

## Correspondence

### The effect of breast milk and lanolin on sore nipples

*To the Editor*

I read with great interest the article by Ashraf Mohammadzadeh et al,<sup>1</sup> entitled "The Effect of Breast Milk and Lanolin on Sore Nipples." Sore nipples remain the major reason for failure to establish a successful breastfeeding relationship.<sup>2</sup> It would be unfortunate indeed if the conclusion that these authors reached were adapted as a standard of care for breastfeeding mothers. Following the study's suggested protocol would no doubt result in many women failing to get the proper treatment they deserve for the common, but painful condition of sore nipples. The stated objective of the study was to compare the effect of breast milk versus lanolin in the treatment of sore nipples. The conclusion was that breast milk was more effective for sore nipple treatment compared to lanolin. While there are many elements of the study design that warrant further discussion, I would like to point out the most egregious; namely, 1. The local treatment used in the study, and 2. The instructions for usage of the local treatment in this study. In the first instance, Lanolin was not used in the study at all, but rather a material that is properly identified by the US Pharmacopeia and other pharmacopoeias around the world as hydrous lanolin. The products are quite different. Hydrous lanolin, is lanolin which has had 25-30% water added to make an emulsion. Typically, hydrous lanolin is made from a standard refinement of lanolin, and added chemicals may be required to keep the emulsion stable and preserved because of the addition of water. Lanolin is the proper nomenclature when referring to the naturally occurring form of lanolin, which is anhydrous. There are many different refinements of lanolin ranging from standard lanolin to highly purified anhydrous (HP A) lanolin. Highly purified anhydrous lanolin was created especially for breastfeeding mothers and has been refined to remove environmental impurities and allergenic components. It is widely recommended in the treatment of sore nipples and does not have to be removed before breastfeeding because of its level of purity. Standard hydrous lanolin is contraindicated for use by breastfeeding mothers because it contains impurities and must be removed prior to breastfeeding, thus causing further damage to already traumatized nipples. The study reports that "babies were fed on demand with exclusive breastfeeding" and that the

women in the breast milk group were instructed to apply breast milk after each feeding. The mothers using hydrous lanolin were instructed to use it only 3 times a day. In effect, the group using breast milk was treated 4 times more often than the hydrous lanolin group since the average newborn nurses 12-15 times a day. Additionally, the women using the local treatment (hydrous lanolin) were instructed to wash their nipple 3 times a day, which surely would have resulted in nipple trauma secondary to washing off the local agent. The other groups were not instructed to wash their nipples thereby avoiding further damage to delicate tissue. It is not surprising, therefore, that the women who were treated 4 times more often and did not incur further trauma by washing their nipples 3 times a day experienced quicker healing. However, the authors have put forth an erroneous conclusion when they state that breast milk is superior to lanolin in the treatment of sore and fissured nipples. It would be regrettable if this paper influenced the thinking of health care professionals relative to the use of all lanolin as to do so would be to withhold a safe, effective treatment. It is reasonable to believe that if HP A lanolin, which does not have to be removed, had been used appropriately after each feeding, the outcome would have been different. When HP A lanolin, which is the only lanolin that should be administered to breastfeeding women, is used for the treatment of sore nipples it is recommended that it be applied after each feeding. This continued application is necessary in order to create a moist healing environment. For some women, the application of their own breast milk may be all that is needed. For others, however, especially those who are suffering from skin fissures, additional treatment is indicated in order to insure the relief that will allow them to relax, establish, and maintain a successful breastfeeding relationship. Highly purified anhydrous lanolin, sometimes referred to as modified lanolin, has been available to breastfeeding mothers for a number of years and it would be a true disservice to withhold its use because of confusion created by the conclusions of this study with no allowance for the difference in standard hydrous lanolin and HP A lanolin and their respective appropriate use.

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### *Reply from the Author*

First, we highly appreciate the comments on our paper. The results that we obtained were related to the structure of study, others may undertake a study with another structure and obtain different results. Lanolin is available in different forms, manufactured by different companies available on the market. In our study, we used Lanolin made by Croda under the brand name of Lanolin USP. Using this type of lanolin, we found that it does not have more effect than breast milk on sore nipples and based on our study, concluded that breast milk is more effective. We did not rule out the effect of lanolin, and we

advocate future comparative studies on breast milk with other types of lanolin.

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### *References*

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2. Breastfeeding and the Use of Human Milk. *Pediatrics* 2005; 115: 496-506. Available from URL: <http://www.aap.org/obesity/FamPolicy.htm>