شبكة المعلومات الجامعية

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شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

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Effect of Body Position on Oxygenation and Hemodynamic Status among Patients with Traumatic Brain Injury

Thesis

Submitted for Partial Fulfillment of the Master Degree in Critical Care Nursing

By

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بسم الله الرحمن الرحيم

قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم الحكيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgments

First and foremost, I feel always indebted to **Allah,** *the* ***Most Beneficent*** *and* ***Merciful,*** *who gave me the strength to accomplish this work.*

My deepest gratitude to my supervisor, **Dr. Sahar Yassien Mohamed,** *Professor of Critical Care Nursing, Faculty of Nursing – Ain Shams University, for her valuable guidance and expert supervision, in addition to her great deal of support and encouragement. I really have the honor to complete this work under her supervision.*

I would like to express my great and deep appreciation and thanks to **Dr. Amira Hedaya Mourad,** *Lecturer of Critical Care Nursing, Faculty of Nursing – Ain-Shams University, for her meticulous supervision, and her patience in reviewing and correcting this work.*

Special thanks to my **Parents,** *my* **Wife,** *and all my* **Family** *members for their continuous encouragement, enduring me and standing by me.*

✍ *Abduallah Shokrey Ismail Ali*

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List of Abbreviations

Abbr.	Full-term
ABG	**:** Arterial Blood Gases.
ACBT	**:** Active Cycle of Breathing Technique
ANS	**:** Autonomic Nervous System.
ARDS	**:** Acute Respiratory Distress Syndrome.
BMI	**:** Body Mass Index.
BP	**:** Blood Pressure.
BSN	**:** Bachelor of Science in Nursing.
CBF	**:** Cerebral Blood Flow.
CNS	**:** Central Nervous System.
CO_2	**:** Carbon Dioxide.
COPD	**:** Chronic Obstructive Pulmonary Disease.
CPP	**:** Cerebral Perfusion Pressure.
CSF	**:** Cerebrospinal Fluids.
CT	**:** Computed Tomography.
CVP	**:** Central Venous Pressure.
DVT	**:** Deep Venous Thrombosis.
EDH	**:** Epidural Hematoma.
EEG	**:** Electroencephalography.
ETCO2	**:** End Tidal Carbon Dioxide.
EVD	**:** External Ventricular Drain.
GCS	**:** Glasgow Coma Scale.
HBE	**:** Head of Bed Elevation.
HOB	**:** Head of Bed.

ICE : Intracerebral Edema.
ICP : Intracranial Pressure.
ICU : Intensive Care Unit.
IPPB : Intermittent Positive-Pressure Breathing
LOC : Level of Consciousness
MAP : Mean Arterial Pressure.
MRI : Magnetic Resonance Imaging.
O_2 Sat : Oxygen Saturation.
O_2 : Oxygen.
OR : Operation Room.
Pao_2 : Partial Pressure of Arterial Oxygen.
Pco_2 : Partial Pressure of Arterial Carbon Dioxide.
PEEP : Positive End Expiratory Pressure.
PET : Positron Emission Tomography.
PTS : Posttraumatic Seizures.
RBCs : Red Blood Cells
SAH : Subarachnoid Hemorrhage.
Sao_2 : Saturation of Arterial Oxygen.
SBP : Systolic Blood Pressure.
SDH : Subdural Hematoma.
Spo_2 : Oxygen Saturation by Pulse Oximeter.
TBI : Traumatic Brain Injury.
Temp : Body Temperature.
TQIP : Trauma Quality Improvement Program.
VTE : Venous Thromboembolism.

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Effect of Body Position on Oxygenation and Hemodynamic Status among Patients with Traumatic Brain Injury

Abstract

Background: Positioning is one of the most frequently performed nursing activities in the critical care, often providing a central pivotal focus for planning other nursing activities. Therapeutic positioning of the head different degrees of head of bed elevation has been proposed as a low cost and simple way of preventing secondary brain injury. **Aim:** determine the effect of body position on oxygenation and hemodynamic status among patients with traumatic brain injury. **Research design**: Quasi-experiments (single group pre/posttest design). **Setting:** Critical Care Units in El-Mansoura general hospital at El-Mansoura city. **Subject**: A purposive sample of (67) adult patients diagnosed with traumatic brain injuries. **Tools**: Structured socio-demographic interview questionnaire, Patients' medical records (Part (1): covers clinical variables, Part (2): covers cardiorespiratory assessment record), Glasgow Coma Scale and Richmond Agitation Sedation Scale. **Result**: there was significantly increasing in oxygen saturation in post semi fowler position from (95.37 ± 1.17 to 97.31 ± 11.13) and then right lateral position from (94.93 ± 1.25 to 95.37 ± 1.17) compared to pre. Also, regard hemodynamic parameters (Heart Rate, Respiratory Rate, Systolic Blood Pressure, Diastolic Blood Pressure and Mean Arterial Pressure) were significantly decreased in post semi fowler position and then right lateral position compared to pre. **Conclusion** oxygen saturation and all hemodynamic parameters were significantly improved regarding normal range in post semi fowler position and then right lateral position compared to pre. **Recommendations**: Develop nursing practice protocol for critical care nurses to position patients at semi fowler position after traumatic brain injury to improve oxygenation and hemodynamic parameters. And further studies should be carried out in order to assess the effect of other body positions on the other medical conditions.

Keywords: Body Position, Hemodynamic, Oxygenation, Traumatic Brain Injury Patient.