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[Intervention Review]

Interventions for treating painful nipples among breastfeeding women

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ABSTRACT

Background

Leading health authorities all recommend exclusive breastfeeding to six months' postpartum. While most women initiate breastfeeding, many discontinue due to difficulties encountered rather than maternal choice. One common breastfeeding difficulty is painful nipples. Research has identified poor infant positioning or latch as a common cause of painful nipples. While many different interventions designed to reduce nipple pain in breastfeeding women have been evaluated, it is unclear which intervention is the most effective treatment. An understanding of nipple pain and treatment options are needed to improve breastfeeding duration and exclusivity rates and to address systematically one of the most frequent difficulties encountered by breastfeeding women.

Objectives

To assess the effects of all interventions in the resolution or reduction of nipple pain and the impact of the interventions on other outcomes such as nipple trauma, nipple infections, breast mastitis, breastfeeding duration, breastfeeding exclusivity, and maternal satisfaction.

Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 September 2014) and scanned secondary references.

Selection criteria

All randomised or quasi-randomised controlled trials designed to evaluate any intervention for treating nipple pain among breastfeeding women. Trials using a cluster-randomised design were eligible for inclusion. Cross-over trials were not eligible for inclusion. The following interventions were eligible for inclusion compared with each other or usual care (i.e. education only): pharmacological (e.g. antifungal creams); non-pharmacological topical treatments (e.g. lanolin); dressings (e.g. hydrogel dressings); nipple protection devices (e.g. breast shells), phototherapy, and expressed breast milk. Nipple pain in women who are feeding with expressed breast milk (i.e. women of infants in neonatal units) is associated with other methods of removing milk from the mother's breast such as manual expression and various types of breast pumps. Nipple pain and subsequent treatment is different in this unique maternal population and thus we excluded women solely feeding with expressed breast milk from this review.

Data collection and analysis

Two review authors independently assessed trials for inclusion, extracted data, evaluated methodological quality, and checked data for accuracy. We sought additional information from several trial researchers.

Main results

We included four trials of good methodological quality involving 656 women in the review. The four included trials evaluated five different interventions including glycerine pads, lanolin with breast shells, lanolin alone, expressed breast milk, and an all-purpose nipple ointment.

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All studies included education to position the infant at the breast correctly as part of routine postpartum care to both treatment and control groups.

Pooled data existed only for the comparison of lanolin versus usual care. We did not pool data for other outcomes due to either heterogeneity in outcome measures or differing interventions.

There was no evidence that glycerine gel dressings or breast shells with lanolin significantly improved nipple pain. One trial found no clear differences in nipple pain (at one to three days, four to five days, or six to seven days' post-treatment) between women who applied lanolin or nothing to their nipples. In contrast, the same trial found that women who applied expressed breast milk had significantly lower perceptions of nipple pain following four to five days of treatment than women who applied lanolin. However, this beneficial effect was not maintained after six to seven days of treatment. There were no group differences in nipple pain perceptions at any assessment between women who applied expressed breast milk and women who applied nothing. Women who applied an "all-purpose nipple ointment", in comparison to women who applied lanolin, had no improvement in nipple pain after seven days of treatment. There was insufficient evidence that glycerine gel dressings, lanolin with breast shells, lanolin alone, expressed breast milk, or all-purpose nipple ointment improved maternal perceptions of nipple pain.

Overall, there was insufficient evidence to recommend any intervention for the treatment of nipple pain. However, one important finding was that regardless of the treatment used, for most women nipple pain reduced to mild levels after approximately seven to 10 days' postpartum. The provision of anticipatory guidance regarding usual time to pain reduction may be a useful strategy in assisting women to continue to breastfeed and to do so exclusively. The overall quality of the evidence for the primary outcome of nipple pain as assessed using GRADE was of low quality, mainly because single studies with few participants contributed data for analysis.

Authors' conclusions

There was insufficient evidence that glycerine gel dressings, breast shells with lanolin, lanolin alone, or the all-purpose nipple ointment significantly improved maternal perceptions of nipple pain. The results from these four trials of good methodological quality suggested that applying nothing or just expressed breast milk may be equally or more beneficial in the short-term experience of nipple pain than the application of an ointment such as lanolin.

The quality of the evidence for this review did not lead to robust conclusions regarding the objectives assessed. We included only four trials, incorporating 656 women, in the review and all four trials compared varying interventions, participants, study outcome measures, and standards of usual care. The methodological quality of the included studies was good but the overall quality of the evidence for the primary outcome of nipple pain was of low quality, mainly because single studies with few participants contributed data for analysis.

PLAIN LANGUAGE SUMMARY

Interventions for treating painful nipples among breastfeeding women

Background

Although the health benefits of breastfeeding are well established, many women discontinue breastfeeding within the first few weeks after birth. One common reason to discontinue breastfeeding is painful nipples.

Study characteristics

We searched the Cochrane Pregnancy and Childbirth Group's Trials database for clinical trials assessing methods (interventions) of improving nipple pain among breastfeeding women in September 2014. We also looked at healing and infection of nipples, length of breastfeeding, if infants only received breast milk, and if mothers were happy with treatment for nipple problems and breastfeeding in general. Interventions included drug treatments (against bacteria given by mouth, spray, ointment; against fungal infections), non-drug treatments (lanolin, petroleum jelly, peppermint oil, glycerine), dressings, nipple protectors (breast shields or shells), light treatment, or applying expressed breast milk. Interventions were compared with each other or usual care (control).

Key results

We found four trials of good methodological quality involving 656 women, which evaluated five different interventions including glycerine pads, lanolin with breast shells, lanolin alone, expressed breast milk, and an all-purpose nipple ointment. All studies included education to position the infant at the breast correctly as part of routine care to both intervention and control groups.

Currently, there is not enough evidence to recommend any specific type of treatment for painful nipples among breastfeeding women. These results suggest that applying nothing or expressed breast milk may be equally or more beneficial in the short-term experience of nipple pain than the application of an ointment such as lanolin. One important finding in this review was that regardless of the treatment used, for most women, nipple pain reduced to mild levels approximately seven to 10 days' after giving birth (postpartum).

Quality of the evidence

The quality of the evidence for this review did not allow robust conclusions regarding treating nipple pain. We found only four small trials and all four trials compared varying interventions, participants, what was measured, and standards of usual care. While the methodological quality of the included studies was good, the overall quality of the evidence for the primary outcome of nipple pain was of low quality, mainly due to single studies with few participants contributed data for analysis.