ABSTRACT

INTRODUCTION: Chronic stress is a state of ongoing physiological arousal. The concept of chronic stress is based on how frequently the stressors appear over a period of time. Cumulative effects of changing life events with failure of coping reflex leads to chronic stress, which repeatedly activates hypothalamic-pituitary-adrenal (HPA) axis without relaxation response, to release excess Cortisol, the principal stress hormone. Chronic stress causes undesirable consequences like preeclampsia, preterm labor, spontaneous abortions and may also affect the lactogenesis. Studies in animals indicate that various types of stressful stimuli can depress lactation, but there is less information in humans.

AIM: To assess the effect of chronic stress on lactogenesis in humans.

METHODS: Pregnant women in the reproductive age (21-45 yrs) attending the antenatal clinic were selected for the study. 96 women of similar demographic background and health condition were assessed for the level of stress with the help of Holmes and Rahe stress scale. We assessed the relation between stress and socio-demographic parameters like occupation, family type, religion, economic and educational status of study subjects. Serum Cortisol (µg/dl) was estimated in all 3 trimesters and postpartum. Serum Prolactin (µg/L) was estimated by electrochemiluminescence immunoassay before delivery and up to 5 days postpartum. Measurement of milk volume (ml) was done by baby test weighing method up to 7 days postpartum.

RESULTS: 37.5% pregnant women were mildly stressed, 35.41% were moderately and 27.08% were severely stressed. Serum Prolactin levels were insignificantly low (p>0.05) in moderate and severely stressed women. Serum Cortisol levels were significantly high (p<0.05) in moderately and severely stressed women with significant reduction in milk volume when compared to mildly stressed women.

CONCLUSION: Moderate and severe stressful events reduce milk volume output in humans.

KEYWORDS: Chronic stress, serum Cortisol, serum Prolactin, milk volume.