

# بسم الله الرحمن الرحيم





# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





# جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



## يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار





# بعض الوثائق الأصلية تالفة







بالرسالة صفحات  
لم ترد بالأصل



# **Performance of Nurses Caring for Neonates with Persistent Pulmonary Hypertension: An Assessment Study**

*Thesis*

*Submitted for Fulfillment of the Requirement for Master  
Degree in Pediatric Nursing  
(Neonatal Nursing)*

*By*

**Aisha Ali Ahmed Ali**

*(B.Sc. In Nursing 2015)*

*Demonstrator of Pediatric Nursing  
Faculty of Nursing / Fayoum University*

*Faculty of Nursing  
Ain Shams University  
2021*

# **Performance of Nurses Caring for Neonates with Persistent Pulmonary Hypertension: An Assessment Study**

*Thesis*

*Submitted for Fulfillment of the Requirement for Master  
Degree in Pediatric Nursing  
(Neonatal Nursing)*

*Supervised by*

**Dr/ Safy Salah Eldin Al-Rafay**

*Professor of Pediatric Nursing  
Faculty of Nursing - Ain Shams University*

**Dr/ Fatma Mohamed Mohamed**

*Assistant Professor of Pediatric Nursing  
Faculty of Nursing - Ain Shams University*

**Dr/ Fathia El-Sayed El-Sayed**

*Assistant Professor of Pediatric Nursing  
Faculty of Nursing -Fayoum University*

*Faculty of Nursing  
Ain Shams University  
2021*

# Acknowledgment

*First and foremost, I feel always indebted to **Allah** the Most Beneficent and Merciful.*

*I am deeply grateful to **Dr. Safy Salah Eldin Al-Rafay**, Professor of Pediatric Nursing, Faculty of Nursing, Ain Shams University, for her prompt and thought provoking responses to my questions and for allowing me the freedom to work independently yet keeping me focused on the task at hand, I greatly acknowledge her continuous encouragement and moral support. It was really an honor working under her wonderful supervision.*

*It is with great pleasure, deep satisfaction and gratitude that I acknowledge the help of **Dr. Fatma Mohamed Mohamed**, Assistant Professor of Pediatric Nursing, Faculty of Nursing, Ain Shams University for her unlimited help, effort, support, guidance and for the time she devoted to me in this work,*

*I want also to express my profound gratitude to **Dr. Fathia Elsaid Alghadban**, Assistant Professor of pediatric Nursing, Head of pediatric department Faculty of Nursing Fayoum University, for her patience, valuable advice and continuous help in completing this work,*

*I extend my sincere appreciation and thanks to the staff nurses for their good cooperation and participation with me in this work,*



# List of Contents

Title	Page No.
- List of Tables .....	I
- List of Figures .....	IV
- List of Abbreviations .....	V
- Abstract .....	vi
■ Introduction .....	1
■ Aim of the Study .....	6
■ Review of Literature	
➤ Part I: Overview about Neonate .....	7
➤ Part II: Persistent pulmonary hypertension of newborn .....	12
➤ Part III: Nurses' role for persistent pulmonary hypertension of the newborn .....	48
■ Subjects and Methods .....	63
■ Results .....	73
■ Discussion .....	112
■ Conclusion .....	131
■ Recommendations .....	132
■ Summary .....	133
■ References .....	137
■ Appendices .....	170
■ Protocol	
■ Arabic Summary	

## List of Tables

<i>Table</i>	<i>Title</i>	<i>Page</i>
1	Characteristics of studied nurses (n=100).	74
2	Characteristics of neonates (n=100).	77
3	Distribution of the studied nurses according to their knowledge about characteristics of a newborn.	78
4	Distribution of the studied nurses according to their knowledge about persistent pulmonary hypertension of the newborn.	79
5	Distribution of the studied nurses according to their knowledge about infection control rules.	80
6	Distribution of the studied nurses related to caring for neonates with persistent pulmonary hypertension.	81
7	Total knowledge of studied nurses about persistent pulmonary hypertension.	82
8	Distribution of the studied nurses attitude during caring for neonates suffered from persistent pulmonary hypertension.	84
9	Distribution of the studied nurses attitude during caring for neonates suffered from persistent pulmonary hypertension.	85
10	Total attitude among studied nurses.	86

## List of Tables (Cont.)

<i>Table</i>	<i>Title</i>	<i>Page</i>
11	Distribution of the studied nurses related to Care for pulse oximeter.	88
12	Distribution of the studied nurses related to I.V Insertion.	89
13	Distribution of the studied nurses related to Blood sampling.	90
14	Distribution of studied nurses related to antiarrhythmic medication preparation.	91
15	Distribution of studied nurses related to antiarrhythmic medication administration	92
16	Distribution of studied nurses related to antiarrhythmic Medication post administration.	93
17	Distribution of studied nurses related to minimize stress and pain.	94
18	Distribution of studied nurses related to maximizing environmental impact.	95
19	Distribution of studied subjects related to endotracheal suctioning.	96
20	Distribution of studied nurses related to oropharyngeal suctioning.	97
21	Distribution of studied nurses related Measure blood pressure using pulse oximeter.	98



## List of Tables (Cont.)

<i>Table</i>	<i>Title</i>	<i>Page</i>
22	Distribution of studied nurses related to Oxygen therapy using nasal cannula or mask.	99
23	Distribution of studied nurses related to Oxygen therapy through oxygen hood.	100
24	Distribution of studied nurses related to care for neonate on nasal CPAP.	101
25	Distribution of studied nurses related to Oxygen therapy through Care of Neonates on Mechanical ventilator.	102
26	Total practice among studied nurses.	103
27	Correlation between total knowledge with total attitude and total practice.	105
28	Correlation between Total practice and Total knowledge.	106
29	Correlation between total attitude and total knowledge.	107
30	Correlation between total attitude and total practice.	108
31	Relation between characteristics of studied nurses and their knowledge.	109
32	Relation between characteristics of studied nurses and their practice.	110
33	Relation between characteristics of studied nurses and their attitude.	111

## List of Figures

<i>Fig.</i>	<i>Figures</i>	<i>Page</i>
	<b>Review of Literature</b>	
1	Physiology of fetal circulation	13
2	Fetal and postnatal circulation	15
3	Pathophysiology of PPHN	17
4	Differential cyanosis in PPHN	18
5	Etiology of Persistent Pulmonary Hypertension of the Newborn	21
	<b>Results</b>	
1	Distribution of studied nurses according to educational qualification	<b>75</b>
2	Distribution of the studied nurses according to their years of experience'	<b>76</b>
3	Total knowledge of studied nurses about PPHN	<b>83</b>
4	Total attitude among studied nurses	<b>87</b>
5	Total practice among studied nurses	<b>104</b>

## List of abbreviations

Abb.	Full term
<b>BPD</b> .....	<i>Broncho Pulmonary Disblasia</i>
<b>BPF</b> .....	<i>Pulmonary Blood Flow</i>
<b>CDH</b> .....	<i>Congenital Diaphragmtic Hernia</i>
<b>CXR</b> .....	<i>Chest X-ray</i>
<b>ECMO</b> .....	<i>Extra Corporal Membrane Oxygenation</i>
<b>ETT</b> .....	<i>Endotracheal Tube</i>
<b>IDC</b> .....	<i>Integrative Developmental Care Model</i>
<b>INO</b> .....	<i>Inhaled Nitric Oxide</i>
<b>IVC</b> .....	<i>Inferior Vena Cava</i>
<b>MAS</b> .....	<i>Meconium Aspiration Syndrome</i>
<b>NICU</b> .....	<i>Neonatal Intensive Care Unit</i>
<b>NSAIDs</b> .....	<i>Non Steroidal Anti Inflammatory Drugs</i>
<b>NTE</b> .....	<i>Natural Thermal Environment</i>
<b>PDA</b> .....	<i>Patent Ducts Arterioses</i>
<b>PFO</b> .....	<i>Patent Foramen Ovale</i>
<b>PPHN</b> .....	<i>Presistent Pulmonary Hypertension of Newborn</i>
<b>PVR</b> .....	<i>Pulmonary Vascular Resistence</i>
<b>SSRI</b> .....	<i>Selective Steronine Reuptake Inhibitors</i>
<b>SVC</b> .....	<i>Superior Vena Cava</i>
<b>SVR</b> .....	<i>Systemic Vascular Resistence</i>
<b>TPN</b> .....	<i>Total Parenteral Nutrition</i>
<b>TTN</b> .....	<i>Transiet Tachypnic of Newborn</i>



# **Performance of Nurses Caring for Neonates with Persistent Pulmonary Hypertension: An Assessment Study**

## *Abstract*

**Background:** Persistent pulmonary hypertension of the newborn (PPHN) is a syndrome of failed circulatory adaptation at birth due to delay or impairment in the normal fall in pulmonary vascular resistance (PVR) that occurs after birth. **Aim of the study:** To assess performance of nurses caring for neonates with PPHN. **Design:** A descriptive design was used in this study. **Settings:** This study was carried out in neonatal intensive care units at Children's Hospital and Obstetric Gynecological Hospital affiliated to Ain Shams University and Fayoum General Hospital affiliated Ministry of Health in Fayoum Governorate. **Subjects:** A convenient sample of all available staff nurses (100) and working in the previously mentioned settings. A Purposive sample of neonates with inclusions criteria: neonates with gestational age more than 37 weeks of gestation and their birth weight more than 2500 gm. **Data collection:** Three tools were used in this study as follows, 1. Predesigned questionnaire, 2. Observational checklist and 3. Attitude rating scale. **Results:** Findings revealed that high statistically significant relation, positive correlation between total knowledge with total attitude and positive correlation between total knowledge with total practice, total attitude and total practice.. **Conclusion:** More than half of studied nurses had good knowledge about PPHN, three quarters of studied nurses had competent practice during caring for neonates with PPHN, and the majority of them had positive attitude regarding caring for neonates with PPHN. **Recommendations:** Increasing staff nurses knowledge through educational program and training courses.

---

**Key words:** Persistent Pulmonary Hypertension, Meconium Aspiration Syndrome, Pulmonary Vascular Resistance, Neonatal Intensive Care Units, Neonates, Performance of Nurses