Impact of Self Learning Package on Nurses' Performance about Care of Head Injury Children

Thesis

Submitted for Partial Fulfillment of the Doctorate Degree
in Pediatric Nursing

By

Heba Ismail Abd El-Azim
B.Sc. Nursing (2004)
Ms. of Pediatric Nursing (2012)

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Heba Ismail Abd El-Azim

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List of Abbreviations

Abbrev.	Full-term
ABC	: Airway, Breathing, Circulation.
APTT	: Activated Partial Thromboplastin Time.
ATV	: All-Terrain Vehicles.
CBC	: Complete Blood Count.
CNE	: Continuing Nursing Education.
CPP	: Cerebral Perfusion Pressure.
CSF	: Cerebrospinal Fluid.
CT	: Computer Tomography.
DAI	: Diffuse Axonal Injury.
ED	: Emergency Department.
EDH	: Epidural Hematoma.
EEG	: Electroencephalogram.
GCS	: Glasgow Coma Scale.
ICH	: Intracerebral Hematoma.
ICI	: Intracranial Injury.
ICP	: Intracranial Pressure.
INR	: International Normalized Ratio.
IV	: Intravenous.
LOC	: Level of Consciousness.
MRI	: Magnetic Resonance Imaging.
MVAs	: Motor Vehicle Accidents.
PCS	: Post-Concussion Syndrome.

PICU : Pediatric Intensive Care Unit.
PT : Prothrombin Time.
PTA : Post-Traumatic Amnesia.
RAS : Reticular Activating System.
ROM : Range of Motion.
SDH : Subdural Hematoma.
SDL : Self-Directed Learning.
SLP : Self-Learning Package.
TAI : Traumatic Axonal Injury.
TBI : Traumatic Brain Injury.

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ABSTRACT

The aim of the study was to assess the impact of self-learning package regarding care of head injury children on nurses' knowledge and performance through: Assessing nurse's performance regarding care of head injury in children, assessing nurse's knowledge regarding care of head injury in children, assessing nurse's performance versus knowledge. ***Research design:*** A quasi experimental study was utilized for conducting the study. ***Setting:*** The study was carried out in Neurosurgery Department, Emergency Department and Pediatric Intensive Care Unit at Benha University Hospital. ***Subjects:*** A purposive sample consisted of 100 nurses with different categories working in the previously mentioned settings. ***Tools for data collection:*** A questionnaire format designed by the researcher to assess nurses' knowledge, and observation checklists to assess practices, adapted under supervision of the supervisors, followed by administration of the self-learning package, the same questionnaire format and observation checklists were used pre, post and at follow up the application of the self-learning package. ***Results:*** The study revealed that there was statistical significant difference in nurse's performance between pre and post implementation of the self-learning package after six months and after one year regarding care of head injury children. ***Conclusion:*** The study concluded that, the implementation of self-learning package upgrade nurses' knowledge and performance regarding care of head injury children. ***Recommendations:*** The self-learning package for nursing care regarding head injury children should be available in Neurosurgery Department, Emergency Department and Pediatric Intensive care Unit to be followed by all nurses and updated periodically. Future researches should be applied utilizing different methods of education as well as attitude enhancement techniques to help nurses to care for head injury children.

Key words: Self-learning package, Head injury, Nurses' performance

Introduction

Head injury is defined as damage to the scalp, bony skull, and brain tissue which may involve injury to cerebral blood vessels. Traumatic Brain Injury (TBI) is a leading cause of morbidity and mortality among pediatric patients, it is responsible for the majority of trauma-related hospitalizations followed by deaths in the pediatric population. Although outcomes after TBI are generally viewed as better in children than adults ***(Zollman, 2011& Smith et al., 2016).***

The head injury varies according to age, and reflects developmental abilities and risks associated with each stage of life. Falls account for approximately 50% of head injury in children ages from birth to14 years, followed by collision events with a moving or stationary object (24.8%), and motor vehicle accidents (6.8%). The youngest children have the highest rate of fall-related head injuries. However, the most common cause of severe TBI and death in this age group is non-accidental trauma, which accounts for between 24% and 63% of head injuries requiring hospitalization ***(Aminoff et al., 2015).***

Motor vehicle accidents and assault occur most often in adolescents greater than 15 years old. School-aged children are also commonly injured from sports and recreational activities. The number of sports and recreation-related Emergency Department (ED) visits for head injury in this age group

increased by 60% in the last decade. Bicycle-related head injuries accounts for 40% of bike-related deaths. An increasing cause of pediatric mortality is use of All-Terrain Vehicles (ATV), fatalities and nonfatal injuries increased by 14% and 25%, respectively, in recent years, despite passage of ATV safely legislation for children ***(Aminoff et al., 2015).***

Common causes of traumatic brain injury include falls, sports-related injuries, motor vehicle accidents, violence and assaults, and being struck by or against objects. Boys experience head injury twice as frequently as girls. Many children die each year from head trauma, and children who survive their injuries can have significant long-term disability. Children can also experience subtle symptoms of TBI that may not appear until days or weeks after the injury ***(Burns et al., 2013).***

Clinical manifestations: Mild head injury include headache, dizziness, impaired concentration, thinking, and memory, blurred vision, noise sensitive, depression and anxiety, nausea and vomiting. Moderate to severe head injury include Loss Of Consciousness (LOC), severe headache, repeated vomiting or nausea, seizures, changes or unequal pupils, inability to move one or more limbs, lack of coordination, confusion, and drowsiness ***(Richardson, 2013).***

Types of head injuries: Primary injury occurs at the time of the traumatic event, can cause immediate, irreversible