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TITLE: THE IMPACT OF MATERNAL HYPOTHYROIDISM ON THE NEONATAL OUTCOMES IN SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA (2016).

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OBJECTIVES:

THE AIM OF THE PRESENT STUDY IS TO DETERMINE THE ASSOCIATION OF MATERNAL HYPOTHYROIDISM WITH NEONATAL OUTCOMES IN SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA.

METHODOLOGY:

THIS IS A RETROSPECTIVE DESCRIPTIVE COHORT STUDY WHICH CONDUCTED IN SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA FROM 1ST OF JANUARY TO 31 OF DECEMBER IN 2016, INCLUDING ALL NEONATES WHO WERE ADMITTED FOR MATERNAL HYPOTHYROIDISM PATIENTS. WE CAREFULLY OBTAIN THE DATA FROM ELECTRONIC MEDICAL RECORDS THEN TRANSFERRED TO STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES (SPSS) VERSION 23 FOR FURTHER ANALYSIS. THE PRESENT STUDY WAS ETHICALLY APPROVED BY THE ETHICAL COMMITTEE OF SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA.

RESULTS:

THE DIFFERENCE OF PRETERM DELIVERY, SEX RATIO, APGAR SCORE (AT 1 AND 5 MINUTE) AND NORMAL GROWTH BETWEEN MOTHERS WITH OVERT AND MOTHERS WITH SUBCLINICAL MATERNAL HYPOTHYROIDISM WAS NOT STATISTICALLY SIGNIFICANT. HOWEVER, NICU ADMISSION WAS MORE ASSOCIATED WITH NEONATES OF MOTHERS WITH OVERT HYPOTHYROIDISM (11.8% VS. 7.2%; P=0.064). NEONATES OF MOTHERS WITH HYPOTHYROIDISM WERE NEGATIVELY ASSOCIATED WITH NICU ADMISSION COMPARED TO NEONATES OF MOTHERS WITH EUTHYROIDISM (ODDS RATIO: 0.67, 95% CI: 0.51-0.88; P-VALUE: 0.0037).

CONCLUSION:

THE PRESENT STUDY SUGGESTS THAT MOTHER WITH HYPOTHYROIDISM WILL REQUIRE NOTHING BUT SIMILAR TREATMENT AS MOTHER WITH EUTHYROIDISM ROUTINELY REQUIRED IN TERMS OF INFANT WORKUP AND FOLLOW UP AND POST-DELIVERY CARE.

KEYWORDS: HYPOTHYROIDISM, NEONATAL INTENSIVE CARE UNIT, NEONATE, OUTCOME AND ASSESSMENT, NEONATAL SCREENING, CONGENITAL HYPOTHYROIDISM, MATERNAL HEALTH.

Table 1. Neonatal characteristics and outcomes of maternal with hypothyroidism.

Neonatal characteristic	Maternal hypothyroidism		Total number (%)	p-value
	Overt number (%)	Subclinical number (%)		
Gender				
Male	81 (53)	370 (54.7)	451 (54.4)	0.688
Female	72 (47)	306 (45.3)	378 (45.6)	
Apgar score (1 minute)				
Bellow 7	4 (2.6)	21 (3)	25 (3)	0.747
7 and above	149 (97.4)	655 (97)	804 (97)	
Apgar score (5 minutes)				
Bellow 7	0 (0)	2 (0.3)	2 (0.2)	0.500
7 and above	153 (100)	674 (99.7)	827 (99.8)	
Growth				
Normal growth	143 (93.5)	646 (95.6)	789 (95.2)	0.530
Abnormal growth	10 (6.5)	30 (4.4)	40 (4.8)	
Term versus preterm				
Preterm	8 (5.2)	21 (3.1)	29 (3.5)	0.196
Term	145 (94.8)	655 (96.9)	800 (96.5)	
Neonatal TSH				
Normal	152 (99.3)	663 (98.1)	815 (98.4)	0.271
High	1 (0.7)	13 (1.9)	14 (1.6)	
NICU admission				
Yes	18 (11.8)	49 (7.2)	67 (8)	0.064
No	135 (88.2)	627 (92.8)	762 (92)	

Table 2. Neonatal admission to NICU of mothers with euthyroidism and hypothyroidism state.

Neonatal admission to NICU	Mother with hypothyroidism Number (%)	Mother with euthyroidism number (%)	Total number (%)	p-value
Admitted to NICU	67 (8.1)	545 (11.5)	612 (11)	0.0037
NOT Admitted to NICU	762 (91.9)	4,185 (88.5)	4,947 (89)	