

**Evidence-Based Intervention Program for
Nurses Caring of High- Risk Neonates
at Governmental Hospitals of
West Bank-Palestine**

Thesis

Submitted for Fulfillment of the Requirements of the
Doctorate Degree in Pediatric Nursing

By
Najwa Mohammad Subuh
(M.Sc.2004)

**Faculty of Nursing
Ain Shams University
2017**

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Supervised by

Prof. Sabah Saad Al-Sharkawy

Professor of Pediatric Nursing

Faculty of Nursing-Ain Shams University

Prof. Safy Salah El-Din El- Rafay

Professor & Head of Pediatric Nursing Department

Faculty of Nursing-Ain Shams University

Dr. Bothayna Nader Sadek

Lecturer of Pediatric Nursing

Faculty of Nursing-Ain Shams University

Faculty of Nursing

Ain Shams University

2017



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Contents

| Subject | Page No. |
|--|-----------------|
| Contents..... | I |
| List of Tables..... | ii |
| List of Figures..... | vi |
| List of Abbreviations | vii |
| Abstract..... | ix |
| Introduction | 1 |
| Aim of the Study | 4 |
| Review of literature | |
| ➤ High-Risk Neonate..... | 5 |
| ➤ Evidence-Based Nursing..... | 42 |
| ➤ Nursing Care for High-Risk Neonate..... | 57 |
| Subjects & Methods..... | 114 |
| Results | 128 |
| Discussion | 176 |
| Conclusion..... | 203 |
| Recommendations..... | 204 |
| Summary | 205 |
| References..... | 212 |
| Appendix | 272 |
| المخلص العربي | 1 |

Tables of Review

| <i>Table No.</i> | <i>Title</i> | <i>Page No.</i> |
|------------------|--|-----------------|
| (1): | Classification of High-Risk Neonates | 6 |
| (2): | Criteria for evaluating respiratory distress- Downes Scoring system..... | 11 |
| (3): | Clinical manifestations of neonatal sepsis | 30 |
| (4): | Modified Bell Staging Criteria for NEC..... | 33 |
| (5): | Grades of Intra ventricular Hemorrhage | 40 |
| (6): | Level I evidence | 52 |
| (7): | Apgar Scoring Chart | 58 |

Tables of Results

| <i>Table No.</i> | <i>Title</i> | <i>Page No.</i> |
|------------------|---|-----------------|
| (1): | Number and Percentage Distribution of the Studied Nurses According to their Characteristics. | 129 |
| (2): | Number and Percentage Distribution of the Studied Neonates according to their Characteristics | 133 |
| (3): | Numbers and Percentage Distribution of Studied Neonates According to Immediate Resuscitation after Delivery..... | 138 |
| (4): | Numbers and Percentage Distribution of Studied Neonates According to Interventional Procedures in NICU | 139 |
| (5): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Care of High-Risk Neonates Pre & Post Implementation of the Evidence- Based Program | 140 |
| (6): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding to Nursing Care of Premature infant Pre & Post Implementation of the Evidence-Based Program | 141 |
| (7): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding to Respiratory Problems Pre & Post Implementation of the Evidence-Based Program..... | 142 |
| (8): | Number and Percentage Distribution of Studied Nurses' | 143 |
| (9): | Number and Percentage Distribution of Studied Nurses' | 144 |
| (10): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding to care of Neonate on Nasal CPAP Pre & Post Implementation of the Evidence-Based Program | 145 |

Tables of Results

| Table No. | Title | Page No. |
|------------------|--|-----------------|
| (11): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding to Mechanical Ventilation Pre & Post Implementation of the Evidence-Based Program | 146 |
| (12): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding care of Endo Tracheal Tube Pre & Post Implementation of the Evidence-Based Program | 147 |
| (13): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Suctioning Pre & Post Implementation of the Evidence-Based Program..... | 148 |
| (14): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Interpretation of Arterial Blood Gases Pre & Post Implementation of the Evidence-Based Program | 149 |
| (15): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Hyperbilirubinemia Pre & Post Implementation of the Evidence-Based Program..... | 150 |
| (16): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Care of High-Risk Neonate Under Phototherapy Pre & Post Implementation of the Evidence-Based Program | 151 |
| (17): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Blood Exchange Pre & Post Implementation of the Evidence-Based Program..... | 152 |
| (18): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Neonatal Hypoglycemia Pre & Post Implementation of the Evidence-Based Program..... | 153 |
| (19): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Neonatal Asphyxia Pre & Post Implementation of the Evidence-Based Program..... | 154 |
| (20): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Neonatal Convulsions Pre & Post Implementation of the Evidence-Based Program..... | 155 |
| (21): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Neonatal Hypothermia Pre & Post Implementation of the Evidence-Based Program..... | 156 |
| (22): | Number and Percentage Distribution of Studied Nurses' Knowledge Regarding Neonatal Sepsis Pre & Post Implementation of the Evidence-Based Program..... | 157 |

Tables of Results

| Table No. | Title | Page No. |
|------------------|---|-----------------|
| (23): | Number and Percentage Distribution of Total studied Nurses' Knowledge Regarding Care of High- Risk Neonate Pre & Post Implementation of the Evidence-Based Program | 158 |
| (24): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Routine Care of HRN Pre & Post Implementation of the Evidence-Based Program | 159 |
| (25): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Insertion of Naso- Gastric Tube Pre & Post Implementation of the Evidence-Based Program | 160 |
| (26): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Drawing Blood Sample Pre & Post Implementation of the Evidence-Based Program | 161 |
| (27): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Insertion of Peripheral Intra Venous cannulation Pre & Post Implementation of the Evidence-Based Program..... | 162 |
| (28): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Monitoring Blood Glucose Pre & Post Implementation of the Evidence-Based Program | 163 |
| (29): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Administration of Total Parental Nutrition Pre & Post Implementation of the Evidence-Based Program..... | 164 |
| (30): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Oropharyngeal Suction Pre & Post Implementation of the Evidence-Based Program | 165 |
| (31): | Number and Percentage Distribution of Studied Nurses Performance Regarding Endo Tracheal Suctioning Pre & Post Implementation of the Evidence-Based Program | 166 |
| (32): | Number and Percentage Distribution of Studied Nurses Performance Regarding Care of High-Risk Neonates Under Phototherapy Pre & Post Implementation of the Evidence-Based Program..... | 167 |
| (33): | Number and Percentage Distribution of Studied Nurses' Performance Regarding Infection Control Measures Pre & Post Implementation of the Evidence-Based Program | 169 |

Tables of Results

| <i>Table No.</i> | <i>Title</i> | <i>Page No.</i> |
|------------------|---|-----------------|
| (34): | Number and Percentage Distribution of Total studied Nurses' Performance Regarding Care of High- Risk Neonate Pre & Post Implementation of the Evidence-Based Program..... | 170 |
| (35): | Relation between Nurses' Knowledge and their characteristics Pre and Post Implementation of the Evidence-Based Program | 171 |
| (36): | Relation between Nurses' Performance and their characteristics Pre and Post Implementation of the Evidence-Based Program | 173 |
| (37): | Relation between Total Nurses' Knowledge and their Total Performance Regarding Care of High-Risk Neonate Post Implementation of the Evidence-Based Program..... | 175 |

Figures of Review

| Figure No. | Title | Page No. |
|-------------------|---|-----------------|
| (1): | Prenatal pulmonary surfactant production | 9 |
| (2): | Pathophysiology of Meconium Aspiration Syndrome (MAS) | 19 |
| (3): | Guidelines for phototherapy in hospitalized infants of 35 or more weeks' gestation..... | 26 |
| (4): | Important Factors in the Efficacy of Phototherapy..... | 28 |
| (5): | Pneumatosis intestinalis..... | 35 |
| (6): | Pyramid of Evidence..... | 52 |
| (7): | Barriers to Evidence-Based Practice..... | 54 |
| (8): | Infant receiving ventilatory assistance with nasal continuous positive airway pressure (CPAP) | 71 |
| (9): | Enteral Feeding | 80 |
| (10): | Types of Developmental care | 97 |
| (11): | Neonatal Life Support 2016..... | 112 |

Figures of Results

| | | |
|------|--|-----|
| (1): | Percentage Distribution of Studied Nurses According to their Qualifications | 130 |
| (2): | Percentage Distribution of Studied Nurses According to their Previous Attendance of Neonatal Program | 131 |
| (3): | Percentage Distribution of Studied Nurses According to their Gender | 132 |
| (4): | Percentage Distribution of the Studies Neonates According to their Gender..... | 134 |
| (5): | Percentage Distribution of the Studied Neonates According to their Type of Delivery..... | 135 |
| (6): | Percentage Distribution of the Studied Neonates According to the Presence of Congenital Abnormalities..... | 136 |
| (7): | Percentage Distribution of the Studied Neonates According to their Medical Diagnosis | 137 |

List of Abbreviations

| | | |
|------------------------|---|-------------------------------------|
| AAP/ | : | American Academy of Pediatrics |
| ABE | : | Acute Bilirubin Encephalopathy |
| APN | : | Advanced Practice Nurses |
| ADH | : | Anti Diuretic Hormone |
| AGA | : | Appropriate-for-Gestational-Age |
| AGA | : | Appropriate-for-gestational-age |
| BPD | : | Broncho Pulmonary Dysplasia |
| BF | : | Breast Feeding |
| CSF | : | Cerebral Spinal Fluid |
| CLD | : | Chronic Lung Disease |
| CPAP | : | Continuous Positive Airway Pressure |
| DL | : | Deciliter |
| EBCP | : | Evidence-Based Clinical Practice |
| EBP | : | Evidence-Based Practice |
| EBPP | : | Evidence-Based Practice Program |
| ELBW | : | Extremely Low-Birth Weight |
| EEG | : | Electro Encephalo Graphic |
| ETT | : | Endotracheal Tube |
| ELBW | : | Extremely Low-Birth Weight |
| FiO₂ | : | Friction of Oxygen |
| GI | : | Gastro Intestinal |
| Gm | : | Gram |
| HCAI | : | Health-Care-Associated Infection |
| HRN | : | High-Risk Neonate |
| HW | : | Hand Washing |
| ICN | : | The International Council of Nurses |
| IDM | : | Infants of Diabetic Mothers |
| IUGR | : | Intrauterine Growth Restriction |
| IV | : | Intra Venous |
| IVGG | : | IntraVenous Gamma-Globulin |
| IVH | : | Intraventricular Hemorrhages |
| IWL | : | Insensible Water Loss |
| GDM | : | Gestational Diabetes Mellitus |
| KC | : | Kangaro Care |
| Kg | : | Kilogram |
| LBW | : | Low Birth Weight |
| LGA | : | Large-For-Gestational Age |
| MAS | : | Meconium Aspiration Syndrome |
| Mg | : | Mili gram |
| MSAF | : | Meconium-Stained Amniotic Fluid |
| NP | : | Nasopharyngeal |
| NEC | : | Necrotizing Enterocolitis |

| | | |
|---------------|---|---|
| N-CPAP | : | Nasal Continuous Positive Airway Pressure |
| NEC | | Necrotizing Entero Colitis |
| NTE | | Neutral Thermal Environment |
| NI | : | Nosocomial Infection |
| NIV | : | Non-Invasive Ventilation |
| NICU | : | Neonatal Intensive Care Unit |
| PCBS | : | Oropharyngeal |
| OP | | Palestinian Central Bureau of Statistics |
| PIV | : | Peripheral Intravenous |
| PS | : | Pulmonary Surfactant |
| RCT | : | Randomized Controlled Trial |
| RDS | : | Respiratory Distress syndrome |
| RNs | : | Registered Nurses |
| ROP | : | Retinopathy of Prematurity |
| SFD | : | Small-For-Date Small for Gestational Age |
| SSC | : | Skin-To-Skin Care |
| Spo2 | : | Oxygen Saturation |
| TPN | : | Total Parental Nutrition |
| TSB | : | Total Serum Bilirubin |
| TTN | : | Transient Tachypnea of the Newborn |
| VLBW | : | Very Low Birth Weight |
| WHO | : | World Health Organization |

Abstract

Care of high-risk neonates needs experienced and specialized neonatal nurses. Nurses should update themselves with the current research evidence regarding their clinical performance. **Aims:** to assess nurses' knowledge and performance regarding to evidence-based nursing care for high- risk neonates; & design, implement and evaluate the intervention program for caring of high- risk neonates based on evidence-based practice. **Design:** A quazi-experimental design was utilized. **Settings:** The study was conducted at the Neonatal Intensive Care Units in five governmental hospitals in north and middle of West Bank in Palestine. They are Rafidea, Jenin, Tulkarem, Qalqelia, and Ramallah Hospitals. **Subjects:** subjects were composed of a purposive sample of 70 nurses and 70 high-risk neonates. **Tools of data collection:** the tools of the study were a pre-designated questionnaire format (pre/ post) and observational checklists (pre/post). **Results:** is revealed that, there was a marked improvement in studied nurses' knowledge and performance post implementation of evidence-based program with highly statistical significant differences and positive correlation between the studied nurses total knowledge and performance regarding care of high- risk neonate pre & post implementation of the evidence-based program. **Conclusion:** the study concluded that the evidence-based program for care of high-risk neonates had a positive effect on the improvement of nurses' knowledge and their performance. **Recommendations:** the study recommended that, nurses in NICU must have regular teaching sessions within the clinical settings to monitor the nursing performance at the NICU to reinforce and update evidence based nurses' knowledge and perfomance regarding caring high-risk neonates

Keywords: High risk neonate, Evidence Based program, Neonatal Intensive Care Units, neonatal nurse

Introduction

High-Risk Neonate (HRN) is any neonate at risk of sustaining medical, developmental or physiological problems. High-risk neonate who is susceptible to morbidity and mortality because of immaturity, physical disorders or complications during or after birth (*Spear, 2010*).

The incidence of neonatal deaths rates was 2.8 million occurred globally, most of which could have been prevented with optimal care. Common causes of neonatal mortality and morbidities including intraventricular hemorrhage, retinopathy of prematurity, necrotizing enterocolitis, bronchopulmonary dysplasia, and sepsis during hospitalization in the Neonatal IntensiveCare Units (NICU) (*Ge et al., 2013& Oza et al., 2015*).

Nursing care of high-risk neonates is a critical element in the neonate's chance for survival. It involves a variety of unique functions, skills, and responsibilities that are all essential to assess, understand safety, and support the high-risk neonates. Nursing staff members working in the NICU spend most of their time in caring for high-risk neonates. They are required to keep pace with the rapid changes in health care and provide high quality of care in a cost-effective manner (*El sayed et al., 2013 and Hockenberry & Wilson, 2015*).

Evidence Based Practice (EBP) is important to the nursing professional development, responsibility, and capabilities of nurses, and it has become an important role in nursing and has integrated into daily practice. In addition, nurses who practice scientific evidence have been able to make better decisions-making in services delivery. Evidence Based Practice is an approach that requires that decisions about health care should be based on the best available, current, valid and relevant evidence (*Stokke et al ., 2014*).

Evidence-based programs that are provided according to the researches have an important role in providing solutions and standardizing methods and they are counted as helpful tools and guides for the nurses of neonatal intensive care units. Also, they help nursing sensitivity and efficiency and high quality of the health resultant to the high extent (*Melnyk et al., 2014*).

Magnitude of the problem

Each year, approximately three million children die in the first 28 days after birth, predominantly due to complications of preterm birth, asphyxia and sepsis. Palestine showed a decline on infant mortality rate constitutes 24\1000 until the year 2000. It was started to rise again mainly during the period from 2002-2006.

According to the statistical report of World Health Organization (WHO) showed that, the neonatal mortality in

Palestine constitutes two thirds 67% of infants deaths death (*Palestinian Central Bureau of Statistics “PCBS”, 2014*).

Evidence Based Practice Programs (EBPPs) summarize and evaluate the evidence available on a particular condition with the aim of assisting nurses to make the best management decisions for high- risk neonates. Staff nurses working with high risk neonates also influence and advise on treatment decisions, and they need to make decisions regarding infant condition & treatment options. Nurses have been instrumental in ensuring that hospital services and care pathways are based on evidence based practice programs. However; the most effective care based on currently available evidence is best ensured through the implementation of standardized programs for the care of the high-risk neonates within NICU (*Deaton, 2012*).