Nurse's Perception Regarding Hypovolemic Shock in Children

Thesis

Submitted for Partial Fulfillment of the Requirements of the Master Degree in **Pediatric Nursing**

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List of Abbreviations

Abbr.	Full-term
AAP	:American Academy of Pediatric
ABGs	:Arteial Blood Gases
ACS	:American college of surgeons
AHA	:American Heart Assosiation
ARDS	:Acute Respiratory Distress Syndrome
BP	:Blood Pressure
BSN	:Bachelors of Science in Nursing
BUN	:Blood Urea Nitrogen
CDC	:Centers for Disease Control and Prevention
CNS	**:**Central Nervous System
CO	:Cardiac Output
CO_2	:Carbon dioxide
CVP	: Central Venous Pressure
DBP	: Diastolic Blood Pressure
DIC	**:** Disseminated Intravascular Coagulation
ECF	: Extra Cellular Fluid
ED	: Emergency Department
GCS	**:**Glasgow Coma Scale
GE:	**:**Gastroenteritis
GIT	:Gastro Intestinal Tract
H^+	**:** Hydrogen Ions
H_2CO_3	:carbonic acid
$2H_2CO_3$	:Bi carbonate carbonic acid

H_2O	**:**Water
HGB	:Hemglobin
HR	**:**Heart Rate
ICF	: Intra Cellular Fluid
ICU:	:Intensive Care Unit
IV	:Intravenous
MOSF	: Multiple Organ System Failure
NIRS	: Near- Infrared Spectroscopy
O_2	:oxygen
$Paco_2$	**:**Partial pressure of carbon dioxide in arterial blood gases.
Pao_2	:Partial pressure of oxygen in arterial blood gases.
PC	:Personalized Computer
PH	:Negative logharitm of hydrogen ion
RBC_s	**:**Red Blood Cells
RR	:Respiratory Rate
SBP	: Systolic Blood Pressure
SD	: Standard Deviation
SPSS	: Statistical Package for Social Sciences
TBW	: Total Body Water
UNICEF	: United Nations Children`s Fund
US	:United States
WBC_s	: White Blood Cells
WHO	: World Health Organization
X^2	:Chi –square

Abstract

Aim of the study was to assess nurses' perception regarding hypovolemic shock in children. **Research design:**A descriptive design was used to conduct this study. **Setting:** The study was conducted at Emergency Departmentof Pediatric Hospital affiliated to Ain Shams University Hospitals. **Subjects**: A purposive sample included fifty two nurses provided direct care for hypovolemic shock in children at the previously mentioned setting. **Tools of data collection were** an interviewing questionnaire to assess nurses' knowledge and modified Likert Type Like Rating scale to assess nurses' perception regarding management of hypovolemic shock in children. **Results:** the study revealed that less than half of studied nurses those represent forty six percent were scored poor knowledge regarding hypovolemic shock and nurses' perception revealed that more than half of studied nurses showed an agreement for hypovolemic shock management at Emergency Department. **Conclusion:** It was concluded that there was statistical significant relation between training, experience and age of the studied nurses and their perception also there was no statistical significant relation between qualifications of the studied nurses and their perception in addition to more than half of the studied nurses were in agreement with management of hypovolemic shock in children at Emergency Department. **Recommendations:** Emphasize importance of training courses for nurses about management of hypovolemic shock in children and further researches about nurses' perception regarding hypovolemic shock in children with modifications to setting.

Key words: Hypovolemic Shock, Children, Nurses, Perception

Introduction

Shock or circulatory failure is a leading cause of morbidity and mortality in the pediatric population, it is a serious life threatening condition characterized by hypo perfusion of tissues which results from decreased blood volume (hypovolemia). Hypovolemic shock is the most common type of shock in children which occurs due to intravascular volume loss in water, blood, or plasma ***(El-Naggar, 2014).***

Worldwide (6-20) million deaths are due to hypovolemia especially between developing countries annually. Hypovolemia results in (4) million deaths between infants and children ***(Adam, 2010 and World Health Organization [WHO], 2014).*** Children commonly have hypovolemic shock that results from severe hemorrhage, external or internal traumatic injuries, vomiting, diarrhea, burns and diabetic ketoacidosis ***(James, 2013).*** In Egypt 238,000 individuals died in 2000 and 95% of deaths occurred in pediatric patients because of hypovolemic shock that is associated with burns ***(Mahmoud, 2012).***

Perception is the process of attaining awareness or understanding of sensory information by interpreting and organizing this information. The practice of nursing includes the perception of one' self through assessment of attitudes, values, beliefs and cultural background, these factors affect

the nurse when assessing , evaluating and interpreting the pediatric patient in hypovolemic shock ***(Master, 2017)***.

Health of children has historically been of vital importance to all societies because children are the basic resources of the future of mankind. Pediatric nursing is the branch of nursing concerned with care of infants and children; it focuses on providing holistic care to infants, children and adolescents **(*Sharma, 2013)***.

Nursing role for critical cases is considered from the highly important roles in pediatric nursing field. Pediatric emergency department nursing is one of the most challenging areas of nursing care where caring for pediatric patients in intensive care environments requires advanced training and experience because the clinical picture for critically ill children can change rapidly ***(Luanne, 2017)***.

Significance of the study

Mortality rate in critical cases depends on the severity and number of system failure. Severe single system failure has a mortality rate of (15-20) % and (40-50) % in multiple system failure.

Early recognition of system failure by a pediatric nurse can promote system support, reduce mortality rate and improve the outcome in children so nurses provide care for hypovolemic shock in children should be assessed for knowledge and attitude**.**

Aim of the Study

The study aimed to assess nurses` perception regarding hypovolemic shock in children.

Research questions

1- What's the perception of nurse regarding hypovolemic shock in children?

2- Is there a relation between nurses` perception regarding hypovolemic shock in children and their characteristics?

Part I: Overview to Hypovolemic shock in children

Shock or circulatory failure is a serious life threatening condition. It is classified into categories based on its cause or pathogenesis to septic shock, hypovolemic shock, obstructive shock, cardiogenic shock and kinetic or distributive shock ***(Bell, 2010)***.

Hypovolemic shock occurs due to intravascular volume loss. Septic shock is caused by gram negative bacteria, obstructive shock occurs due to either obstruction of venous return or arterial flow, cardiogenic shock occurs due to severe acute heart failure, myocardial ischemia or late stage of septic shock and distributive shock occurs due to drugs, foods, insect stings, immunoglobulins or head trauma that causes neurogenic shock ***(El- Naggar, 2014).***

Hypovolemia is a decreasing in the volume of circulating blood. Absolute hypovolemia refers to a decreased volume of fluid or blood within the circulatory system while in relative hypovolemia the fluid from the circulatory system doesn`t leave the body ***(Ackerman and Singhi, 2010)***. Morbidity varies with the degree of hypovolemia and its underlying cause. Severely hypovolemic infant or child is at risk for death from cardiovascular collapse.Improper management of hypovolemia may cause iatrogenic morbidity or mortality ***(Epstein and Randall, 2016).***