



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Shendi University



Faculty of Graduate Studies and Scientific Research

Research about:

**Assessment of Nurses Knowledge Regarding Care of
Unconsciousness Patients in El-mak Nimer University
Hospital**

*A thesis submitted in requirements of Partial Fulfill for The
Master Degree in Medical Surgical Nursing Science*

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December 2014

الآية

بسم الله الرحمن الرحيم

قال تعالى :

﴿ قُلْ يَا عِبَادِيَ الَّذِينَ أَسْرَفُوا عَلَىٰ أَنفُسِهِمْ لَا تَقْنَطُوا
مِن رَّحْمَةِ اللَّهِ إِنَّ اللَّهَ يَغْفِرُ الذُّنُوبَ جَمِيعًا إِنَّهُ هُوَ
الْغَفُورُ الرَّحِيمُ ﴾

صدق الله العظيم

سورة الزمر -

الآية (53)



Dedication

To

*Who have taught me a lot through the life
Who trained me how I can change to better*

Dear Father

To

*Who taught me what is the meaning of life dried my tear and filled my
heart with delight*

Dear Mother

To

*The deepest feeling who supported me always learn me to give even
without take*

Dear brothers and sisters

To

*Who have supported me on difficult steps of my life taught me the
meaning of hope and who lead me to the way of success*

My teachers

*My thanks are expanded to all of my colleagues and friends and every one
support me during this study and to all nurses in Elmek Nimer university
hospital there are cooperative with me to complete this research*

Acknowledgement

*First of all, I would like to say **Alhamdulillah**,
For giving me the strength and health to do this research work
until it done not forgotten to my family
I wish to express my sincere gratitude to the department of high
graduate nursing colleague, Shendi university, for providing me
an opportunity to do my
research on nursing knowledge about neonatal sepsis
I sincerely thank to my research guide
Dr. Higazi Mohammed Ahmed
For guidance and encouragement in carrying out this research*

ملخص الدراسة

مقدمة:

فقدان الوعي هو عدم القدرة على إشعار أو الاستجابة للمحفزات في البيئة. قد يصبح الشخص فاقد الوعي بسبب الحرمان من الأوكسجين، صدمة، اكتئاب الجهاز العصبي المركزي مثل الكحول والمخدرات، أو الإصابة والمريض بحاجة إلى رعاية خاصة.

منهجية الدراسة:

دراسة وصفية أجريت بمستشفى المك نمر الجامعي بمدينة شندي في العام 2014م غطت الدراسة 40 ممرض وممرضه . تم جمع البيانات عن طريق الأسئلة المغلقة ثم تم تحليل البيانات بواسطة الحاسوب باستخدام البرنامج الإحصائي وعن طريق التحليل اليدوي.

الأهداف:

هدفت هذه الدراسة إلى تقييم معرفة الممرضين بالمرضى فاقد الوعي وتقييم العناية التمريضية المقدمة لهم.

النتائج:

أظهرت النتائج أن (57.5%) من الممرضين لديهم معرفة تامة عن أسباب فقدان الوعي. كما أظهرت الدراسة أن (63%) من الممرضين يعرفون استخدام مقياس درجة الوعي.

التوصيات:

أوصت الدراسة علي المستشفى أن تنشئ برنامج التدريب المنتظم وورش عمل حول الرعاية التمريضية للمرضى فاقد الوعي وزيادة المهارات العملية بالتعاون مع وزارة الصحة، توفير إصدارات من الكتب والمنشورات حول كيفية رعايتهم وتحديد خطة موحدة لتحديد ومعالجة مشاكلهم واعتبارها مهمة.

Abstract

Introduction:

Unconscious is Interruption of awareness of oneself and one's surroundings, lack of the ability to notice or respond to stimuli in the environment, a person may become unconscious due to oxygen deprivation, shock, central nervous system depressants such as alcohol and drugs, or injury and the patient need special care.

Study method:

This was Descriptive, hospital-based study, covered all nursing staff in hospital and they were 40 nurse, the collected data was analyzed by using computer software SPSS program.

Objectives:

The study aim to assess nurses knowledge about definition and causes of unconscious patients, to assess nurses' knowledge regarding classification and level of consciousness, to assess nurses knowledge regarding management and complication of unconscious patient.

Results:

The study showed that (57.5%) of nurses had satisfied knowledge about causes of unconscious patient in addition to that more than half (60%) of study group had good knowledge about prevention of complication of unconscious patient. Also the study showed that two third (63%) had good knowledge about the use of glasco coma scale.

Recommendations:

The hospital should establish regular training program and workshops about nursing care for unconsciousness patients and increase practical skills with collaboration with ministry of health, The Hospital director should determine a unified plan to identify and address the problems of unconsciousness patients as important.

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Chapter One

Introduction

Justification

Objectives

1.1. Introduction

Unconscious is a loss of consciousness involving unawareness of self, others, the external world, and the passage of time. The individual in a coma is unable to respond to external events or basic needs such as eating or drinking. Automatic reflex movements or abnormal body positions (posturing) may be evident in response to pain or other stimuli. Unless interrupted by damage to specific parts of the brain, involuntary functions such as heartbeat and breathing continue, although changes in pulse and respirations may provide clues to the cause of coma. **(Doug Elliott, Leanne Aitken and Wendy Chaboyer -2013)**

Unconsciousness is lack of response to sensory stimuli as a result of hypoxia, resulting from respiratory insufficiency or shock; from metabolic or chemical brain depressants, such as drugs, poisons, ketones, or electrolyte imbalance; or from a form of pathologic condition, such as trauma, seizures, cerebral vascular accident or brain tumor or infection. World Health Organization estimates that 5million death occurred in every year and the most of this caused by neurological deficit. In India every year approximately 3.2million admissions are occurring. In which 80% patients are in coma stage and in that 48000deaths are occurring.

In south India the overall admission in 2009 was 56.6% but Zimbabwe and Iran the admission was 20%, 19.6% respectively. The overall causes in world about 20million peoples are admitting by various causes (**WHO report-2009**).

Unconscious patients have no control over themselves or their environment and thus are highly dependent on the nurse. The skills required to care for unconscious patients are not specific to critical care and theatres as unconscious patients are nursed in a variety of clinical settings. Nursing such patients can be a source of anxiety for nurses. However, with a good knowledge base to initiate the assessment, planning and implementation of quality care, nursing patients who are unconscious can prove highly rewarding, and the skills acquired can promote confidence in the care of all patients.

(<http://nursingtimes.net/...with-unconscious>)

One of the nurse's most challenging tasks is to provide care for an unconscious patient. This task requires skill, sound judgment, and the ability to make assessments and solve problems using only objective information.

The goals of care for the patient with altered loss of consciousness include Initial and ongoing assessment of the patients status, maintenance of the clear airway, protection from injury, attainment of fluid volume balance, achievement of intact oral mucous membrane, maintenance of normal skin integrity, absence of corneal irritation, attainment of effective thermoregulation, and effective urinary elimination. Additional goals include bowel continence, accurate perception of environmental stimuli, maintenance of intact family support system and absence of complications.

Because the unconscious patients reflexes are impaired, the quality of nursing care provided literally may mean the difference between life and death. The nurse must assume responsibility for the patient until the basic reflexes (coughing, blinking and swallowing) return and the patient becomes conscious and oriented. Thus, the major nursing goal is to compensate for the absence of these protective reflexes. **(Doug Elliott, Leanne Aitken and Wendy Chaboyer -2013).**

1.2. Justification

Unconscious patient consider critically ill patient so that need critical nursing care to improve their health and prevent complication that may result from long stay hospitalization.

1.3. Objectives

General objective:

To Assessment nurses knowledge regarding care of unconsciousness patients.

Specific objectives:

1. To assess nurses' knowledge about definition and causes of unconscious patients.
2. To assess nurses' knowledge regarding classification and level of consciousness.
3. To assess nurses knowledge regarding management and complication of unconscious patient.

Altered level of consciousness

Background:

An altered level of consciousness is apparent in the patient who is not oriented, does not follow commands, or needs persistent stimuli to achieve a state of alertness. LOC is gauged on a continuum with a normal state of alertness and full cognition (consciousness) on one end and coma on the other end. Coma is a clinical state of unconsciousness in which the patient is unaware of self or the environment for prolonged periods (days to months or even years). (**Suzzanec. smeltzer/Brende Gabbier 2006**).

Altered LOC is not a disorder itself; rather, it is a function and symptom of multiple path physiologic phenomena. The cause may be neurologic (head injury, stroke), toxicological (drug overdose, alcohol intoxication), or metabolic (hepatic or renal failure, diabetic ketoacidosis).

The underlying causes of neurologic dysfunction are disruption in the cells of the nervous system, neurotransmitters, or brain anatomy.

A disruption in the basic functional units (neurons) or neurotransmitters results in faulty impulse transmission, impeding communication within the brain or from the brain to other parts of the body. These disruptions are caused by cellular edema and other mechanisms such as antibodies disrupting chemical transmission at receptor sites. (**Suzzanec. smeltzer/ Brende Gabbier 2006**).

Intact anatomic structures of the brain are needed for proper function. The two hemispheres of the cerebrum must communicate, via an intact corpus callosum, and the lobes of the brain (frontal, parietal, temporal, and occipital) must communicate and coordinate their specific functions. Additional anatomic structures of importance are the cerebellum and the brain stem. The cerebellum has both excitatory and inhibitory actions and is largely responsible for coordination of movement.

The brain stem contains areas that control the heart, respiration, and blood pressure. Disruptions in the anatomic structures are caused by trauma, edema,

pressure from tumors as well as other mechanisms such as an increase or decrease in blood or cerebrospinal fluid (CSF) circulation.

(**Suzzanec.smeltzer/BrendeGabbier- 2006**)..

Clinical Manifestations:

Alterations in LOC occur along a continuum, and the clinical manifestations depend on where the patient is along this continuum. As the patient's state of alertness and consciousness decreases, there will be changes in the papillary response, eye opening response, verbal response, and motor response. Initial changes may be reflected by subtle behavioral changes such as restlessness or increased anxiety. The pupils, normally round and quickly reactive to light, become sluggish (response is slower); as the patient becomes comatose, the pupils become fixed (no response to light).

The patient in a coma does not open the eyes, respond verbally, or move the extremities in response to a request to do so.

(**Suzzanec.smeltzer/BrendeGabbier -2006**)

Clinical symptoms associated with loss of consciousness is qualitative, GCS less than 13, Severe headache, Projectile vomiting. papilledema. asymmetric pupils. pupillary reaction to light slow down or negative, fever, Restless, Seizures, Retention of mucus / sputum in the throat. Retention or urinary incontinence, Hypertension or hypotension, Tachycardia or bradycardia, Tachypnoea or dyspnea, Local edema or anasarka. Cyanosis, pallor, and so.

<https://prezi.com/.../the-unconscious-patient-and-nursing-management>.

Assessment and Diagnostic Findings:

The patient with an altered LOC is at risk for alterations in every body system. A complete assessment is performed, with particular attention to the neurologic system. The neurologic examination should be as complete as the LOC allows. It includes an evaluation of mental status, cranial nerve function, cerebella function (balance and coordination), reflexes, and motor and sensory function. LOC, a sensitive indicator of neurologic function, is assessed based on

the criteria in the Glasgow Coma Scale: eye opening, verbal response, and motor response.

The patient's responses are rated on a scale from 3 to 15. A score of 3 indicates severe impairment of neurologic function; a score of 15 indicates that the patient is fully responsive. (**Suzzanec.smeltzer/BrendeGabbier -2006**).

If the patient is comatose, with localized signs such as abnormal pupillary and motor responses, it is assumed that neurologic disease is present until proven otherwise. If the patient is comatose and pupillary light reflexes are preserved, a toxic or metabolic disorder is suspected).

Procedures used to identify the cause of unconsciousness include scanning, imaging, tomography (e.g., computed tomography, magnetic resonance imaging, positron emission tomography), and electroencephalography. Laboratory tests include analysis of blood glucose, electrolytes, serum ammonia, and blood urea nitrogen levels, as well as serum osmolality, calcium level, and partial thromboplastin and prothrombin times. Other studies may be used to evaluate serum ketones and alcohol, drug levels, and arterial blood gas level (*fischbach,f.2002*).

Complications:

Potential complications for the patient with altered LOC include respiratory failure, pneumonia, pressure ulcers, and aspiration.

Respiratory failure may develop shortly after the patient becomes unconscious. If the patient cannot maintain effective respirations, supportive care is initiated to provide adequate ventilation. Pneumonia is common in patients receiving mechanical ventilation or in those who cannot maintain and clear the airway. (*fischbach,f. 2002*).

Medical Management:

The first priority of treatment for the patient with altered LOC is to obtain and maintain a patent airway. The patient may be orally or nasally intubated, or a tracheostomy may be performed. until the patient's ability to breathe on his or

her own is determined, a mechanical ventilator is used to maintain adequate oxygenation.

The circulatory status (blood pressure, heart rate) is monitored to ensure adequate perfusion to the body and brain.

An intravenous catheter is inserted to provide access for fluids and intravenous medications. Neurologic care focuses on the specific neurologic pathology, if any. Nutritional support, using either a feeding tube or a gastrostomy tube, is initiated as soon as possible.

In addition to measures to determine and treat the underlying causes of altered LOC, other medical interventions are aimed at pharmacologic management of complications and strategies to prevent complications (*hicky,2003*).

Nursing Interventions:

Maintain the airway:

The most important consideration in managing the patient with altered LOC is to establish an adequate airway and ensure ventilation. Obstruction of the airway is a risk because the epiglottis and tongue may relax, occluding the oropharynx, or the patient may aspirate vomits or nasopharyngeal secretions.

The accumulation of secretions in the pharynx presents a serious problem. Because the patient cannot swallow and lacks pharyngeal reflexes, these secretions must be removed to eliminate the danger of aspiration. Elevating the head of the bed to 30 degrees helps prevent aspiration. Positioning the patient in a lateral or semi prone position will also help as it permits the jaw and tongue to fall forward, thus promoting drainage of secretions. Positioning alone is not always adequate, however. The patient may require suctioning and oral hygiene. Suctioning is performed to remove secretions from the posterior pharynx and upper trachea. With the suction off, a whistle-tip catheter is lubricated with a water-soluble lubricant and inserted to the level of the posterior pharynx and upper trachea. Continuous suction is applied as the catheter is withdrawn using a twisting motion of the thumb and forefinger. This twisting maneuver prevents

the suctioning end of the catheter from causing irritation, which increases secretions and causes mucosal trauma and bleeding. Before and after suctioning, the patient is hyper oxygenated and hyperventilated to prevent hypoxia. In addition to these interventions, chest physiotherapy and postural drainage may be initiated to promote pulmonary hygiene, unless contraindicated by the patient's underlying condition. Also, the chest should be auscultative at least every 8 hours to detect adventitious breath sounds or absence of breath sounds. Despite these measures, or because of the severity of impairment, the patient with altered LOC often requires intubation and mechanical ventilation. Nursing actions for the mechanically ventilated patient include maintaining the patency of the endotracheal tube or tracheostomy, providing frequent oral care, monitoring arterial blood gas measurements, and maintaining ventilator settings. (*Karen K. Carlos 2004*)

Protecting the patient:

For the protection of the patient, padded side rails are provided and raised at all times. Care should be taken to prevent injury from invasive lines and equipment, and other potential sources of injury should be identified. Protection also encompasses the concept of protecting the patient's dignity during altered LOC. Simple measures such as providing privacy and speaking to the patient during nursing care activities preserve the patient's humanity. Not speaking negatively about the patient's condition or prognosis is also important, because patients in a light coma may be able to hear. The comatose patient has an increased need for advocacy, and it is the nurse's responsibility. (<http://allnurses.com> 2008).

Maintaining fluid balance and managing nutritional need:

Hydration status is assessed by examining tissue turgor and mucous membranes, assessing intake and output trends, and analyzing laboratory data. Fluid needs are met initially by giving the required fluids intravenously. However, intravenous solutions (and blood transfusions) for patients with intracranial conditions must be administered slowly. If given too rapidly, they

may increase ICP. The quantity of fluids administered may be restricted to minimize the possibility of producing cerebral edema. If the patient does not recover quickly and sufficiently enough to take adequate fluids and calories by mouth, a feeding tube will be inserted for the administration of fluids and enteral feedings (<http://allnurses.com> 2008).

Providing Mouth Care:

The mouth is inspected for dryness, inflammation, and crusting. The unconscious patient requires conscientious oral care because there is a risk of parotitis if the mouth is not kept scrupulously clean. The mouth is cleansed and rinsed carefully to remove secretions and crusts and to keep the mucous membranes moist. A thin coating of petrolatum on the lips prevents drying, cracking, and encrustations. If the patient has an endotracheal tube, the tube should be moved to the opposite side of the mouth daily to prevent ulceration of the mouth and lips (*hicky, 2003*).

Managing skin and joint integrity:

Preventing skin breakdown requires continuing nursing assessment and intervention. Special attention is given to unconscious patients because they cannot respond to external stimuli. Assessment includes a regular schedule of turning to avoid pressure, which can cause breakdown and necrosis of the skin. Turning also provides kinesthetic (sensation of movement), proprioceptive (awareness of position), and vestibular (equilibrium) stimulation. (*Springhouse 2006*).

After turning, the patient is carefully repositioned to prevent ischemic necrosis over pressure areas. Dragging the patient up in bed must be avoided, because this creates a shearing force and friction on the skin surface. Maintaining correct body position is important; equally important is passive exercise of the extremities to prevent contractures.

The use of splints or foam boots aids in the prevention of foot drop and eliminates the pressure of bedding on the toes. Trochanter rolls supporting the hip joints keep the legs in proper alignment. The arms should be in abduction,

the fingers lightly flexed, and the hands in slight supination. The heels of the feet should be assessed for pressure areas. Specialty beds, such as fluidized or low-air-loss beds, may be used to decrease pressure on bony prominences. (*Karen K. Carlson 2004*).

Preserving corneal integrity:

Some unconscious patients have their eyes open and have inadequate or absent corneal reflexes. The cornea is likely to become irritated or scratched, leading to keratitis and corneal ulcers. The eyes may be cleansed with cotton balls moistened with sterile normal saline to remove debris and discharge. If artificial tears are prescribed, they may be instilled every 2 hours. Periocular edema often occurs after cranial surgery. Cold compresses may be prescribed, and care must be exerted to avoid contact with the cornea. Eye patches should be used cautiously because of the potential for corneal abrasion from the cornea coming in contact with the patch. (*Suzzanec.smeltzer/BrendeGabbier- 2006*).

Achieving thermoregulation:

High fever in the unconscious patient may be caused by infection of the respiratory or urinary tract, drug reactions, or damage to the hypothalamic temperature-regulating center. A slight elevation of temperature may be caused by dehydration. The environment can be adjusted, depending on the patient's condition, to promote a normal body temperature. If body temperature is elevated, a minimum amount of bedding—a sheet or perhaps only a small drape—is used. The room may be cooled to 18.3°C (65°F). However, if the patient is elderly and does not have an elevated temperature, a warmer environment is needed. Because of damage to the heat-regulating center in the brain or severe intracranial infection, unconscious patients often develop very high temperatures. Such temperature elevations must be controlled because the increased metabolic demands of the brain can overburden cerebral circulation and oxygenation, resulting in cerebral deterioration (**Hickey, 2003**).

Persistent hyperthermia with no identified clinical source of infection indicates brain stem damage and a poor prognosis.

Strategies for reducing fever include; removing all bedding over the patient (with the possible exception of a light sheet or small drape), administering repeated doses of acetaminophen as prescribed, giving a cool sponge bath and allowing an electric fan to blow over the patient to increase surface cooling, using a hypothermia blanket. Frequent temperature monitoring is indicated to assess the response to the therapy and to prevent an excessive decrease in temperature and shivering. (**Suzzanec.smeltzer/BrendeGabbier 2006**).

Preventing urinary retention:

The patient with an altered LOC is often incontinent or has urinary retention. The bladder is palpated or scanned at intervals to determine whether urinary retention is present, because a full bladder may be an overlooked cause of overflow incontinence. A portable bladder ultrasound instrument is a useful tool in bladder management and retraining programs. If there are signs of urinary retention, initially an indwelling urinary catheter attached to a closed drainage system is inserted. (**Suzzanec.smeltzer/BrendeGabbier -2006**).

A catheter may be inserted during the acute phase of illness to monitor urinary output. Because catheters are a major factor in causing urinary tract infection, the patient is observed for fever and cloudy urine. The area around the urethral orifice is inspected for drainage. The urinary catheter is usually removed when the patient has a stable cardiovascular system and if no diuresis, sepsis, or voiding dysfunction existed before the onset of coma. although many unconscious patients urinate spontaneously after catheter removal, the bladder should be palpated or scanned with a portable ultrasound device periodically for urinary retention an intermittent catheterization. Program may be initiated to ensure complete emptying of the bladder at intervals, if indicated.

An external catheter (condom catheter) for the male patient and absorbent pads for the female patient can be used for the unconscious patient who can urinate spontaneously although involuntarily. As soon as consciousness is regained, a bladder-training program is initiated. The incontinent patient is

monitored frequently for skin irritation and skin breakdown. Appropriate skin care is implemented to prevent these complications
(**Suzzanec. smeltzer/BrendeGabbier 2006**).

Promoting Bowel Function:

The abdomen is assessed for distention by listening for bowel sounds and measuring the girth of the abdomen with a tape measure. There is a risk of diarrhea from infection, antibiotics, and hyperosmolar fluids. Frequent loose stools may also occur with fecal impaction. Commercial fecal collection bags are available for patients with fecal incontinence.

Immobility and lack of dietary fiber may cause constipation. The nurse monitors the number and consistency of bowel movements and performs a rectal examination for signs of fecal impaction. Stool softeners may be prescribed and can be administered with tube feedings. To facilitate bowel emptying, a glycerin suppository may be indicated. The patient may require an enema every other day to empty the lower colon. (*Springhouse 2006*).

Providing Sensory Stimulation:

Sensory stimulation is provided at the appropriate time to help overcome the profound sensory deprivation of the unconscious patient. Efforts are made to maintain the sense of daily rhythm by keeping the usual day and night patterns for activity and sleep.

The nurse touches and talks to the patient and encourages family members and friends to do so. Communication is extremely important and includes touching the patient and spending enough time with him or her to become sensitive to his or her needs. It is also important to avoid making any negative comments about the patient's status or prognosis in the patient's presence. The nurse orients the patient to time and place at least once every 8 hours. Sounds from the patient's home and workplace may be introduced using a tape recorder. Family members can read to the patient from a favorite book and may suggest radio and television programs that the patient previously enjoyed as a means of enriching the environment and providing familiar input. When arousing from

coma, many patients experience a period of agitation, indicating that they are becoming more aware of their surroundings but still cannot react or communicate in an appropriate fashion. Although disturbing for many family members, this is actually a good clinical sign. At this time, it is necessary to minimize the stimulation to the patient by limiting background noises, having only one person speak to the patient at a time, giving the patient a longer period of time to respond, and allowing for frequent rest or quiet times.

When the patient has regained consciousness, videotaped family or social events may assist the patient in recognizing family and friends and allow him or her to experience missed events (**Suzzanec.smeltzer/BrendeGabbier 2006**).

Meeting Families' Needs:

The family of the patient with altered LOC may be thrown into a sudden state of crisis and go through the process of severe anxiety, denial, anger, remorse, grief, and reconciliation. Depending on the disorder that caused the altered LOC and the extent of the patient's recovery, the family may be unprepared for the changes in the cognitive and physical status of their loved one. patient has significant residual deficits, the family may require considerable time, assistance, and support to come to terms with these changes. To help family members mobilize their adaptive capacities, the nurse can reinforce and clarify information about the patient's condition, permit the family to be involved in care, and listen to and encourage ventilation of feelings and concerns while supporting them in their decision-making process about post hospitalization management and placement. (*Linda Williams and Paula Hopper 2010*).

Families may benefit from participation in support groups offered through the hospital, rehabilitation facility, or community organizations.

In some circumstances, the family may need to face the death of their loved one. The neurologic patient is often pronounced brain dead before physiologic death occurs. The term brain death describes irreversible loss of all functions of the entire brain, including the brain stem. The term may be

misleading to the family because although brain function has ceased, the patient appears to be alive, with the heart rate and blood pressure sustained by vasoactive medications, and breathing continues by mechanical ventilation.

When discussing a patient who is brain dead with family members, it is important to use the term “dead”; the term “brain dead” may confuse them. (*Linda Williams and Paula Hopper 2010*).

Monitoring and managing:

Potential complications:

Pneumonia, aspiration, and respiratory failure are potential complications in any patient who has a depressed LOC and who cannot protect the airway or turn, cough, and take deep breaths. The longer the period of unconsciousness, the greater the risk for pulmonary complications.

(*Suzzanec.smeltzer/Brende Gabbier 2006*)

Vital signs and respiratory function are monitored closely to detect any signs of respiratory failure or distress. Total blood count and arterial blood gas measurements are assessed to determine whether there are adequate red blood cells to carry oxygen and whether ventilation is effective. Chest physiotherapy and suctioning are initiated to prevent respiratory complications such as pneumonia. If pneumonia develops, cultures are obtained to identify the organism so that appropriate antibiotics can be administered.

The patient with altered LOC is monitored closely for evidence of impaired skin integrity, and strategies to prevent skin breakdown and pressure ulcers are continued through all phases of care, including hospital, rehabilitation, and home care. Factors that contribute to impaired skin integrity (e.g., incontinence, inadequate dietary intake, pressure on bony prominences, edema) are addressed. If pressure ulcers develop, strategies to promote healing are undertaken. Care is taken to prevent bacterial contamination of pressure ulcers, which may lead to sepsis and septic shock. The patient should also be monitored for signs and symptoms of deep vein thrombosis. Patients who develop deep vein thrombosis are at risk for pulmonary embolism. Prophylaxis such as

subcutaneous heparin or low-molecular-weight heparin (Fragmin, Orgaran) should be prescribed. Thigh-high elastic compression stockings or pneumatic compression stockings should also be prescribed to reduce the risk for clot formation.

Measures to assess for deep vein thrombosis, such as Homans' sign, may be clinically unreliable in this population, and the nurse should observe for redness and swelling in the lower extremities (*Springhouse 2006*).

3. Methodology

3.1. Study design:

This was Descriptive, hospital-based study, done to assess nurse's knowledge and practice regarding care of unconscious patient in Elmak Nimir University hospital.

3.2. Study time:

This study was done during the period which extended from July to November 2014.

3.3. Study area:

This study was done in Shendi city, river Nile state, Sudan, which located in the north of Khartoum about 176Km, it's population about 80000 persons (WHO 2003) most of them are farmers.

Shendi city now is one of the rich cities in health care facilities; it contains three main hospitals, Elmak Nimir University hospital. Shendi teaching hospital and military hospital, and also there is Hoshbannaga hospital and Almesiktab hospital.

3.4. Setting:

This study was carried out at Elmak Nimir University hospital. This hospital was established since 2002. And it's the second university hospital in Sudan. The hospital provides most types of medical services (medicine, surgery, Obs/ Gyne, and pediatric). Beside these there are cardiac, renal, and oncology centers). In the hospital there is a big theater complex in which most type general operations can be done (caesarean, GIT surgery and orthopedic surgery ...etc.)

There was an outpatient clinic in the hospital established since 2009.

The hospital system for work, for nursing staff, morning shift for 8 hours in duration, and afternoon, evening shift for 16 hours, and is the distribution of nursing staff according to need of hospital departments ,nurses they will rotated frequently without fixed intervals according to the need.

3.5. Study population:

Include all nurses in Elmak Nimer University hospital whom work all three shift during the time of study.

Exclusion criteria:

- Nurses in holiday.
- New graduate nurse.
- Nurses working in (pediatric, OBs, ENT – dialysis units).

3.6. Sampling & Sample size:

The study was covered all nursing staff in(medicine – surgery, CCU – ICU) and they were 40 from the total number of nurse (133), they were participated in the study.

3.7. Data collection tools:

Standard closed ended questioner have been developed by research based on the Literature review and it content as follow:

Questions (1-4): personal data (age, level of education years of experience, training course)

Question (5-10): regarding unconsciousness, include (definition, causes, immediate care, glasco coma scale use and classification.

Question (11-18): regarding common complication and it prevention and the care of intubation.

3.8. Data collection technique:

The data was collected in one weak daily during three shift, the nurses were allowed to filled questioner by them self, it takes about (5-8) minutes. No once refuse to participate and there was no missing

3.9. Data analysis:

The data was coded and analyzed manually and then by SPSS program version (11.5) by using statistical measure; - percentage, frequency and chi square test and presented in forms of tables and figures.

3.10. Ethical consideration:

The proposal was approved from the scientific committee board, and then permission was taken from general hospital manger and the head nurse to conduct the research.

The purpose of the study has been explained verbally clearly to participant and their information should be used for the purpose of study only and they have chance to continuous, or stopped at any time they wish.

Results

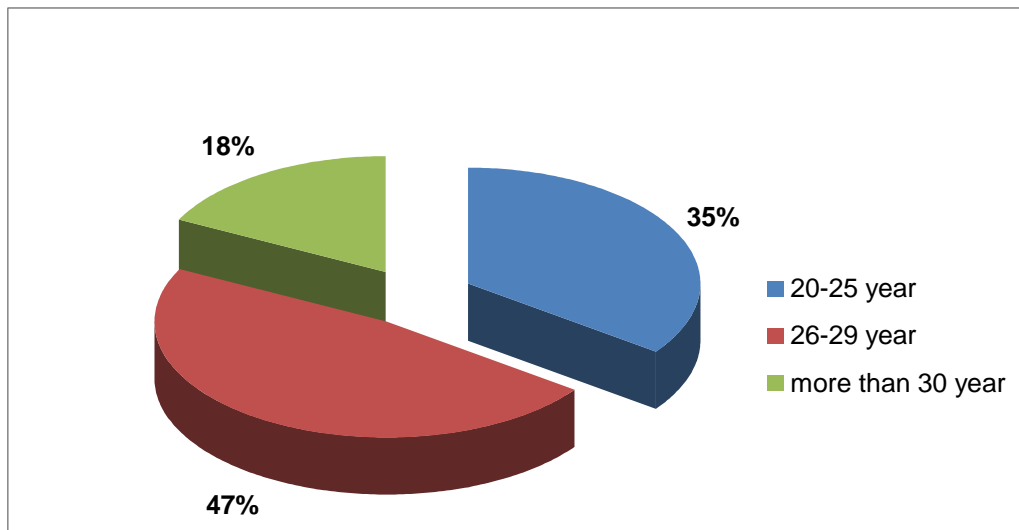


Figure No (1): Distribution of nurses according to their age.

The figure showed that (35%) of nurse's their age between 20-25 , (48%) between 26-29 and (18%) more than 30 years.

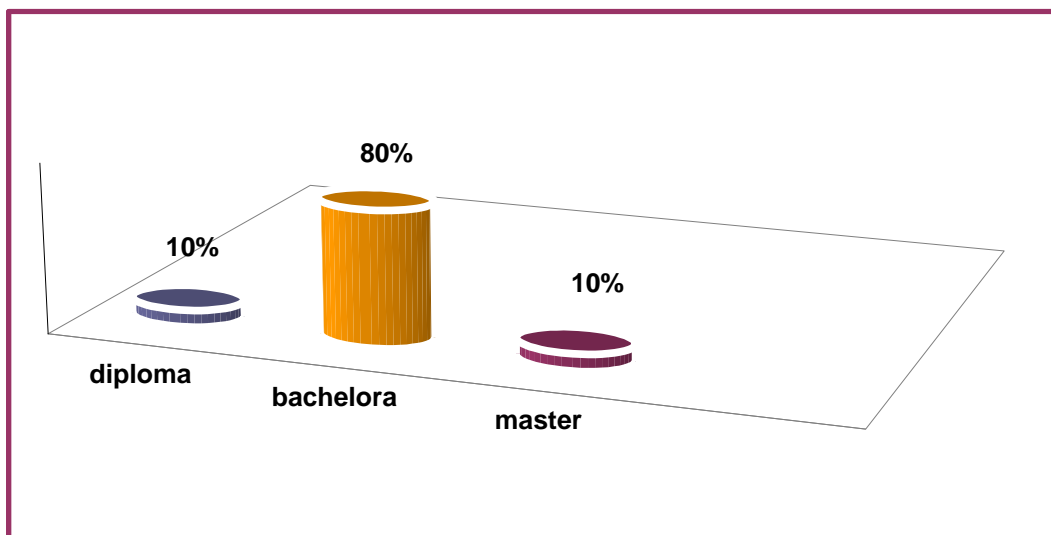


Figure No (2): Distribution of nurses according to their level of education.

The figure showed that,(80%) of nurses had bachelor, (10%) had master degree and (10%), had diploma

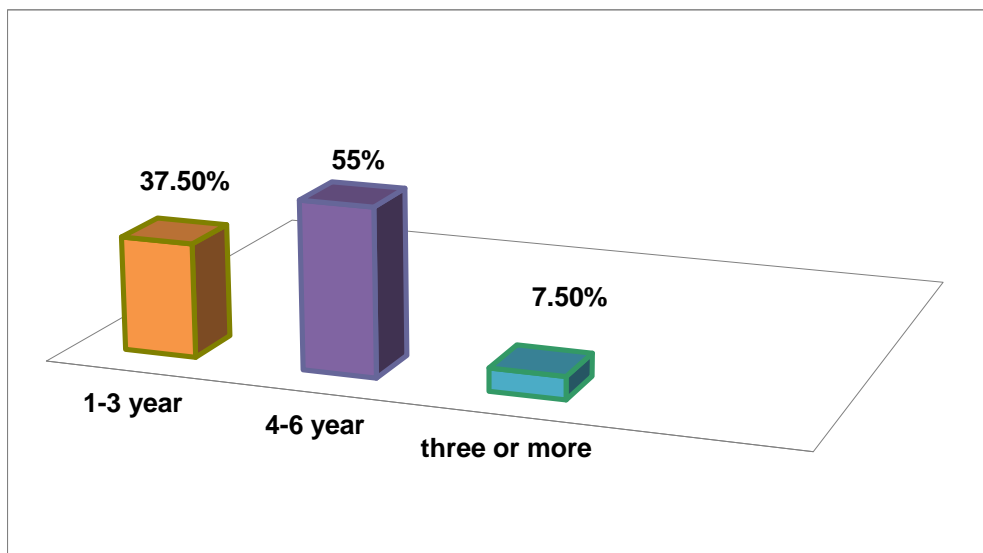


Figure No (3) Distribution of nurses according to experience years.

The figure showed that (7.5%) of nurses had more than three years, (55%) had (4-6) years and (37.5%) of nurses had (1-3) years.

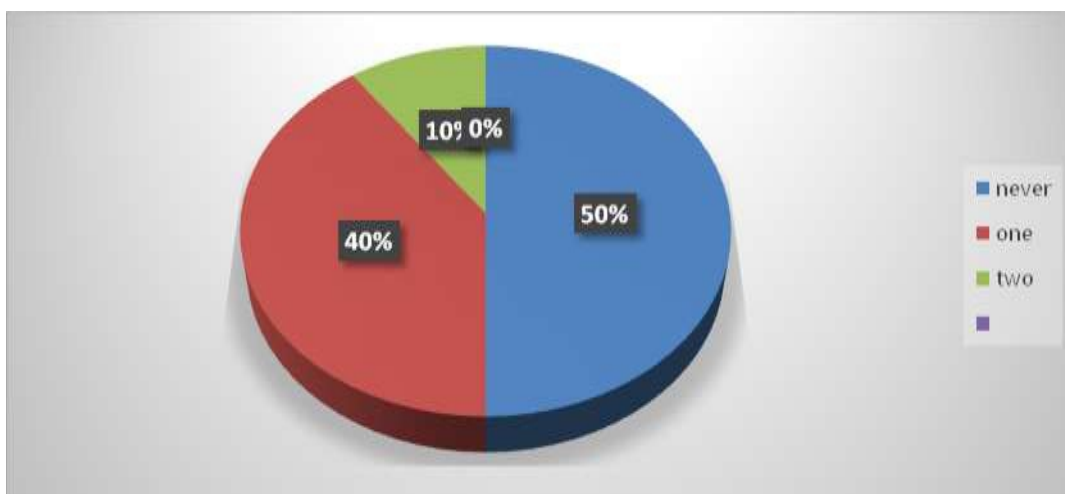


Figure No (4) Distribution of nurses according to their training course.

The figure showed that (50%) of nurses didn't attend course before, (10%) once and (40%) attended course two times.

Table No (1) Distribution of nurses according to their knowledge regarding identification of patient unconsciousness:

Identification of patient unconsciousness	<i>Frequency</i>	<i>Percentage</i>
Response to speech	9	22.5%
Motor response	7	17.5%
Patient no response	24	60%
Total	40	100%

The above table showed that (22.5%) of nurses consider patient unconscious if not response to speech, (17.5) not motor response and (60%) if the patient not response.

Table No (2) Distribution of nurses according to their knowledge about causes of unconsciousness:

Causes	<i>Frequency</i>	<i>Percentage</i>
Neurologic	23	57.5%
Metabolic	6	15%
Toxic	11	27.5%
Total	40	100%

The above table showed that (57.5%) of nurses said that the cause of unconsciousness is neurologic, (15%) of them said that metabolic cause and (27.5%) consider toxic .

Table No (3) Distribution of nurses according to their knowledge about the immediate care of unconsciousness:

Immediate care	<i>Frequency</i>	<i>Percentage</i>
Maintain airway patency	22	55%
Monitor vital sign	10	25%
Secure IV line	8	20%
Total	40	100%

The above table showed that (55%) of nurses maintain airway patency as immediate action of unconscious patient, (25%) monitor vital sign, and (20%) secure IV line.

Table No (4) Distribution of nurses according to their knowledge about glasco coma scale use:

Knowledge of glasco coma scale use	<i>Frequency</i>	<i>Percentage</i>
Eye response	5	12.5%
Verbal response	9	22.5%
Motor response	15	37%
Don't know	11	27%
Total	40	100%

The above table showed that (12.5%) of nurses consider that the glasco coma scale use to assess eye response, (22.5%) to assess verbal response, (37%) to assess motor response and (27%) don't know.

Table No (5) Distribution of nurses according to their knowledge about classification of unconscious patient depend on glasco coma scale:

<i>Nursing knowledge</i>	<i>Frequency</i>	<i>Percentage</i>
Mild coma	4	10%
Moderate coma	10	25%
Deep coma	21	52%
Don't know	5	12.5
Total	40	100%

The above table showed that (10%) of nurses consider patient in mild coma according to glasco com scale,(25%) moderate coma, (52%) deep coma and (12.5%) don't know.

Table No (6) Distribution of nurses according to their knowledge of patient position on bed:

Patient position	<i>Frequency</i>	<i>Percentage</i>
Lateral position	15	37.5%
Semi prone position	14	35%
Any comfortable position	11	27.5%
Total	40	100%

The above table showed that (37.5%) of nurses put the patient in lateral position, (35%) in semi prone position and (27.5%) put the patient in any comfortable position.

Table No (7) Distribution of nurses according to their knowledge about nurse to prevent airway obstruction of unconsciousness:

Nursing knowledge	Frequency	Percentage
Elevate head of bed 30	25	62.5%
Patient in lateral position	6	15%
Suction of secretion	7	17%
Chest physiology and postural drainage	2	5%
Total	40	100%

The above table showed that (62.5%) of nurses elevate the head of bed 30 degree to prevent airway obstruction in unconsciousness, (15%) put the patient in lateral position, (17%) suction of secretion and oral hygiene and (5%) depend on chest physiology and postural drainage.

Table No (8) Nurses knowledge regarding skin care to prevent pressure ulcer:

Nurses knowledge	Frequency	Percentage%
Turning the patient every 2 hours	29	72.5%
Use air matrices	8	20%
Skin hygiene	3	7.5%
Total	40	100%

This table showed that skin care to prevent pressure ulcer (72.5%) turning the patient frequently, (20%) use air matrices, and (7.5%) skin hygiene.

Table No (9) Distribution of nurses according to their knowledge about assess patient hydration status:

Assessment of hydration status	Frequency	Percentage%
Skin turgor and mucus membrane	30	75%
Intake and output chart	10	25%
Total	40	100%

Above table showed that nurses assessed patient hydration status (75%) Skin turgor and mucus membrane, and (25%) Intake and output chart.

Table No (10) Nurses knowledge regarding care of catheterized patient:

care of catheterized patient	Frequency	Percentage%
Observe cloudy urine to indicate for UTI	23	57.5%
Inspect around urethral orifice for leakage	8	20%
Palpate the urinary bladder	9	22.5%
Total	40	100%

This table showed that nurses practice regarding care of catheterized patient (57%) Observe cloudy urine to indicate for UTI, (20%) Inspect around urethral orifice for leakage, and (22%) Palpate the urinary bladder.

Table No (11) Nurses knowledge regarding care of the NG tube:

Nurses knowledge	Frequency	Percentage%
Check NG tube before and after feeding	25	62.5%
Put the patient in semi setting position when he feed	14	35%
Flush feeding tube with 30ml water before and after feeding	1	2.5%
Total	40	100%

This table showed that nurses knowledge regarding care of the NG tube (62%) Check NG tube before and after feeding, (35%) Put the patient in semi setting position when he feed and (1%) flush feeding tube with water before and after feeding.

Table No (12) Nurses knowledge regarding protection of unconsciousness from injury:

<i>nurses knowledge</i>	<i>Frequency</i>	<i>Percentage%</i>
Padded side rails are provide	17	42.5%
Prevent injury from invasive line	12	30%
Maintain safety precaution	11	27.5%
Total	50	100%

Above table showed that nurses practice regarding protection of unconsciousness (42.5%) Padded side rails are provide,(30%) Prevent injury from invasive line, and (27.5%) Maintain safety precaution.

Table No (13) Nurses knowledge regarding preventing corneal integrity:

Nurses knowledge	Frequency	Percentage%
Eyes cleaned by normal saline drop	24	60%
Eyes should be covered by gauze	16	40%
Total	40	100%

This table showed that nurses knowledge regarding preventing corneal integrity (60%) Eyes cleaned by normal saline drop, and (40%) Eyes should be covered by gauze.

Table No (14) Nurses knowledge about common complications of unconsciousness patient:

<i>Common complications</i>	<i>Frequency</i>	<i>Percentage%</i>
Aspiration pneumonia	8	20%
Pressure ulcer	24	60%
Deep vinous thrombosis	8	20%
Total	40	100%

This table showed that nurses knowledge about common complications of unconsciousness patient (60%) Pressure ulcer, (20%) Aspiration pneumonia and same of them is Deep vinous thrombosis.

5.1. Discussion

Unconscious patients have no control over themselves or their environment and thus are highly dependent on the nurse. Unconsciousness spans a broad spectrum, from momentary loss of consciousness as seen with fainting, to prolonged coma that may last weeks, months or even years. A variety of scales have been devised to describe patients' level of consciousness. However, the Glasgow Coma Scale (GCS) is the most universally accepted tool, which decreases the subjectivity and confusion associated with assessing levels of consciousness.

The study showed that less than half (47%) of the study group their age group between (26-29) years, the study revealed that most of the nurses with vary educational level and (80%) of a study had Baccalaureate degree, while others with master degree and (10%) was diploma. More than half of them (55%) were work with experience between (4-6) year.

A total of (20) respondents (50%) had attended previous training course, Numbers of courses attended varied between zero (50%); one (10%) and two courses (40%). With regard the unconsciousness definition the study showed (60%) of nurse has good knowledge about definition of unconscious patient while (22.5%) has satisfied knowledge and (17.5%) of them have unsatisfied knowledge.

In addition to that, (57.5%) of nurses had satisfied knowledge who represent the cause of unconscious is neurological cause and this finding correlated with WHO report which it believe that the reasons for loss of consciousness are neurological), and place of study that most of the patient are unconscious reasons neurological.

Also the study showed that (55.5%) had satisfied knowledge about immediate care of unconscious patient, (25%) of them had good knowledge, (20%) of nurse had poor knowledge about immediate care of unconscious patient.

Also the study showed that, less than one third (27%) of nurse not know the use of glasco coma while more than (63%) of them know the use of glasco coma.

The study found (37.5%) nurses have good knowledge that mention patient on the bed in lateral position and (27.5%) from nurses had poor attitude that put the patient in comfortable position when her\his unconscious, the comfortable position is contraindication because absent of cough reflex and the patient not drainage the secretion may lead to aspiration (literature review).

The study showed that (62.5%) of study group elevate the patient head above the bed 30 degree because this situation prevent entry of the airway secretion.

In addition to that two third of study group provide patient skin care and protect it from pressure ulcer by changing the patient position every two hour that mean nurses have good practice to prevent pressure ulcer while to assess hydration level, more than two third of the target study group have good knowledge and (25%) of them have satisfied knowledge.

The study revealed that more than half of nurse have good practice to care of urinary catheter by checking the color of urine to indicate inflammation of urinary tract and the other half distributed between check the area around the urethra and urine leakage and palpate bladder to find out empty urine and the effectiveness of the catheter.

In relation to nursing care of Nasogastric tube the study showed more than half of study group (62%) have good attitude to care Nasogastric tube by a test it before and after feeding to insure effectiveness and to insure it in the stomach while to protect patient from corneal integrity show (60%) of study group clean it by normal saline.

Also the most of nurse (42%) showed to protect the patient from injury is to raise both side on the bed

In relation to complication that result from loss of consciousness more than half (60%) represent it is pressure ulcer.

5.2. Conclusion

Based on the finding present study, it was concluded that:-

- More than half of nurses had a satisfied knowledge regarding causing, the immediate care and complication of unconscious patient.
- The study revealed that less than one third of nurse had poor knowledge about the use of glasco coma scale that may affect the quality of care provide
- No enough training program regarding care of unconscious patient in addition to these the study explained that more than half of nurse's were have sufficient knowledge about it.

5.3. Recommendations

Based result and conclusion of the study the following is recommended:

- The hospital should establish regular training program and workshops about nursing care for unconsciousness patients and increase practical skills with collaboration with ministry of health.
- The hospital administration should available booklet and leaflets about how to care for unconsciousness patients.
- Determine a unified plan to identify and address the problems of unconsciousness patients as important.
- Head nurses should keep fixed program(nursing round) to discuss problems that faced them during patient care.

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بسم الله الرحمن الرحيم

Shendi university

Faculty of graduate

Questionnaire to assessment nursing knowledge and Practice regard care of unconsciousness patient

No ()

1-age:

A-20 years..... { } B-26 years.....{ } C-above 30 { }

2-Educational level:

A-Diploma { } B-bachelor { } C-master { }

3-Working experience:

A-1-3{ } B- 4-6 { } C- 6 or more{ }

4-Training course :

a-never { } b-one{ } c-two{ } d-three or more{ }

5-patient consider unconscious if :

a- response to speak { } b-motor response { } c-no response to any thing{ }

6- Causes of unconsciousness':

a- Neurologic { } b- metabolic { } c- toxic { }

7-Immmediate care of unconsciousness:

a-maintain air way patency { } b-monitor of vital signs { } c-secure iv line.{ }

8-glasgow coma scale is used to assess:

a-eye response { } b-verbal response { } c-motor response { } d-I don't know{ }

9-according to Glasgow coma scale unconscious patient can classified to:

a-mild { } b-moderate { } c- deep { } d- I don't know{ }

10- Position of patient on bed:

a- Lateral position { } b- Semi prone position { }

c- any comfortable position { }

11- To prevent air way obstruction of unconsciousness:

a- Elevate head on the bed 30° { } b- Put the patient in lateral position { }

c- Suction of secretions and oral hygiene { }

d- Chest physiology and postural drainage { }

12- To prevent pressure ulcer consider of:

- a- turning patient every 2 hours { }
- b- use air mattress { }
- c- Skin hygiene and check of leakage { }

13- To assess hydration status by:

- a- Skin turgor and mucus membrane { }
- b- intake and output chart { }

14- If the patient catheterized care include:

- a- cloudy urine to indicate for UTI { }
- b- Inspection area around the urethral orifice for discharge { }
- c- Palpate the urinary bladder { }

15- When feeding the unconsciousness pt with NG tube the care is:

- a- check NG tube after and before feeding { }
- b- put the patient in semi setting position when feed { }
- c- flush feeding tube with 30ml water before and after intermittent feeding { }

16- To protect patient from injury:

- a- Padded side rails are provided { }
- b- Prevent injury from invasive line { }
- c- Maintain safety precaution { }

17- Preventing corneal integrity:

- a- eyes cleaned with normal saline drop { }
- b- eye should be cover by gauze { }

18- The common complication occurs in unconsciousness patient:

- a- aspiration pneumonia { }
- b- pressure ulcer { }
- c- deep vein thrombosis { }