

120/06 - "Psicoendocrinologia do comportamento parental humano: Alterações hormonais, síndrome de couvade e responsividade parental em pais-expectantes" - "Psicoendocrinology of the human parental behaviour: Hormonal changes, Couvade syndrome and parent responsivity in expecting-parents"

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Objectives: Animal studies have been documenting the association between hormonal changes and the emergence of parental behavior in both males and females of a variety of non-human species. Data on the psychoendocrinology of human parental behavior is very scarce, but preliminary findings by Storey et al. (2000), Berg and Wynne-Edwards (2001; 2002) and Fleming et al. (2002) showed that hormone levels of human fathers can change during the reproductive period. None of these pioneering studies, however, analyzed if hormone changes in expectant fathers associate with the expression of paternal behavior after birth.

Method: In this study, serum levels of prolactin (PRL) and salivary levels of testosterone (T), progesterone (P), estradiol (E2) and cortisol (CORT) were measured five times throughout the reproductive period (three times during pregnancy and two times after the birth) in an initial sample of 32 expectant fathers (EF). Hormone levels of 15 control men (C) were also measured at same time intervals. In addition, paternal behavior after the birth was evaluated in EF with psychometric measures.

Results: Fathers who presented higher levels of paternal behavior after the birth (HIF, high-involvement fathers), but not less involved fathers (LIF), showed increased levels of P and E2 during pregnancy comparing to postpartum hormone levels and to hormone levels of controls. In addition, PRL levels increased from the pregnancy to the postpartum period in HIF, but not in LIF, whereas CORT levels were significantly increased following the birth in LIF only. Finally, though T levels were high during pregnancy and low after the birth for all fathers, changes in T were more pronounced in HIF.

Discussion: Results are generally consistent with previous findings on the neuroendocrinology of paternal behavior in mammals, and add support to the hypothesis that in bi-parental mammals, including humans, the expression of paternal and maternal behavior involve homologous neuroendocrine mechanisms. Research in this area can contribute to 'validate' the experience of more involved fathers and to inform about conditions in which pro-social behavior, including parental investment, is compromised.

Publications:

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Award: *Graduate Student Presentation Award*. Parental Brain Conference 2007: Parenting and the Brain. Boston, MA, Junho de 2007.

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