Deanship of Graduate Studies

Al-Quds University

Knowledge and Practices of Nurses toward Prevention of Ventilator Associated Pneumonia at Pediatric Intensive Care Units - Gaza Strip

Ahmed Salem Abuadwan

M. Sc. Thesis

Jerusalem- Palestine

1440 / 2018

Knowledge and Practices of Nurses toward Prevention of Ventilator Associated Pneumonia at Pediatric Intensive Care Units - Gaza Strip

Prepared by

Ahmed Salem Abuadwan

B. Sc. in Nursing- Palestine College of Nursing

Supervisor: Dr. Akram Abu Salah

A Thesis Submitted in Partial Fulfillment of Requirements for the Degree of Master in Pediatric Nursing- Faculty of Health Professions– Al-Quds University

1440 / 2018

Al-Quds University

Deanship of Graduate Studies

Pediatric Nursing Program \ Nursing Department

Thesis Approval

Knowledge and Practices of Nurses toward Prevention of Ventilator Associated Pneumonia at Pediatric Intensive Care Units - Gaza Strip

Prepared By: Ahmed Salem Abuadwan
Registration No.: 1610950

Supervisor: Dr. Akram Abu Salah

Master thesis submitted and accepted. Date: 22/12/2018
The names of signatures of the examining committee members are as follows:

1. Head of committee: Dr. Akram Abu Salah Signature .. 22/12/2018
2. Internal examiner: Dr. Motasem Salah Signature .....
3. External examiner: Dr. Khalil Shuaib Signature .....

Jerusalem – Palestine

1440 / 2018

Dedication

All the kind feelings to my father and my mother who are praying and encouraged me all the time ….

My sincere gratitude to my wife and my children who supported me all the way through this study …

Special thanks to my brothers and sisters for their support which provided me with energy to complete my study ….

I would like to express my appreciations to all the nurses who are working in Pediatric Intensive Care Units in European Gaza Hospital, Al Rantesy hospital, Al Dora hospital, and Al Nasser hospital.

Ahmed Abuadwan

Declaration

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:

Ahmed Salem Abuadwan

…../……/…...

Acknowledgement

First of all, praise to Allah, the lord of the world, and peace and blessings of Allah be upon our prophet Muhammad, all thanks for Allah who granted me the capability to accomplish this thesis.

I would like to express my deepest thanks to the academic staff at Al Quds University for the knowledge and skills they provided through my study.

I had the great fortune to complete this study under the supervision, guidance and valuable instructions of Dr. Hamza Abdeljawad.

I would like to convey my warm thanks to all the obstetricians and midwives at Al Shifa Maternity Hospital for their cooperation during data collection.

To my friends, and all those who contributed to the completion of this study, thank you very much.

Ahmed Abuadwan

December, 2018

Abstract

Ventilator associated pneumonia is the most fatal of hospital acquired infections, with high mortality rates. The purpose of the study was to determine the nursing knowledge and practices for prevention of ventilator associated pneumonia (VAP) in pediatric intensive care units in governmental hospitals in Gaza Strip. The sample of the study consisted of 55 nurses who are working in Pediatric Intensive Care Units in four governmental hospitals (European Gaza hospital, Al Rantesy hospital, Al Dora hospital, and Al Nasser hospital). For data collection, the researcher used self-administered questionnaire that measures knowledge and practices of nurses to prevent VAP. Reliability of the questionnaire was tested and Cronbache alpha coefficient was 0.684. For data analysis, SPSS (version 22) was used, and statistical analysis included frequencies, percentage, cross-tabulation, and chi square tests. The results of the study showed that the mean age of study participants was 30.80±5.22 years, 81.8% were male nurses, 60% live in a city, 89.1% have bachelor degree, 40% have 6 – 10 years of experience and 21.8% have 11 years and more experience in PICU, 27.3% were from EGH, 25.5% from Al Rantesy hospital, 20% from Al Dora hospital, and 27.3% from Al Nasser hospital, and 25.5% received training or education about PICU. The results also indicated that the overall average knowledge about measures to prevent VAP in PICU was above moderate (75.17%), and 63.6% of nurses have moderate level of knowledge, 30.9% have high knowledge, and 5.5% had low knowledge. Observation of practice reflected that 50.9% of nurses showed high level of practice, 43.6% showed moderate level of practice, and 5.5% showed low level of practice, and the overall average of practices was 77.11%, which revealed above moderate level of practices to prevent VAP. The results also showed that there were statistically no significant differences in levels of knowledge related to age, qualification, years of experience, hospital, while significant differences existed in relation to gender, place of residency, and training. Furthermore, there were statistically no significant differences in levels of practice related to age, gender, place of residency, years of experience, while significant differences existed in relation to qualification, and hospital. The study concluded that nurses who are working in PICU should be selected carefully, should receive adequate training, and should be monitored and evaluated periodically to maintain high quality of care and prevent the development of VAP.

Table of contents

List of Tables

List of Figures

List of annexes

List of Abbreviations

ATS	American Thoracic Society
CDC	Centers for Disease Control and Prevention
EBG	Evidence-based Guidelines
EBS	Evidence-based Preventive Strategies
EGH	European Gaza Hospital
EO-VAP	Early Onset Ventilator-associated Pneumonia
ETT	Endotracheal Tube
GS	Gaza Strip
HAI	Hospital-associated Infection
HCPs	Healthcare Providers
ICU	Intensive Care Unit
LO-VAP	Late Onset Ventilator-associated Pneumonia
MV	Mechanical Ventilation
MOH	Ministry of Health
NGOs	Non-Governmental Organizations
NI	Nosocomial Infection
PICU	Pediatric Intensive Care Unit
PCBS	Palestinian Central Bureau of Statistics
SPSS	Statistical Package for Social Sciences
VAP	Ventilator-associated Pneumonia
UNRWA	United Nations Relief and Works Agency for the Palestinian Refugees in the Near East
WB	West Bank

Chapter One

1.1 Introduction

Ventilator associated pneumonia (VAP), is defined as hospital-acquired lung infection in patients who have been on mechanical ventilation (MV) for at least 48 hours (American Thoracic Society-ATS, 2005). MV is a core component of supportive therapy for critical care patients who cannot breath adequately on their own. Yet while a ventilator is often a lifesaving measure, it can frequently cause complications, including the nosocomial infection (NI). VAP is considered as the most common hospital-associated infection (HAI) among patients at intensive care units (ICUs). Data from developing countries reveal an incidence of VAP ranges from 15.87% - 30.67% (Ranjit and Bhattarai, 2011). Nearly 31% of pediatric patients developed VAP with an incidence 21.3 per 1000 ventilator days, according to a study done in pediatric Intensive Care Units (PICUs) at Cairo University Hospital (Galal et al. 2016), compared with 21.6% of ventilated patients in Palestinian's hospitals (Ruzieh et al. 2013).

Ventilator associated pneumonia is the most fatal of the HAI, with higher mortality rates than either central line infections or sepsis. Ventilated patients who develop VAP have mortality rate of 45% compared to 28% for ventilated patients who do not develop VAP. Intubation and MV increase the susceptibility of pneumonia since it facilitates the colonization of bacteria in the mouth and with the absence of cough reflex due to placement of the tube in the oropharynx to the trachea and then to the lower respiratory tract (Curtin, 2011).

Nurses are the first line of defense in preventing bacterial colonization of the oropharynx by practicing measures have its effect directly or indirectly on the risk factors associated with VAP occurrence in ICUs, and, so early autonomous nursing interventions could