

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

بسم الله الرحمن الرحيم





HANAA ALY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكرونيله



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



HANAA ALY



شبكة المعلومات الجامعية التوثيق الإلكترونى والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم قسم

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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



HANAA ALY

Assessment of the Nurses' Role toward Nutritional Therapy for High Risk Neonates

Thesis

Submitted for Partial Fulfillment
Of the Requirement of Master Degree in
Pediatric Nursing

By

Hanan Hesham Metwaly

(B.Sc. Nursing Science 2009 – Ain Shams University) Charge Nurse at As-Salam International Hospital

> Faculty of Nursing Ain Shams University 2021

Assessment of the Nurses' Role toward Nutritional Therapy for High Risk Neonates

Thesis

Submitted for Partial Fulfillment of the Requirement of Master Degree in Pediatric Nursing

Under Supervision of

Prof. Sabah Saad Al Sharkawi

Professor of Pediatric Nursing Faculty of Nursing – Ain Shams University

Prof. Randa Mohammed Adly

Professor of Pediatric Nursing Faculty of Nursing – Ain Shams University

> Faculty of Nursing Ain Shams University 2021



First and foremost, I feel always indebted to Allah, The Most Kind and Most Merciful.

I wish to express my deepest thanks and sincere appreciation to **prof. Sabah Saad Al Sharkawi**, Professor of Pediatric Nursing, Faculty of Nursing Ain Shams University for her great support, advice and valuable remarks that gave me the confidence and encouragement to fulfill this work.

I express my special gratitude and appreciation to **prof. Randa Mohammed Adly,** Professor of Pediatric Nursing, Faculty of Nursing Ain Shams University for her great help, active participation and guidance, her valuable supervision, cooperation and direction that extended throughout this work.

I wish to convey my thanks to all nurses who gave their time to participate in this work.



Hanan Hesham



List of Contents

Title	Page No.
List of TablesList of Figures	
List of Abbreviations	vi
Abstract	vii
Introduction	1
The aim of Study	4
Review of Literature	5
Nutritional Therapy for High-Risk Neonates	5
Methods of Administrating Nutritional Therapy NICU	
Complications of Enteral Nutrition	29
Role of Pediatric Nurse in Nutrition Therapy High-Risk Neonates	
Subject and Methods	49
Results	59
Discussion	117
Conclusion	150
Recommendations	151
Summary	152
References	164
Appendices	192
Arabic Summary	

List of Tables

Table	e No. Title	Page No.
(1):	•	ge distribution of studied characteristics (n=50)60
(2):	•	e distribution of the studied eir characteristics (n=50)
(3):	knowledge regarding t	distribution of the nurses' he definition of nutritional
(4):	(n=50)	needs of high-risk neonates68 e distribution of the nurses'
(4).	knowledge regarding	the methods of nutritional or high-risk neonates (n=50)
(5):	Number and percentage	e distribution of the nurses' indications of nutritional
(6):	Number and percentage	e distribution of the nurses'
(7):	therapy success (n=50).	te assessment of nutritional
	of the parenteral nutri	indications and components ional therapy for high-risk
(8):	Number and percentage knowledge as regards the	e distribution of the nurses' the calculation amount during
	viens used in parenteral	flow rate and the common nutritional therapy for high-
(9):	Number and percentage knowledge concerning	e distribution of the nurses' heir role before, during and
		nutritional therapy for high- 78

List of Tables Cont...

Table	e No. Title	Page No.
(10):	Number and percentage distribution knowledge concerning the procomplications of the parenteral number and percentage distribution.	recautions and tritional therapy 80
(11):	Number and percentage distribution knowledge regarding the criteria feeding on parenteral to enteral feed neonates (n=50).	n of transition ing for high-risk
(12):	Number and percentage distribution knowledge regarding indications and enteral nutritional therapy for hig (n=50).	d precautions of h-risk neonates
(13):	Number and percentage distribution knowledge regarding their nursing during and after giving enteral nutrition	n of the nurses' ng role before, ional therapy for
(14):	high-risk neonates (n=50) Number and percentage distribution knowledge regarding the complica nutritional therapy for high-risk neon	n of the nurses' tions of enteral
(15):	Number and percentage distribution knowledge regarding the criteria feeding on tube feeding to oral feed	n of the nurses'
(16):	neonates (n=50)	n of the nurses' d precautions of
(17):	oral feeding for high-risk neonates (r Number and percentage distribution knowledge regarding role before, of giving oral feeding for high-risk neon	n of the nurses' luring and after
(18):	Number and percentage distribution knowledge regarding the complicated feeding for high-risk neonates (n=50)	n of the nurses' cations of oral

List of Tables Cont...

Table	e No. Title	Page No.
(19):	Number and percentage distribution attitude regarding nutritional therapy	y of high-risk
(20):	neonates (n=50)	stics and their for high-risk
(21):	neonates (n= 50)	stics and their for high-risk
(22):	neonates (n=50)	stics and their for high-risk
(23):	Correlation between the studied nurse practices and their attitude concernitherapy for high-risk neonates (n=50).	es' knowledge, ing nutritional

List of Figures

Fig.	No.	Title	Page No.
Figui	res in	Review	
(1):	Fee	ding algorithm. EN, enteral	nutrition; PN,
` ,		enteral nutrition; GI, gastrointesti	
(2):	Tot	al Parenteral Nutrition (TPN) inf	usion assemble 10
Figu	res in	Results	
(1):	Dis	tribution of the studied nurse	es according to
()-		nding of training courses	•
(2):		tribution of the studied neonat	
` ,		r birth weight	
(3):		tribution of the studied neonat	
		r gestational age	
(4):		tribution of the studied neonat	
	thei	r current weight	65
(5):	Dis	tribution of the studied neonat	es according to
	thei	r current diagnosis	66
(6):	Dis	tribution of the studied neonat	es according to
	thei	r type of nutrition	67
(7):	Dis	tribution of the studied nurses a	ccording to their
		l knowledge regarding paren	
	the	capy for high-risk neonates	83
(8):	Dis	tribution of the nurses' total know	wledge regarding
	ente	eral nutritional therapy for high-r	isk neonates90
(9):	Dis	tribution of the nurses' total know	wledge regarding
		I feeding for high-risk neonates	
(10):		tribution of the nurses' total know	
	nut	ritional therapy for high-risk neo	nates97
(11):		tribution of the nurses' prac	• •
		ermittent Feeding using OGT/NG	
(12):		tribution of the nurses' practice	0 0
		ninistration of bolus enteral feed	· ·
	risk	neonates	99

(13):	Distribution of the nurses' practices regarding	
	connecting &administrating TPN solutions	100
(14):	Distribution of the nurses' practices regarding	
	disconnecting TPN for high-risk neonates	101
(15):	Distribution of the nurses' practices regarding bottle-	
	feeding for high-risk neonates	102
(16):	Distribution of the studied nurses according to their	
	practices regarding measuring weight for high-risk	
	neonates	103
(17):	Distribution of the nurses' practices regarding	
	measuring abdominal circumference for high-risk	
	neonates	104
(18):		
	assessment of skin integrity for high-risk neonates	105
(19):	Distribution of the nurses' total practices regarding	
	nutritional therapy for high-risk neonates	106
(20):		
` /	nutritional therapy for high-risk neonates.	109

List of Abbreviations

Abb.	Meaning
BMBF	Bovine Milk-Based Fortifiers
	Bronchopulmonary Dysplasia
	Clinical Risk Index for Neonates
	Donor Human Milk
ECF	Extra Cellular Fluid
ELGA	Extremely Low Gestational Age
	Enteral Nutrition
EUR	Extra-Uterine Growth Restriction
EPT	Extermly Preterm
GER	Gastro-Esophageal Reflux
HM	Human Milk
HMF	Human Milk Fortifier
HRN	High Risk Neonates
MEF	Minimal Enteral Feeding
MN	Mixed Nutrition
NANN	National Association of Neonatal Nurses
NEC	Necrotising Entero Colitis
NGT	NasoGastric tube
NS	Nutritional Support
OGT	OroGastric Tube
PDA	Patent Ductus Arteriosus
PDHM	Pasteurized Donor Human Milk
PMA	Post Menstrual Age
PN	Parenteral Nutrition
RCT	Randomized Controlled Trial
RGO	Rate of Glucose Oxidation
ROP	Retinopathy of Prematurity
TPN	Total Parenteral Nutrition

Assessment of the Nurses' Role toward Nutritional Therapy for High-Risk Neonates

By Hesham, H.*, Al Sharkawi, S. **& Adly, R. ***

Sc. Nursing Sciences 2009*, Professor of Pediatric Nursing, Faculty of Nursing**, Professor of Pediatric Nursing, Faculty of Nursing***

Ain Shams University

Abstract

Background: Nutritional therapy is important to support the high-risk neonates to promote growth and neurodevelopmental outcome. Aim: assess the nurses' role toward nutritional therapy for high-risk neonates. **Design:** A descriptive design. **Subjects:** A purposive sample was composed of 50 nurses who worked at the Neonatal Intensive Care Unit in Children Hospital and Gynecological Hospital affiliated with Ain Shams University. Tools: Assessment tool of high-risk neonates to assess characteristics' the studied neonates; predesigned questionnaire sheet, observation checklists and attitude Likert type scale. **Results:** The results revealed that less than half of the studied nurses had an average level of total knowledge. More than half of them had an incompetent level of practice and a positive attitude toward nutritional therapy for high-risk neonates. There were statistically significant differences between the studied nurses' characteristics and their knowledge, practices and attitude regarding nutritional therapy for high-risk neonates. Finally, there was a positive correlation between the nurses' knowledge, practices and their attitude related to nutritional therapy for high-risk neonates. Conclusion: The study concluded that, less than half of the studied nurses had an average level of total knowledge, less than two-thirds of them had an incompetent level of practice and more than half of them had a positive attitude toward nutritional therapy for high-risk neonates by P-value < 0.05. **Recommendation:** the current study recommended that, establish a written updated protocol about nutritional therapy to improve the level of nurses' performance regarding the nutritional therapy for high-risk neonates and training program should be provided for all nurses working in NICUs to improve their performance regarding nutritional therapy for high-risk neonates.

Keywords: High-Risk Neonate, Nutritional Therapy, Nurses role.

Introduction

Proper nutrition of high-risk neonates is essential for normal growth, resistance to infection, long-term health and optimal neurologic and cognitive development. Providing adequate nutrition to high-risk neonates is challenging because of several problems, some of them unique to these small infants. These problems include immaturity of bowel function, inability to suck and swallow high risk of necrotizing enterocolitis, illnesses that may interfere with adequate enteral feeding and medical interventions that preclude feeding (Willis et al., 2015).

The improvement in possibilities of saving high-risk neonate's lives that have been done in the last years resulted in a growing number of neonates with dangerous abnormal development that require monitoring of quality and rate of development. High-risk neonates initially require parental and enteral feeding because of their immaturity and clinical problems (**Costeloe et al., 2016**).

There are two general approaches to the nutritional therapy of high-risk neonates; it includes enteral nutritional therapy and parenteral nutritional therapy. Enteral nutritional therapy makes use of the gastrointestinal tract; it may involve nutritional therapy by mouth or by nutritional therapy tube. Meanwhile, parenteral nutritional therapy involves supplying nutrients through peripherally or centrally placed intravenous catheters. It is undertaken only