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INTERACTION BETWEEN CHRONIC STRESS AND LACTATION

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Abstract:

Chronic stress can be either due to many stressors or due to same stressor continuously for a prolonged period, which repeatedly activates autonomic nervous system and hypothalamic-pituitary-adrenal axis without relaxation response, resulting in persistent physiologic effects. Physiologic response causes malfunctioning of HPA axis to release excess cortisol, the principle stress hormone. Studies have shown that acute physical and mental stress can impair milk ejection reflex. If this occurs repeatedly during prolonged stress, it could reduce milk production by preventing full emptying of the breast at each feed. As the effects of chronic emotional stress on lactation are not known, this study was conducted to assess the relation between maternal chronic stress and lactation. Pregnant women were assessed for the level of stress with the help of Holmes and Rahe stress scale, 96 were selected for the study. Objective measurement was done by analyzing serum cortisol levels by electrochemiluminescence immunoassay. It was observed that among 96 subjects 36 (37.5%) were mildly stressed, 34 (35.41%) were moderately stressed and 26 (27.08%) were severely stressed. Serum cortisol levels were high in moderately stressed subjects when compared to mildly stressed subjects with $p < 0.05$. Also high levels of serum cortisol were observed in subjects with severe stress when compared to moderately stressed subjects with $p < 0.05$. Milk volumes were measured upto 5 days postpartum by test weighing method using digital weighing machine. Daily milk volumes were compared between mildly, moderately and severely stressed subjects. Gradual decrease in the mean milk volumes were recorded with $p < 0.05$. So chronic stress may hamper the lactation.

Keywords: Lactation, chronic stress, serum cortisol, milk volume

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