WHO/NMH/NHD/09.01
WHO/FCH/CAH/09.01

World Health Organization

unicef

Acceptable medical reasons for use of breast-milk substitutes

Cover illustration adapted from a poster by permission of the Ministry of Health, Peru

Preface

Photo credit: Muriel J-A, WHO.

A list of acceptable medical reasons for supplementation was originally developed by WHO and UNICEF as an annex to the Baby-friendly Hospital Initiative (BFHI) package of tools in 1992.

WHO and UNICEF agreed to update the list of medical reasons given that new scientific evidence had emerged since 1992, and that the BFHI package of tools was also being updated. The process was led by the departments of Child and Adolescent Health and Development (CAH) and Nutrition for Health and Development (NHD). In 2005, an updated draft list was shared with reviewers of the BFHI materials, and in September 2007 WHO invited a group of experts from a variety of fields and all WHO Regions to participate in a virtual network to review the draft list. The draft list was shared with all the experts who agreed to participate. Subsequent drafts were prepared based on three inter-related processes: a) several rounds of comments made by experts; b) a compilation of current and relevant WHO technical reviews and guidelines (see list of references); and c) comments from other WHO departments (Making Pregnancy Safer, Mental Health and Substance Abuse, and Essential Medicines) in general and for specific issues or queries raised by experts.

Technical reviews or guidelines were not available from WHO for a limited number of topics. In those cases, evidence was identified in consultation with the corresponding WHO department or the external experts in the specific area. In particular, the following additional evidence sources were used:

- *The Drugs and Lactation Database (LactMed)* hosted by the United States National Library of Medicine, which is a peer-reviewed and fully referenced database of drugs to which breastfeeding mothers may be exposed.
- *The National Clinical Guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn*, review done by the New South Wales Department of Health, Australia, 2006.

The resulting final list was shared with external and internal reviewers for their agreement and is presented in this document.

The list of acceptable medical reasons for temporary or long-term use of breast-milk substitutes is made available both as an independent tool for health professionals working with mothers and newborn infants, and as part of the BFHI package. It is expected to be updated by 2012.

Acknowledgements

This list was developed by the WHO Departments of Child and Adolescent Health and Development and Nutrition for Health and Development, in close collaboration with UNICEF and the WHO Departments of Making Pregnancy Safer, Essential Medicines and Mental Health and Substance Abuse. The following experts provided key contributions for the updated list: Philip Anderson, Colin Binns, Riccardo Davanzo, Ros Escott, Carol Kolar, Ruth Lawrence, Lida Lhotska, Audrey Naylor, Jairo Osorno, Marina Rea, Felicity Savage, María Asunción Silvestre, Tereza Toma, Fernando Vallone, Nancy Wight, Anthony Williams and Elizabeta Zisovska. They completed a declaration of interest and none identified a conflicting interest.

Introduction

Almost all mothers can breastfeed successfully, which includes initiating breastfeeding within the first hour of life, breastfeeding exclusively for the first 6 months and continuing breastfeeding (along with giving appropriate complementary foods) up to 2 years of age or beyond.

Exclusive breastfeeding in the first six months of life is particularly beneficial for mothers and infants.

Positive effects of breastfeeding on the health of infants and mothers are observed in all settings. Breastfeeding reduces the risk of acute infections such as diarrhoea, pneumonia, ear infection, *Haemophilus influenza*, meningitis and urinary tract infection (1). It also protects against chronic conditions in the future such as type I diabetes, ulcerative colitis, and Crohn's disease. Breastfeeding during infancy is associated with lower mean blood pressure and total serum cholesterol, and with lower prevalence of type-2 diabetes, overweight and obesity during adolescence and adult life (2). Breastfeeding delays the return of a woman's fertility and reduces the risks of post-partum haemorrhage, pre-menopausal breast cancer and ovarian cancer (3).

Nevertheless, a small number of health conditions of the infant or the mother may justify recommending that she does not breastfeed temporarily or permanently (4). These conditions, which concern very few mothers and their infants, are listed below together with some health conditions of the mother that, although serious, are not medical reasons for using breast-milk substitutes.

Whenever stopping breastfeeding is considered, the benefits of breastfeeding should be weighed against the risks posed by the presence of the specific conditions listed.

Infant conditions

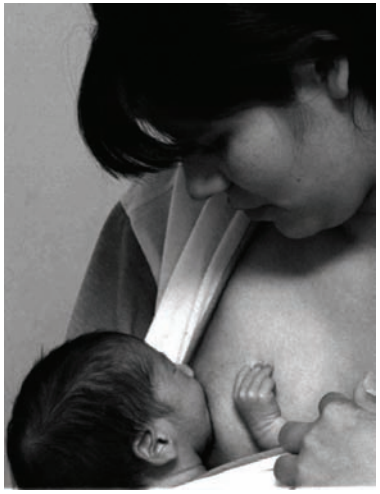

Photo credit: Anenden H, WHO.

Infants who should not receive breast milk or any other milk except specialized formula

- Infants with classic galactosemia: a special galactose-free formula is needed.
- Infants with maple syrup urine disease: a special formula free of leucine, isoleucine and valine is needed.
- Infants with phenylketonuria: a special phenylalanine-free formula is needed (some breastfeeding is possible, under careful monitoring).

Infants for whom breast milk remains the best feeding option but who may need other food in addition to breast milk for a limited period

- Infants born weighing less than 1500 g (very low birth weight).
- Infants born at less than 32 weeks of gestational age (very pre-term).
- Newborn infants who are at risk of hypoglycaemia by virtue of impaired metabolic adaptation or increased glucose demand (such as those who are preterm, small for gestational age or who have experienced significant intrapartum hypoxic/ischaemic stress, those who are ill and those whose mothers are diabetic) (5) if their blood sugar fails to respond to optimal breastfeeding or breast-milk feeding.

Maternal conditions

Mothers who are affected by any of the conditions mentioned below should receive treatment according to standard guidelines.

Maternal conditions that may justify permanent avoidance of breastfeeding

- HIV infection[1]: if replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) (6).

Maternal conditions that may justify temporary avoidance of breastfeeding

- Severe illness that prevents a mother from caring for her infant, for example sepsis.
- Herpes simplex virus type 1 (HSV-1): direct contact between lesions on the mother's breasts and the infant's mouth should be avoided until all active lesions have resolved.
- Maternal medication:
  - sedating psychotherapeutic drugs, anti-epileptic drugs and opioids and their combinations may cause side effects such as drowsiness and respiratory depression and are better avoided if a safer alternative is available (7);
  - radioactive iodine-131 is better avoided given that safer alternatives are available - a mother can resume breastfeeding about two months after receiving this substance;
  - excessive use of topical iodine or iodophors (e.g., povidone-iodine), especially on open wounds or mucous membranes, can result in thyroid suppression or electrolyte abnormalities in the breastfed infant and should be avoided;
  - cytotoxic chemotherapy requires that a mother stops breastfeeding during therapy.

Maternal conditions during which breastfeeding can still continue, although health problems may be of concern

- Breast abscess: breastfeeding should continue on the unaffected breast; feeding from the affected breast can resume once treatment has started (8).
- Hepatitis B: infants should be given hepatitis B vaccine, within the first 48 hours or as soon as possible thereafter (9).
- Hepatitis C.
- Mastitis: if breastfeeding is very painful, milk must be removed by expression to prevent progression of the condition(8).
- Tuberculosis: mother and baby should be managed according to national tuberculosis guidelines (10).
- Substance use[2] (11):
  - maternal use of nicotine, alcohol, ecstasy, amphetamines, cocaine and related stimulants has been demonstrated to have harmful effects on breastfed babies;
  - alcohol, opioids, benzodiazepines and cannabis can cause sedation in both the mother and the baby.

  Mothers should be encouraged not to use these substances, and given opportunities and support to abstain.

[1] The most appropriate infant feeding option for an HIV-infected mother depends on her and her infant's individual circumstances, including her health status, but should take consideration of the health services available and the counselling and support she is likely to receive. Exclusive breastfeeding is recommended for the first six months of life unless replacement feeding is AFASS. When replacement feeding is AFASS, avoidance of all breastfeeding by HIV-infected women is recommended. Mixed feeding in the first 6 months of life (that is, breastfeeding while also giving other fluids, formula or foods) should always be avoided by HIV-infected mothers.

[2] Mothers who choose not to cease their use of these substances or who are unable to do so should seek individual advice on the risks and benefits of breastfeeding depending on their individual circumstances. For mothers who use these substances in short episodes, consideration may be given to avoiding breastfeeding temporarily during this time.

References

(1) Technical updates of the guidelines on Integrated Management of Childhood Illness (IMCI). Evidence and recommendations for further adaptations. Geneva, World Health Organization, 2005.

(2) Evidence on the long-term effects of breastfeeding: systematic reviews and meta-analyses. Geneva, World Health Organization, 2007.

(3) León-Cava N et al. Quantifying the benefits of breastfeeding: a summary of the evidence. Washington, DC, Pan American Health Organization, 2002 (*http://www.paho.org/English/AD/FCH/BOB-Main.htm*, accessed 26 June 2008).

(4) Resolution WHA39.28. Infant and Young Child Feeding. In: Thirty-ninth World Health Assembly, Geneva, 5–16 May 1986. Volume 1. Resolutions and records. Final. Geneva, World Health Organization, 1986 (WHA39/1986/REC/1), Annex 6:122–135.

(5) Hypoglycaemia of the newborn: review of the literature. Geneva, World Health Organization, 1997 (WHO/CHD/97.1; *http://whqlibdoc.who.int/hq/1997/WHO_CHD_97.1.pdf*, accessed 24 June 2008).

(6) HIV and infant feeding: update based on the technical consultation held on behalf of the Inter-agency Task Team (IATT) on Prevention of HIV Infection in Pregnant Women, Mothers and their Infants, Geneva, 25–27 October 2006. Geneva, World Health Organization, 2007 (*http://whqlibdoc.who.int/publications/2007/9789241595964_eng.pdf*, accessed 23 June 2008).

(7) Breastfeeding and maternal medication: recommendations for drugs in the Eleventh WHO Model List of Essential Drugs. Geneva, World Health Organization, 2003.

(8) Mastitis: causes and management. Geneva, World Health Organization, 2000 (WHO/FCH/CAH/00.13; *http://whqlibdoc.who.int/hq/2000/WHO_FCH_CAH_00.13.pdf*, accessed 24 June 2008).

(9) Hepatitis B and breastfeeding. Geneva, World Health Organization, 1996 (Update No. 22).

(10) Breastfeeding and Maternal tuberculosis. Geneva, World Health Organization, 1998 (Update No. 23).

(11) Background papers to the national clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. Commissioned by the Ministerial Council on Drug Strategy under the Cost Shared Funding Model. NSW Department of Health, North Sydney, Australia, 2006 (*http://www.health.nsw.gov.au/pubs/2006/bkg_pregnancy.html,* accessed 24 June 2008).

Further information on maternal medication and breastfeeding is available at the following United States National Library of Medicine (NLM) website: *http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT*

For further information, please contact:

Department of Nutrition for Health and Development
E-mail: nutrition@who.int
Web: *www.who.int/nutrition/*

Department of Child and Adolescent Health and Development,
E-mail: cah@who.int
Web: *www.who.int/child_adolescent_health/*

World Health Organization
20 Avenue Appia
1211 Geneva 27, Switzerland

tance of Skin to act

There are now a multitude of studies that show that mothers and babies should be together, skin to skin (baby naked, not wrapped in a blanket) immediately after birth, as well as later. The baby is happier, the baby's is more stable and more normal, the baby's heart and breathing rates are more stable and more the baby's blood sugar is more elevated. Not only that, skin to skin contact immediately after birth aby to be colonized by the same bacteria as the mother. This, plus breastfeeding, are thought to be the prevention of allergic diseases. When a baby is put into an incubator, his skin and gut are often bacteria different from his mother's.

w that this is true not only for the baby born at term and in good health, but also even for the aby. Skin to skin contact and Kangaroo Mother Care can contribute much to the care of the premature babies on oxygen can be cared for skin to skin, and this helps reduce their need for extra oxygen, and more stable in other ways as well (See www.kangaroomothercare.com) (See the information sheet *g the Premature Baby*).

e the importance of keeping mother and baby skin to skin for as long as possible in these first few (not just at feedings) it might help to understand that a human baby, like any mammal, has a natural lose contact with the mother (or father). When a baby or any mammal is taken out of this natural ows all the physiologic signs of being under significant stress. A baby not in close contact with his ather) by distance (under a heat lamp or in an incubator) or swaddled in a blanket, may become too hargic or becomes disassociated altogether or cry and protest in despair. When a baby is swaddled it act with his mother, the way nature intended. With skin to skin contact, the mother and the baby nsory information that stimulates and elicits "baby" behaviour: rooting and searching the breast, , breathing more naturally, staying warm, maintaining his body temperature and maintaining his blood

int of view of breastfeeding, babies who are kept skin to skin with the mother immediately after birth an hour, are more likely to latch on without any help and they are more likely to latch on well, the mother did not receive medication during the labour or birth. As mentioned in the information *feeding—Starting out Right*, a baby who latches on well gets milk more easily than a baby who latches See the video clips of young babies (less than 48 hours old) breastfeeding at the website nbci.ca. latches on well, the mother is less likely to be sore. When a mother's milk is abundant, the baby can ast poorly and still get lots of milk, though the feedings may then be long or frequent or both, and the ore prone to develop problems such as blocked ducts and mastitis. In the first few days, however, the have enough milk, but because it is not abundant, as nature intended, the baby needs a good latch in that milk. Yes, the milk is there even if someone has proved to you with the big pump that there isn't uch does or does not come out in the pump proves nothing—it is irrelevant. Many mothers with ilk supplies have difficulty expressing or pumping more than a small amount of milk. Also note, **you squeezing the breast whether there is enough milk in there or not**. And a good latch is help the baby get the milk that is available. If the baby does not latch on well, the mother may be the baby does not get milk well, the baby will want to be on the breast for long periods of time e soreness.

To recap, skin to skin contact immediately after birth, which lasts for at least an hour (and should continue for as many hours as possible throughout the day and night for the first number of weeks) has the following positive effects. The baby:

- Is more likely to latch on
- Is more likely to latch on well
- Maintains his body temperature normal better even than in an incubator
- Maintains his heart rate, respiratory rate and blood pressure normal
- Has higher blood sugar
- Is less likely to cry
- Is more likely to breastfeed exclusively and breastfeed longer
- Will indicate to his mother when he is ready to feed

There is no reason that the vast majority of babies cannot be skin to skin with the mother immediately after birth for at least an hour. Hospital routines, such as weighing the baby, should not take precedence.

The baby should be dried off and put on the mother. Nobody should be pushing the baby to do anything; nobody should be trying to help the baby latch on during this time. The baby may be placed vertically on the mother's abdomen and chest and be left to find his way to the breast, while mother supports him if necessary. The mother, of course, may make some attempts to help the baby, and this should not be discouraged. This is baby's first journey in the outside world and the mother and baby should just be left in peace to enjoy each other's company. (The mother and baby *should not be left alone*, however, especially if the mother has received medication, and it is important that not only the mother's partner, but also a nurse, midwife, doula or physician stay with them—occasionally, some babies do need medical help and someone qualified should be there "just in case"). The eye drops and the injection of vitamin K can wait a couple of hours. By the way, immediate skin to skin contact can also be done after cæsarean section, even while the mother is getting stitched up, unless there are medical reasons which prevent it.

Studies have shown that even premature babies, as small as 1200 g (2 lb 10 oz) are more stable metabolically (including the level of their blood sugars) and breathe better if they are skin to skin immediately after birth. Skin to skin contact is quite compatible with other measures taken to keep the baby healthy. Of course, if the baby is quite sick, the baby's health must not be compromised, but any premature baby who is not suffering from respiratory distress syndrome can be skin to skin with the mother immediately after birth. Indeed, in the premature baby, as in the full term baby, skin to skin contact may decrease rapid breathing into the normal range.

Even if the baby does not latch on during the first hour or two, skin to skin contact is important for the baby and the mother for all the other reasons mentioned.

If the baby does not take the breast right away, *do not panic*. There is almost never any rush, especially in the full term healthy baby. One of the most harmful approaches to feeding the newborn has been the bizarre notion that babies must feed every three hours. Babies should feed when they show signs of being ready, and keeping a baby next to his mother will make it obvious to her when the baby is ready. There is actually not a stitch of proof that babies must feed every three hours or by any schedule, but based on such a notion, many babies are being pushed into the breast simply because three hours have passed. The baby who is not yet interested in feeding may object strenuously, and thus is pushed even more, resulting, in many cases, in baby refusing the breast because we want to make sure they take the breast. And it gets worse. If the baby keeps objecting to being pushed into the breast and gets more and more upset, then the "obvious next step" is to give a supplement. And it is obvious where we are headed (see the information sheet *When a Baby Has Not Yet Latched*).

Questions? First look at the website nbci.ca or drjacknewman.com. If the information you need is not there, go to *Contact Us* and give us the information listed there in your email. Information is also available in **Dr. Jack Newman's Guide to Breastfeeding** (called **The Ultimate Breastfeeding Book of Answers** in the USA); and/or our DVD, **Dr. Jack Newman's Visual Guide to Breastfeeding** (available in French or with subtitles in Spanish, Portuguese and Italian); and/or **The Latch Book and Other Keys to Breastfeeding Success**; and/or **L-eat Latch and Transfer Tool**; and/or the **GamePlan for Protecting and Supporting Breastfeeding in the First 24 Hours of Life and Beyond**.

To make an appointment online with our clinic please visit www.nbci.ca. If you do not have easy access to email or internet, you may phone (416) 498-0002.