

**CARE OF NEONATES WITH RESPIRATORY
DISTRESS ON MECHANICAL VENTILATORS
(Descriptive study)**

Thesis

*Submitted for Partial fulfillment of the
Requirements of the Master Degree*

In

Nursing Science

(Pediatrics Nursing)

By

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**Faculty of Nursing
Ain Shams University
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List of Abbreviations

A/C	<i>Assist/controlled ventilation</i>
APRV	<i>Air way pressure release ventilation</i>
BpD	<i>Bronchopulmonary Dysplasia.</i>
CBGs	<i>Capillary Blood Gases.</i>
CMV	<i>Controlled Mechanical Ventilation.</i>
CPAP	<i>Continuous Positive airway pressure.</i>
CPR	<i>Cardio Pulmonary Resuscitation.</i>
DIC	<i>Disseminated intravascular coagulopathy.</i>
ECMO	<i>Extracorporeal Membrane Oxygenation.</i>
FIO₂	<i>Fractional Inspiratory Oxygen.</i>
FRC	<i>Functional Residual Capacity.</i>
HFFI	<i>High frequency flow interruption</i>
HFJV	<i>High frequency jet ventilation</i>
HFOV	<i>High frequency oscillatory ventilation</i>
HFPPV	<i>High frequency positive pressure ventilation</i>
HFV	<i>High Frequency Ventilation.</i>
HMD	<i>Hyaline Membrane Disease.</i>
I/E ratio	<i>Inspiratory/Expiratory Ratio</i>
IDM	<i>Infant of Diabetic Mother.</i>
IMV	<i>Intermittent Mandatory Ventilation.</i>
It	<i>Inspiratory Time.</i>
MAP	<i>Mean Airway Pressure.</i>
MAS	<i>Meconium Aspiration Syndrome.</i>
NICUs	<i>Neonatal Intensive Care Units.</i>
PAV	<i>Proportional assist ventilation</i>
PCIRV	<i>Pressure controlled inverse ratio ventilation</i>
PDA	<i>Patient Ductus Arteriosus.</i>
PEEP	<i>Post End Expiratory Pressure.</i>
PFCs	<i>Perfluor carbon liquids</i>
PIP	<i>Peak Inspiratory Pressure.</i>

List of Abbreviations (Cont.)

PLV	<i>Partial liquid ventilation</i>
PPHN	<i>Persistent Pulmonary Hypertension.</i>
PSV	<i>Pressure Support Ventilation.</i>
RDS	<i>Respiratory Distress Syndrome.</i>
SatO₂	<i>Oxygen Saturation.</i>
SIMV	<i>Synchronized Intermittent Mandatory Ventilation.</i>
TLV	<i>Total liquid ventilation</i>
TPN	<i>Total Parental Nutrition.</i>
TTN	<i>Transient Tachypnea of The Newborn.</i>
VAPS	<i>Volume assured pressure support</i>
WOB	<i>Work of Breathing.</i>

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Abstract

Mechanical ventilation is a primarily method for respiratory support in neonates with severe respiratory distress or at risk for progressive respiratory failure, which used to assist the maintenance of an adequate airway or to maximize their external respiration. Nursing care for ventilated neonate require understanding basic mechanical principles of various ventilators for providing optimal nursing care for those neonates. The aim of the current descriptive study was to assess nurses' knowledge, and performance regarding care of neonates having respiratory distress on mechanical ventilators. A convenient sample of eighty nurses and one hundred and two ventilated neonates were taken from Neonatal Intensive Care Units (NICUs) at Maternity & Gynecological Hospital and Children's Hospital, Ain Shams University, El-Galaa Teaching Hospital, and El-Matarya Teaching Hospital. A questionnaire format and observational checklist were the study tools used in collecting data which designed by the researcher to assess nurses' knowledge, and performance regarding care of neonates with respiratory distress on mechanical ventilators. The researcher collected the required data from the first of July (2004) to the end of January (2005). The results of the study revealed that 65% of the studied nurses have average knowledge, while 8.75% have good knowledge, and 26.25% of them have poor knowledge. Also, more than half (51.25%) of nurses done practices related to management of ventilated neonates incorrectly. According to the results of the current study, the researcher suggested the importance of periodically training programs for nurses regarding care of ventilated neonates.



Appendix

Introduction

Neonatal respiratory distress is a non-specific term applied to respiratory dysfunction in neonates, and referring to a group of clinical signs with multiple causes. It is considered the commonest-life threatening disease in neonatal period, which represents the highest percentage of a high-risk group, and account for the largest number of admission to the Neonatal Intensive Care Units (NICUs) (*Deacon and O'Neil, 1999 and Wong, 2000*). Respiratory distress occurs in approximately 5% of full term neonates, and in over 50% of very low birth weight, and pre-mature neonates, in which respiratory distress is being the leading cause of neonatal death (*Rudlof and Levene, 2003*).

Neonatal respiratory distress considered an important, and serious significant cause of neonatal morbidity, and mortality. It occurs in 12% of live births, and is responsible for 20% of neonatal mortality in the world. According to the study done in Maternity & Gynecological Hospital, and Children's Hospital, Ain Shams University Hospitals represents that, respiratory distress occurs in 13.6% of live births, and responsible for 23 % of neonatal mortality (*Iskander, 1994 and Mathur and Kumar, 2002*).

According to the Egyptian Demographic and Health Survey (EDHS) in 2000, infants' mortality is 64/1000 births, and neonatal mortality constitutes 25/1000 births, this indicates that more than third of infant mortality in Egypt take place at