )

13.the best type of fluid for resuscitation is

a.isotonic crystalloid [N.S-RL](b.packed red blood cell( )

c.massive blood transfusion ( ) d.some times dextar ( )

14.level of conscious ness assess by ;

a.APVU scale ( ) b. GCS scale ( )

c.d,Aand B ( ) all of its true ( )

15.exposure andenvironmental control to observe;

a.anterior andposterior surface ( ) b.spinal cord ( )

c.rectal examination ( ) d. to aviod hypothermia ( )

16.the essential considerations in trauma care are;

a.primary survey ( ) b.x-ray for servical spine ,chest and pelvic imagining ( )
c.operation intervention ( )

d.all above ( )

17.what are the possibile complication of trauma

a.hypovolemic shock( ) b. anaphylactic shock ( )

c.neurogenic shock( ) d. tention pneumothorax( )