POSTPARTUM DEPRESSION and ANXIETY: CAN THEY BE THE CAUSE OF NEONATAL HYPERNATREMIA?

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INTRODUCTION: Due to its nutritional, as well as nonnutritional benefits both for the mother and her infant, breastfeeding is the optimal type of infant feeding. Many factors such as cultural models, anxiety, psychosocial and emotional stress of the mother can influence initiating and maintaining lactation. It's well known that postpartum depression and anxiety (PPDA) have an effect upon the frequency of lactation and the content of breastmilk. In this prospective-case controlled study, we investigated the possible effects of PPDA on breastmilk sodium levels and neonatal hypernatremia.

MATERIALS-METHODS: The study group consisted of 47 exclusively breastfed, term neonates with hypernatremic dehydration and the control group consisted of 96 jaundiced, term neonates without dehydration. While recording patients' demographical features, mothers were asked to fill out sociodemographical/psychosocial data form, Edinburgh Postnatal Depression Scale (EPDS) and State-Trait Anxiety Inventory (STAI) I/II. Breastmilk sodium levels were measured from all mothers. Breast milk sodium levels, Koo and Gupta in the study of breast milk reference sodium level; evaluated as high or low / normal. Factors affecting breastmilk sodium levels, relationship between hypernatremic dehydration and PPDA and the factors affecting this possible relationship were compared between the groups.

RESULTS: The mean sodium level of the patients with hypernatremic dehydration was 155 ± 3.5 mEq / L and the mean dehydration percentage was 11.9% (± 3.2). The median admission time was 3 (2-26) in the study group and 5 (1-21) days in the control group, no significant difference was found between the groups. Mean breastmilk sodium level in the study group was 25.8 (7.9) mmol/L and was significantly higher than the control group ($p=0.008$). Among all risk factors, "being the first child" was the only significant risk factor for hypernatremic dehydration ($p=0.003$). Comparison of EPDS between the groups didn't reveal any significant difference (median score of the study group: 6 (0-20), median score of the control group: 6 (0-23)). Comparison of STAI-I and STAI-II scales between the groups showed that while state and trait anxiety was higher in the control group ($p=0.001$), anxiety score was higher in the study group ($p=0.001$).

Table 1: Comparison of groups on maternal psychosocial characteristics

	Cases with HND	Control	p
Mother age *	27.1(5)	28.7(5.8)	0.106
Maternal educational level n(%)			
Elementary education	13(27)	34(35)	0.334
High school	18(38)	35(36.5)	
University	16(34)	27(28)	
Maternal occupational status n(%)			
Employed	17(36.2)	25(26)	0.212
Unemployed	30(63.8)	71(74)	
Number of mother pregnancy n(%)			
Primipar	34(72.3)	44(46.3)	0.003
Multipar	13(27.7)	52(53.7)	
Abortion n(%)			
Yes	8(17)	24(25)	0.282
No	39(83)	72(75)	
Competence in baby care n(%)			
Feels enough	38(80.9)	81(85.3)	0.502
Feeling inadequate	9 (19.1)	14(14.7)	
Complain about the baby? n(%)			
Yes	12(25.5)	22(22.9)	0.849
No	35(74.5)	74(77.1)	
Residents of the house n(%)			
Nuclear family	40(85.1)	89(93.7)	0.097
Extended family	7(14.9)	6(6.3)	
Pregnancy planning n(%)			
Planned	37(78.7)	73(76.8)	0.801
Unplanned	10(21.3)	22(23.2)	

Table 2: Comparison of mothers' scores on State and Trait Anxiety Inventory (STAI-I and II) and Edinburgh Postpartum Depression Inventory (PDI

	Cases with HND	Control	P
STAI-I (mean)	33.9(9.6)	39.8(9.7)	0.001
STAI-II (mean)	35.8(8.3)	40.9(7.7)	0.001
Edinburgh PDI (median)	6(0-20)	6(0-23)	0.169

CONCLUSION: During nursing period, mothers should psychosocially be encouraged. It should be kept in mind that especially undereducation about lactation and being primigravid, can result in high breastmilk sodium levels and neonatal hypernatremia.