

# **Nurses' Performance for Patients with Traumatic Head Injury during Golden Hour**

Thesis  
Submitted for Partial Fulfillment of  
the Master Degree

**In**  
**Nursing Sciences**  
**(Medical –Surgical Nursing)**

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2012

# أداء الممرضات لمرضى إصابات الرأس الإرتطامية أثناء الساعة الذهبية

رسالة ماجستير  
مقدمة توطئة للحصول علي درجة الماجستير في علوم التمريض  
(تمريض جراحى باطنى)

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## *Abstract*

Traumatic head injury (**THI**) is one of the most devastating calamities in human life. An injury to brain can potentially affect every system of the body. It can be a catastrophic injury that changes patients' life completely. The present study aimed to assess nurses' level of knowledge and practice regarding THI and their nursing management during golden hour and assess the factors that affect nurses' performance for patients with THI during golden hour. A descriptive exploratory design was followed to achieve the aim of this study. The study conducted in Emergency Unit, Neuro-Surgery Intensive Care Unit at El-Demerdash hospital and Emergency Unit at Ain Shams specialized hospital which affiliated to Ain Shams University. A convenience sample of all available nurses (50) working with patients with THI in the previous mentioned settings were recruited to this study. Study Tools used for data collection were self administered questionnaire sheet and nurses' performance observational checklist. The results of this study showed that about two third of the study nurses had unsatisfactory knowledge & practice regarding patients with THI and nursing management during golden hour (66% & 62%) respectively. Regarding factors affecting nurses' performance, the study results revealed that there were job regulation related factors as inadequate number of nursing staff, lack of administration support, competitive reward & opportunities for creativity (100%, 96%, 92% & 90%) respectively & nurses related factors that affecting their performance as nurses dissatisfaction with work, frequent nurses absenteeism, communication with colleagues, patients & supervisors (90%, 80%, 94%, 86% & 78%) respectively. The current study concluded that, about two third of nurses had unsatisfactory level of knowledge and practice regarding THI and nursing management during golden hour. Furthermore, there were many factors affecting their performance as job regulation related factors & nurses related factors. The study recommended the importance of implementing an educational training program for nurses in emergency & Neuro-Surgery ICU about nursing management for patients with THI during golden hour.

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**Key words:** Traumatic Head Injury, Golden hour, Nursing management

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## *List of Abbreviations*

|               |                                                |
|---------------|------------------------------------------------|
| <b>Pt:</b>    | Patient                                        |
| <b>CNS:</b>   | Central nervous system                         |
| <b>GI:</b>    | Gastrointestinal                               |
| <b>CSF:</b>   | Cerebrospinal fluid                            |
| <b>TBI:</b>   | Traumatic brain injury                         |
| <b>MV:</b>    | Motor vehicle                                  |
| <b>GCS:</b>   | Glasgow Coma Scale                             |
| <b>ICP:</b>   | Intracranial pressure                          |
| <b>DAI:</b>   | Diffuse axonal injury                          |
| <b>EDH:</b>   | Epidural hematoma                              |
| <b>SDH:</b>   | Subdural hematoma                              |
| <b>MRI:</b>   | Magnetic resonance imaging                     |
| <b>PET:</b>   | Positron emission tomography                   |
| <b>SPECT:</b> | Single photon emitting computerized tomography |
| <b>EEG:</b>   | Electroencephalography                         |
| <b>CBF:</b>   | Cerebral blood flow                            |
| <b>PVS:</b>   | Persistent vegetative state                    |
| <b>CPP:</b>   | Cerebral perfusion pressure                    |
| <b>ANA:</b>   | American nursing association                   |
| <b>ECG:</b>   | Electrocardiography                            |
| <b>ABG:</b>   | Arterial blood gases                           |
| <b>NANDA:</b> | North American nursing diagnosis association   |
| <b>LOC:</b>   | Level of consciousness                         |
| <b>MAP:</b>   | Mean arterial pressure                         |

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## *List of Abbreviations (Cont')*

|             |                        |
|-------------|------------------------|
| <b>A:</b>   | Airway                 |
| <b>B:</b>   | Breathing              |
| <b>C:</b>   | Circulation            |
| <b>D:</b>   | Disability             |
| <b>E:</b>   | Exposure               |
| <b>O2:</b>  | Oxygen                 |
| <b>THI:</b> | Traumatic head injury  |
| <b>TBI:</b> | Traumatic brain injury |

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## **Introduction**

Traumatic head injury (**THI**) is one of the most devastating calamities in human life. An injury to brain can potentially affect every system of the body. It can be a catastrophic injury that changes patients' life completely. This injury affects total physiologic, psychological and social well being of the individual which might be disastrous (***National traumatic head injury Association (2006).***

Traumatic brain injury (**TBI**) is damage to the brain caused by a blow to the head. The severity of the injury may range from minor injury with few or no lasting consequences to major injury resulting in profound disability or death. Although any injury to the brain is serious, and severe damage can be fatal, medical and surgical advances have improved the odds for surviving a TBI (**Centers for Disease Control and Prevention (CDC), 2011).**

Males are more than twice as likely as females to experience a TBI and 5.3 million Americans, approximately 2% of the population, currently live with disabilities related to brain injury. The TBI is most common among adolescents (aged from

15-24 years) and older adults (75 years and older) (*National center for injury prevention and control, 2007*).

Worldwide, traumatic brain injury is a leading cause of death and permanent disability. The management of a patient with an acute severe head injury is a complex and difficult task so it is important to begin emergency treatment within the so-called "golden hour" following the injury. The “**Golden Hour**” is a brief window of time in which the lives of a majority of critically injured trauma patients can be saved, if definitive treatment is provided. The Golden Hour is the time from the moment of hospital admission to perform the necessary, life-saving intervention which means trauma is “time sensitive”, and there is no time to waste. The Golden Hour is best conceived as an imperative to get the patient to the right care in the shortest period of time (*University Health System, 2012*).

The role of nurse is vital in the acute care and management of brain injured patients. Nurses in this setting must have a set of skills and knowledge that exceed those required in other disciplines. Quality and adequacy of specialized early intervention for patients with traumatic head injury is very important factor in order to reduce posttraumatic disability and mortality of these patients, so proper nursing care of traumatic

brain injury patients during **golden hour** has several goals. The first goal is to save patient life. The second goal is the prevention of complications common to patients with traumatic brain injury (*Watson et al, 2010 & Wikipedia, 2010*).

There are many factors that affect nurses' performance. Those factors may be job regulation related factors or nurses related factors, so human resources policies need to focus on overcoming the factors that may affect negatively on the nurses' performance. Also, it is important to develop nurses' knowledge and skills, so efforts should be directed towards enhancing creativity among nurses and access to update information and continuous educational opportunities (**Delucia et al, 2009**).

### **Significance of the study**

According to the Centers for Disease Control and Prevention (**CDC**), approximately 1.4 million people suffer TBI each year in the United States and about 50,000 people die from the injury (**Centers for Disease Control and Prevention (CDC), 2011**) In Egypt, the number of patients admitted with (TBI) to emergency unit according to Ain Shams University hospitals statistic result, approximately 400 patients were admitted in (2009).

Patients with traumatic head injury face serious problems and fatal complications, So nurses performance in emergency management is extremely important in successful management of the patient with traumatic head injuries which leads to decrease mortality and morbidity, decrease cost of treatment, decrease cost of time and effort of care providers in addition to the frustration for both patients and care providers (**Osborn & Wraa, 2010**).

### **Operational definition:**

#### **Golden hour:**

The Golden Hour is an hour from the moment of hospital admission to perform the necessary, life-saving intervention.