Arab American University
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Knowledge and Practice of nurses regarding the Care of Patients with head trauma in intensive care units in the West Bank

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Approval form

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Declaration

I hereby declare that this thesis represents my own work which was commenced during my study at the Arab American University of Palestine, and was never submitted to any other institution for any other qualification.

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Acknowledgment

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Also, we would like to thank all the people who contributed directly or indirectly to the development of this work. Through they be assured of our faithful friendship, love, and sincere appreciation.

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Dedication

I dedicate my education to my dear father and wonderful mother who have been my constant source of motivation and inspiration, and who have given me the strength and commitment to work with enthusiasm and determination on every task to encourage them.

To my wife who has been patient with me during the trouble and hardship of the days.

To my brothers who are always with me all the time.

I dedicate this study to my supervisor, the distinguished Dr. Lubna Harazneh and Dr. Ahmed Ayed, who were with me step by step in this thesis.

Abstract

Background

Traumatic brain injuries are a major cause of morbidity and mortality across the world. It is the major cause of disability and death among younger people in high-income nations, and the global prevalence of head trauma is rapidly growing. Nurses in the intensive care unit are responsible for the continuous assessment and management of physiological parameters associated with brain injury. Nurses have a vital and significant role in the care of patients suffering from moderate-to-severe traumatic brain injury, both during acute and non-acute care.

Objective

The purpose of this study was to investigate the Knowledge and Practice of nurses regarding the Care of Patients with head trauma in an intensive care unit (ICU) in West Bank governmental hospitals.

Method

The study was designed as a cross-sectional study. The study recruited one hundred and sixty-five nurses who work at intensive care unit (ICU) nurses in government sector in West Bank, Palestine. The data collected bya self-administered questionnaire developed by the researcher.

Results

Among the 165 intensive nurses, the study findings revealed the majority of nurses99 (60.0%) have low level knowledge regarding Care of Patients with a head trauma , and showed that most of the nurses 115(69.7%) have poor level practice regarding Care of Patients with a head trauma .

Conclusion

According to the results of the current study, approximately two thirds of the studied nurses had unsatisfactory knowledge level regarding head trauma care. More than two thirds of the studied nurses had poor level practice regarding head tjrauma care. Also, the study confirmed no statistically significant relation between knowledge and demographic characteristics. There was significant differences between total practice scores and both experience in general and experience in ICU.

Keywords: Knowledge, Practice, Brain Injury, Traumatic Brain Injury, Head injury care, intensive care nurse.

Abbreviation

Abbreviation	Explanation
TBI	Traumatic brain injury
“ICU”	“Intensive Care Unit “
DOR	Department of Rehabilitation
“GCS”	“Glasgow Coma Scale”
CCUs	Critical Care Units
ICP	Intracranial pressure
N	Sample
“SPSS”	“Statistical Package for Social Sciences”
“SD”	“Standard Deviation”
“ANOVA”	“Analysis of Variance”
“LMICs”	“low- and middle-income countries”
“WHO”	“World Health Organization”
HT	Head Trauma
t-test	t student statistical test
M	Main
ETCO2	End tidal carbon dioxide
EVD	Extra-ventricular drain
CPP	Cerebral perfusion pressure
CPR	Cardiopulmonary resuscitation
DVT	Deep Vein Thrombosis
AAUP	Arab American University Palestine

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Chapter One

Introduction

1.1. Background

Traumatic brain injury (TBI) is a major cause of morbidity and mortality across the world (Dewan, 2018). Traumatic brain injury (TBI) is a leading cause of death and disability globally (Dewan, 2018). Primary injury happens as a result of trauma and involves contusion, blood vessel damage, and axonal shearing, which happens when the axons of neurons are stretched and ripped (Scalea, 2005). The primary injury may compromise the blood-brain barrier and cause neurons to die (Pitkänen& McIntosh, 2006). In primary injury, cells are destroyed in an unspecific manner (LaPlaca, Simonm Prado& Cullen, 2007).

The head injury involves brain or skull trauma. In the medical literature, the terms "head injury" and "traumatic brain injury" (TBI) are used interchangeably. Because head injuries encompass such a broad range of injuries, there are several reasons that might result in brain injuries, including physical assaults, falls, accidents, or traffic accidents (Hardman, Rominiyi, King, &Snelson, 2019). TBI is also illustrated as change of brain function or other signs of brain pathology induced by an external force (Menon, Schwab, & Wright, 2010).

The traumatic brain is considered an external force insult to the brain leading to lethal pathological brain development. The primary direct effects of trauma apply to traumas induced by injury and secondary damage related to hospitalized hypoxia contributing to ischemia (Oropello, Kvetan&Pastores, 2017). The main cause of death and damage is traumatic brain injury (TBI). Around282000 hospitalizations,2.5 million

emergency room visits, and 56 000 TBI-related deaths were recorded in 2013 in the United States (Schiller, Lucas &Peregoy, 2012). Some survivors have serious disabilities, which can contribute to major socio-economic burdens. In 2010, the United States estimated the economic impact of TBI to be $76.5 billion (Finkelstein, Corso&Miller 2006). More severe TBIs are unreasonably more costly (Coronado, McGuire &Faul, 2012).

Several complications may occur from traumatic brain injuries (TBIs, physical brain trauma, and not are TBIs themselves, but result from them). With the severity ofthe trauma, the risk of complications is increasing (Lonser, Zipfel, &Chiocca, 2020). Nevertheless, even minor traumatic brain injuries can cause several problems including physical, neurological, emotional, and disorder of the personality, including social relationships, work, and daily life, as well as disruptions of neuro-functional circuits that are not detectable by standard structural MRI and must be taken seriously in clinical and forensic evaluations (Konrad et al, 2011).

Nurses play a crucial role in the management of patients with moderate-to- severe TBI in both acute and non-acute care settings. Nurses, as key members of the interdisciplinary team, have a wide range of duties and obligations to assist with the assessment and rehabilitation of patients, including planning and communicating care, evaluating the patient, delivering physical and technicalcare, incorporating prescribed therapy, providing social support to the patient and their families, lobbying for the patient, engaging the patient and family in care, and teaching the patient and family. These tasks and duties depend on the seriousness of the injuries suffered by the patient and the extent of the injury; as the state of the patient varies, nurses modify their care plan. These modifications are expected to occur more frequently while caring for

acute, new-onset, moderate-to-severe TBI patients compared to chronic-stage patients (Oyesanya et al, 2016).

Traumatic brain injury (TBI) is a global public health problem and one of the main causes of mortality and disability, according to Dewan et al. (2018), with an estimated 64–74 million individuals suffering a TBI each year.

1.2 Problem statement

Traumatic brain injury (TBI) is a leading cause of death and disability globally (Dewan, 2018). TBI-related mortality is much greater in low- and middle-income countries (LMICs) (Dewan, 2019). This might be due to a greater overall frequency of external causes of death in LMICs, such as higher incidence of road traffic injuries as a result of fast increasing motorization and inadequate access to adequate management for TBI patients (Staton,2017). Furthermore, an estimated 50 million individuals are injured sufficient to require medical care each year, with the common of them avoidable (World Health Organization (WHO), 2010). Nonetheless, when traumatic injuries occur, the need of prompt and vigorous life-saving interventions cannot be overstated. Survival following a brain injury is dependent on prompt emergency care and a thorough assessment of main and secondary injuries (Swadron et al., 2012). Following the Advanced Trauma, these instances should be identified and managed as soon as possible.

ICU nurses are in charge of the constant maintenance and monitoring of physiological variables that contribute with brain injury. As a result, nurses, as participants of the health care team, are best positioned to identify and prevent subsequent brain injury.Never the less, nurses' practices differ, and little is known about how ICU nurses manage secondary brain injury.

To the best of our knowledge, after searching various data bases, no studies that assess professional nurses' knowledge and clinical practices in managing patients with traumatic brain injuries in Palestine are available. As a result, the study's purpose was to investigate the Knowledge and Practice of nurses regarding the Care of Patients with head trauma in intensive care unit (ICU) in West Bank governmental hospitals.

1.3 Significance of the Study

The current study is essential for hospitals, nurses, and intensive care units nurses, as its results could help to establish effective interventions to enhance the quality of nursing care and services and minimize mortality and disability among head trauma patients.

This study can help determine the real value of nursing care plan in intensive care unit (ICU), and will study the effect and the outcome of the knowledge of intensive care unit nurses during traumatic brain injuries and risk, which can act a good role in enriching the quality of care in the future.

The study will assist policymakers in developing informed and evidence-based brain injury protocols and policies. The findings of the study will also be useful to other researchers who desire to do similar studies in the future.

1.4. Study Objectives

General Objective:

The purpose of this study was to investigate the Knowledge and Practice of nurses regarding the Care of Patients with head trauma in intensive care unit (ICU) in West Bank governmental hospitals.

Secondary Objectives

- Investigate the knowledge of nurses caring for patients with (HT) in intensive care unit of Palestinian government hospitals.
- Investigate the clinical practice of nurses caring for patients with (HT) in intensive care unit of Palestinian government hospitals.
-Investigate the relationship between ICU nurses' knowledge and practice with some variables such as nurses' educational level, years of experience and training courses.

1.5 Research Questions:

To achieve the goal of the study, the research questions were:

1. What is the level of knowledge of head trauma among nurses in intensive care unit in governmental hospitals in the West Bank.?
2. What is the level of practices of head trauma among nurses in intensive care unit in governmental hospitals in the West Bank.?
3- Is there differences between knowledge mean of head trauma and nurse's demographic characteristics in intensive care unit in the governmental hospitals in the West Bank.?
4-Is there differences between practice mean of head trauma and nurse's demographic characteristics in intensive care unit in the governmental hospitals in the West Bank.?

1.6 Variable:

Independent variables:

- Demographic characteristics of the nurses.

Dependent variables:

- Knowledge of the care of patients with a head trauma.
- Practice of the care of patients with a head trauma.

1.7 Theoretical and Conceptual Framework:

The "Knowledge, attitude, and Practice model" is a common tool for gathering information from patients and practitioners (Kishore,2020).Knowledge-practice was constructed on the basis of the cognitive, behavioral theory of Schwartz to study the relationship between knowledge, attitudes and practice (Bano et al., 2013). Therefore, the conceptual framework of the current study was built on model of knowledge, and practice.

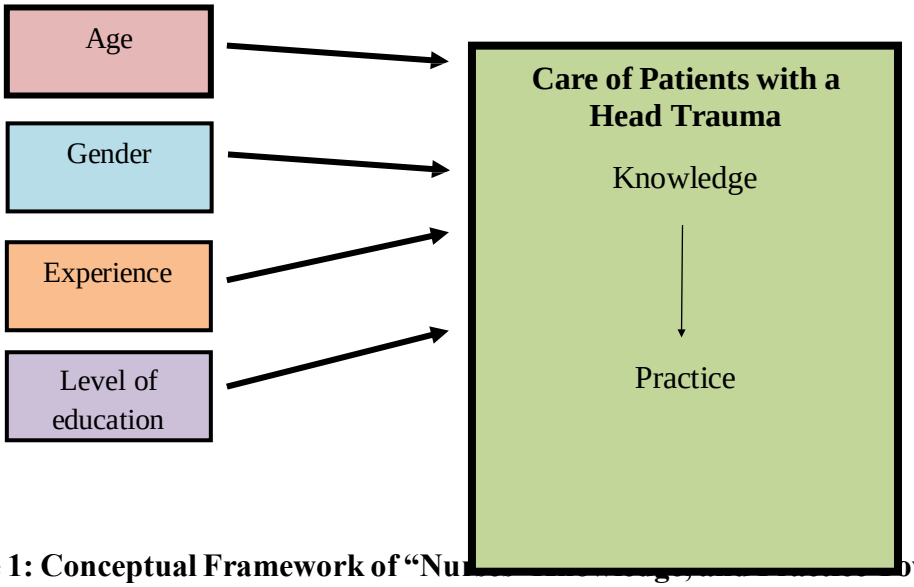

Figure 1: Conceptual Framework of "Nu owards the care of patients with a head trauma "

1.8 Conceptual and Operational Definitions

Conceptual Definitions

Intensive care unit is “a special area in a hospital where critically ill patients who need close observation and frequent ministrations can be cared for by highly qualified, especially trained staff working under the best possible conditions abbreviated ICU” (Blackwell’s Dictionary of Nursing, 2002).

Intensive care nurse is “a nurse specialized and trained with knowledge and skills in the field of intensive care nursing and critical thinking, able to provide specialized nursing care to critically ill patients” (Blackwell’s Dictionary of Nursing, 2002)

Knowledge is “awareness or familiarity gained by experience; a theoretical or practical understanding of a subject” Biggam, (2001)

Practice is “the usage of rule and knowledge towards action” (Badran, 1995).

Operational definitions

Nurse: A nurse who is formally worked in the care of the sick patients in the intensive care unit.

Knowledge is the level of nurses’ knowledge of patients brain trauma which measured by multiple choice questions.

Practice refers to the level of nurses’ practice of patients’ brain trauma in ICU

1.9 Summary

In this chapter of the study, reader was orientated to the main reason for conducting this study to be undertaken, objectives, problem statement, study justification, research questions, variables, and operational definition. The conceptual framework of knowledge and practice towards Care of Patients with head trauma in intensive care units in the West Bank was formed, the term definitions of the study was explained.

Chapter Two

Literature Review

2.1 Introduction:

This part will review extensively researches concerned with head trauma management at ICU departments, result research could formulate the gap in researches to be covered in this research.

The chapter provided an overview of TBI care, knowledge of caring for patients with TBI, clinical procedures for TBI, and nurses' role in care of traumatic brain injury.

The researcher use various searching engines to gain broader insight regarding previous existing literature. Science Direct, Medline,CINAHL, Google Scholar,and PubMedwere used to perform the searches. Searching terms used were "critical care nurse", "Traumatic Brain Injury", "knowledge nurse", "knowledge critical care nurse", "clinical practice neuro-critical care", "clinical practice critical care"," Open Head Injury"," Closed Head Injury"**,** and "Traumatic Brain injury care."

2.2 Overview of Traumatic Brain Injury

Patients with neurological injuries requiring critical care are handled in one of three critical care models around the world: general critical care without direct neurosurgical/neurological input, CCUs co-located with a neuroscience unit, which could be a combined specialty with direct input from neuroscience specialists, or a stand-alone Neuro-Critical Care Unit (Tweedie, 2016). When neurological patients are treated for in dedicated neuro-critical care units rather than regular CCUs, they have reduced mortality and better results (Kramer &Zygun, 2011; Kurtz et al, 2011).

Knowledge of crucial parameters is essential, and recognizing abnormalities informs the bedside nurse to then administer therapeutic measures and when to summon the physician for additional care instructions. A neurological evaluation serves as the foundation database for identifying patients' care needs, multidisciplinary and collaborative challenges, developing a plan of care, implementing interventions, and evaluating the outcomes (Hickey, 2014).

Competence in conducting proper neurological assessments by nurses, as well as interpret the meaning of each finding of the wider view of neurological functioning, interpreting trends, and determining whether to consult a physician to avoid adverse, irreversible neurological deterioration, are critical (Hickey, 2014).

In the days following a traumatic brain injury, intensive bedside neuro-monitoring is crucial in preventing subsequent ischemia and hypoxic damage (Cecil, et al, 2011). Tweedie (2016) emphasized that optimum treatment for such patients also necessitates rigorous attention to the preservation of systemic and cerebral physiological objectives, as well as proper extra-cranial organ protection.

Traumatic Brain Injury is still the largest cause of mortality following trauma, and the capacity to reliably anticipate prognosis plays a crucial role in early clinical decision making (Hoffman,et al, 2012).

Closed Head Injury

In a closed head injury, the skull is not punctured. Damage frequently occurs when the brain experiences rapid acceleration and deceleration as a result of a head injury, such as in a vehicle accident or a fall. The brainstem then bends and twists on its axis, resulting in localized or widespread brain damage. The brain then returns and hits the opposite side of the skull (the "contrecoup"). As a result, multiple areas of the brain

are frequently damaged in closed head traumas. Swelling and bleeding, both of which are common in open-head traumas, cause damage to numerous parts of the brain (Brodwin et al., 2009).

Open Head Injury

TBI is easily validated in the case of an open head injury. A stabbing or a bullet has perforated the person's brain. Skull fractures, exposed brain tissue, and obvious bleeding indicate the extent of the trauma. Frequently, the patient enters a coma or a physician induces a coma pharmacologically shortly after the trauma. The coma might last seconds, minutes, hours, days, weeks, or months. This type of head injury is more likely to result in localized brain damage.Additional risks exist as well; some patients develop infections or needto have their lost skull material replaced with artificial plates (Brodwin et al., 2009).

Department of Rehabilitation (DOR)

The California Department of Rehabilitation works in partnership with consumers and other stakeholders to provide services and advocacy resulting in employment, independent living, and equality for individuals with disabilities (California Department of Rehabilitation, 2013).

Glasgow Coma Scale

The Glasgow Coma Scale (GCS) is a technique used by medical practitioners to objectively assess whether a person is aware or comatose. It is also known as the "Glasgow Coma Score," and it runs on a range of "3" to "15," with higher values indicating higher degrees of awareness. The GCS is used by emergency doctors and

nurses to assess a patient's status immediately following head trauma. Intensive care workers, EMTs, and chronic care providers are among those who utilize the GCS (Jain, Teasdale, & Iverson, 2018). Generally, comas wouldarranged as:"severe, with GCS ≤8, moderate, GCS 9–12, and minor, GCS ≥13". Forty years after its development, the GCS has become an integral part of clinical practice and research worldwide. Findings using the scale have shown strong associations with those obtained by use of other early indices of severity and outcome (Petridou& Antonopoulos, 2017).

Pupil Evaluation

Evaluation of pupil size and light reflexes are essential elements in the protocol for treatment and management of severely brain-injured patients in critical care units worldwide (Couret, et al., 2016). Early detection of pupillary changes in patients with head injuries can alert the team of the possibility of increased intracranial pressure (Kerr, et al, 2016). On the other hand, (Adoni and McNett, 2007) stated that confusion regarding the specific aspects of the examination and physiological basis of the papillary response pertaining to a patient with TBI still exist amongst health professionals.

In the critically ill, measurements about pupil size Also reactivity are from great prognostic importance (Couret et al.,2016). Varieties alongside pupil size might sign neurological crumbling furthermore require a changeover clinical management (Kerr et al, 2016).

Pupil sizes concentrate on four characteristics: diameter, reactivity should light, shape, and presence of anisocoria. Pupil sizes should to be evaluated looking into both, previously, then after seeing on immediate light stimuli, and shining light into pupils should immediately cause constriction and on withdrawal it should produce an

immediate and brisk dilation of the pupil which is known as direct light reflex (Adoni&McNett, 2007; Hickey, 2014).

Research has found that pupil sizes are underestimated by as much as 1.5 mm in diameter and affects clinical decision making due to enlarged pupils indicating cerebral ischemia or herniation (Kerr et al., 2016)

Intracranial Pressure and Cerebral Perfusion

Intracranial pressure (ICP) refers to the pressure within the skull, which is determined by the volumes of the intracranial contents; blood, brain and cerebrospinal fluid. According to the Monro–Kellie homeostasis, a change in total intracranial volume is accompanied by a change in ICP, which is more specifically characterized by the intracranial pressure–volume connection. Maintaining a generally constant ICP is critical for maintaining cerebral perfusion pressure, which affects global cerebral blood flow. Although the natural mechanism of auto-regulation ensures that cerebral blood flow is tightly controlled over a range of cerebral perfusion pressures, substantial rises in ICP can result in severely impaired auto-regulation, which means that cerebral blood flow may be disrupted (Oswal, &Toma,2020).

2.3 Previous Studies of Knowledge and Practice of ER Nurses to Care with Primary Head Trauma Patients

In a cross-sectional study conducted by Oyesanya& Brown (2017) to investigate nurses' perceptions of care for patients with traumatic brain injury. Five hundred and thirteen nurses completed the Brain Injury Perceptions Survey online. According to the findings, nurses caring for patients with traumatic brain injuries had the highest reported confidence but the lowest perceived knowledge.

Another cross-sectional study by Oyesanyaet al,(2016) examined nurses' beliefs and learning care preferences for patients with moderate-to-severe TBI for 513 nurses in the Midwestern Hospital. Findings found that nurses had incorrect beliefs about the recovery and nursing function of TBI and had substantial gaps in learning preferences. These results have implications for explaining nurses' role in the development of specific nurse education and training interventions to ensure that they have factual knowledge on TBI and to explain the role of nurses.

A cross-sectional study by Oyesanya& Thomas (2019) investigates the methods used by nurses to care for patients with moderate-to-severe TBI who have a cognitive disability. A total of 692 nurses from three hospitals answered the open-ended question via an electronic survey. The findings found that 189 nurses identified interventions used in their care plan for patients with TBI who have cognitive deficits including cognitive skills, communication techniques, patient safety techniques, agitation and behavioral management techniques, and education techniques.

A quasi-experimental study was conducted by Seliman et al. (2014) to assess the effect of the head trauma management protocol on the knowledge and practices of critical care nurses at the Emergency University Hospital. Results have demonstrated that the intensive care unit nurses lack certain information and practices about head trauma management. Also, the knowledge and practice ratings of nurses were improved shortly following the introduction of the protocol with a substantial statistical gap. The study proposed that a written updated head trauma management protocol be developed to ensure appropriate knowledge and safe nursing practice. In addition, the nurse educator can perform an annual review to ensure that the levels of knowledge and practice for the management of head injuries in nursing are upheld.

Another quasi-experimental study was conducted by Hussein (2018) to assess the efficiency of the Intensive Care Unit nurses in caring for patients with head injuries at Zagazig University Hospitals. The study was conducted on a convenient group of (45) nurses in the neurological and stroke Intensive Care Unit. Data were collected using the traumatic the two key tools: a questionnaire for the evaluation of head injury care practices with an observational checklist for head injury care practice and a socio-demographic datasheet. The findings found that nurses' overall knowledge and practice scores were low and raised directly after the implementation of the program with a substantial statistical gap. This elevated degree decreased significantly after two months of completion of this program.

2.4 Nurses' Role in Care of Traumatic Brain Injury

Several complications may occur from traumatic brain injuries (TBIs, physical brain trauma, and not are TBIs themselves, but result from them). With the severity ofthe trauma, the risk of complications is increasing (Lonser, Zipfel, &Chiocca, 2020). Nevertheless, even minor traumatic brain injuries can cause several problems including physical, neurological, emotional, and disorder of the personality, including social relationships, work, and daily life, may lead to a lasting disruption of neurofunctional circuits not detectable by standard structural MRI and needs to be taken seriously in clinical and forensic evaluations. (Konrad et al.,2011).

Nurses have a significant and crucial role in the management of patients with moderate-to-severe TBI during acute and non-acute care. Soa key member of the interdisciplinary staff, nurses have a broad variety of duties and obligations to aid with the assessment and rehabilitation of patients, including evaluating the patient; planning

and communicating care; delivering physical and technical care; incorporating prescribed therapy; offering social support to the patient and their families; lobbying for the patient; engaging the patient and family in care, and teaching the patient and family. These tasks and duties depend on the seriousness of the injuries suffered by the patient and the extent of the injury; as the state of the patient varies, nurses modify their care plan. These modifications are expected to occur more when caring for acute, new-onset, moderate-to-severe TBI patients relative to chronic-stage patients (Oyesanya, 2016). Traumatic brain injury (TBI) patients have a poor prognosis and require quality of care to maximize patients' survival, and only with thorough knowledge and judgment of care of these patients, nurses can improve their neurological outcomes (Varghese, Chakrabarthy, Menon, 2017).It remains evident that a lack of knowledge and skill still exists, caring for patients with TBI (Varghese et al., 2017).

Research has revealed the gap in nurses' knowledge according to Watts, Gibbons and Kurzweil (2011) and the study conducted in the United States has found that there were self-identify knowledge deficits in all aspects of care of the TBI patient and recommended a concise curriculum needed for bedside nurses to meet there quirements and provide them with knowledge, skill, and abilities to care for the TBI patient.

Summary

This chapter reviewed a research article discussing the knowledge and practices of nurses regarding patients with head trauma. The results of researches showed that there is a strong need to build knowledge to care for patients with primary head injuries. No researches were found in Palestine to assess the knowledge and practices of ICU

nurses, so there is a clear gap and need for this study.

The lack of knowledge and the paucity of literature on clinical practice regarding patients with head trauma was highlighted.

Chapter Three
Methodology

3.1 Introduction

This chapter outlines the research methodology that was applied during the study to investigate the knowledge and clinical practices of professional nurses in intensive care units within a governmental hospital in the West Bank. The research design, population, sampling, data collection, and analysis will be discussed in this chapter.

3.2 Study Design

This design is a cross-sectional research design. There are no similar studies regarding which nurses' care for patients with a head injury.

A cross-section design was followed to determine nurses' knowledge and to investigate clinical practice taking care of patients suffering from traumatic brain injuries in the intensive care unit of governmental hospitals in the West Bank.

3.3 Period of Study

The study was conducted in the period of November,2020 to September, 2021. This period was enough to collect the intended number of nurses.

3.4 Study Setting

The research setting for this study was the intensive care unit (ICU) in West Bank governmental hospitals (Alia hospital, Medical complex, Yaser Arafat, Rafedia, Thabet-Thabet, Darweesh Nazzal, Tubas-Turkey, Khaleel Sulaiman). The intensive care units in government hospitals receive a lot of primary head injuries.

Table 1: Distribution of Nurses Working in Intensive Care in West Bank Hospitals

Hospital	Number of Nurses
Alia hospital	30
Medical complex	51
Yaser Arafat	10
Rafedia	17
Thabet-Thabet	16
Darweesh Nazzal	10
Tubas-Turkey	9
Khaleel Sulaiman	22

3.5 Study Population and Sample

The target population included all intensive care unit nurses from governmental hospitals in West Bank.

3.6 Inclusion Criteria

All nurses who are working in the intensive care units within a governmental hospital in the West Bank.

3.7 Exclusion Criteria:

Nurses who are on annual and sick leave were excluded from the study.

3.8 Study Instrument

The researcher used a paper-based questionnaire. The Data was collected by a self-administered questionnaire developed by the researcher to achieve the objectives of the study. The questionnaire is composed of three parts

Demographical data composed of Age, gender, educational level, working experience in nursing Profession, how long have you been working as a nurse in ICU?.

Knowledge about the Care of Patients with head trauma: composed of 18 Close-ended questions developed by researcher after critical reviewing the literature. Questions were

answered "Yes", "No", and "I don’tknow". Yes, was scored as 1 and no or I don’t know scrod as 0. The knowledge scores were converted into percentage scores by dividing the respondents' results by the potential maximum scores and multiplying by 100. The total score of each result was calculated using Bloom's cutoff point (Blooms, 1956). The degree of knowledge was categorized into three categories based on the aggregate scores: low level knowledge (less than 60%), moderate level knowledge (60-79%), and high-level knowledge (80-100%).

Practicesfor traumatic brain injury patients in critical care unit. Developed by researcher and composed of 8 items rating with four five Liker scale (Never=1, Rare=2, Sometimes=3, Frequent=4, Always=5). The practice scores were converted into percentage scores by dividing the respondents' scores by the potential maximum scores and multiplying by 100. The total score of each result was calculated using Bloom's cutoff point (Blooms, 1956). Based on the aggregate scores, the degree of practice was classified as Poor Practice (less than 60%), Fair Practice (60-79%), and Good Practice (80-100%).

3.9 Pilot Study

Pilot studies are often used to pre-test or try out a research instrument to resolve factors before the main study (Simon, 2011). The reason is to identify problems with the research design, clarify sampling techniques and representation of the population, check the reliability, as well as the validity of the instrument, and strengthen the major study design (Burns & Grove, 2011).

The pre-test was conducted before the main study in a governmental hospital on intensive care unit nurses (n=15). The participants were all nurses working in the intensive care units. The research was conducted under similar circumstances as the

main study. The participants and the questionnaires used in the pre-test were excluded in the main study.

When starting the pre-test, the purpose of the research was explained to the participants. The participants were answering the questionnaire the researcher was present. The researcher did not disagree and did not argue with the respondents while completing the questionnaire. No help or advice was provided to any participant. Time was recorded and all questionnaires were answered in less than 25 minutes, and it isa reasonable time to answer the questionnaire.

3.10 Validity of Questionnaire

A questionnaire was developed to make Participants more responsive to the questionnaire, the investigator ensured the face validity twice. The first time was through experts who give their suggestions for improvement and judgment about the adequacy and accuracy of the questionnaire. The second, during the Pre-test of the questionnaire (pilot study) as the participants were asked about the structure of questions, its shape, and typing clearance and the average time to fill the questionnaire. Content validity was done before data collection, by sent the questionnaire with covering letter concerning study and paper contain instruction about the study, main aim, objectives, the field of the study, and other relevant information to experts who are experienced and expert in the field, they were asked to estimate and revised the items in the questionnaire in terms of sufficiency the questionnaire in relation to study, accuracy, and its relevancy. Feedback was obtained from experts and modification accordingly was done by the researcher and supervisor; their opinion was taken into consideration.

3.11 Reliability of Questionnaire

The reliability of the final copy obtained after the process of translation was further tested by alpha Cronbach through the pilot study on 40 participants. Cronbach's Alpha coefficient is the most commonly used measure of reliability (Polit and Beck, 2020). Cronbach's alpha coefficient of knowledge, practice and attitude questionnaire was yielded at 0.76, that's reliable, and the scale was accepted to be applied in the study.

3.12 Data Collection

After obtaining the permission to conduct the study from Arab American University, and Ministry of health, the researcher visited the hospitals and met the chiefs of nurses and head nurses of intensive care units. He explained to them the objectives of the study and asked them to prepare list names of nurses in the intensive care units and the schedule duty to meet the nurses. The researcher explains the objectives of the study to the nurses. The nurse who agreed to participate assigned the informed consent and then complete the questionnaire.

3.13 Ethical Consideration:

Ethical approval was attained from the Arab American University Palestine, MOH, and private hospitals administration (Appendix) before beginning data collection. Participation by the nurses was voluntary and their involvement will be confidential. All nurses who reported interest in participating in the research were given the consent form and the questionnaire. Consent presented information concerning study purpose, clarification that there are no risks or threats to participation, short explanation of what the nurse will be requesting to do, describing how the information to the participant should be held secret, and how much time they will spend participating in the study. In

fact, nurses have been told they might exit the study at any time and there will be no consequence or loss of benefits if they choose to stop.

3.14 Data Analysis

Data were cleaned and analyzed with Statistical Package for Social Sciences (SPSS) program version 23. Descriptive analysis with percentage, frequency, mean, and standard deviation. For the testing hypothesis, an independent t-test and ANOVA test were used. Multiple linear regression test was used to identify the potential predictors for practice. An alpha level of 0.05 was used for all significance tests.

3.15. Limitation of the Study:

- Limited resources like, literature, books, and magazine.
- Limited information, insufficient and inappropriate data registry.
- Time limitations.
- The lack of funds spent on scientific research.
- Closures regarding COVID epidemic

Summary

In this chapter explained how the study was conducted. It covered the study design, population, inclusion and exclusion criteria, sampling, study setting, study period, study tool, measures taken to ensure reliability and validity, data collection, data analysis, ethical considerations, and limitation of the study. The structure of the questionnaire and the technique of collecting data were also explained.

This descriptive cross-sectional study was centered on assessing the “nurses’ Knowledge, and practice towards Care of Patients with head trauma intensive care

nurses in West Bank, Palestine". In addition, the relationships among nurses' "knowledge and practice" were examined. The participants involved in this study were all nurses who are working at intensive care units (ICU).

Chapter Four

Results

4.1 Introduction

This chapter presents the analysis of the data which was collected. Statistical procedure allowed the researcher to realize, summarize, interpret, organize, evaluate, and communicate the numeric information. Analysis is a technique of interpreting quantitative information intelligible and meaningful. The purpose of data analysis is to afford answers to the hypothesis or research questions. The plan for data analysis derives exactly from the question, the design, and the level of measurement of the data and the method of data collection. In this chapter the data collected were edited, tabulated, analyzed and interpreted. The purpose of this study was to investigate the Knowledge and Practice of nurses regarding the Care of Patients with head trauma in an intensive care unit (ICU) in West Bank governmental hospitals. The research questions this study was interested in were:

1. What is the level of knowledge of head trauma among nurses in intensive care unit in governmental hospitals in the West Bank.?
2. What is the level of practices of head trauma among nurses in intensive care unit in governmental hospitals in the West Bank.?

3- Is there differences between knowledge mean of head trauma and nurse's demographic characteristics in intensive care unit in the governmental hospitals in the West Bank.?

4-Is there differences between practice mean of head trauma and nurse's demographic characteristics in intensive care unit in the governmental hospitals in the West Bank.?

4.2 Cronbach's Alpha for the Study Scale

Data from respondents were combined and the KuderRichardson formula 20 (KR-20) used to assess the internal consistency of the Knowledge. The KR-20 formula is appropriate for dichotomous true/false items (l=right,0 = wrong/don't know) on knowledge tests (Fitz-Cibbon&Moms 1987) The internal consistency of the 18-item quiz was O 86, indicating high internal consistency or homogeneity for the quiz (Nunally 1978). Cronbach's Alpha was calculated for practice scale and was 82.

4.3 Participants' Characteristics

The analysis revealed that the mean age of nurses was 32.1(SD = 7.3) years with a minimum 21 years and maximum 55 years.Most of nurses were below 32 years 100 (60.6%).

More than half of the participants 96(58.2%) were males and the majority of them 128 (77.6%) had bachelor degree. Also, the analysis revealed that 65 (39.4%) have less than 5 years' experience and more than half of them 97 (58.8%) have less than 5 years' experience in the ICU. Table 4-1 showed these demographic variables of the nurses in the study.

Table 4-1: Distribution of socio demographic variables among Nurses (N=165)

Variable		N (%)
Age	Age (years old) (M = 32.1, SD = 7.3, Min = 21, Max = 55)	
	32 years old and less	100 (60.6%)
	more than 32 years old	65(39.4%)
Gender	Male	96 (58.2%)
	Female	69 (41.8%)

Variable		N (%)
Educational level	Diploma	26 (15.8%)
	Bachelor	128 (77.6%)
	Postgraduate studies	11 (6.7)
Total experience	Less than 5 years	65 (39.4)
	5-10 years	50(30.3)
	More than 10 years	50(30.3)
Experience in ICU	Less than 5 years	97 (58.8)
	5-10 years	46 (27.9)
	More than 10 years	22 (13.3)

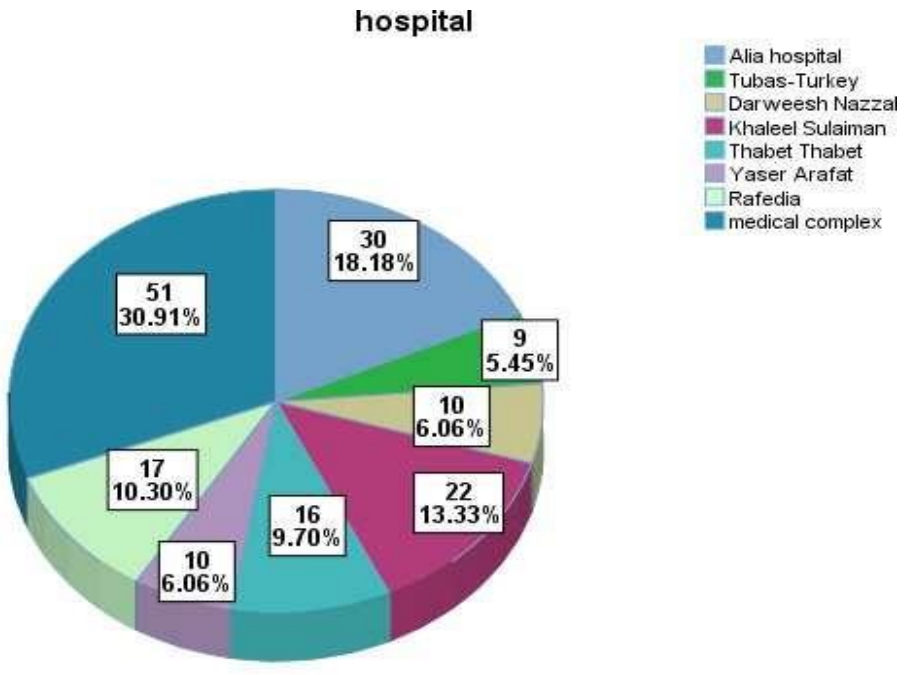

Figure 4-1: "Distribution of the participants regarding hospitals" (N=165)

The analysis showedthat the majority of the participants 51 (30.9%) were from Palestinian Medical Complex hospital, as shown in (figure 4-1).

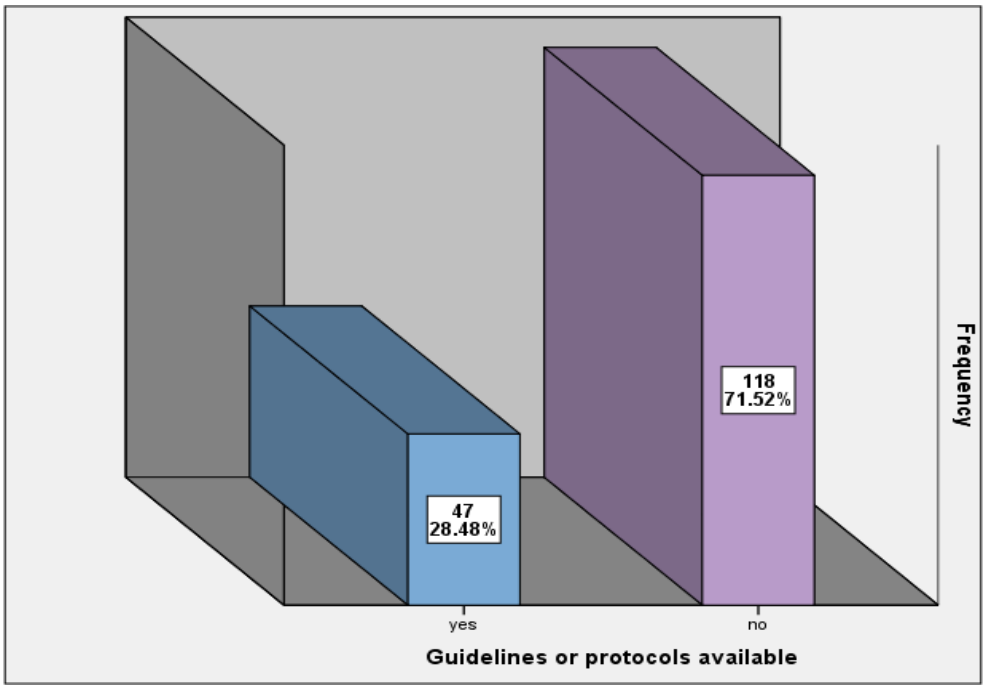

Figure 4-2: "Distribution of the participants' responses regarding to Guidelines or protocols availability with regard to the management of raised intracranial pressure" (N=165)

Also, the analysis showed that most of the participants 110 (71.4%) reported that there is no Guidelines or protocols available in your unit with regard to the management of raised intracranial pressure, as seen in figure (4-2)

4.4"Nurses' Knowledge and practice regarding the Care of Patients with a head trauma"

The analysis indicated that the majority of nurses99 (60.0%) have low level knowledge regarding Care of Patients with a head trauma.

Also, the analysis showed that most of the nurses 115(69.7%) have poor level practice regarding Care of Patients with a head trauma, as seen in table (4-2).

Table 4-2: Description of the "participants' Knowledge and practice regarding the Care of Patients with a head trauma" (N=165)

Variable		N (%)
Knowledge	"Low level knowledge"	99 (60.0%)
	"Moderate level knowledge"	62(37.6%)
	"High level knowledge"	4(2.4%)
Practice	Poor level	115(69.7%)
	Fair level	47(28.5%)
	Good level	3(1.8%)

N= sample; %= percentage

Also, the analysis revealed that majority of the participants answered correctly "Rectal temperature are one of the most accurate routes of monitoring core temperatures" 120(72.7%), "A severe head injury is classified as a Glasgow Coma Score of 8 and below" 119(72.1%), and "A good flexion response on pain stimuli is characterized by flexing of the elbow, often accompanied by lifting the elbow clear of the body"118(71.5%).

On the other hand, the lowest percentage of the participants answered correctly "Central fever is a concept defined as a fever caused by trauma or lesion that involves the medulla oblongata and the base of the brain" 41(24.8%), "Intracranial pressure (ICP) compliance can be described as (P1 curve is smaller than P2 and P3 curve)" 58(35.2%), and "Brain tissue monitoring (Licox) is used to monitor brain oxygenation. A value less than 20 mmHg is associated with poor outcome of patients with traumatic brain injury" 63 (38.2%), as seen in table 4-3.

Table 4-3: Distribution of the item analysis of the "participants' Knowledge regarding the Care of Patients with a head trauma" (N=165)

No.	Question	Correct (%)
1	"A severe head injury is classified as a Glasgow Coma Score of 8 and below"	119(72.1)
2	"Localizing refers to: Patient will move hand above the clavicle after applying supra orbital pressure or pinching trapezius muscle"	100(60.6)
3	"A good flexion response on pain stimuli is characterized by flexing of the elbow, often accompanied by lifting the elbow clear of the body"	118(71.5)
4	"A dilated pupil represents cerebral edema or herniation on the same side of the dilated pupil"	68 (41.2)
5	"Bradycardia, widening pulse pressure, irregular respiration and rise in blood pressure are signs of Cushing's response"	109(66.1)
6	"Central fever is a concept defined as a fever caused by trauma or lesion that involves the medulla oblongata and the base of the brain"	41(24.8)
7	"Rectal temperature is one of the most accurate routes of monitoring core temperatures	120(72.7)
8	Hyperthermia can increase ICP (intracranial pressure)"	88(53.3)
9	"During intracranial hypertension, the target level of Partial Pressure of Carbon Dioxide (PCO2) is 4to 4.6 kpa"	68(41.2)
10	"On intracranial pressure monitoring, 3 waveforms are reflected on the monitor"	74 (44.8)
11	"Cerebral perfusion pressure (CPP) is calculated as, (Systolic Pressure – ICP)"	74 (44.8)
12	"Intracranial pressure (ICP) compliance can be described as (P1 curve is smaller than P2 and P3 curve)"	58(35.2)
13	"Brain tissue monitoring (Licox) is used to monitor brain oxygenation. A value less than 20 mmHg is associated with poor outcome of patients with traumatic brain injury"	63 (38.2)
14	"Patient's positioning affects an intracranial pressure reading"	85(51.5)
15	"Reverse Trendelenburg position is one fastest, least invasive ways to acutely lower intracranial pressure"	75(45.5)
16	"Extra-ventricular drain (EVD) should always be lower than the patient in order to facilitate draining of cerebrospinal fluid"	65 (39.4)
17	"Normal ICP parameter is (15mmHg)"	113 (68.5)
18	"Extra-ventricular drain (EVD) should be kept open at all times"	91 (55.2)

Surprisingly, the analysis revealed that 40 (24.2%) reported never "Intermittent pneumatic cuffs for DVT prophylaxis is available to all patients", 30 (18.2%) "Aim for

systolic blood pressures 90mmHg and higher in traumatic brain injury patients", and 21 (12.7) "Monitor End tidal carbon dioxide (ETCO2) in ICU", as seen in table (4-4).

Table 4-4: Distribution of the item analysis of the "participants' practice regarding the Care of Patients with a head trauma" (N=165)

No	Statement	Never	Rare	Sometimes	Frequent	Always
		N(%)	N(%)	N(%)	N(%)	N(%)
1	"We aim for systolic blood pressures 90mmHg andhigher in traumatic brain injury patients"	30 (18.2)	49 (29.7)	57 (34.5)	16 (9.7)	13 (7.9)
2	"We target CPP value, >60 mmHg for brain perfusion"	7 (4.2)	62 (37.6)	62 (37.6)	24 (14.5)	10 (6.1)
3	"We monitor End tidal carbon dioxide ($ETCO_2$) in my ICU"	21 (12.7)	67 (40.6)	48 (29.1)	21 (12.7)	8 (4.8)
4	"Hyperosmolar therapy (Mannitol) is used to control raised ICP"	6 (3.6)	19 (11.5)	84 (50.9)	40 (24.2)	16 (9.7)
5	"Hyperventilation is used as temporary measurement forreducing elevated ICP"	13 (7.9)	30 (18.2)	79 (47.9)	33 (20.0)	10 (6.1)
6	"Propofol infusion (Diprivan) (anaesthetic agent) is used for control of raised ICP"	7 (4.21)	27 (16.4)	77 (46.7)	39 (23.6) .	15 (9)
7	"Feeding is initiated at least 24 hours post-injury"	16 (9.7)	21 (12.7)	90 (54.5)	31 (18.8)	7 (4.2)
8	"Intermittent pneumatic cuffs for DVT prophylaxisis available to all patients"	40 (24.2)	31 (18.8)	66 (40.0)	22 (13.3)	6 (3.6)

An independent t test and one-way ANOVA test were performed to assess if there aresignificant differences between the nurses knowledge mean regarding the Care of Patients with a head trauma and the demographic characteristics. The analysis revealed that there was no significant difference between nurses' knowledge regarding the Care of Patients with a head trauma and the demographic characteristics ($P > 0.05$), as shown in table (4-5).

Table 4-5: Differences between knowledge mean and demographic characteristics (N=165)

Variable		**N**	**M (SD)**	**Statistical**	
				test	**P value**
Age	32 years old and less	100	9.3 (3.0)	t= -.190	.850
	More than 32 years old	65	9.4(2.9)		
Gender	Male	96	9.4(2.8)	t= .307	.759
	Female	69	9.2(3.2)		
Educational level	Diploma	26	9.5(2.7)	F=(1.704)	.185
	Bachelor	128	9.1(2.9)		
	Postgraduate studies	11	10.8(4.2)		
Experience	less than 5 years	65	9.4(3.0	F=.151	.860
	5-10 years	50	9.1(3.0		
	"more than 10 years"	50	9.3(2.9		
Experience in ICU	"less than 5 years"	97	9.4(3.0)	F=.191	.827
	"5-10 years"	46	9.3(3.0)		
	"more than 10 years"	22	9.0(3.0)		

M= Mean; SD= Standard deviation, t= student t test, F=One-way ANOVA

An independent t test and one-way ANOVA test were performed to assess if there are significant differences between the nurses practice mean regarding the Care of Patients with a head trauma and the demographic characteristics. The analysis revealed that there was significant difference between nurses' practice regarding the Care of

Patients with a head trauma and the experience as general and the experience in the ICU ($P < 0.05$), as shown in table (4-6).

Table 4-6: Differences between Practice mean and demographic characteristics (N=165)

Variable		**N**	**"M (SD)"**	**Statistical test**	
				Test	**P value**
Age	32 years old and less	100	22.8(3.7)	t= -0.321	0.749
	More than 32 years old	65	23.0(4.2)		
Gender	Male	96	23.1(4.0)	t= 1.038	0.301
	Female	69	22.5(3.7)		
Educational level	Diploma	26	22.2(4.1)	F= 1.728	0.181
	Bachelor	128	22.8(3.9)		
	Postgraduate studies	11	24.8(3.0)		
Experience	"Less than 5 years"	65	22.2(3.2)	F=4.001	0.020
	"5-10 years"	50	24.1(4.1)		
	"Morethan 10 years"	50	22.4(4.3)		
Experience in ICU	"Less than 5 years"	97	22.6(3.6)	F= 4.946	0.008
	"5 -10 years"	46	24.2(3.8)		
	"More than 10 years"	22	21.3(4.5)		

M= Mean; SD= Standard deviation, t= student t test, F=One way ANOVA

Chapter Five

Discussion, Recommendations, and Conclusion

5.1 Introduction

In this chapter, discussion, conclusions, and recommendations was explained. The conclusion was formulated according to the purpose of the study. The purpose of this study was to investigate the Knowledge and Practice of nurses regarding the Care of Patients with head trauma in an intensive care unit (ICU) in West Bank governmental hospitals.

5.2. Discussion

Intensive care unit (ICU) nurses are responsible for the continuous monitoring and maintenance of physiological values associated with secondary brain injury and therefore are the members of the health care team best positioned to detect and prevent secondary brain injury.

5.2.1 Knowledge and practice level of head trauma among nurses in intensive care unit

The analysis indicated that the majority 60.0%of the intensive care unit nurses have low level knowledge and69.7%have poor level practice regarding Care of Patients with a head trauma. This is an expected result and might be due to the frequent encounter with cardiac, respiratory, and surgical management patients. Actually, if might frequent encounter with neurological patients and staff will become familiar with the management of head trauma patients.

In a study conducted by Mohammad (2018) who revealed that the mean knowledge and practice scores of nurses are increased immediately after implementation of the head trauma management program with a significant statistical difference. Also, Seliman et al. (2014) reported that the mean knowledge and practice scores of nurses increased rapidly after the protocol's adoption, with a statistically significant difference. Another study supported the current study findings conducted by Ahmed, &Zatton(2017) who indicated that nurses had unsatisfactory level of knowledge and practice about trauma patients during golden hour of care.In addition, She hab et al. (2014) indicated that the total mean knowledge and practice scores of nurses regarding care of traumatic brain injury patients were unsatisfactory before the program implementation and satisfied post program implementation.

On the other hand, these findings contradicted the findings of Oyesanya et al. (2017), who classified nurses into three homogeneous groups based on perceived knowledge items: low, moderate, and high perceived knowledge. The low perceived knowledge group received 27.4% of the sample, the intermediate perceived knowledge group received 45.7 % of the sample, and the high perceived knowledge group received 26.9% of the sample.Also, another study conducted by Farg et al. (2016) who found the studied nurses had adequate knowledge and performance about traumatic brain injury.

5.2.2 Knowledge and practice of head trauma and nurse's demographic characteristics

The analysis of the current study revealed that there was no significant difference between nurses' knowledge regarding the Care of Patients with a head trauma and the demographic characteristics. These findings supported by Ahmed, &

Zatton (2017) who found no significant relationship between total nurses' knowledge with personnel data such as age, training and year's experiences.

On the other hand, these findings inconsistent with Farg et al.(2016) who found a significant difference found between nurse's knowledge and their level of education. This might due to postgraduate studies didn't focus on neurological and neurosurgical system and may didn't discussed in depth. It is expected that nurses with postgraduate degree in nursing were more knowledgeable than nurses with a diploma degree. Findings in a study done in the United States found that hospitals with a higher proportion of nurses with Baccalaureate degrees, have shown to have lower in-patient, lower 30-day mortality, as well as lower failure to rescue and cardiac deaths (Blegen, Goode & Park, 2013).

According practice and demographic characteristics, the analysis revealed that there was significant difference between nurses' practice regarding the Care of Patients with a head trauma and the experience as general and the experience in the ICU. These findings inconsistent by Ahmed, &Zatton(2017)who found no significant relationship between total nurses' performance with personnel data such as years of experiences.

5.3 Recommendation of the Study

Based on the findings of the present study, the following recommendations are suggested:

1. The study indicated that continuing educational programs for nurses caring for patients with head injuries be planned on a regular basis in order to improve nurses' knowledge and practice and accomplish high quality of care.

2. Nurse Managers and educators should establish educational interventions to provide enhanced knowledge and practice in endotracheal tube care, suction, nasogastric tube feeding, GCS evaluation, and CPR technique to all nurses caring for unconscious patients.
3. Nursing educators should create and distribute a manual procedure book for all nurses working in critical care units, which includes standards of practices that must be used and followed.
4. Nursing staff knowledge and competence should be evaluated, documented, and brought up to date on a regular basis.
5. Replication of the study in different settings to generalize the current study's findings.

5.4 Conclusion

According to the results of the current study, approximately two thirds of the studied nurses had unsatisfactory knowledge level regarding head trauma care. More than two thirds of the studied nurses had poor level practice regarding head trauma care. Also, the study confirmed no statistically significant relation between knowledge and demographic characteristics. There were significant differences between total practice scores and both experience in general and experience in ICU.

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" Knowledge and Practice of nurses regarding the Care of Patients with primary head trauma in intensive care units in the West Bank "

"Questionnaire"

My name is Wael Shehade, I'm a postgraduate student at Arab American University-Ramallah I invite you to participate in this research study . The study is carried out as a part of fulfilling the requirement for a master degree in Emergency Nursing .

The purpose of this study to investigate the Knowledge and Practice of nurses regarding the Care of Patients with primary head trauma an intensive care unit (ICU) in West Bank governmental hospitals.

This research study may help in finding possible solution and recommendations to increase the nurses' knowledge and skills.

This questionnaire needs less than 30 min. Names are not required. Your participation in this study is voluntary and you are free to withdraw your participation at any time. The information in this study will only be used for research purposes.

Participant privacy and confidentially will be completely protected, no identifiers or personal information will be collected or stored including participants name ID, and others , kindly append your signature below .

Declaration:

I accept that I have read and understood the above explanation and I'm willing to participate in this study voluntarily

Participant's signature ……..……

Thank you for your cooperation

APPENDIX

Questionnaire

Knowledge and Practice regarding the Care of Patients with A head trauma in intensive care units in West Bank

Part One: Demographical data

1. Age ... ... years
2. Gender : Male ☐ Female ☐
3. Educational level: Diploma in Nursing ☐
   Bachelors in Nursing ☐
   Postgraduate in Nursing ☐
   Other specify ☐

4. Working experience by nursing Profession .....years

5. How long have you been working as a nurse in ICU? ... ... .Years

6. Are there Guidelines or protocols availa☐n your uni☐h regard to the management of raised intracranial pressure? Yes ☐ No ☐

Part Two: "knowledge about the care of patient with head trauma"

No.	Question	Yes	No	I don't know
1	"A severe head injury is classified as a Glasgow Coma Score of 8 and below"			
2	"Localizing refers to: Patient will move hand above the clavicle after applying supra orbital pressure or pinching trapezius muscle"			
3	"A good flexion response on pain stimuli is characterized by flexing of the elbow, often accompanied by lifting the elbow clear of the body"			
4	"A dilated pupil represents cerebral edema or herniation on the same side of the dilated pupil"			
5	"Bradycardia, widening pulse pressure, irregular respiration and rise in blood pressure are signs of Cushing's response"			
6	"Central fever is a concept defined as a fever caused by trauma or lesion that involves the medulla oblongata and the base of the brain"			
7	"Rectal temperature are one of the most accurate routes of monitoring core temperatures			
8	Hyperthermia can increase ICP (intracranial pressure)"			
9	"During intracranial hypertension, the target levelof Partial Pressure of Carbon Dioxide (PCO2) is 4to 4.6 kpa"			
10	"On intracranial pressure monitoring, 3 waveforms are reflected on the monitor"			
11	"Cerebral perfusion pressure (CPP) is calculated as, (Systolic Pressure – ICP)"			
12	"Intracranial pressure (ICP) compliance can be described as (P1 curve is smaller than P2 and P3 curve)"			
13	"Brain tissue monitoring (Licox) is used to monitor brain oxygenation. A value less than 20 mmHg is associated with poor outcome of patients with traumatic brain injury"			
14	"Patient's positioning affects an intracranial pressure reading"			
15	"Reverse Trendelenburg position is one fastest, least invasive ways to acutely lower intracranial pressure"			
16	"Extra-ventricular drain (EVD) should always			

	be lower than the patient in order to facilitate draining of cerebrospinal fluid"			
17	"Normal ICP parameter is (15mmHg)"			
18	"Extra-ventricular drain (EVD) should be keptopen at all times"			

Part three: Practices regarding the Care of Patients with a head trauma

No	**Statement**	Never	Rare	Sometimes	Frequent	Always
1	"We aim for systolic blood pressures 90mmHg andhigher in traumatic brain injury patients"					
2	"We target CPP value, >60 mmHg for brain perfusion"					
3	"We monitor End tidal carbon dioxide ($ETCO_2$) in my ICU"					
4	"Hyperosmolar therapy (Mannitol) is used to control raised ICP"					
5	"Hyperventilation is used as temporary measurement forreducing elevated ICP"					
6	"Propofol infusion (Diprivan) (anaesthetic agent) is used for control of raised ICP"					
7	"Feeding is initiated at least 24 hours post-injury"					
8	"Intermittent pneumatic cuffs for DVT prophylaxisis available to all patients"					

State of Palestine
Ministry of Health
General Directorate of Education in
Health and Scientific Research

دولة فلسطين
وزارة الصحة
الإدارة العامة للتعليم الصحي
والبحث العلمي

Ref: .....
Date: .....

الرقم: عطر/٥٦٥/٢٠٢١م
التاريخ: ١٠/٤/٢٠٢١م

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،
الأخ مدير مجمع فلسطين الطبي المحترم،،،
تحية واحترام،،،

الموضوع: تسهيل مهمة بحث

يرجى التكرم بتسهيل مهمة الطالب: وائل طلعة شحادة، ماجستير تمريض الطوارئ- الجامعة العربية الامريكية، لعمل بحث بعنوان:

" معرفة وممارسة الممرضين اتجاه رعاية المرضى الذين يعانون من اصابات الرأس في وحدات العناية المركزة في الضفة الغربية "

حيث سيقوم الطالب بجمع معلومات من خلال تعبئة استبانة من الممرضين/ات (بعد أخذ موافقتهم)، مع العلم أن مشرفة الدراسة: د. لبنى حرزالله ود. احمد العابدي.

وذلك في: مستشفى جنين – مستشفى رفيديا – مستشفى عاليه – مجمع فلسطين الطبي

على أن يتم الالتزام بجميع تعليمات وإجراءات الوقاية الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية.

على ان يتم تزويدنا بنسخة من نتائج البحث والتعهد بعدم النشر.

مع الاحترام،،،

د. عبد الله القواسمي
مدير التعليم الصحي والبحث العلمي

نسخة: مشرفة الدراسة المحترمة/ الجامعة العربية الامريكية

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الملخص

خلفيΔ إصابات الدماغ الرضية هي مصدر رئيسي لفقدان الصحة والعجز في جميع أنحاء العالم. إنه السبب البارز للإعاقة والوفاة بين الشباب في البلدان ذات الدخل المرتفع ، كما أن معدل الإصابة بصدمات الرأس في العالم يتزايد بشكل حاد. ممرضات وحدة العناية المركزة مسئولون عن التقييم المستمر وإدارة القيم الفسيولوجية المرتبطة بإصابة الدماغ. للممرضات دور مهم وكبير في رعاية المرضى الذين يعانون من إصابات دماغية متوسطة إلى شديدة أثناء الرعاية الحادة وغير الحادة.

االهدا كان الغرض من هذه الدراسة هو التحقيق في معرفة وممارسة الممرضات فيما يتعلق برعاية المرضى الذين يعانون من إصابات الرأس الأولية في وحدة العناية المركزة (ICU) في المستشفيات الحكومية في الضفة الغربية.

المنهج كان تصميم الدراسة عبارة عن دراسة كمية مستعرضة. استقطبت الدراسة مائة وخمسة وستين ممرضًا يعملون في وحدة العناية المركزة (ICU) في القطاع الحكومي في الضفة الغربية ، فلسطين. البيانات التي تم جمعها بواسطة استبيان ذاتي تم تطويره من قبل الباحث.

النتائج من بين 165 ممرضًا مكثفًا ، كشفت نتائج الدراسة أن غالبية الممرضات 99 (60.0٪) لديهن مستوى منخفض من المعرفة فيما يتعلق برعاية المرضى الذين يعانون من إصابات في الرأس ، وأظهرت أن معظم الممرضات 115 (69.7٪) لديهن مستوى ضعيف من الممارسة فيما يتعلق برعاية المرضى. المرضى الذين يعانون من صدمة في الرأس.

الخجتمΔ وفقًا لنتائج الدراسة الحالية ، تبين ما يقرب من ثلثي الممرضات أن مستوى معرفة غير مرضٍ فيما يتعلق برعاية إصابات الرأس. أكثر من ثلثي الممرضات الخاضعين للدراسة كان لديهن مستوى ضعيف من الممارسة فيما يتعلق برعاية إصابات الرأس. كما أكدت الدراسة عدم وجود علاقة ذات دلالة إحصائية بين المعرفة والخصائص الديموغرافية. كانت هناك فروق ذات

دلالة إحصائية بين مجموع درجات الممارسة وكل من الخبرة بشكل عام والخبرة فـــي وحـــدة العناية المركزة.

الكلمجE المفتجيدΔ : المعرفة ، الممارسة ، إصابات الدماغ ، إصابات الدماغ الرضية ، العنايـــة بإصابات الرأس ، ممرضة العناية المركزة