

The Marion County Public Health Department Presents

Life's Best Beginning

A curriculum for the education and promotion of breastfeeding in secondary education



Dear Teacher,

The Marion County Public Health Department has put together the following kit to assist you in positively impacting the attitudes and improving the breastfeeding competencies of our society's future parents and professionals. Most teens make unconscious decisions early about later infant feeding practices. This is why it is important to discuss the topic of breastfeeding early and in a variety of ways. In this way, they will be empowered to make good decisions later in life.

Teaching your students about breastfeeding involves more than explaining anatomy and physiology or health. It means talking to them about ways to find resources in their community, to solve problems, to consider attitudes towards breastfeeding, including how the media portrays breastfeeding and to look at how breastfeeding affects mothers, babies, families, the community and even the environment. When you teach your students about breastfeeding you are not just talking to them about health, you are talking to them about how they make decisions that will affect them and those they will care about.

You may feel nervous or uncomfortable talking about breastfeeding with your students. It can be difficult to talk about something unfamiliar or something which calls up personal feelings. There are ways that these things can be overcome. Provided here are some teaching ideas and background material for covering the many topics related to breastfeeding. Additionally there are resources and people you can call upon to help make the journey easier.

This kit is to be used as a guide and encourages flexibility and creativity in the classroom. It is not intended to be followed precisely. Instead, a range of activities are presented so you can select and structure learning experiences to meet the needs of your students. This guide is intended to be practical so that teachers will be excited to include the lessons into academic subject areas and simultaneously promote breastfeeding education.

Sincerely,

Marion County Public Health Department
Indianapolis, Indiana

Why should breastfeeding be taught in high school curriculum?

There is growing evidence which identifies the lifelong importance of breastfeeding for the health of mothers and babies. The Marion County Public Health Department supports the American Academy of Pediatrics' position that exclusive breastfeeding constitutes ideal nutrition to support optimal growth and development for approximately the first six months after birth. Gradual introduction of iron-enriched solid foods in the second half of the first year should complement breast milk. Breastfeeding should continue for at least 12 months, and thereafter for as long as mutually desired.¹ Although many women are aware of some of the benefits of breastfeeding, only 63 percent of Indiana's mothers choose to initiate breastfeeding. Less than 15 percent sustain breastfeeding until the child is 12 months old.² Healthy People 2020 objective MICH-21 is to increase the proportion of infants who are breastfed to 81.9 percent.

A plan of action is to encourage and support breastfeeding as the norm. Many young people have never observed the practice of breastfeeding and have little information about it or knowledge about where to access this information. High school is a perfect opportunity to introduce this important and useful information before young people need skills around parenting. It is a perfect time to teach breastfeeding.^{3,4}

Breast milk is the unequalled first food for babies. It supplies all they need for the first six months and contains valuable disease fighting agents, which can protect infants in the short term and components that can ward off chronic diseases for later life.

Breastfeeding is unique in that it contributes to childhood intelligence and can enhance childhood development, especially for premature babies. It also has health outcomes for mothers as it protects against osteoporosis, premenopausal breast cancer and some forms of ovarian cancer.^{5,6}

Breastfeeding has an indirect outcome of protecting the environment since it does not contribute to environmental pollution (garbage from packaging and industrial pollution). In this way it contributes to the health of communities and global health.⁷ The teen population may be very receptive to the issues impacting global health and the political, sometimes controversial, implications of food security. Breastfeeding information provides this forum for discussion, which can also impact students in the future when they may decide to breastfeed for all its health benefits.

Because students of high school age are by nature more idealistic than adult populations, it is opportune to give them the proper information on breastfeeding and arm them to resist popular myths on the topic.

Why is it important that women learn about breastfeeding before they even consider pregnancy?

Current research indicates that women decide on the method of feeding their children long before they conceive.⁸ The advantage of introducing the subject of breastfeeding early to teens is that they can formulate a new attitude to the practice which may ready them for their future parenting as mothers

and fathers. Research suggests that breastfeeding success can rely heavily on the support mothers receive from their partners and families.⁹ That is why breastfeeding knowledge is just as important for male youth.

Youth can be significantly affected by the media and marketing. The media has been enormously influential in creating cultural norms. With respect to breastfeeding, young people have not received the information about how body anatomy and physiology support breastfeeding. This is not part of the existing health curriculum. Therefore, most teens are influenced by the portrayal of body image in the media without knowing the other important function of the female breast and the health benefits of breastfeeding.¹⁰

What do teachers need to know to teach breastfeeding successfully?

There are several principles that teachers need to know to teach breastfeeding effectively.

• **Breastfeeding has unique and important health aspects.**

Breast milk is a unique substance. It has antiseptic qualities, which help to complete the newborn's immature immune system. Some of the diseases proven in research to be reduced by breastfeeding are: respiratory tract infections, stomach and bowel infections, middle ear infections and urinary tract infections. Breastfeeding babies tend to have a reduced occurrence of chronic disease such as juvenile diabetes and asthma in at-risk infants.¹²

Breastfeeding improves child brain development. This occurs by virtue of the breastfeeding relationship as well as the milk components. The longer breastfeeding occurs, the more profound the effect of brain development of the child. This is because breastfeeding promotes infant-mother attachment.¹²

Breastfeeding contributes to the attachment between mothers and babies. In a breastfeeding relationship, there is one essential and constant caregiver for the central act of feeding. Similarly, breastfeeding mothers need their babies to regulate their milk production, once it has begun. Many teens may recognize bottle feeding as a way of achieving freedom for mothers but students need to know how breastfeeding affects infant attachment and how this attachment affects later child development and independence. This is a crucial concept to teach teens.

• **Birth practices and early mother child contact are crucial to breastfeeding.**

There are birth practices which are necessary to start breastfeeding off right. In the past these have not always been practiced. This is why young people will hear that breastfeeding has not always worked for their parents. It is therefore essential that students learn these things. Examples of these things are:

- skin to skin contact between mothers and babies after birth
- proper latching and early, frequent, small feeds in the first days
- avoidance of early unnecessary formula supplementation.¹¹

- **Most problems with breastfeeding are preventable or solved with evidenced-based, knowledgeable support. There are known ways to support breastfeeding mothers.**

Many myths prevail about breastfeeding. Almost always these myths have been incorrectly passed on from generation to generation since formula has become more commonly used. Most people don't know that very few women (less than 1 percent) are physically unable to breastfeed. The fact is that most people do not know how to recognize problems early and take the correct action to correct them with knowledgeable help. Students need to know that almost every myth preventing successful breastfeeding has an explanation and remedy. Statements such as, "I didn't have enough milk" or "breastfeeding hurts" have logical explanations. When students learn new concepts such as "effective milk removal is essential to milk production" or "poor latching causes pain with breastfeeding" these myths can be explained. Most issues can be reversed if caught early. There have been huge advances in breastfeeding knowledge in the past 25 years.

When students know that help for breastfeeding exists and that there are community supports available, it assists them to develop skills in problem solving and accessing community resources for later parenting. This contributes to student efficacy for breastfeeding later. Self efficacy is a major contributing factor to later success.¹²

- **Attitudes, the media and marketing affect breastfeeding trends.**

The use of the female body image has been used by industries to sell products with very lucrative outcomes. Breastfeeding does not make money for any industry in our culture. Therefore it is less visible in modern media. This is a fact that needs examination by youth to explore the outcomes of this trend and to see its long term effects. Teens should be encouraged to try and look objectively at the absence of breastfeeding representation in our modern culture and compare this to historic representation.¹⁴

- **One in four breastfed infants are supplemented with infant formula within two days of birth.** The corresponding rates of formula supplementation among infants born in 2007 who breastfed at least three and six months were 37.2 percent and 43.8 percent, respectively.¹³ The marketing of infant formula is a political issue. The aggressive marketing of formula has been identified as one factor contributing to poor breastfeeding rates. The World Health Organization has tried to address this through The WHO Code on the marketing of breast milk substitutes.¹⁴ Students need to be aware of the adverse affect practices such as giving free formula samples to new mothers can have. Formula samples when used in the early days of breastfeeding can seriously decrease the mothers' milk supply and can teach babies to suckle improperly, thus creating many breastfeeding problems.

In summary, breastfeeding is a life skill that requires prior knowledge and attitudinal acceptance. One primary way to increase the likelihood of later breastfeeding success and thereby increasing infant health is to educate youth about breastfeeding concepts before they conceive.

Additional Resources Online:

Laleche League International offers a variety of books on breastfeeding, informational tear-off sheets addressing many different issues related to breastfeeding, and a toll-free telephone line (1-800-525-3243) or <http://www.lalecheleague.org>.

The U.S. Department of Health and Human Services' Office on Women's Health offers both a phone support line at 1-800-994-WOMAN and online breastfeeding support at <http://www.4woman.gov>. In addition, an *Easy Guide to Breastfeeding* is available and free to the public in three languages (English, Spanish, and Chinese) and in multiple versions targeting various groups of women (those in the general market, African American and Native American).

¹ Section on Breastfeeding. (2005). Breastfeeding and the use of human milk. *American Academy of Pediatrics*, 115(2), 496-506.

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¹³ Centers for Disease Control and Prevention. (2012). Percentage of breastfed U.S. children who are supplemented with infant formula, by birth year [Data file]. Retrieved from http://www.cdc.gov/breastfeeding/data/NIS_data/index.htm

¹⁴ World Health Organization. (1981) *International code of Marketing of Breast milk Substitutes*. Geneva: World Health Organization/UNICEF.

Acknowledgements:

We would like to thank The Ontario Public Health Association (OPHA) Breastfeeding Promotion Workgroup for providing the framework for this curriculum.

We would like to thank Renee Greene, Family and Consumer Sciences Department Chair, Pike High School, Indianapolis, Indiana for her valuable review of this curriculum.

We would like to thank Yvonne Beasley, M.N., R.N., director of Maternal and Child Health, Marion County Public Health Department for her valuable review of this curriculum.

This curriculum meets the Indiana Academic Standards for Consumer and Family Sciences Child Development and Parenting course. These can be found at <https://learningconnection.doe.in.gov/Standards/Standards.aspx?st=&sub=3&gl=56&c=0&std=0>

Recommendation

December 9, 2011

To Whom It May Concern,

RE: Breastfeeding Curriculum

I am a teacher at Pike High School, Indianapolis, Indiana. I teach approximately one hundred students per semester in my Child Development & Parenting classes. Breastfeeding is a unit in the curriculum. The students are very interested in the subject and have many questions and misconceptions about breastfeeding. One year ago, I invited Pam Desir and Pam Averill, both registered lactation consultants, to come to my classes to give a presentation on breastfeeding. I liked the information and activities they taught my students. The curriculum has great content, is well organized, professional, and appropriately paced. The presentation was well received by my students.

Both Pams have created an expanded version of the curriculum they presented to my classes. They have shared it with me, and I was fortunate enough to review it. I think it is very well written with excellent information about breastfeeding. The facts, activities, games, projects, background information, and references would be appreciated by all teachers who teach students as well as adults about breastfeeding. This curriculum would be a wonderful resource in that it is very flexible. A teacher could choose to teach the entire plan or pull certain activities and information as time allowed for teaching the unit.

In summary, I would highly recommend that this curriculum be published and made available on a website for teachers to download. I personally would use it and I know many other teachers around the state would also use it in their classrooms.

Respectfully,
Renée Greene,
rgreene@pike.k12.in.us
Pike High School
5401 W. 71 Street
Indianapolis, IN 46268



Prevent. Promote. Protect.

3838 North Rural Street | Indianapolis, IN 46205 | PH 317-221-2000

www.mchd.com

November 29, 2012

To Whom it May Concern,

Marion County Public Health Department strives to make Indianapolis America's healthiest city. A foundation to making this a reality is to increase the breastfeeding initiation and duration rates in Marion County. Breastfed infants are more resistant to disease and infection and are less likely to contract a number of diseases later in life including asthma, multiple sclerosis, heart disease, juvenile diabetes and cancer before age 15. Breastfeeding is one of the primary defenses against breast cancer, childhood obesity and lowers the risk for ovarian and cervical cancer. Additionally, breastfeeding provides stronger mother-baby bonding, lowers the risk of osteoporosis and weight gained during pregnancy is easier to lose.

An observed trend in making the choice to breastfeed is that there has been opportunity to have breastfeeding or infant feeding education. Providing breastfeeding education as part of the high school curriculum is indeed a proactive approach to well informed decision making later in life that can impact the health and well-being of infants and mothers over the lifespan.

According to the Journal of Human Lactation, breastfeeding promotion and support in adolescents needs to be developmentally appropriate, patient centered and linked to multidimensional support. The breastfeeding curriculum developed by the Marion County Public Health Department is an excellent tool for educating high school students about breast feeding and promoting support to breastfeed in a developmentally appropriate manner.

I support publishing of the curriculum and having it accessible via the internet for ease of teacher access and updating. The overall impact on behavior due to implementation of the curriculum could result in a decrease in asthma, diabetes, multiple sclerosis, obesity, chronic illness, heart disease, breast, ovarian and cervical cancer over the lifespan. The goal is to have healthier infants, women, children, families and communities.

Therefore, it is with great pride and respect that I write this letter of support for the Breastfeeding Curriculum developed by the Marion County Public Health Department.

Sincerely,

A handwritten signature in black ink that reads "Virginia A. Caine". The signature is written in a cursive, flowing style.

Virginia A. Caine, MD

Director



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www.mchd.com

September 25, 2012

To Whom It May Concern:

The United States has the highest teen birth rate in the industrialized world, and adolescents continue to have the lowest rates of breastfeeding. Although individual pregnancy and parenting experiences in adolescents are modified by a variety of factors, common themes of adolescent psychology and behavior may help plan effective strategies for breastfeeding promotion and support. Breastfeeding promotion and support in adolescents needs to be developmentally appropriate, patient centered and linked to multidimensional support, according to the Journal of Human Lactation. The Marion County Public Health Department Breastfeeding Curriculum (MCPHDBFC) provides breastfeeding support in a developmentally appropriate manner, addresses misconceptions about breastfeeding and provides breastfeeding and infant feeding education.

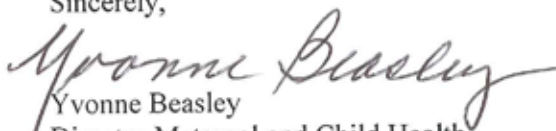
When a pregnant teenager is considering breastfeeding, it may be difficult to break misconceptions she may have about breastfeeding. For example, many teens who *only* consider bottle feeding (does not include expressed breast milk) see it as healthier (because you can read the ingredients on the label) and more convenient (because you don't have to be "joined-at-the-hip" with the baby). Others believe that their breasts will sag and that breastfeeding is "old-school." Teen moms, just like adults, take many factors into consideration when choosing their infant feeding method. Advantages and disadvantages are weighed heavily in that decision. The MCPHDBFC addresses all of the aforementioned misconceptions.

Breastfeeding is one of the most effective measures to protect the health of infants. According to the U.S. Surgeon General, breastfeeding protects babies from infections and illnesses, including diarrhea, ear infections and pneumonia. In addition, breastfed babies are less likely to develop asthma and those who are breastfed for six months are less likely to become obese. Research shows that women who breastfeed have a decreased risk of breast and ovarian cancers.

According to the Centers for Disease Control and Prevention 75 percent of mothers initiate breastfeeding after the birth of a child. Yet, breastfeeding rates fall to 43 percent nationally after six months. Additionally, there are persistent disparate rates among racial and ethnic groups with 58 percent of African American women initiating breastfeeding and only 28 percent continuing to breastfeed after six months.

I support the publishing and implementation of the Marion County Public Health Department Breastfeeding Curriculum. I believe that over time the curriculum can help close the breastfeeding initiation and duration disparity gap in Marion County. In 2010 overall breastfeeding initiation was 69 percent. The initiation rate by race was 70 percent white, 55 percent black and 87 percent Hispanic. The 2020 Healthy People goal is 82 percent overall and for all races.

Sincerely,


Yvonne Beasley
Director Maternal and Child Health

Contents

Breastfeeding Curriculum

Lesson one

How to Beat the High Cost of Formula

Predicted outcome: Participants will have the opportunity to acknowledge alternative uses for money saved by breastfeeding instead of bottle feeding.

Lesson two

Bonuses of Breastfeeding

Predicted outcome: Participants will gain knowledge of the benefits of breastfeeding.

Lesson three

Oranges and Breasts Activity

Predicted outcome: Participants will be aware of the most efficient way to obtain milk from the breast and will have a better understanding of the importance of positioning and latch.

Lesson four

Hook 'em With Cookies

Predicted outcome: Participants will be astounded by the marvelous properties of breast milk and realize that formula does not compare.

Lesson five

How Our Culture Influences Feeding Choices

Predicted outcome: Participants will have an understanding of the need for political, social and cultural supports for women and children and that in today's society; we're not valuing children and families.

Lesson six

Breastfeeding: Your Family History

Predicted outcome: Participants will understand that breastfeeding women need correct information and adequate support from family, friends and other mothers to breastfeed successfully.

Lesson seven

Breastfeeding Quiz

Predicted outcome: Participants will gain a greater knowledge of common misconceptions about breastfeeding.

Lesson eight

Famous Mothers Who Breastfed

Predicted outcome: Participants will have an understanding of the role celebrities play in influencing societal norms.

Lesson nine

Thank You for Breastfeeding

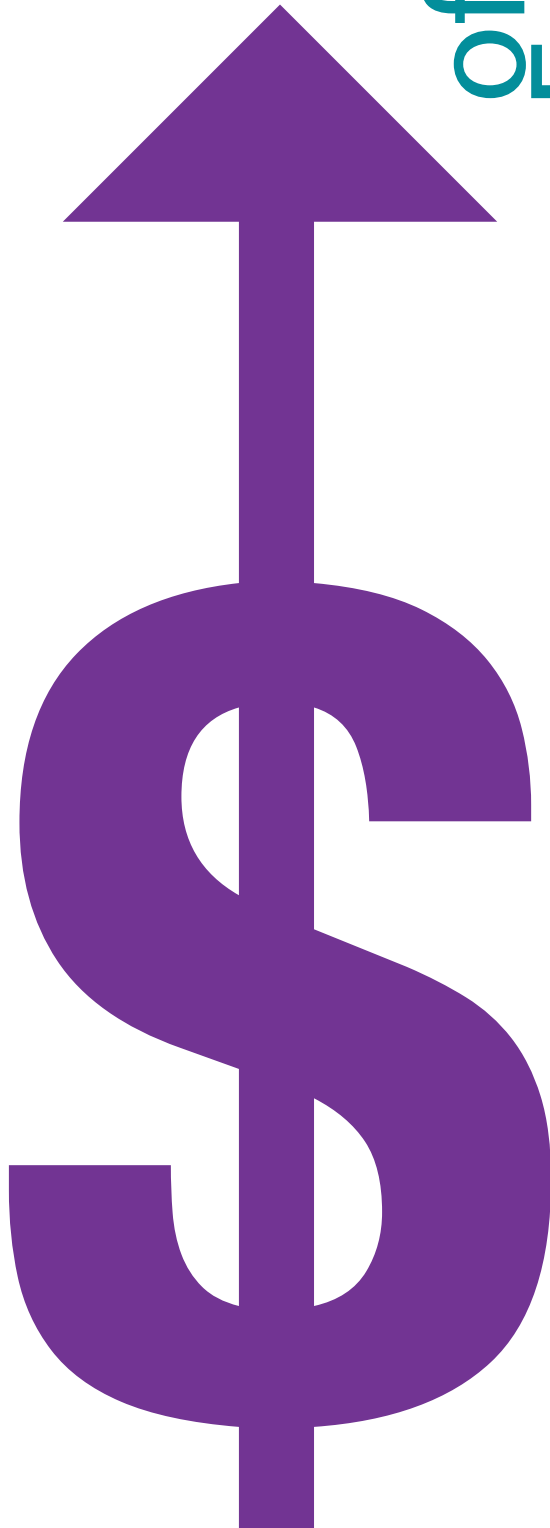
Predicted outcome: Participants will gain an appreciation for the benefits of breastfeeding for babies, families and communities.

Lesson ten

Breastfeeding - Yes I Can!

Predicted outcome: Participants will have the opportunity to acknowledge the existence of myths related to breastfeeding and to clarify them with facts.

How to Beat the High Cost of Formula



Time:

- Approximately 20 minutes

Materials:

- Six game cards depicting periods of time spent nursing (two weeks, one month, six weeks, four months, six months, one year) See printable game pieces.
- Six game cards depicting items they could have bought instead of formula (car seat, stroller, groceries, rent payment, furniture, education investment). See printable game pieces.

Background information:

- Starting a family causes many worries about how to afford everything needed to take care of a new baby.
- Money spent on formula could be better used to purchase items necessary for baby care or family fun and comfort.
- More importantly, breastfed babies suffer from far fewer childhood illnesses than formula fed infants. This means a healthier baby and even more savings on over-the-counter and prescription medicines, lost time from work to care for sick babies and other expenses.¹
- When it is all added up, formula feeding is expensive!

Instructions:

1. Students will be playing a matching game that will demonstrate alternate ways to use money not spent on formula or sick care for formula-fed infants.
2. There will be two sets of cards with six cards in each set. Set one will have the periods of time listed above. The second set will have items they could have bought instead of buying formula. Each set of matching cards will have the same border color. Students will know they have achieved a match when they turn over cards of the same color.
3. On the back of the cards of each set, number the cards one through six. Number the cards depicting the periods of time in blue. Number the cards depicting the items in green to prevent confusion. Lay each set of cards out face down in random order.
4. Students will take turns choosing a numbered card from each set. The teacher will turn over the cards chosen. If the border colors match, the teacher will read the item and time period and remove those cards from the game. If the border colors do not match, the teacher will turn them back over and the game continues until all matches have been made.
5. At the end of the game, the teacher can facilitate a discussion about other options of what could be bought instead of formula.

Predicted outcome:

- Participants will have the opportunity to acknowledge alternative uses for money saved by breastfeeding instead of formula feeding.

¹ The Economic Benefits of Breastfeeding: A Review and Analysis by Jon Weimer. ERS Food Assistance and Nutrition Research Report No. 13. 20 pp, March 2001.

Bonuses of Breastfeeding



Time:

- 20 minutes

Materials:

- Basket filled with various items or photos of those items (see below)

Background information:

- Research shows that breastfeeding provides benefits that formula cannot. It is well-established that breastfed babies are healthier, smarter and well-bonded to their mothers.
- In a world becoming increasingly better informed about health, nutrition, and well-being, breastfeeding is indisputably the best possible start that parents can give their baby.
- Breastfeeding is good for babies, mothers, fathers and the earth!

Instructions:

1. Pass around the basket of items or photos and ask each student to take one. Each student will guess how each item relates to the benefits of breastfeeding.
2. The teacher will then use the information below to educate students on the true benefits of breastfeeding.
3. Following is a list of each item (toy versions may be used to make the exercise more fun) or photo used in the basket followed by the benefit the item represents:

Female lion

Breastfeeding builds mom's self-confidence^{1,9}

Clock

Breastfeeding saves time²

Money

Breastfeeding saves money²

Stethoscope

Breastfed babies and their mothers are healthier^{3,4}

Otoscope

Breastfed babies have fewer ear infections⁵

Allergy medication box

Breastfed babies have fewer allergies⁶

Toothbrush

Breastfed babies have better dental health⁷

Report card

Breastfeeding babies have higher IQ⁸

Bed

Breastfeeding helps mom rest and relax⁹

Clothespin

Diapers and spit-up don't smell bad

White baby outfit

Breastfed babies' spit-up doesn't stain

Glue

Breastfeeding promotes bonding¹⁰

Car

Going out is easier with breastfed babies

Tape measure

Breastfeeding helps mom get her body back¹¹

Home pregnancy test box

Breastfeeding helps to space babies¹²

Tampon box

Breastfeeding usually delays mom's period¹²

Scale

Breastfed babies are less likely to become obese¹³

Globe

Breastfeeding is "green" or earth-friendly¹⁴

Predicted outcomes:

- Participants will gain knowledge of the advantages of breastfeeding.

Lesson 2

References:

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Oranges and Breasts Activity

Time:

- Approximately 15-20 minutes

Materials:

- Oranges cut into wedges (two wedges per person)
- A straw and napkin for each participant

Background Information:

- The trick to breastfeeding is getting the baby to latch on well. A baby who latches on well, gets milk well. A baby who latches on poorly has more difficulty getting milk, especially if the supply is low.¹
- A poor latch is similar to giving a baby a bottle with a nipple hole that is too small—the bottle is full of milk, but the baby will not get much. When a baby is latching on poorly, he may also cause the mother nipple pain.^{2,3}
- In addition, if he does not get milk well, he will usually stay on the breast for long periods, thus aggravating the pain.

Instructions:

1. Ask each participant to take one wedge of orange and a straw. They are to suck as much juice from the wedge as possible through the straw. Ask them to rate, on a scale of 1 to 10, the efficiency of removing juice from the orange by this method. (1 – inefficient, 10 – efficient). This method is usually given 0-1 out of 10.
2. Next, they take their last wedge and are asked to suck as much juice from the piece as possible, using their lips and

tongue but not their teeth, as they will damage the flesh of the orange. They are to give an efficiency rating of the method. This method is usually given 9-10 out of 10.

3. At the end of the exercise explain the reason for doing it and give the following description.

The orange and the straw represent the amount of milk a baby receives when it sucks on the nipple only.

Sucking on the orange represents the amount received by the baby when it is feeding correctly on the mother's breast. It imitates the ability of a baby, with a deep mouthful of breast, to extract milk from the breast through the massaging action of its lips, tongue and gums, along with the suction as they swallow.

4. Complete the activity with an explanation of the different ways milk can be obtained from the breast, focusing on good latching technique with baby at breast as this is the most effective.

Predicted Outcomes:

- Participants will be amazed by the difference in the amount of juice they obtain from the two methods, and will become more aware of the most efficient way to obtain milk from the breast.
- Participants will have a better understanding of the importance of good positioning and latch.

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This activity has been adapted with permission from Svensson, J. (2000). *Breastfeeding and you: A handbook for antenatal educators*. Commonwealth of Australia: Centre for Family Health and Midwifery.

Hook em with Cookies



Time:

- Approximately 10 minutes

Materials:

- Homemade cookies placed in an attractive basket
- One package of an inexpensive, commercially available brand of cookie in their opened wrapper

Background Information:

- Having a baby means making many choices. One of the most important and far-reaching ones you make is about the way you will feed your new baby.
- We want to make the best choice we can in everything we do for our children. And breastfeeding IS the natural choice.
- As you watch your baby grow and develop, fed only breast milk, you can be proud of your body's ability to continue nourishing your baby as it did during your pregnancy.
- In the past, no decision needed to be made. A mother gave birth and then fed her baby the breast milk nature provided. Last century science became involved and mothers were led to believe they now had an easy choice between two equals - breast milk or infant formula.
- At times, mothers were even convinced that infant formula was superior to breast milk. Breastfeeding wasn't always encouraged - it wasn't seen to be important. Research shows us that this is not true. In fact, breastfeeding is very important.
- Breast milk is an irreplaceable gift a mother can give to her baby. It is the start in life that nature intended a baby to have.

The Natural Choice for Babies

- Breast milk contains all the nutrients your baby needs for at least the first six months of his life and continues to be the most important part of his diet throughout the first year, supplying half or more of his nutrients till his first birthday and up to one third to his second birthday.¹
- The colostrum your baby receives in the first few days, and the breast milk that follows, contain antibodies that provide resistance to infection.²
- The unique combination of fatty acids and other components in breast milk contribute to optimal brain development, so lack of these in artificially-fed babies may result in lower intelligence.³
- Ensuring your baby has only breast milk for at least six months may help minimize allergy problems.⁴
- Breastfeeding provides optimal development for infants' eyesight, speech, jaw and oral cavity development.^{5,6,7}
- Non-breastfed babies have a lower resistance to disease and are more likely to become sick. Apart from the health benefits, breastfeeding means fewer doctors' visits and less time in hospital with illness.⁸
- Lack of breastfeeding is linked with a higher risk of Sudden Infant Death Syndrome (SIDS or 'cot death').⁹

Lesson 4

- Non-breastfed babies are more likely to develop ear infections.¹⁰
- Artificial feeding may increase the risk of a baby developing juvenile diabetes in the future. It may also increase the risk of heart disease.¹¹

The Natural Choice for Mothers

- Breastfeeding helps your body return to its pre-pregnant state more quickly. Many women also find they lose excess weight while breastfeeding.¹²
- Women who have not breastfed their babies have an increased risk of cancer of the breast and ovaries, heart disease and osteoporosis.¹³
- Breastfeeding can delay the return of menstruation for many women. Apart from convenience, this saves money and lessens the impact of tampons and sanitary napkins on the environment.¹³
- Breastfeeding's contraceptive effect can delay the return of fertility in many women, who exclusively breastfeed their babies of less than six months of age, and have not recommenced their menstrual cycle. This is known as the Lactational Amenorrhea Method of contraception, and is successful in approximately 98 percent of women. If a woman has an unchanging vaginal mucus pattern, there is minimal risk of ovulation, but if the pattern changes, she may need to seek advice if wishing to avoid pregnancy.¹³
- Breastfeeding is usually easy and convenient. Breastfed babies are very portable and you have instant, pre-warmed ready-to-serve food wherever you go.

The Natural Choice for our Environment

- The production and feeding of breast milk have a far lower impact on our environment and world resources than ANY alternative feeding method.¹³
- Breastfeeding saves food resources, fuel and energy.¹³
- No packaging is required and no chemicals are needed for preparation or disinfection.¹³

Excerpt taken from Australian Breastfeeding Association. Breastfeeding-The Natural Choice. Retrieved March 16, 2009 from <http://www.breastfeeding.asn.au/bfinfo/general.html>.

Instructions:

1. Set out the two different types of cookies. Try to ensure that they are a similar variety. For example, if the homemade cookies are chocolate chip, the store-bought ones should also be chocolate chip.
2. Invite all group members to have a cookie. Allow them to eat their cookies. When they have eaten their cookies, ask them which cookie they took and why they took the one they did. Their answers will be easy to correlate to the advantages of breastfeeding and breast milk.
3. The homemade cookies are usually taken quickly, while the inexpensive, store-bought cookies are passed over. Some common reasons given for individuals choosing the

homemade cookies are as follows:

- a) The homemade ones are made with love and they are warm and comforting.
 - b) We know what is in the homemade ones; whereas, we aren't not sure what is in the store bought cookies.
 - c) Homemade cookies come in a nice container, store bought come in a cold box.
 - d) Homemade chocolate chip cookies are quite nearly the world's most perfect food while store bought are okay, but not great.
 - e) Homemade cookies come in all shapes and sizes, whereas store bought are one size fits all.
 - f) If given a choice, most would choose homemade, not store bought.
4. Be prepared for someone to like the predictability of the store-bought cookies and use this as an opportunity to point out the need for an ingredient list on any manufactured product. Although the properties of breast milk are far superior to that of any manufactured infant formula, you may choose to do a comparison of the two. Here are some helpful pieces of information for you to share:

If the baby is born pre-term, breasts produce milk that has a different composition, especially suited for a premature infant. In fact, for premature babies, breast milk can make the difference in life and death. Also, the newborn's first milk, colostrum, is in many ways different from the mature milk. It contains lots of antibodies, and acts as a laxative to purge the newborn's bowels from waste accumulated during the time in utero. Man simply CANNOT duplicate this wonder substance!

Protein in breast milk is mostly whey, which is easier to digest than casein (main protein in cow's milk). Protein of breast milk has high amounts of amino acid taurine, which has an important role in the development of the brain and the eyes.^{14,15,16}

Fats in breast milk are practically self-digesting, since breast milk also contains the enzyme lipase, which breaks down the fat. Fat is the main source of calories for babies - and babies need LOTS of calories to grow well! Also, fat in human milk has large amounts of certain omega-3 fatty acids, which are important for brain development.¹⁹

Vitamins and minerals in human milk are *bioavailable*-meaning they get absorbed well. Breast milk contains substances that enhance the absorption of minerals and vitamins.

Immune boosters. In each feeding mother delivers MILLIONS of LIVING white blood cells to her baby to help baby fight off all kinds of diseases. You will not find these living cells in formula! Also, when mother is exposed to a germ, she makes antibodies to that germ and gives these antibodies to her infant via her milk. Breast milk also contains factors that prevent microbes from attaching, and a long list of other antiviral, antibacterial and antiparasitic factors.²⁰

Hormones and enzymes. Breast milk has lots of digestive enzymes, and also many hormones. These all contribute to

Lesson 4

the baby's well being. Every year scientists find more valuable substances in breast milk. Science is only beginning to understand what all there is in human milk that helps baby's growth and development!^{16,17,18}

Predicted Outcomes:

- Participants will be astounded by the marvelous properties of breast milk and realize that infant formula pales in comparison.

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This activity has been adapted with from Smith, Linda J. (2002). *Coach's Notebook: Games and Strategies for Lactation Education*. Jones & Bartlett Publishers.

how our culture influences infant feeding choices

Time:

- 30-45 minutes

Materials:

- Print the Culture Quote Cards included in the lesson plan.

Background information:

- In countries all over the world women adapt their feeding practices to their own circumstances and the environment they live in. Women adapt to their infant's needs, and infants adapt to their mothers' availability. It is important to note that in every culture, there are circumstances where a mother

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¹ Small, Meredith (1998). *Our Babies, Ourselves: How Biology and Culture Shape the Way We Parent*. Harpswell, ME: Anchor Books.

² Agnew, T., Gilmore, J., and Sullivan, P. (1997). *A Multicultural Perspective of Breastfeeding in Canada*. Minister of Public Works and Government Services Canada.

cannot breastfeed, and also, mothers who choose not to breastfeed for multiple reasons.¹

- Initiation and continuation of breastfeeding is influenced by a complex interplay of culture, social support and socioeconomic status.²
- Parenting, like many life experiences, takes place within the framework of culture. Culture is the accumulation of beliefs, assumptions, customs, superstitions, prejudices and attitudes. Culture shapes the way we interact with one another, the way we parent our children and the decision to breastfeed. Western culture is often out of sync with babies' most basic biological needs. Many modern-day parenting practices discourage breastfeeding, and the emphasis placed on having the 'perfect' figure makes many women insecure about their ability to breastfeed their babies.
- Biology determines babies' needs, but cultural expectations and personal situations influence how parents respond to those needs. During the first few months after a baby is born, parents are bombarded with many choices that will affect their baby's growth and development. When babies' biological needs and existing cultural norms are at odds with each other, parents sometimes make decisions that do not optimize growth and development, and can even be harmful.

Instructions:

1. Print Culture Quotes page and cut apart.
2. Split students into eight groups and give each group one card.
3. Give students five minutes to read and discuss the Culture Quote from their card. Students will answer the following questions:
 - a. How does that culture support or not support breastfeeding?
 - b. How does that culture differ from the United States in their approach to breastfeeding?
4. Have each group read their quote to the class.
5. Have class vote on which country they would like to visit based on the breastfeeding culture.
6. Discuss the law regarding breastfeeding in the United States.

Basically breastfeeding in public IS legal in the United States, though sometimes people simply don't know it and therefore might complain about it. This means you can nurse your baby anywhere that you are allowed to be with the baby. Forty-three states (as of 2009), including Indiana, have passed an additional law that explicitly states that fact. **Note:** These laws exist to *clarify* the legality of breastfeeding. If a state does not have such a clarifying law, breastfeeding in public is still legal.

Predicted outcome:

- Participants will have an understanding of the need for political, social and cultural supports for women and children and that in today's society, we are not valuing children and families.



Time:

- 30 minutes

Background Information:

- The purpose of the interview is to discover how people make decisions about feeding infants. Sometimes the available resources and knowledge for that person can influence these decisions.¹
- Breastfeeding knowledge and resources have changed drastically in the last 25 years. This will become evident as each student works through this exercise.

Instructions:

Part One of Activity

Students are given the task of interviewing a female relative or friend who has had a child in the last 25 years. The student asks the following questions:

- What method did you use to feed your baby?
- How did you come to this decision?
- Did your family help you make that decision?
- What did your doctor advise you to do?
- If you decided to bottle-feed, what made you make that choice?
- If you decided to breastfeed, what made you make that choice?

- What helped you as you breastfed your baby?

- Was the choice you made a popular one for that time, i.e., was it what most of your friends were doing?

Part Two of Activity

Part two will be based on the answers given in part one. If your subject decided to bottle-feed and this was related to difficulties with breastfeeding, find out what local community resources would have helped her with breastfeeding in your local community.

If your subject decided to bottle feed based on her beliefs and values about breastfeeding, find information in the library or on the internet that would support these beliefs or knowledge.


If your subject decided to breastfeed, find out what community resources existing today would have supported her in her continuing to do this. If her decision to breastfeed was based on her beliefs and values about breastfeeding, find information in the library or on the internet that would support these beliefs or knowledge.

Predicted Outcomes:

- Participants will understand that breastfeeding women need correct information and adequate support from family, friends and other mothers to breastfeed successfully.

Reference

¹ Schafer, E., et al. (1998). Volunteer peer counselors increase breastfeeding duration among rural low-income women. *Birth*, 25(2), 101-106.



Breastfeeding Quiz

Time:

- 15 minutes

Materials:

- Breastfeeding quiz

Instructions:

1. Provide students with a copy of the breastfeeding quiz.
2. Allow students 10 minutes to complete the quiz.
3. Talk about the answers with the group using the answer sheet.

Predicted Outcome:

- Participants will have an opportunity to acknowledge the existence of misconceptions related to breastfeeding and to clarify them.

Facilitator Answers:

1. Modern infant formula is very similar or the same as breast milk.

False: Infant formula does not contain the antibodies, living cells, enzymes or hormones present in breast milk. Breast milk is designed for each individual baby and changes over time. Infant formula is made from cow's milk or soy bean and is the same from feeding to feeding.¹

2. Babies that breastfeed get sick less often than babies that formula feed.²

True: Studies show that infants who are formula fed have higher rates of many illnesses such as gastrointestinal diseases, respiratory diseases and middle ear infections.

3. Most people think that breastfeeding in public is unacceptable.³

False: Most people think it's fine for mothers to breastfeed their babies discreetly in public or in front of others. The Indiana Human Rights Code allows a woman to breastfeed her child anywhere the law allows her to be.

4. Most women don't produce enough milk to be able to breastfeed.⁴

False: Virtually all mothers can breastfeed provided they have accurate information and support.

5. Breastfeeding for a year or more makes your baby too dependent.⁵

False: Studies show that babies who have their needs met readily feel secure and loved and become more independent as adults.

6. Mothers who breastfeed must eat special foods.⁶

False: Mothers who breastfeed do not have to eat special foods. Eating according to the United States' MyPlate Food Guide will meet the nutritional requirements to keep the mother healthy and strong.

7. If you breastfeed you are not able to go out and have fun with friends.

False: Mothers who breastfeed can take their baby with them and breastfeed in public places if they wish. They can also leave the baby with a caregiver who can feed a bottle if the baby becomes hungry.

8. If a mother needs to take medicine she can still breastfeed.⁷

True: Most medications are compatible with breastfeeding. If the mother needs to take a medication that is not safe to take while breastfeeding she may decide to pump and discard the milk until she has finished the medication. She should always check with her health care provider before taking any medication.

9. If a mother needs to go back to work after six weeks it is not worth it to breastfeed.

False: Even if the mother breastfeeds for only a day her baby will receive the best nutrition possible and important antibodies. Many mothers return to the workforce and continue to breastfeed.⁸

10. Mothers who have their nipples pierced can still breastfeed.

True: Many women who have had their nipples pierced have successfully breastfed. Nipple rings should be removed.⁹

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Famous Mothers who Breastfed

Time:

- 10 minutes

Materials:

- List of famous mothers who breastfed

Background Information:

- More and more celebrities are sharing publicly that they are breastfeeding! This is an important step because new moms need new role models. Hearing celebrity stories can motivate and inspire women to succeed, as well as help dispel myths and misinformation. Celebrities can be a powerful agent for change.
- Teenagers seek to define themselves through their clothing, jargon, experiences, hairstyles, and, most of all, group associations. Images from popular culture often provide the external basis from which teenagers benchmark their thoughts, opinions and associations.
- Adolescents forge their identities largely in conformance with pop culture images. They perceive such images as the social norm and, thus, as a means to attain the social acceptance that is so vital to their personal maturation.

Instructions:

1. Share the list that appears on the next column with your students and discuss how celebrities are like salespersons. Though they may not explicitly try to persuade their audiences, they are subconsciously altering the thoughts of their publics. This is noticeable through celebrity endorsements, press interviews, apparel worn during public events, items favored by celebrities, celebrity-branded products and celebrities' overall brand image all of which create epidemics of societal acceptance among various social groups.
2. View suggested YouTube videos (optional)
<http://www.youtube.com/watch?v=6htxMJ4cfQs>
<http://www.youtube.com/watch?v=7SM7Hvjqny4> (contains several slang terms used for breasts)

Predicted Outcomes:

- Participants will have an understanding of the role that celebrities play in influencing societal norms.

Famous Mothers who Breastfed

- Hillary Clinton, United States Secretary of State
 - Camila Alves, model
 - Rebecca Romijn, actress/model
 - Diana, Princess of Wales
 - Halle Berry, actress
 - Jennie Garth, actress
 - Gwyneth Paltrow, actress
 - Faith Hill, singer
 - Michael Jordan's mom (breastfed him for 3 years), mother of professional athlete
 - Erykah Badu, singer
 - Pamela Anderson Lee (with implants), actress
 - Madonna, singer and actress
 - Demi Moore, actress
 - Brandy Norwood, singer
 - Mary Lou Retton, gymnast, Olympic gold medalist
 - Salma Hayek, actress
 - Gabrielle Reece, professional athlete
 - Liv Tyler, actress
 - Jennifer Garner, actress
 - Christina Aguilera, singer
 - Gwen Stefani, singer
 - Michelle Obama, First Lady
 - Miranda Kerr, model
 - Mel B, singer
 - Lucy Lawless, actress
 - Miranda Kerr, model
 - Maggie Gyllenhaal, actress
 - Kourtney Kardashian, reality star
 - Kate Middleton, Duchess of Cambridge
 - Pink, singer
 - Tori Spelling, reality star
 - Jessica Simpson, singer
 - Gisele Bundchen, model
 - Shakira, singer
 - Beyonce, singer
 - Snooki, reality star
 - Hillary Duff, actress
- ## Famous Mothers Who Breastfed Twins
- Patricia Richardson, actress
 - Cynthia Watros, actress
 - Angelina Jolie, actress



Thank You for Breastfeeding

Time:

- 15-20 minutes

Materials:

- Pre-written thank-you cards and baby thank you letter.

Instructions:

1. Split class into small groups (use only a portion of the cards if time is limited).
2. Give each group a thank-you card and the baby thank you letter. Give them 10 minutes to read the letter and discuss why the “thank you” statement on the card is something to be grateful for. Then have each group share with the rest of the class.

The gritudes of breastfeeding from baby’s perspective

Thank-you for breastfeeding me because each time you nurse me, I can snuggle close and get to know you.

Skin-to-skin contact has a positive effect on heart rate, respiratory rate, oxygen levels, blood pressure and emotional state. Mother’s voice and eye contact are stimulating and reassuring to baby. The baby can listen to mother’s heartbeat while being fed.¹ Breastfeeding contributes to feelings of attachment between a mother and her child.^{3,4}

Thank-you for breastfeeding me because feeding me on demand has taught me to listen to my body telling me that I am full.

Feeding on demand results in baby’s cues being followed – baby learns to listen to body messages rather than “finishing the bottle.” Less likely to become obese as formula fed babies (dose-dependent, therefore the longer baby is breastfed the less likely he or she is to become obese). ⁹

Thank-you for breastfeeding me because it makes me so smart.

Premature babies who were tube fed breast milk (therefore no difference in skin-to-skin contact) had an IQ that was eight points higher at age 8 years old.² Breastfed babies tested higher on language and intelligence tests at age 3 and 7 even when controlling for parent’s intelligence.¹⁰

Thank-you for breastfeeding me because I have fewer infections.

Decreased gastroenteritis, respiratory infections, meningitis and otitis media.⁵

Thank-you for breastfeeding me because it is safe, convenient and economical. Breast milk doesn’t cost anything except for additional food for mother.⁴

Breastfeeding allows parents to save precious money which can be used to buy other things that baby needs.

Thank-you for breastfeeding me because it requires energy, which helps you to lose weight.

Mothers who breastfeed are more likely to return to their pre-pregnancy weight than mothers who formula feed. Production of breast milk uses 200-500 calories per day, on average, helping with weight loss.⁶

Thank-you for breastfeeding me because it provides you benefits, too.

Protection against osteoporosis (bone loss).

Menstruation is delayed by low level of estrogen hormone providing time to rebuild depleted iron stores. The amount of iron a mother’s body uses in milk production is much less than the amount she would lose from menstrual bleeding. This creates a decreased risk of iron-deficiency anemia.

Decreased incidence of breast, cervical, ovarian and uterine cancers.^{7,8}

Thank-you for breastfeeding me because it gives me comfort to know that you have given me the best possible start in life.

Parents are comforted knowing that breastfeeding has many benefits for their baby and that they are giving baby the best start in life.

Predicted Outcomes:

- Students will gain an appreciation for all of the good things that babies love about breastfeeding.
- Students will hear many of the benefits of breastfeeding again, that benefit babies, families and communities.

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Breastfeeding - **Yes I Can!**

Time:

- 20-30 minutes

Materials:

- A can with cards that contain breastfeeding statements.

Background Information:

- The family and community where the mother lives can have a major influence on her breastfeeding experience.
- Breastfeeding practices and 'rules' frequently exist and if they contradict those accepted as common practice, new parents can become quite confused.
- Women and men should be aware of this problem, but they also need to realize that knowledge and practices are time limited and culturally specific so what is current today may be old tomorrow.

Instructions:

1. Split the class into small groups (use only a portion of the cards if time is limited).
2. Give each group a card with a breastfeeding statement.
3. Each group will discuss their ideas with the class and the teacher will review the "I Can" statements.

Many women do not produce enough milk.

Myth

I CAN produce enough breast milk for my baby.

The vast majority of women produce more than enough milk. Indeed, an overabundance of milk is common. Most babies that gain too slowly, or lose weight, do so not because the mother does not have enough milk, but because the baby does not get the milk that the mother has. The usual reason that the baby does not get the milk that is available is that he is poorly latched onto the breast. This is why it is so important that the mother be shown, on the first day, how to latch a baby on properly, by someone who knows what they are doing.¹

It is normal for breastfeeding to hurt.

Myth

I CAN breastfeed without painful or sore nipples.

Though some tenderness during the first few days is relatively common, this should be a temporary situation that lasts only a few days and should never be so bad that the mother dreads nursing. Any pain that is more than mild is abnormal and is almost always due to the baby latching on poorly. Any nipple pain that is not getting better by day three or four or lasts beyond five or six days should not be ignored. A new onset of pain when things have been going well for a while may be due to a yeast infection of the nipples. Limiting feeding time does not prevent soreness. Taking the baby off the breast for the nipples to heal should be a last resort only. (Source: Some

Breastfeeding Myths, Jack Newman).

Babies need to know how to take a bottle. Therefore a bottle should always be introduced before the baby refuses to take one.

Myth

I CAN breastfeed without giving my baby a bottle in the first four to six weeks.

Though many mothers decide to introduce a bottle for various reasons, there is no reason a baby must learn how to use one. If the mother is going to introduce a bottle, it is better she wait until the baby has been nursing well for four to six weeks and then give it only occasionally. At about 6 months of age, a baby can start learning how to drink from a cup, and though it may take several weeks for him to learn to use it efficiently, he will learn.¹

Breastfeeding in public is decent and acceptable.

Fact

I CAN breastfeed anytime, anywhere.

It is the humiliation and harassment of mothers who are nursing their babies that is not decent. Women who are trying to do the best for their babies should not be forced by other people's hang-ups or lack of understanding to stay home or feed their babies in public washrooms. Those who are offended need only avert their eyes. Children will not be damaged psychologically by seeing a woman breastfeeding. On the contrary, they might learn something important, beautiful and fascinating. They might even learn that breasts are not only for selling beer. Other women who have left their babies at home to be bottle fed when they went out might be encouraged to bring the baby with them the next time.¹

Women whose breasts do not enlarge or enlarge only a little during pregnancy, will not produce enough milk.

Myth

I CAN breastfeed if I have small breasts.

There are a very few women who cannot produce enough milk (though they can continue to breastfeed by supplementing with a lactation aid). Some of these women say that their breasts did not enlarge during pregnancy. However, the vast majority of women whose breasts do not seem to enlarge during pregnancy produce more than enough milk.¹

A mother whose breasts do not seem full may still have plenty of milk in the breast.

Fact

I CAN breastfeed if my breasts don't feel full.

Breasts do not have to feel full to produce plenty of milk. It is normal that a breastfeeding woman's breasts feel less full as her body adjusts to her baby's milk intake. This can happen suddenly and may occur as early as two weeks after birth or even earlier. The breast is never "empty" and also produces milk

Lesson 10

as the baby nurses. Is the baby getting milk from the breast? That's what's important, not how full the breast feels.¹

Breastfeeding a child more than one year, makes the child too dependent.

Myth

I CAN breastfeed my child for longer than one year.

Breastfeeding for 2-4 years was the rule in most cultures since the beginning of human time on this planet. Only in the last 100 years or so has breastfeeding been seen as something to be limited. Children nursed into the third year are not overly dependent. On the contrary, they tend to be very secure and thus more independent. They themselves will make the step to stop breastfeeding (with gentle encouragement from the mother), and thus will be secure in their accomplishment.¹

A mother who smokes can not breastfeed.

Myth

I CAN breastfeed if I am a smoker.

A mother who cannot stop smoking should breastfeed. Breastfeeding has been shown to decrease the negative effects of cigarette smoke on the baby's lungs, for example. Breastfeeding confers great health benefits on both mother and baby. It would be better if the mother not smoke, but if she cannot stop or cut down, then it is better she smoke and breastfeed than smoke and formula feed.¹

Pumping is not a good way of knowing how much milk the mother has.

Fact

I CAN pump or hand express breast milk so others can feed the baby, however, the amount of milk expressed is not a good indicator of how much milk is in the breast.

How much milk can be pumped depends on many factors, including the mother's stress level. The baby who nurses well can get much more milk than his mother can pump. Pumping only tells you how much you can pump.¹

Breastfeeding causes saggy breasts.

Myth

I CAN have breasts that are normal for me.

The risk of breasts sagging increases with each pregnancy, but breastfeeding does not seem to worsen these effects. Expectant mothers should be reassured that breastfeeding does not appear to have an adverse effect upon breast appearance.² Usually, the more weight you gain during pregnancy, the more your breasts will shrink or sag when the added pounds are lost.

References

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Having breast implants or reductions will prevent you from breastfeeding.

Myth

I CAN still breastfeed even if I have breast implants or reduction.

Implants placed below the mother's chest muscle is less likely to affect milk production. Incisions in the fold under the breast is less likely to affect breastfeeding than an incision near the areola, because the milk ducts and vital nerves would not be involved.^{3,4}

Donated human milk is an option for women who are unable to provide milk for their babies.

Fact

I CAN still provide breast milk for my baby, even if I can't produce it myself.

When a circumstance arises and a baby cannot receive its own mother's milk, pasteurized donor human milk offers many of the same benefits for the infant, such as optimal nutrition, easy digestibility, and immunologic protection. Potential donors provide complete medical and lifestyle histories, and undergo blood tests, similar to the screening process used at blood banks. Donated milk is then tested for bacteria and levels of nutrients, and pasteurized to kill any bacteria or viruses. Before the pasteurized milk is dispensed, it is tested to ensure its safety.⁵

Predicted Outcomes:

- Participants will have an opportunity to acknowledge the existence of myths related to breastfeeding and to clarify them with facts.