

Abstract

Risk Factors for Low Milk Production [†]

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Abstract: Numerous factors not consistently identified in pregnancy are linked with decreased breastfeeding exclusivity and durations. These factors may be considered in three domains: the anatomical, metabolic, and psychosocial domains. As fundamental research into lactation has increased, it is now often possible to identify or speculate the mechanisms by which these factors potentially reduce milk production. The first domain describes the anatomical characteristics of the breast, including intrinsic factors such as hypoplasia (underdevelopment), which may have a genetic component and can be masked by breast augmentation surgery. Hypoplasia has long been associated with the inability to make a full milk production that satisfies the infant's needs, although it is not possible to predict a woman's 24-h milk production so that appropriate complementary feeds can be advised. Extrinsic causes such as breast reduction surgery impact the volume of glandular tissue, thereby reducing the synthetic capacity of the breast. Whereas nipple piercings may damage milk ducts, obstructing milk flow from the breast and thereby reducing milk supply via the autocrine pathway. Various maternal metabolic disorders (intrinsic) comprise the second domain, which includes conditions such as gestational diabetes mellitus, type 1 and 2 diabetes, polycystic ovarian syndrome (often undiagnosed), and hypothyroidism. The aberrant levels of hormones associated with these disorders, such as insulin, are also implicated in breast development, raising the possibility of reduced mammary growth in pregnancy and, consequently, milk production. Much more research is needed in this area, not only to understand mechanisms by which lactation is impacted but also to identify the women at risk of reduced lactation capacity. The third and final domain includes psychosocial issues such as short intended breastfeeding durations, a lack of breastfeeding support, and maternal anxiety and depression. With respect to anxiety and depression, their association with reduced breastfeeding is likely multifaceted, encompassing mood and the potential biochemical changes associated with these states, such as lower levels of circulating oxytocin and higher cortisol levels. Possessing a knowledge of the negative impacts of the intrinsic and extrinsic factors within the maternal anatomical, metabolic, and psychosocial domains provides the impetus for antenatal lactation screening. The antenatal identification of risk factors enables anticipatory guidance and education during pregnancy, as well as early postpartum intervention should breastfeeding issues occur.



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