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RECOMMENDATIONS FOR EFFECTIVE BREASTFEEDING

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Abstract: The benefits of breastfeeding are very well known. However, the prevalence and duration of breastfeeding in Europe does not meet the recommendations of major health organizations. The role of health professionals in initiating and sustaining breastfeeding is critical. In order to be able to support and promote breastfeeding adequately, it is necessary to have appropriate and up-to-date knowledge. The present article sets out the main concepts and recommendations for effective breastfeeding.

Keywords: breastfeeding, benefits, technique, recommendations.

RECOMENDACIONES PARA UNA LACTANCIA MATERNA EFICAZ

Resumen: Los beneficios de la lactancia maternal son ampliamente conocidos. Sin embargo, la prevalencia y duración de la lactancia materna en Europa no alcanza las recomendaciones de las principales organizaciones de salud. El rol de los profesionales de la salud en el inicio y mantenimiento de la lactancia materna es fundamental. Para poder realizar un adecuado apoyo y promoción de la lactancia materna es necesario disponer de unos conocimientos adecuados y actualizados. En este artículo se exponen las principales conceptos y recomendaciones para una lactancia materna eficaz.

Palabras clave: Lactancia maternal, beneficios, técnica, recomendaciones.

RECOMENDAÇÕES PARA UM ALEITAMENTO MATERNO EFICAZ

Resumo: Os benefícios da amamentação são amplamente conhecidos. No entanto, a prevalência e a duração da amamentação na Europa não alcançam as recomendações das principais organizações de saúde. O papel dos profissionais de saúde em iniciar e manter a amamentação é fundamental. Para poder realizar o apoio adequado e promover a amamentação, é necessário ter conhecimento adequado e atualizado. Este artigo apresenta os principais conceitos e recomendações para o aleitamento materno efetivo.

Palavras-chave: Aleitamento materno, benefícios, técnica, recomendações.

INTRODUCTION

Breastfeeding is an excellent and classic example of a bio-cultural phenomenon in humankind, which is fundamental to the health of babies and mothers in both industrialized and developing countries. For this reason, many scientific societies endorse breastfeeding, including the World Health Organization (WHO), UNICEF, and the Spanish Association of Pediatrics (AEP), which, in addition to promoting it, recommend that mothers exclusively breastfeed infants for the first 6 months of life, i.e. without feeding them other foods.

The benefits of breastfeeding are widely known. It has been shown that breastfeeding prevents infectious diseases of the digestive system and of the respiratory system (e.g. asthma, bronchiolitis, allergies...), as well as otitis media, among other diseases, in infants. It has also been shown that breastfed babies gain less weight and are thinner after the first year of life, which may contribute to the reduction of the prevalence of obesity and cardiovascular disease in adulthood; long duration of breastfeeding is associated with lower risk for obesity or being overweight. There are studies which demonstrate that there is a close relationship between the duration of breastfeeding and cognitive development. For instance, motor skills and language development are better in children who had been breastfed, and children whose breastfeeding lasted more than 7 months reach a higher IQ in adulthood.

Similarly, early and prolonged breastfeeding also has benefits for the mother. The suckling of the newborn on the nipple leads to an increase in the production of oxytocin in the mother, a hormone that acts on the uterus, causing it to contract more rapidly and return to its normal size earlier. Oxytocin also facilitates the healing of broken capillaries after the detachment of the placenta, thus decreasing post-partum bleeding, reducing the risk of anemia. Breastfeeding has also been shown to reduce the risk of the occurrence of various infections, as well as reducing their severity if they do occur. During lactation, calcium metabolism accelerates, resulting in the mobilization of bone deposits and increased blood calcium levels, which leads to reduced risk of postmenopausal spinal and hip fractures. The production of breast milk causes an increase in energy consumption, so the reserves of energy are consumed, favoring weight loss, especially around the hips and waist. In addition, it has been observed that there is a lower risk for developing ovarian cancer and up to 4.6% less risk of developing breast cancer before menopause for every 12 months of breastfeeding. Finally, it should be kept in mind that breastfeeding strengthens the bonds between mother and child, thus creating a stronger mother-child bond and increasing the mother's self-esteem and the newborn's perception of security.

However, the prevalence and duration of breastfeeding in many European countries are well below WHO recommendations. European countries do not comply with the policies and recommendations of the Global Strategy for Infant and Young Child Feeding, which were endorsed by European countries during the 55th World Health Assembly in 2002. The targets of the Innocenti Declaration are not met, the training of health professionals is inadequate and incomplete, the Baby-friendly Hospital Initiative is poorly implemented, and the prevalence of breastfeeding at 6 months is very low in all countries.

RECOMMENDATIONS FOR EFFECTIVE BREASTFEEDING

Several studies have identified that mothers' expectations regarding breastfeeding do not live up to reality. To them, breastfeeding is unpredictable and unexpected, and is very different to what they expected, i.e. something easy and natural. These perceptions that mothers have may be motivated by the very promotion of breastfeeding from different spheres, which emphasizes the benefits and advantages of breastfeeding, but does not address with the same intensity the possible difficulties, their duration, and how to deal with them. All of this can cause mothers to feel insecure and unable to introduce and maintain breastfeeding. Moreover, it is usually the mother who decides, on her own, to discontinue breastfeeding, without the help of any professionals to solve the problems that led her to make this decision.

Various studies show that the following are among the different reasons for discontinuing breastfeeding:

- Ignorance/Difficulties on the part of the mother: having the impression that the baby is hungry, believing that she does not produce enough milk, not knowing if the infant is breastfeeding enough, how long it takes for the milk to come in...
- Health issues of the mother or baby: it must be kept in mind that due to lack of knowledge or fear, breastfeeding may also be unreasonably discontinued: due to maternal infection with HBV, HCV, or cytomegalovirus; fever; having to take medications which are compatible with breastfeeding; smoking; alcohol consumption; mastitis; neonatal jaundice; and phenylketonuria in infants, among others.
- Personal causes: work, desire for privacy during feedings, disorganization, and alteration of her role as a woman.
- Aesthetic reasons: drooping breasts.

The following factors have a predominantly negative impact on the introduction and maintenance of breastfeeding: lack of information and support before and after birth for both mother and family; inadequate practices and routines in hospital maternity wards, in primary care, and in other healthcare settings (e.g. using pacifiers and "aid" nursing bottles with breast-milk substitutes...); poor training of professionals and authorities on breastfeeding; poor social and family support for breastfeeding mothers; inappropriate advertising of breast-milk substitutes (both in and outside of health institutions); the social perception of bottle-feeding in presentations for parents and in children's books; distribution of formula samples, teats, and pacifiers in health centers, pharmacies, and stores; lack of support measures for breastfeeding mothers; social myths, and fear of loss of freedom.

The role of health professionals in initiating and sustaining breastfeeding is critical. Health professionals have been shown to play a key role in training women for breastfeeding. Studies show that their support is a key element that can contribute to achieving favorable outcomes in the establishment of breastfeeding. This action cannot be limited only to the transmission of information, to emphasizing the benefits of breastfeeding, or to applying the ten steps to successful breastfeeding by the Baby-friendly Hospital Initiative and other recommendations.

Breastfeeding mothers look to health professionals for practical and emotional support. In terms of practical support, they need information about the normal breastfeeding process and how to solve problems. Mothers find that major difficulties are transient. With emotional support, they seek empathy and acceptance, not judgment. Mothers need health professionals to be patient,

encouraging, and approachable to them, while providing them with individualized information and personalized care.

It is important that health professionals be responsible for training both the mother and the family on the process of breastfeeding, while creating a space of trust where they can resolve any doubts or problems that arise. This training must be offered prior to childbirth, since the first decisions about breastfeeding are made before the baby is born. Breastfeeding should be a desired and rewarding act for the mother. In order to achieve this, we must address the mother's expectations regarding breastfeeding (concerns, doubts, breastfeeding problems with another childbirth, etc.) and respect her decision if she does not want to start breastfeeding or if she wants to discontinue breastfeeding after having started. Once breastfeeding initiates, it is essential to assess a complete feeding in order to see how long the baby suckles and how it separates from the breast by itself.

To assess a feeding, it is necessary to have a breastfeeding observation sheet or form. The breastfeeding observation sheet/form is a tool that helps the maternity professional to assess breastfeeds. Most hospitals have their own breastfeeding observation sheet, especially those accredited by the Baby-friendly Hospital Initiative (or IHAN in the Spanish context, i.e. Iniciativa para la Humanización de la Asistencia al Nacimiento y la Lactancia.)

Now that the importance of promoting breastfeeding and of the support of health professionals for initiating and maintaining breastfeeding has been highlighted, some key aspects that are essential to know and reinforce are presented below. Thus, in order to make these key aspects easier to read, they will be divided into themes, as well as the resources available for seeking further information.

MILK PRODUCTION AND COMPOSITION

- Suckling is the most important mechanism for stimulating milk production, because it increases the levels of prolactin, which is the fundamental hormone for milk production. The sucking of the baby also increases the levels of the hormone oxytocin, which enables the ejection or let-down of milk to the outside of the breast.
- The composition of the milk changes according to the baby's needs and its stage of development. First of all, colostrum is produced:
    - yellowish in color, thick, and low in volume (2-20 ml/feeding), but sufficient to keep the baby well fed.
    - is produced during the first 4 days after childbirth.
    - stimulates the maturation of the digestive system of the baby.
    - favors the discharge of meconium.
- Production of transitional milk does not begin until the placenta is expelled, and this process may take 24-48 hours after childbirth, although it may be extended to 72 hours. While the baby is feeding on colostrum, which is available right from the start, milk coming in may cause the breasts to feel full.
- Breast milk is a changing fluid, able to adapt to the different requirements of the baby. After colostrum, transitional milk appears and, finally, mature or definitive milk. Transitional milk has a higher lactose and fat content, which supplies a higher caloric intake in the initial stage. Transitional milk is produced between 3 and 15 days

postpartum and reaches a volume of 500-700 ml/day. Mature milk is produced after 15 days. The average volume in the first semester is 700-900 ml/day and, in the second semester, 600 ml/day.

- The make-up of the milk changes during the feeding. Two types of milk can be distinguished: the one that is produced at the beginning, called foremilk, and the one that is produced through the repeated sucking of the baby, called hindmilk. The composition and characteristics of the two types are different, and this is why it is important not to limit the time of breastfeeding and that the baby be the one who releases the breast when it is done.
- Foremilk contains more water, is low in fat and rich in lactose, and promotes the hydration and urination of the baby. In contrast, hindmilk is high in fat and helps to increase the baby's weight, stools, and energy levels.

BREASTFEEDING TECHNIQUE

- It is important that, after delivery, the baby be placed on top of its mother, in skin-to-skin contact, and that the baby be allowed to latch on to the breast spontaneously. If it is not possible to do so immediately after birth, it is advisable to do so as soon as possible. Newborns are awake and very active during the first 2-3 hours after birth, and then go on to a phase of sleep and physiological lethargy that can last between 8-12 hours, during which it is difficult to breastfeed it.
- With regard to the frequency of feedings, it is important to bear in mind the importance of "breastfeeding on demand," i.e. breastfeeding according to the needs of the baby and the mother, avoiding schedules and time constraints.
- Although not strictly, at the beginning of lactation, the baby should breastfeed at least 8-12 times a day, despite showing no signs of appetite. It should be noted that there are babies who may show excessive drowsiness, ask for little breastfeeding, and breastfeed less than they need. In these cases, they should be actively breastfed and helped to wake up by gently stimulating them, stripping them, or placing them in skin-to-skin contact, so that they respond to the mother's scent and thus breastfeed spontaneously.
- When the baby is hungry, it performs a series of identifiable early signals. It places its hands on its mouth, opens it, and sticks out its tongue. It also makes sucking sounds and movements. It starts to become restless and to move its limbs, while looking for visual contact with its mother. Crying is a late sign of hunger which also hinders proper breastfeeding. First, the baby must be calmed and then fed.
- In order to perform a proper breastfeeding technique, it is important to hold the breast correctly. It should be held by placing the hand in a "C" or "U" shape, thus providing a better support. It is not advisable to hold the breast in the shape of a clamp, because the position of the nipple is shifted and it makes it difficult for the baby to suckle on the nipple and part of the areola.
- When the baby is correctly positioned, the mother holds her breast with one hand and directs it towards the infant, gently touching its upper lip with her nipple to encourage it to open its mouth.
- Nipple pain from sucking is relatively common in mothers during the first week after delivery. The pain appears along with increased sensitivity in the area in the first few seconds of starting breastfeeding. If it persists or increases, it is no longer considered normal and must be assessed for the cause. Breastfeeding should not cause pain. The most common

cause of nipple pain is usually an improper positioning and latching on of the baby, infection in the nipples and ducts, or nipple vasospasm.

- It is not necessary to wash the breast before or after each feeding. This is unnecessary and even counterproductive, as such continuous cleaning can remove the protective layer provided by the Montgomery glands (small bumps on the areolae.)
- For the position to be correct, the mother and baby must be "belly to belly." The infant should be turned, with its head and shoulders facing its mother's breast. This promotes contact between the baby's eyes and its mother.
- In order for the breastfeeding position to be carried out correctly, the mother places her arm (the one on the opposite side to the breast she is offering) along the baby's back, placing the palm of her hand on its shoulders, and her fingers around its neck, forming a wide "C." This prevents the baby's neck from turning, flexing, or extending during the feeding.
- To achieve a good positioning, the baby should be placed in front of the breast, with its chin stuck to it, and with its lower lips turned outward, covering the nipple and much of the areola.
- Successful breastfeeding depends to a large extent on the positioning and latching on the breast. There is a variety of different positions which can be chosen for breastfeeding, but the comfort of the mother is the priority when it comes to choosing the most appropriate position.
- The feeding will end when the baby is relaxed, satisfied, and lets go of the breast on its own.
- There are times when the baby has finished breastfeeding, but does not let go of the breast. In such cases, one of the easiest ways to make the baby stop sucking is to gently insert the little finger into one of the corners of the baby's mouth and turn it around, so that the baby automatically opens its mouth and lets go of the nipple.
- It is recommended that the baby finish breastfeeding on one breast before offering the other breast. The milk at the end of the feeding is richer in fat, satiates the baby more, and causes less colic. When the baby spontaneously releases the first breast, the same breast should be offered again until the baby rejects it (a sign that it has been emptied), and then the other breast is offered, which the baby will accept if hungry.
- To avoid breast engorgement, it is advisable to start each feeding with the breast from which the baby had not previously sucked or from which the baby had sucked less in the previous feeding.

SIGNS OF ADEQUATE SUCTION

- Regardless of the size and shape of the breast or nipple, what is really important for suckling to be effective is that there is a proper coupling between the baby's mouth and the mother's breast.
- If the baby inserts only the mother's nipple into its mouth, it will not be able to milk the lactiferous sinuses with its tongue, and thus sucking will lose effectiveness because the baby will only benefit from what is aspired. This is why very large nipples can be more problematic than flat ones.
- To find out if the baby is sucking the milk correctly, one can observe the movements of its temples, ears, and jaw. The baby's deglutition can also be heard, moving from vigorous sucking to slower, deeper sucking at regular rhythmic intervals.

RECOMMENDATIONS FOR EFFECTIVE BREASTFEEDING

- Two types of sucking can be distinguished: nutritive and non-nutritive. Nutritive sucking is the one that babies do to feed themselves. It is deep and rhythmic, and lasts for minutes. Non-nutritive sucking is a superficial and fast sucking; it is the one performed in the final stretch of the feeding, and serves the baby to relax rather than to feed, although babies also feed while doing it. Both types of sucking are combined by babies throughout a feeding and serve to obtain all the milk necessary for their nourishment. Both help to stimulate the production of breast milk.
- One of the signs that the baby is not swallowing the milk well is the presence of constant reflux of the milk through its nose. It may indicate that the baby is suffering from gastroesophageal reflux, which occurs when the stomach contents return to the esophagus.
- Sometimes this may be physiological or normal, and can be reduced by breastfeeding the baby in an upright position while straddling the mother's thigh, facilitating belching after the feeding, not moving the baby too much after the feeding and placing it on the left side, raising the head of the crib about 30, or in a hammock or baby seat about 30 or 45, depending on the age of the baby.
- If the baby has reflux problems, it may suffer from a persistent cough during feeding and will arch its back (pull its head back) during or right after feeding, making it difficult for it to swallow milk properly and enjoy a good rest.
- Breathing problems can make feeding difficult, because the baby cannot swallow the milk correctly, and can cause fatigue in the baby. If the baby has an excess of mucus in the nose, nasal irrigation is recommended before feeding.

SIGNS OF ADEQUATE MILK INTAKE

- The amount of milk is sufficient if the baby urinates properly and regularly during the day:
  - When feeding on colostrum, it is normal to wet 1-2 diapers in 24 hours.
  - After the fourth day, at least 4-6 diapers a day.
  - From a month and a half, the frequency will be similar, but the amount will be higher.
- During its first few days of life, the baby's stools are known as meconium. It is a dark-colored, paste-like stool. After its fourth day, meconium should not be present, but transitional stools should (greenish yellow, lumpy stools).
- During feeding, the baby does not keep the same level of activity. First, the baby presents a stage of energetic sucking, which gradually evolves into a more relaxed and deep sucking, with breastfeeding at regular rhythmic intervals.
- At the beginning of lactation, mothers may notice that their breasts feel softer and less full at the end of the feeding compared to the beginning. This is an indicator that the baby is taking in enough milk.
- In the first 3-4 days, all newborns suffer weight loss of up to 10%. From the fifth day on, they should begin to regain the weight lost. The baby's diet is adequate if it regains birth weight in the first two weeks.
- There should be a gradual increase in the baby's weight, which varies according to the week the baby is in. This shows that the baby's development is following its natural course.
- The approximate weight gains of babies are the following:
  - 0-6 weeks: 20 g/day
  - Less than 4 months: 100-200 g/week

  - 4-6 months: 80-150 g/week
  - 6-12 months: 40-80 g/week
- When babies are not well fed, symptoms of dehydration appear, such as weakness and drowsiness; unusual amount and characteristics of urine; fever; dry mouth and tongue; sunken eyes and no tears when crying; and cold hands and feet.

GROWTH CRISES

- These are situations in which the baby feeds more frequently for a few days, milk production increases, and the problem resolves. It is common for these crises to occur at 2 weeks (17-20 days of age), at 6-7 weeks of age, and at 3 months of age:

  - *At 17-20 days of age:* At this point, the baby has regained birth weight, breastfeeding works, and the baby may be regular in terms of the number of feedings. Suddenly, however, the baby only wants to suckle, increases its demand in an exacerbated way, seems to refuse to sleep, and only calms down by suckling. This behavior of the baby baffles the mother, who thinks that she does not produce sufficient milk or that the baby still remains hungry, which is joined by the fact that the mother feels that her breasts are soft. But what the baby is actually doing is increasing the amount of breast milk by multiplying the number of feedings over 3-4 days. Once milk production has increased, the baby will return to feedings which are less frequent.
  - *At 6-7 weeks of age:* The second lactation crisis occurs. The baby needs more milk and thus increases the number of feedings. This increase can modify the behavior of the baby when breastfeeding (it becomes more restless, jerks while suckling, cries when breastfeeding, and arches the back), because the taste of the milk changes significantly and transiently (acquiring a saltier taste) and some babies do not like the change. After about a week, they return to the usual breastfeeding pattern prior to the crisis.
  - *At 3 months of age:* At this point, the baby no longer asks to be breastfed so often, feeds only for few minutes, the feedings are often chaotic and the baby is distracted by anything, cries soon after starting to be breastfed, puts on less weight, makes fewer bowel movements, begins to suck its fingers voraciously, and the mother feels her breasts are soft. The mother attaches all these signs to an insufficient milk production, because her breasts are noticeably very soft and she does no longer notice the milk coming in. However, what actually happens is that the milk production system has changed and the body takes about two minutes to trigger the milk ejection reflex to provide the baby with all the milk it needs, and thus the baby becomes irritated because it has to wait that long. This gives the mother a mistaken feeling of lack of milk or rejection on the part of the baby. To overcome this crisis, it is recommended not to force the baby to suckle, to breastfeed in semi-darkness and in silence while minimizing external stimuli, to breastfeed the baby before it starts to cry, and to be patient.

EARLY USE OF PACIFIERS AND TEATS

- Using teats and pacifiers at the beginning of lactation can impair the entire breastfeeding process due to the differences between the two forms of sucking and

their physical characteristics. Teats cause changes in the baby's breathing, sucking, and oral cavity. In addition, the use of nursing bottles reduces the baby's appetite and, as a result, the number of feedings, which, in turn, causes less stimulation in the production of breast milk.

- It is crucial that the first thing to be inserted into the infant's mouth is the mother's breast, so that the baby learns to suck correctly from the very first moment. For this reason, using teats should be avoided in the first weeks of the baby's life, as they can create confusion when it comes to breastfeeding.
- To prevent the occurrence of cracked nipples, it is advisable to avoid using teats and pacifiers at the beginning of lactation. Their early use produces an inadequate and less effective breast latch, which results in potential wounds.

EARLY INTAKE OF WATER AND SUPPLEMENTS

- It is not necessary to use water and other supplements, such as artificial milk, in babies who are effectively breastfed. On the contrary, this can cause more problems than benefits. For example, it causes the baby's interest in breastfeeding to decrease, as well as a decrease in appetite and, as a result, in the number of feedings as well.
- Artificial milk supplements are related to a delay in milk coming in and a greater difficulty in milk production. Supplements make the baby lose interest in breastfeeding and even reject it.
- The sucking performed by the baby is the greatest stimulus for breast milk production, so the more feedings per day, the greater the mother's production.
- During the first 6 months of life, the baby needs nothing more than its mother's milk to stay healthy and well fed, as it contains all the nutrients it requires for its perfect development at this stage.

USE OF HARMFUL SUBSTANCES DURING BREASTFEEDING

- If foods or drinks with caffeine are consumed in high doses (more than 300 mg per day), the baby may experience episodes of restlessness, irritability, and insomnia. The elimination time in babies can range from 3-4 days.
- The use of regular analgesics, anti-inflammatories, and antibiotics is compatible with breastfeeding. Their use is recommended when the mother needs treatment for infectious and/or painful conditions.
- Alcohol consumption during lactation is contraindicated, since alcohol passes into the milk, can alter its characteristics, and reduce milk production. Total abstinence is usually recommended during the first 3 months of the baby's life. After the first months, if alcohol is consumed, it should be done on a moderate and occasional basis, avoiding drinks with high alcohol content, drinking it always after a feeding, and waiting for 2-3 hours until the next feeding.
- Nicotine passes into breast milk, but not at levels that may be toxic to the baby. However, the stimulating effect of nicotine can cause sleep disturbances in the baby. The most harmful

thing is the smoke that the baby inhales, which makes it more likely to suffer Sudden Infant Death Syndrome (SIDS), as well as respiratory infections, asthma, and otitis. In spite of this, it is never recommended to discontinue breastfeeding, as breast milk protects the infant from infections and partly counteracts the harmful effects of secondhand smoke.

- If the individual is unable to stop smoking, it is recommended to try to reduce the number of cigarettes smoked, to smoke away from the baby, not to smoke for at least 2 hours before breastfeeding, and to do so right after the feeding.

BREAST ENGORGEMENT

- Pathological engorgement occurs if, in addition to the normal process of milk coming in, milk is produced and if, for some reason, this milk accumulates in the ducts and is not drained effectively.
- Engorgement may occur in the first days after delivery, is gradual, and affects both breasts equally. It can last about 10-15 days and, if not treated properly, can lead to mastitis.
- The breasts are sore, swollen, edematous, and tight, and their skin is bright and diffusely red. The nipple is flattened due to the edema and the tightness of the areola, making it difficult for the baby to latch on. The milk does not flow well due to the compression of the ducts, and the lactiferous breasts do not empty well because latching on is difficult. As a result, the baby is left unsatisfied after breastfeeding. Sometimes, engorgement causes a fever with chills and general malaise.
- Most pathological engorgements can be prevented with the following: early onset of breastfeeding; frequent feedings without time restrictions; no supplements, teats, or pacifiers; correct positioning with effective latching on; and an assessment of the first feedings to advise the mother on the most appropriate position.
- It is not recommended to apply heat before the feedings, as heat dilates blood vessels and increases vascular edema.
- Applying dry cold between feedings while avoiding the nipple and areola is an effective way to relieve breast inflammation, but it can also cause the ducts to contract and the milk to flow less well, or it can cause painful ischemia in the nipple due to the vasoconstrictive effect of the cold, so it must be applied with caution.
- Do not use compression bandages on the breasts, as it increases pain and does not decrease inflammation. The mother must be advised to wear a nursing bra with wide straps 24 hours a day.
- Analgesics/NSAIDs may also be recommended for pain and inflammation.
- In the event of peripheral engorgement, a manual massage can be performed to express breast milk using the Marmet technique (manual pumping) before the feeding, just enough to provide relief and feed it in a small cup, syringe, or finger-feeder after the extraction. As there is an inflammatory component, in some cases, mechanical breast pumps may increase the edema of the areola and may not be very effective in removing the accumulated milk.
- The lymphatic drainage or reverse pressure softening technique must be explained and shown to the mother. This technique is done before each feeding and always in the case of the edema having caused such tightness of the areola that the baby cannot latch on well. The mother can check to see if this is the case, because such tightness will prevent her from

being able to sink a finger into it. The aim is for the areola to be completely soft, so that the baby is able to latch on better, suckle properly, and empty the breast.

MASTITIS, DUCT OBSTRUCTION, OR NIPPLE TRAUMA

- Acute mastitis can occur with various symptoms, one of the most common being a set of flu-like symptoms (fever, malaise, nausea, vomiting, and headaches).
- There are also other types of mastitis (subacute and subclinical), which, although they do not present these features, should be assessed because they can affect milk production and cause discomfort in both the mother and the baby.
- The obstruction of a duct occurs as a lump that produces mild redness and localized pain in the area. The main causes are inadequate emptying of the breast due to the use of very tight bras, breastfeeding always in the same position, holding the breast with fingers in the shape of a scissor, poor latching on of the baby, infrequent feedings, or trauma to the breast (cracks or milk blisters).
- High fever, 38.5° or higher, occurs in acute mastitis. In obstruction, as well as in subacute and subclinical mastitis, there is no fever, which is why in many cases they are not diagnosed.
- Subacute mastitis is the most frequent type, which presents as intense pain similar to a puncture or cramp in the nipple area. There is an indurated area in the breast, but no redness.
- In subclinical mastitis there is a sensation of decreased milk production.
- In these cases, it is recommended not to apply heat, as it boosts bacterial growth and may worsen the symptoms. The area must be massaged for a few minutes towards the nipple and the baby must be placed with its chin towards the affected quadrant of the breast.
- The mother must be advised to wear a nursing bra with wide straps 24 hours a day.
- Avoid using nursing pads or spreading a drop of milk on the nipple while the infection is not controlled.
- Analgesics/NSAIDs may also be recommended for pain and inflammation.
- Breastfeeding must not be discontinued, as it would aggravate the problem. Treatment consists of draining the retained milk after breastfeeding by pumping it mechanically or by expressing it manually (although it is not always easy to express milk from a breast with mastitis). The baby is not at risk for infection from breast milk. The milk turns a little saltier in the affected breast and some babies reject it due to its taste.
- In cases of subacute and subclinical mastitis, treatment with specific probiotics for lactation contributes to the balance of the physiological flora of the mammary gland for several weeks. If treatment with probiotics is not effective, an antibiotic can be used after conducting an antimicrobial susceptibility profiling of the breast milk.

OCCURRENCE OF NIPPLE CRACKS

- The occurrence of cracks in the nipples must be avoided, as this is an important cause for discontinuing breastfeeding due to the pain they generate. Cracks do not heal on their own and must always be assessed to prevent them from worsening and cause infection, engorgement, and mastitis.

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- The main causes for nipple cracks are the following: performing an incorrect technique, where the baby does not latch on to part of the areola; the baby has short lingual frenulum; using pacifiers and teats; and excessive cleaning.
- At the end of the feeding, the nipple should be elongated, but not deformed or with symptoms of compression. These changes are usually related to a poor latching of the baby on to the nipple.
- In the event of nipple cracks or trauma, physical examination may show erosions or bleeding lesions. To avoid this situation, it is advisable for the baby to be well latched on to the nipple and areola, and for the mother to take different positions at each feed or even during each feed.
- It must be recommended to start each feeding with the breast that feels less sore. It is necessary to explain and show the mother the biological nurturing position to obtain pain relief or other positions until the mother finds the one that is less painful. Analgesics may be recommended for pain.
- In cases of suspected infection, milk should not be applied to the nipple and areola after feeding, as this may worsen the problem.
- If the lesion is bleeding, the use of pure lanolin creams or vitamin E oils is contraindicated, as is the use of nursing pads.
- It is recommended to take specific probiotics for lactation, which contribute to the balance of the physiological flora of the mammary gland, and thus speed up healing for several weeks.
- If necessary (due to unbearable pain during breastfeeding or due to weight loss), breast milk should be expressed and fed in a small cup, syringe, or finger-feeder.
- In these cases, it is important to monitor the baby's weight, as ineffective breastfeeding may occur.

BREAST MILK EXTRACTION AND MAINTENANCE

When expressing breast milk, it is first recommended to find a comfortable and peaceful environment close to the baby, to wash your hands before starting, and then massage the breast for a few minutes. This stimulates the milk ejection reflex or milk let-down, since it produces an effect similar to the one originated by the suckling of the baby.
The extraction can be performed 30 minutes after the feeding, in the morning before the first feeding, between feedings if the breasts feel full and uncomfortable, or, if the baby is feeding on one breast only, milk can be expressed from the other breast at the same time.
Colostrum can be stored for 12-14 hours at room temperature without refrigeration.

Expressed breast milk can be preserved:

- At room temperature: about 8 hours maximum (with temperatures between 22-25º).
- In the fridge: 3-5 days.
- In the freezer of a fridge-freezer: 3 to 4 months.
- In a standalone freezer: 6 months.

RECOMMENDATIONS FOR EFFECTIVE BREASTFEEDING

To avoid contamination, breast milk should be stored in food-safe containers. They can be made of hard plastic or glass (with a secure seal). There are also pre-sterilized bags specifically for storing breast milk.

Breast milk should be thawed in the refrigerator, where the temperature change takes place in a staggered manner. To keep the vitamins and minerals in breast milk, it should never be defrosted using the microwave, heated on a stove, or allowed to boil.

WEBSITES OF INTEREST

- **La Leche League International:** https://www.llli.org/
- **International Breastfeeding Centre:** https://ibconline.ca/
- **The Baby-friendly Hospital Initiative in Spain (IHAN, Iniciativa para la Humanización de la Asistencia al Nacimiento y la Lactancia):** https://www.ihan.es/
- **Drug products and breastfeeding:** http://www.e-lactancia.org/
- **The "Alba Lactancia Materna" association:** http://albalactanciamaterna.org/
- **Spanish Association of Pediatrics:** https://www.aeped.es/

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The two main orientations of the RINSAD magazine are:

a) Researchers related to childhood and health.
b) Professionals in the sector.

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