REVIEW

Contraindications to Breastfeeding - Current Issues at the Border Between Myth and Reality

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Abstract

Breast milk is recommended as an optimal and exclusive source of early nutrition for all infants from birth to at least 6 months of age. Despite all the benefits of breastfeeding, there are situations where breastfeeding is contraindicated. There are differences of opinion regarding the contraindications of breastfeeding, the current research bringing more knowledge in this area. It is important to know the differences of opinion for the correct approach of the breastfeeding patient.

Keywords: breastfeeding, benefits, contraindications.

Rezumat

Laptele matern este recomandat ca sursă optimă și exclusivă de nutriție timpurie pentru toți sugarii de la naștere până la vârsta de cel puțin 6 luni. În ciuda tuturor beneficiilor alăptării, sunt situații în care este contraindicată alăptarea. Există diferențe de opinie în ceea ce privește contraindicațiile alăptării, cercetările actuale aducând un plus de cunoștințe în acest domeniu. Este importantă cunoașterea diferențelor de opinie pentru abordarea corectă a pacienței care alăptează.

Cuvinte cheie: alăptarea, beneficii, contraindicații.

INTRODUCTION

Breastfeeding is widely recognized as the normal and unmatched method for feeding infants. Breast milk is recommended as an optimal and exclusive source of early nutrition for all infants from birth to at least 6 months, being crucial for optimal development¹. Breastfeeding continues to be an important part of the diet until the baby is at least two years old.

Milk is produced following several stages that begin before the baby is born. Milk production is regulated by

the maternal hypothalamus and the hormones derived from the pituitary gland (mainly oxytocin and prolactin are hormones involved in milk production)².

The first milk is colostrum which generally appears after labor, but in some women, pre-colostrum may occur before the postpartum stage. Colostrum, although low in lactose, is high in protein, sodium and immunoglobulins; later, after 30-40 hours, the composition changes with increasing volume, becoming richer in lactose and diluting other constituents³. Colostrum may represent the first immunization of the child be-

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cause it produces mucosal immunity in the gastrointestinal tract through secretory IgA, IgM and IgG; these vital immunoglobulins provide barrier protection to the intestine and also play a vital role in the fight against germs.

To successfully initiate breastfeeding, it is necessary to create a connection between the mother and the newborn, which is done by skin-to-skin contact between the mother and the newborn within the first two hours after birth^{4,5}. Breastfeeding is a natural process, however the mother needs support and education from breastfeeding consultants or experienced nurses to properly position and support the newborn at the breast^{6,7}. Breastfeeding is maintained and regulated autonomously by sucking the baby and emptying the breast.

Milk contains the microbiota such as *Bifidobacterium* and *Lactobacillus* and this together with the oligosaccharides confer anti-bacterial activity on the intestine and lead to the synthesis of essential nutrients such as vitamin B12, B6, folate and vitamin K⁸. Another component, lactoferrin, will act by increasing the absorption of iron and preventing its degradation by bacteria, conferring an immune protective action against bacterial, viral, fungal and parasitic infections^{9,10}.

Other benefits of breastfeeding include: lowering the risk of upper respiratory tract infections, lowering the risk of diarrhea in newborns, developing asthma, allergies, obesity and type 1 diabetes¹¹. From another point of view, breastfeeding represents a financial economic variant compared to the expensive milk powder formulas.

Maternal factors such as pain, anxiety and emotional instability must be addressed before and after birth^{12,13}.

The use of medicines should be addressed especially to the breastfeeding mother. Some studies show that women take more medications during breastfeeding compared to pregnancy. It is necessary to advise and find alternative ways to prevent ending breastfeeding¹⁴.

Despite all the benefits of breastfeeding, there are situations where breastfeeding is contraindicated¹⁵. It is very important to know these situations in order to be able to properly balance the risk-benefit ratio.

MEDICATION

The effects of medication during pregnancy and lactation are not sufficiently studied for many products available on the market, as it is difficult to quantify the risk of transmission through breast milk to the baby.

The European summary of product characteristics uses the following phrase “the use of 90% of medicines is restricted both during pregnancy and during breastfeeding, despite the lack of information to support such indications” to avoid possible litigation¹⁶. This phrase can lead to cessation of breastfeeding in mothers who use medications, sometimes well-founded, other times only because of excessive caution.

Although most medicines pass into breast milk, the side effects are few and most often not causal. Adverse effects are most commonly present in the first two months of breastfeeding (exclusive or mixed)^{17,18}.

In the absence of clinical studies, the assessment of the risk of lactation following drug administration is pharmacokinetic, it is possible to pass the drug through breast milk to infants when its half-life is short, the binding of maternal plasma proteins is high, biochemically the characteristics of the drug lead to a low ratio. from milk to plasma, and the absorption of the baby's intestine is slow, resulting in poor bioavailability¹⁹. The upper limit of safety transfer from mother plasma to breast milk is 10% of the dose administered to the mother, but cases exceeding 1% of the dose administered to the mother are rare¹⁹. Assessing the safety profile of a drug in breastfeeding women requires investments by health professionals in terms of specific scientific knowledge and empathic approach.

Feldman-Winter et al. showed that in 2014 only 57% of young pediatricians considered that mothers could successfully breastfeed and only 50% considered that the benefits of breastfeeding outweigh the difficulties²⁰. It is very important for the correct counseling of the mothers by the specialists in the field.

CONTRACEPTION

Although, in general, breastfeeding women have lactational amenorrhea and ovulation is unlikely, however, it may be necessary to use contraceptive methods by mothers who want to make sure they will not become pregnant^{21,22}.

Contraceptive methods such as diaphragm and condom are safe to use by the breastfeeding mother, they do not influence milk production.

From the point of view of hormonal contraception, it is not completely contraindicated. Combined hormonal contraceptives are recommended to use, initially those with the lowest dose of estrogen and to follow the lactation because there is a risk of decreasing milk flow and even stopping lactation. Hormonal contraceptives

with progesterone generally do not affect milk intake²³.

The safety of a contraceptive method should be determined based on, the breastfeeding phase, increased thrombotic risk in the postpartum period and the woman's lifestyle, especially in women who have low milk production and those in the first two months postpartum. Both combined hormonal contraception and progesterone contraception can be safely used after the first 42 days postpartum²⁴.

CONTRAST SUBSTANCES

Contrary to wrong opinions, radiation does not affect the quality of breast milk or the health of the breastfed baby. In contrast, iodine or gadolinium-based contrast agents may pass into breast milk. It is recommended to stop breastfeeding 24 to 48 hours after exposure of the mother to the contrast substance. The American College of Radiology has shown that intravenous administration of the mother's iodinated X-ray contrast agent will reach infants <0.01%, and in the case of gadolinium contrast agent <0.0004%²⁵.

BREASTFEEDING DURING PREGNANCY

Even in ancient Rome, women were discouraged from breastfeeding if they became pregnant (both medically and culturally), considering that breastfeeding during pregnancy would have harmful effects on women's health²⁶. In current medicine, some physicians claim that breastfeeding during pregnancy leads to maternal malnutrition, slowing fetal growth, premature birth, spontaneous abortion, reduced quality and / or quantity of breast milk, but also slowing the growth of the breastfed baby.

In the literature, there is no evidence to attest the risk of spontaneous abortion, premature birth or intrauterine growth restriction in women in developed countries. In women in developing countries where mother's nutrition may be suboptimal, there is a risk of affecting the composition of postpartum breast milk and the growth of the newborn²⁷.

However, situations with risk of preterm birth such as: previous preterm birth, multiple gestation, intrauterine growth retardation should be considered. On the other hand, the age of the baby should be taken into account, after the age of 6 months most likely the diversification has begun, the feeding being not exclusively by breastfeeding, and also at this age the baby may be weaned.

BREAST CANCER BEFORE PREGNANCY

Earlier breast cancer is not a contraindication to breastfeeding, instead it may be an impediment due to the modified anatomy of the mammary gland and the impact on the aesthetic aspect of the body, making breastfeeding more difficult and shorter breastfeeding duration^{28,29}.

It is considered that giving birth and breastfeeding would increase the protection against breast cancer, the risk of developing breast cancer decreases by 4.3% for every 12 months of breastfeeding and in the case of each birth it decreases by 7%^{30,31}. Lambertini et al. they did not find differences in the survival of breast cancer in the women who subsequently gave birth in comparison to those who did not give birth³².

BREAST AUGMENTATION AND REDUCTION MAMMOPLASTY

Augmentation mammoplasty is a surgical procedure that increases the size of the breast by introducing breast implants beneath the breast tissue or thoracic muscles³³. This procedure is used for breast reconstruction following breast cancer or to improve the physical appearance. Breastfeeding is not usually contraindicated. Roberts et al. showed a lower breastfeeding rate in 79% of women with breast implants compared to 89% without breast implants and in the first month breastfeeding exclusively to 54% of women with breast implants compared to 80% in women without breast implants³⁴.

Breast reduction is done by removing excess breast fat, glandular tissue and skin. In general, this procedure is only used to improve the appearance and eliminate discomfort in the case of very large breasts. When performing the procedure, certain surgical techniques are used to maintain breastfeeding capacity. It seems that preserving the subarachnoid parenchyma increases the subsequent chances of breastfeeding, when the subarachnoid parenchyma was not kept, only 4% of women were able to breastfeed³⁵. Some studies have shown that women following reduction mammoplasty discontinued exclusive breastfeeding after an average duration of only 5 days and had an exclusively breastfeeding rate at 4 months after birth of 4% compared to control 22%³⁶.

PROLACTINOMA

Prolactinoma (pituitary tumor) is one of the most common causes of excess prolactin leading to hypogonadism, infertility and galactorrhea.

Opinions on the influence of breastfeeding in the case of a pre-existing prolactinoma are divided. A survey of 468 doctors showed that 47% of them would allow unrestricted breastfeeding, 28% would allow breastfeeding only by patients with microprolactinomas and 25% would not recommend breastfeeding at all³⁷.

Dopamine agonists are used in the treatment of hyperprolactinaemia, they improve fertility in 90% of cases and are discontinued once pregnancy is confirmed. Microprolactinomas have a risk of increase during pregnancy of 2-3% and macroprolactinomas of 20-30%³⁸. Breastfeeding does not influence tumor growth but treatment with dopamine agonists should not be resumed during breastfeeding.

HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTION IN THE MOTHER

Until now, it was considered that HIV can be transmitted from the mother not only during pregnancy or during birth but also through breastfeeding. Research has shown that the administration of antiretroviral drugs to mothers and babies can significantly reduce the risk of HIV transmission through breastfeeding^{39,40}. The rate of postnatal transmission of HIV from mother to fetus when the mother is receiving antiretroviral treatment was estimated at 3.5% at 6 months and 4.2% at 12 months^{41,42}. The World Health Organization recommends that the mother should take antiretroviral treatment before birth, by reducing viremia the risk of HIV transmission during labor and birth is low, so it is considered that the mother can safely breastfeed⁴³. Although HIV-positive status is a potential contraindication to breastfeeding, there are medical as well as social reasons to encourage HIV-positive mothers to breastfeed (provided careful monitoring).

CYTOMEGALOVIRUS INFECTION

Pregnant women are cytomegalovirus -positive between 37% and 93.3%, and 50% of mothers produce milk with positive cytomegalovirus⁴⁴. Although human milk contains biological factors that are known to protect against viral infection, inhibition of cytomegalovirus virulence is only partial and mother-to-child transmission is possible.

Lanzieri et al showed that the risk of transmission is higher in the case of fresh breast milk (19%) compared to frozen breast milk (13%)⁴⁵. Another way to significantly reduce the transmission rate is by pasteurizing the milk at 62.5°C for 30 minutes. Because freezing or pasteurization reduces the biological and immunological value of protecting breast milk against necrotizing enterocolitis, these processes cannot be justified.

CONCLUSIONS

The decision of the mother to breastfeed, in some situations, may be a problem that requires a complex approach, being influenced in addition to contraindications of various circumstances, such as cultural characteristics, availability of care and support, as well as the feeling of security and trust in the relationship lactation. Some contraindications that were looked upon with certainty, today can be controversial. The attitude of the attending physician, whether negative or positive, may influence the mother's decision to breastfeed. The need for more research to clarify the current risk-benefit ratio regarding the contraindications to breastfeeding is highlighted.

Compliance with ethics requirements: The authors declare no conflict of interest regarding this article. The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from all the patients included in the study.

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