

Which interventions are best for alleviating nipple pain in nursing mothers?

Jennifer E. Lochner, MD
Catherine J. Livingston, MD

Oregon Health & Science University, Portland

Dolores Z. Judkins, MLS

Oregon Health & Science University, Portland

EVIDENCE-BASED ANSWER

THE BEST INTERVENTION IS EDUCATION on proper positioning and attachment of the infant (strength of recommendation [SOR]: **A**, a systematic review of randomized controlled trials [RCTs]). No single topical preparation has been consistently demonstrated to be superior to others for relieving nipple pain (SOR: **B**, inconsistent RCTs).

Topical agents that show some evidence of benefit include expressed breast milk, lanolin, warm water compresses, tea bag compresses, hydrogel dressings, a chlorhexidinealcohol spray, and a polyethylene film dressing (SOR: **B**, inconsistent RCTs). Several studies found these interventions to be equivalent to basic breast care, including keeping the nipple clean and dry (SOR: **B**, RCTs).

One type of glycerin-based hydrogel dressing was associated with an increased incidence of breast infections (SOR: **B**, inconsistent RCTs).

■ EVIDENCE SUMMARY

Nipple pain during the first week of breastfeeding is common. Some studies report a prevalence as high as 96%.¹ Because nipple pain has been identified as an important factor in a woman's decision to discontinue breastfeeding, preventing or treating it is important not only to increase individual women's comfort but also to promote breastfeeding generally.

We identified 2 systematic reviews and 3 additional RCTs of interventions to treat or prevent nipple pain. Most studies included women serving as their own control, randomizing 1 breast to intervention and the other to control treatment. The remainder of the studies randomized women to either the intervention or control group. Major limitations of the studies included their generally small size and lack of blinding of participants to their treatment group. In only 1 study

FAST TRACK

Education on proper positioning and attachment of the infant is the best intervention for nipple pain.

were the participants blinded.^{1,2}

Women who receive education have less pain

Two studies of educational sessions, 1 antenatal (N=75) and 1 immediately postnatal (N=160), reported less nipple pain in the intervention groups (number needed to treat [NNT]=1.6 and 5.6, respectively). The antenatal education study demonstrated higher continuation of breastfeeding at 6 weeks postpartum in the intervention group (NNT=4.5), whereas the postnatal study showed no significant difference in continuation of breastfeeding in the intervention group at 6 weeks, 3 months, and 6 months.¹

No one topical agent is superior

No single topical agent emerged as clearly superior to others for preventing or treating nipple pain. Warm water compresses have the most data to support their use: 2 trials showed superiority to other agents or no treatment, 3 trials demonstrated equivalence to other agents or no treatment, and no trial showed inferiority to other agents.

FAST TRACK

Of all the topical agents, warm water compresses have the most data to support their use.

Chlorhexidine spray was superior to a distilled water spray in 1 small RCT, the only double-blind study identified. A polyethylene film dressing decreased nipple pain in a single trial, but most women found it uncomfortable to remove.

Hydrogel dressing associated with infection

The only topical agent found to have any detrimental effect was a glycerin-based hydrogel dressing that was associated with an increased incidence of breast infections.¹ The **TABLE** summarizes results of trials of topical agents for the treatment or prevention of nipple pain.^{1,3,4}

Breast shields were ineffective in 1 RCT.¹ In another RCT performed in Sweden, women who received peripartum care in a birthing center had more nipple pain than women who delivered in a traditional hospital setting (NNT=16).⁵

How topical agents compare for treating or preventing nipple pain

Agent*	Positive results	Equivalent results	Negative results
Expressed mother's milk (EMM)	Superior to lanolin ³	Equivalent to warm water compresses and keeping nipples dry and clean ¹ Equivalent to tea bag compress ¹	Inferior to warm water compress ¹

		Equivalent to lanolin ¹ Equivalent to lanolin, warm water compress, and no treatment ¹ Equivalent to no treatment ³	
Lanolin	Superior to hydrogel dressing ¹	Equivalent to Emm ¹ Equivalent to warm water compress, Emm, and no treatment ¹ Equivalent to tea bag compress and no treatment ¹ Equivalent to no treatment ¹ Equivalent to hydrogel dressing and no treatment ⁴	Inferior to hydrogel dressing ¹ Inferior to Emm and no treatment ³
Hydrogel dressing	Superior to lanolin ¹	Equivalent to lanolin and no treatment ⁴	Inferior to lanolin, associated with an increased rate of breast infections ¹
Tea bag compress	Superior to no treatment ¹	Equivalent to Emm ¹ Equivalent to warm water compress ¹ Equivalent to lanolin and no treatment ¹	Inferior to warm water compress ¹
Warm water compress	Superior to tea bag compress and Emm ¹ Superior to no treatment ¹	Equivalent to Emm and keeping nipples dry and clean ¹ Equivalent to tea bag compress ¹ Equivalent to lanolin, Emm, and no treatment ¹	
Chlorhexidine spray	Superior to distilled water spray ¹		
Polyethylene film dressing	Superior to no treatment ¹		
*comparison treatments may appear more than once, based on results of studies found in the systematic review			

■ RECOMMENDATIONS

The International Lactation Consultant Association states that nipple pain is often the result of ineffective positioning and latch.⁶ The group recommends anticipatory guidance to prevent nipple pain. Additionally, a thorough clinical assessment of the nipple is indicated to rule out other causes, such as bacterial or fungal infection.

REFERENCES

1. Morland-Schultz K, Hill PD. Prevention of and therapies for nipple pain: a systematic review. *J Obstet Gynecol Neonatal Nurs*. 2005;34:428–437.
2. Page T, Lockwood C, Guest K. Management of nipple pain and/or trauma associated with breastfeeding: a systematic review. *JBI Rep*. 2003;1:127–147.
3. Mohammadzadeh A, Farhat A, Esmaeily H. The effect of breast milk and lanolin on sore nipples. *Saudi Med J*. 2005;26:1231–1234.
4. Cadwell K, Turner-Maffeï C, Blair A, et al. Pain reduction and treatment of sore nipples in nursing mothers. *J Perinat Educ*. 2004;13:29–35.
5. Waldenstrom U, Nilsson CA. No effect of birth centre care on either duration or experience of breastfeeding, but more complications: findings from a randomised controlled trial. *Midwifery*. 1994;10:8–17.
6. International Lactation Consultant Association. *Clinical Guidelines for the Establishment of Exclusive Breastfeeding*. Raleigh, NC: International Lactation Consultant Association; 2005. Available at: www.guideline.gov/summary/summary.aspx?doc_id=7662. Accessed July 5, 2009.