



World Alliance for
Breastfeeding Action

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World Alliance for Breastfeeding Action (WABA)

Position Paper on Breast Pumps and Other Devices

Introduction

Breastfeeding, especially exclusive breastfeeding, is vital for maintaining and increasing child survival worldwide, providing babies with food, care, and immunological protection tailored to their environment¹. Breastfeeding, defined as feeding directly from the breast, is more than “breast-milk feeding” which includes the use of expressed breastmilk. Suckling releases hormones in the breastfeeding parent which enhances her emotional response to the child and regulates milk supply. Babies have skin-to-skin contact with their breastfeeding parent many times a day, which calms and stabilizes them physiologically. The transfer to the baby of microorganisms from the breastfeeding parent’s skin and milk builds up a healthy microbiome in the baby and stimulates the development of the baby’s immune system. Antibodies from the breastfeeding parent are secreted in breastmilk and protect the baby against infection. Microorganisms in the baby’s mouth can transfer to the breast and they also stimulate the production of antibodies that pass to the baby through breastmilk. All these factors are vital for a child’s health and neurological and psychological development.

WABA recognises that many breastfeeding parents use various devices to help feed or comfort the baby, particularly feeding bottles and teats, nipple shields, breast pumps, and pacifiers. However, WABA is concerned that these devices are often used unnecessarily and can interfere with feeding directly from the breast or cause hygienic problems leading to infection. If made of plastic, they may expose the infant to the risk of ingesting PVC particles.

Mechanical devices may be useful when a breastfeeding parent and baby are unavoidably separated for any length of time; when the physical health of a breastfeeding parent is compromised and direct breastfeeding carries a risk or is temporarily not possible; when a baby is premature or ill or has oral malformation; when a breastfeeding parent or baby has difficulties as a result of mismanagement of breastfeeding; when a breastfeeding parent’s work allows insufficient maternity protection; or if she is unable to express her milk by hand.

¹ Victora, C. G., Bahl, R., Barros, A. J., França, G. V., Horton, S., Krasevec, J., Murch, S., Sankar, M. J., Walker, N., Rollins, N. C., & Lancet Breastfeeding Series Group (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet* (London, England), 387(10017), 475–490.

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World Alliance for Breastfeeding Action (WABA) is a global network of individuals and organisations dedicated to the protection, promotion and support of breastfeeding worldwide based on the Innocenti Declarations, the Ten Links for Nurturing the Future and the WHO/UNICEF Global Strategy for Infant and Young Child Feeding. WABA is in consultative status with UNICEF and an NGO in Special Consultative Status with the Economic and Social Council of the United Nations (ECOSOC). WABA coordinates the annual World Breastfeeding Week campaign.

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Device-specific concerns

Feeding bottles and teats²

Feeding a baby with a bottle and artificial teat can interfere with the baby's suckling and result in difficulties or refusal to feed at the breast and premature cessation of breastfeeding. It can adversely affect the development of muscles around the baby's mouth, increase the risk of middle ear and gastrointestinal infections, and cause dental malocclusion³. If supplementary feeds are medically necessary, use of cups or spoons, or a breastfeeding supplementer are preferable. For premature and sick babies, tube feeding may be needed.

Soft nipple shields

Inappropriate or long-term use may interfere with a baby's ability to attach directly to the breast or to remove milk effectively. Nipple shields may be clinically indicated and helpful in some situations such as with damaged or flat nipples if used for a short time. Every effort should be made to establish direct breastfeeding with skilled help attaching the baby at the breast and without the use of a shield⁴.

Breast pumps and breast relievers

A baby's suckling directly from the breast regulates breastmilk production according to the infant's needs, but the use of pumps can interfere with this regulation. The use of breast pumps can also lead to complications such as nipple damage and mastitis, and to dependency on pumping and feeding of breastmilk by bottle and teat as a substitute for feeding at the breast. When expressed milk is fed with a bottle and teat, this can interfere with suckling at the breast, adversely affecting the resumption or

² Feeding bottles and teats are covered by the [International Code of Marketing of Breastmilk Substitutes and subsequent relevant World Health Assembly resolutions](#).

³ França, E. C., Sousa, C. B., Aragão, L. C., & Costa, L. R. (2014). Electromyographic analysis of masseter muscle in newborns during suction in breast, bottle or cup feeding. *BMC pregnancy and childbirth*, 14, 154. <https://doi.org/10.1186/1471-2393-14-154>.

⁴ Chow, S., Chow, R., Popovic, M., Lam, H., Merrick, J., Ventegodt, S., Milakovic, M., Lam, M., Popovic, M., Chow, E., & Popovic, J. (2015). The Use of Nipple Shields: A Review. *Frontiers in public health*, 3, 236. <https://doi.org/10.3389/fpubh.2015.00236>.

continuation of breastfeeding, and may reduce the production of breastmilk^{5 6}. Furthermore, breast pumps are widely promoted creating the impression that they are essential for every breastfeeding parent and baby. They are also often marketed with feeding bottles and teats being used. This may induce breastfeeding parents to use them when they are not necessary, and lead to interruption of breastfeeding.

Pacifiers (dummies or soothers)

Pacifiers can lead to a baby suckling less at the breast. The reduction of breast stimulation may lead to lower milk production and premature cessation of breastfeeding^{7 8}. This is especially a risk if pacifiers are used frequently or in the first 6-8 weeks of a baby's life before breastfeeding is well established. Pacifiers may have a role in comforting an infant who is separated from the breastfeeding parent. However, there are other ways of comforting a baby such as rocking, cuddling, bathing, or putting the baby to the breast.

Recommendations

1. Hand expression is recommended as the preferred method for breastmilk expression⁹, and all breastfeeding parents should learn how to express their milk by hand as this technique is available at any place and time. When a pump is used, it should be together with breast massage and hand expression and for the shortest possible time until effective breastfeeding or hand expression can be resumed. The aim should always be to protect breastfeeding and maintain milk production.

⁵ Yourkavitch, J., Rasmussen, K. M., Pence, B. W., Aiello, A., Ennett, S., Bengtson, A. M., Chetwynd, E., & Robinson, W. (2018). Early, regular breast-milk pumping may lead to early breast-milk feeding cessation. *Public health nutrition*, 21 (9), 1726–1736. <https://doi.org/10.1017/S1368980017004281>.

⁶ Fewtrell, M., Kennedy, K., Lukyanova, O., Wei, Z., Potak, D., Borovik, T., Namazova-Baranova, L., & Schanler, R. (2019). Short-term efficacy of two breast pumps and impact on breastfeeding outcomes at 6 months in exclusively breastfeeding mothers: A randomised trial. *Maternal & child nutrition*, 15 (3), e12779. <https://doi.org/10.1111/mcn.12779>.

⁷ Buccini, G., Pérez-Escamilla, R., Paulino, L. M., Araújo, C. L., & Venancio, S. I. (2017). Pacifier use and interruption of exclusive breastfeeding: Systematic review and meta-analysis. *Maternal & child nutrition*, 13 (3), e12384. <https://doi.org/10.1111/mcn.12384>.

⁸ Lima, A. A., Alves, C. M., Ribeiro, C. C., Pereira, A. L., da Silva, A. A., Silva, L. F., & Thomaz, E. B. (2017). Effects of conventional and orthodontic pacifiers on the dental occlusion of children aged 24-36 months old. *International journal of paediatric dentistry*, 27(2), 108–119. <https://doi.org/10.1111/ipd.12227>.

⁹ Becker, G. E., Smith, H. A., & Cooney, F. (2015). Methods of milk expression for lactating women. *The Cochrane database of systematic reviews*, (2), CD006170. <https://doi.org/10.1002/14651858.CD006170.pub4>.

2. Health professionals and breastfeeding counsellors must remain unbiased when they give advice to breastfeeding parents, and independent of any commercial influence or preferential promotion and renting of particular brands of device. Breastfeeding counsellors must include in their case evaluation the potential impact on breastfeeding of any device that they suggest.
3. Healthcare providers who care for breastfeeding parents should be trained in the appropriate use of breast pumps in a way that helps to establish breastfeeding and not to interfere with it. They should give guidance to parents about using any device correctly and safely.
4. The commercial marketing of breast pumps should be addressed to avoid inappropriate overuse and association with bottle feeding.

Conclusion

Breastfeeding is a complex interaction between the breastfeeding parent and the baby. Direct feeding at the breast is the first and best option. If a breastfeeding parent has to express milk, hand expression is the preferred method. If effective breastfeeding cannot be achieved in normal ways, the devices listed above may help to overcome some challenges if used appropriately for a limited time. More research into the impact of the use of different devices is needed. Breastfeeding counsellors should inform breastfeeding parents about their proper use and risks to avoid damage and over-dependency. The promotion of these devices and their accessories as a necessary part of infant feeding should be avoided.