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ALL ABOUT 'U': ASSOCIATIONS BETWEEN PRENATAL DEPRESSION, AND FOETAL AND INFANT STRESS RESPONSES IN THE DEVELOPING WORLD

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Introduction: Prenatal maternal depression predicts disturbances in stress responses and an increased risk of psychopathology in offspring. However the foetal origins of these programming influences on the offspring's stress response mechanism are unclear. Furthermore, there are no inquiries into this issue from the developing world, where high rates of prenatal depression (25-45%) are reported.

Aim: To explore associations between prenatal depression and, foetal and infant responsivity, in a sample from rural South India.

Methods: 67 pregnant women in their third trimester with high prenatal depression scores and 66 controls were assessed for their foetus' responsivity to repeated vibroacoustic stimulation by measuring foetal heart rate responses. At 1.5-3 months post-birth, infant cortisol responses to immunisation and infant temperament were measured.

Results: A curvilinear relationship existed between prenatal depression and foetal responsivity to a potential stressor (R^2=0.98, p=0.02). Foetuses of mothers with both very high and very low levels of depression showed elevated responses compared to the foetuses of mothers with moderate levels of depression.

Prenatal depression predicted elevated infant cortisol responsivity independent of postnatal depression and other confounders (B=13.08, p=0.02). Quintile analysis revealed this relationship to be U shaped (R^2=0.20, p=0.02), similar to the relationship between prenatal depression and foetal responsivity.

There were no associations between prenatal depression and difficult infant temperament.

Conclusions: The findings provide the first evidence of a curvilinear relationship between prenatal depression and offspring stress responsivity from the developing world suggesting that intra-uterine exposure to moderate stress levels may be beneficial in the context of socio-economic disadvantage.

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