



EDITORIAL

Benefits of newborn feeding with the initiation formula: On-demand vs. gastric capacity

Beneficios de la alimentación del recién nacido con fórmula de inicio: libre demanda contra capacidad gástrica

Existing controversies around the topic of the most adequate way of feeding for the term newborn could be resolved in a simple manner based on the growing body of scientific evidence supporting human lactation, a physiological practice in humans, the rule in all mammals. To ignore or circumvent this practice leads pediatricians and other health professionals to confront this option with a variety of alternatives characterized by altering the physiology of the newborn as well as the relationship with the mother.

Breastfeeding culminates a series of physiological processes in the maternal organism as well as in the newborn child, which are meant to allow and facilitate this form of feeding. These processes are facilitated by diverse reflexes present in the mother and neonate. As part of the process of labor, oxytocin secretion by the hypothalamus and its release from the pituitary gland help to maintain uterine contraction during labor and childbirth.¹ When cervical dilation is completed, there is a peak release of oxytocin (Ferguson-Harris reflex) that helps to regulate and maintain uterine contractions in order to complete labor and the subsequent birth, a time at which the highest concentration of this hormone is reached.² When the placenta is detached, estrogen and progesterone levels decrease. Concentration of prolactin increases, a hormone that stimulates milk secretion by the alveoli of the mammary gland. Oxytocin also stimulates the milk ejection reflex, which is triggered by the infant's sucking and favors lactation.³ The feedback process between the infant's sucking and stimulation of milk production by the mother's breast starts with the first act of breastfeeding in which the newborn receives maternal immunoglobulin-rich colostrum. Initiation of the breastfeeding episode stimulates the secretion of prolactin, reaching its peak 20 to 40 min later. When the episode is prolonged by 20 to 30 min, prolactin plasma level is maintained elevated for up to 3 to 4 h.

During breastfeeding, a series of reflexes, mostly mature at birth, are placed into practice. First, the search reflex is exercised, triggered by the proximity of the nipple to the commissure of the mouth. Stimulation from the newborn's lips and tongue on the areola provokes the erection reflex of the mother's nipple, which facilitates its identification by the newborn. Once the nipple is localized, the sucking mechanism takes effect, which includes positioning the tip of the tongue behind the lower lip and the lower gums to take in the nipple in the mouth. Next, the tongue channels itself around the areola and the lower jaw moves upwards, pushing the tongue that rests on it towards the palate. This movement is accompanied by the ejection of milk from the mammary tissue in response to oxytocin. Compression of the tip of the nipple between the newborn's tongue and the palate is followed by movement of the tongue, which rises on the anterior portion at the same time that the posterior part depresses itself, with which milk is displaced towards the pharynx and swallowing can begin. The sucking pattern is characterized by two suctions/second followed by one to four swallows per series, which carry the milk content towards the esophagus, prompting the waves of propulsion that move the swallowed milk towards the stomach. The swallowing mechanism is present from intrauterine life and is completely functional at birth. It is important to mention that during lactation, the tip of the nipple does not surpass the posterior third of the newborn's tongue. The strength of the suction of the newborn as well as the frequency of breastfeeding establishes the periodicity and quantity of prolactin secreted by the maternal organism.

Other aspects associated with mother's milk production secondary to nutrition but important for newborn development include the visual and physical contact that is necessarily established between the mother and

