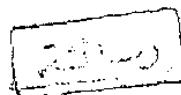


A STUDY OF INFANT FEEDING IN THE NEONATAL INTESTINE CARE UNIT

Thesis

Submitted for fulfillment of
Ph.D. Degree in Childhood Studies



By

Dr. Naglaa Mohamad Shaheen

M.Sc. in Pediatrics

UNDER THE SUPERVISION OF

53004

Prof. Dr. Hamed Ahmed El-Khayat

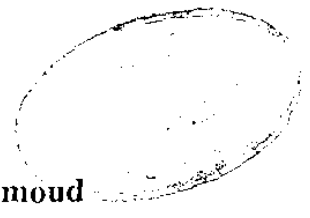
*Professor of Pediatrics
Faculty of Medicine
Ain Shams University*

Hamed El-Khayat

Sanaa Abd El-Rahman Mahmoud

Dr. Sanaa Abd El-Rahman Mahmoud

*Ass. Prof. of Pediatrics
Faculty of Medicine
Ain Shams University*



Dr. Tahany Aly Helmy El-Kerdany

*Lecturer of Clinical Pathology
Faculty of Medicine
Ain Shams University*

Tahany Aly Helmy El-Kerdany

**Institute of Postgraduate Childhood Study
Ain Shams University
1996**



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿ وَأَوْحَىٰ رَبُّكَ إِلَى النَّحْلِ أَنْ اتَّخِذِي مِنَ الْجِبَالِ بُيُوتًا وَمِنَ الشَّجَرِ وَمِمَّا يَعْرِشُونَ * ثُمَّ كُلِّي مِنْ كُلِّ الثَّمَرَاتِ فَاسْلُكِي سُبُلَ رَبِّكِ ذُلًّا يَخْرُجُ مِنْ بُطُونِهَا شَرَابٌ مُخْتَلِفٌ أَلْوَانُهُ فِيهِ شِفَاءٌ لِلنَّاسِ إِنَّ فِي ذَٰلِكَ لَآيَةً لِّقَوْمٍ يَتَفَكَّرُونَ ﴾

صدق الله العظيم

[سورة النحل الآية ٦٨ : ٦٩]

And thy lord inspired the bee, saying :

Choose thou habitations in the hills and in the trees and in that which they thatch; then eat of all fruits, and follow the ways of thy lord, made smooth (for thee). There cometh forth from their bellies a drink diverse of hues, wherein is healing for mankind. Lo ! here is indeed a potent for people who reflect. (The Bee, 68:69)

[Verse 68:69, Suura 16 (The Bee)]

To...

My Family
My Very Special Friend Sanaa

Acknowledgement

I wish to express my deep thanks and gratitude to Prof. Dr. Hamed El-Khayat, Prof. of Pediatrics, Faculty of Medicine, Ain Shams University, for giving me the honour of working under his supervision, for his kind guidance and continuous encouragement throughout the whole work and always.

I am deeply grateful to Dr. Sanaa Abd El-Rahman, Assis. Prof. of Pediatrics, Faculty of Medicine, Ain Shams University, who gave me much of her time, her experience, her patience, kindly supervised my work and guided every step till it was completed.

I am also thankful to Dr. Tahany El-Kerdany and Dr. Mona Zaki, Lecturers of Clinical Pathology, Faculty of Medicine, Ain Shams University, for their sincere help and great cooperation.

I am also deeply grateful to Dr. Gamal Samy, Lecturer of Childhood Studies, Institute of Postgraduate Childhood Study, Ain Shams University, for his kind guidance and help.

I'd like also to express my utmost gratitude to Dr. Hanan El-Shakankiry, Lecturer of Pediatrics, Faculty of Medicine, Ain Shams University, for her kindness and support.

Last and not least, I wish to extend my thanks to my colleagues and to the nurses in the Neonatal Intensive Care Unit for their cooperation and help.

Contents

	Page
Introduction and aim of the work	1
Review of literature	5
Feeding of preterm infants	5
Honey	22
Royal jelly	44
Thyroid hormone	61
Insulin hormone	77
Testosterone hormone	87
Subject and Methods	97
Results	110
Discussion	139
Summary	145
Recommendations	148
References	149
Arabic Summary	

LIST OF TABLES

Table No.	Title	Page
1	Placental permeability of substances affecting thyroid function.	63
2	Principal action of insulin.	85
3	Effect of insulin on various tissues.	86
4	Data of all patients upon inclusion into the study.	110
5	Demographic data of patients in the 3 groups upon inclusion (ANOVA test).	119
6	Postnatal age (duration of I.V. fluids prior to inclusion into the study) in the 3 studied groups.	120
7	Follow up data of the groups of patients at the end of day 1 (ANOVA test).	121
8	Comparison between the 3 groups as regards the milk intake, the amount of residue and residue/milk % during the 5 days of the study.	122
9	Comparison between the 3 groups as regards the milk intake and the residue % on day 1 and 5.	123
10	Comparison between the 3 groups regarding the amount of stool (gm/day) through the 5 days of the study and stool pH at day 5.	124
11	Comparison of the mean blood glucose level in the 5 days of the study between the 3 groups.	125
12	Comparison between the 3 groups regarding the daily mean caloric intake in the 5 days of the study.	126

13	Comparison of the mean weight in grams the mean weight gain and percent weight gain between the 3 groups.	127
14	Mean serum thyroxine (Total T4) levels in the 3 studied groups.	128
15	Mean serum insulin levels in the 3 studied groups.	129
16	Mean serum testosterone levels in the 3 studied groups.	130

LIST OF FIGURES

Figure No.	Title	Page
1	Pattern of circulating levels of thyroid-stimulating hormone (TSH); rT3, T4 and T3 in the fetus and newborn.	66
2	Onset of actions of thyroid hormone in the developing human.	72
3	Diagrammatic representation of the structure of the insulin receptor.	83
4	Schematic diagram of phases of male sexual function.	88
5	Outline of genital development.	92
6	Schematic diagram of normal androgen physiology.	96
7	A comparison between the 3 groups as regards the milk intake and residue % on days 1 and 5.	131
8	Comparison between the 3 groups regarding the amount of stools (gm/day) throughout the 5 days of the study.	132
9	Comparison between the 3 groups regarding the stool pH at day 5.	133
10	Comparison between the mean blood glucose level in the 5 days of the study in the 3 groups.	134
11	Comparison of the mean weight between the 3 groups in the 5 days of the study.	135

12	Comparison of the mean serum thyroxine (Total T4) levels in the 3 studied groups.	136
13	Comparison of the mean serum insulin levels in the 3 studied groups.	137
14	Comparison of the mean serum testosterone levels in the 3 studied groups.	138