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Abstract

Milk expression is a normal part of breastfeeding, but in developed countries in particular, the focus tends to center on mechanical expression. In Russia, there is a long tradition of hands-on techniques that continues in the present day and includes mothers turning to providers trained in hand expression and breast massage techniques to resolve breastfeeding complications including engorgement, plugged ducts, and mastitis. As observed over the course of several trips to Russia, Russian clinicians routinely combine hand expression with breast massage for the treatment of milk stasis, engorgement, and plugged ducts. A better understanding of these hands-on techniques to assist in resolution of complications may provide additional treatment options for the lactation community.

Keywords

breastfeeding, breast massage, engorgement, manual expression, mastitis, plugged duct, Russia

Background

Milk expression is common in Western countries.^{1,2} In the United States Infant Feeding Practices Survey II, 85% of mothers with infants less than 4.5 months old reported breast milk expression at some time during their breastfeeding experience.² Common reasons for milk expression included a need to store breast milk, separation from the infant, and low milk production.

Mothers also turn to milk removal to help with breastfeeding complications or problems. Clemons and Amir noted that 51% of women cited “too much milk/engorged breasts,” 27.9% cited sore nipples or breast pain, and 26% cited mastitis as reasons to express milk.¹ Although milk removal is often recommended for prevention and treatment of breastfeeding complications such as engorgement, plugged ducts, and mastitis,^{3,4} research in the English language on treatment details^{5–10} and specific techniques^{5–10} remains limited.

Expression and Massage Techniques from the Russian Community

There was a significant increase in women in the work force across the USSR, including Russia, during the early 20th century. By the 1930s, approximately 50% of women were working.^{11,12} Working women were expected to return to

work shortly after giving birth, and strictly scheduled feeding became the norm.¹³ Infants were often placed in child care facilities at a few weeks of age, which further reinforced scheduled feedings.¹⁴ Routine advice from medical professionals included the mother resting at night, without breastfeeding, followed by timed feeding throughout the day. To help protect their milk production, mothers were advised to hand express until empty after each feeding. Hand expression gained popularity around this time, and midwives became skilled with the technique of hand expression and breast massage to alleviate breast discomfort and treat complications such as mastitis and plugged ducts.¹⁴ Though the regimen of scheduled feeds followed by hand expression is not routinely implemented in Russia today, hand expression still plays a vital role in regular lactation

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care, especially in the treatment and management of engorgement, mastitis, and plugged ducts.

The purpose of this article is to describe manual expression and massage techniques developed within the Russian breastfeeding community so that this knowledge can be leveraged by the health care community.

Setting

Manual expression and massage techniques were recorded from interactions with the Russian breastfeeding community during the course of 3 trips to Russia in September 2009, October 2010, and April 2012. During these visits, information, photos, and video recordings were gathered from multiple health care providers, lactation consultants, and mothers. Data collection focused on 2 private practices, 1 physician and 1 lactation consultant that routinely use breast massage for the treatment of breastfeeding difficulties. Institutional Review Board exemption was granted by University Hospitals Case Medical Center. Written consent was obtained for the photographs.

Overview

Although there is no standard Russian massage technique, there are common general techniques that typically combine massage and hand expression. All techniques are adapted to the patient's breasts and specific situation (ie, engorgement, plugged ducts, low milk supply). An experienced consultant assesses the breast and uses the appropriate technique for each particular case after taking the mother's history for the specifics of pain, discomfort, milk supply, and latching difficulties. Assessment starts with feeling the breasts with the fingers and examining for areas of swelling and pain.

Breast Massage Techniques

The general goals of massage include improved circulation of blood and facilitation of lymph drainage resulting in the reduction of swelling in the tissue.¹⁵ Breast massage performed during consults includes techniques using both hands to massage all around the breast. A common approach includes rolling the breast between both hands (Figure 1) or using the backs of fists as if gently kneading. The massage is often in a rhythmic motion. It can include general circular motions and gentle vibratory hand motions on the breast. Alternatively, both hands can be placed together around the areola and then slid toward the base of the breast with or without a gentle rotation of the breasts: to the right and back, and then repeated to the left and back. Another common technique is fingertip massage, also described as "dancing fingers." This technique is done by placing the finger tips over the affected area and moving them in high frequency, repetitive, up and down motions. Another fingertip approach is gentle vibration with the fingers placed over the affected

Figure 1. Massage with Hand Rolling



Figure 2. Hand Expression



area and oscillated back and forth. A similar effect is achieved by using the whole palm in the same vibrating motion.

If the breasts are swollen, as in engorgement and mastitis, massage is often combined with steps facilitating fluid mobilization.¹⁶ The mother is reclined. Gentle stroking hand motions across the breast are performed, starting at the areola and directed toward the axillae. Clinicians speculate that this practice promotes fluid drainage through the axillary lymph nodes, where 75% of the lymphatic drainage for the breast occurs.⁵

Basic Hand Expression Technique

The fingers are positioned on both sides of the nipple. The fingers are gently brought together behind the base of the nipple, feeling for a "stem of tissue fullness," and moved

Figure 3. Engorged Breast with Fingers Placed for Massage Alternating with Hand Expression



forward in a rolling motion toward the nipple (Figure 2). Milk flow is evaluated and finger placement adjusted based on response. The hand placement is closer to the nipple, often within the areola, when compared to other techniques (Figure 2),¹⁰ with less focus placed on firm pressure backward toward the chest wall,⁵ and more focus placed on gentle compression and rolling the fingers together and forward directly behind the nipple base.

Hand Expression and Massage Combined

Massage and hand expression are routinely combined for milk removal. To facilitate milk removal, a patterned approach may be beneficial. One approach includes starting with 20-30 seconds of pulsating fingertip movements over the breast, followed by hand expressing 2 or 3 times, then alternating with general massage of the breast 2 or 3 times. Once the milk is flowing, hand expression (3-5 times) is used more frequently than overall massage motions (1 or 2 times). Although breast massage and hand expression are used for general milk removal if the mother is separated from the infant, it is common within the Russian breastfeeding community for practitioners to use these techniques for the treatment of breastfeeding difficulties. Two common conditions are engorgement and plugged ducts or mastitis.

Engorgement

After having the mother recline, engorgement treatment starts with fingertip massage within the areola to reduce swelling and facilitate infant latch. To soften the areola, alternating fingertip massage of the areola with reverse

Figure 4. Engorged Breast with Areola Hand Expression



pressure softening⁹ and general breast massage encourages drainage (Figures 3 and 4) of fluid toward the axillae. As the massage helps reduce swelling and the breasts are softened, it is alternated with hand expression to facilitate drainage and resolution of milk stasis. Once the areola is softened, the baby can latch and nurse while stroking massage or pulsing fingertip massage continues on the opposite breast. Although symptom relief begins in 15 to 30 minutes, in Russia engorgement treatment commonly takes 1 to 1.5 hours.

Plugged Ducts and Mastitis

The same general methods are used for women with plugged ducts and mastitis, but the treatment is targeted to a specific area after ruling out concern for an abscess. Although massage and hand expression (Figure 2) are alternated and repeated as previously described, it is also common to use a third finger technique. This technique uses fingers from the hand not performing hand expression. The finger provides gentle but firm pressure moving around the edges of the plug to assist in its release (Figure 5). The baby can also feed and assist with milk removal during and after massage is performed.

Conclusion

Although Russia is not alone in the use of hands-on techniques during breastfeeding, the techniques described here provide a different focus from the detailed techniques reported

Figure 5. Hand Expression with Massage of Plugged Duct and Assistance of Fingers from the Opposite Hand



in the US literature.^{6,9,10,17} Russian clinicians routinely combine hand expression and breast massage for the treatment of breastfeeding problems associated with milk stasis (ie, engorgement, plugged ducts, and mastitis).

In Russia, the techniques described provide a simple, readily accessible method that can be easily taught to mothers and lactation consultants. Two main principles include (1) encouraging mobilization of fluid with massage toward the axillae to facilitate lymph circulation and (2) alternating massage and hand expression to facilitate milk removal. The modern era has provided women in the developed world with many mechanical and medicinal interventions to aid in lactation and breast care. By describing hands-on techniques used in Russia, we aim to increase further the knowledge and resources available to the lactation consultant community for relieving discomfort caused by engorgement, plugged ducts, and mastitis in lactating women.

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