



Breast Feeding



Objectives

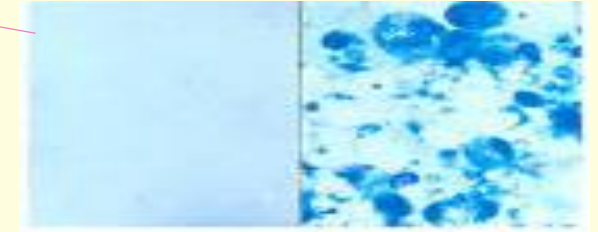
- Introduction
- Breastfeeding definitions
- Breast milk contents
- Advantages of breastfeeding
- Preparation of the prospective mother
- Establishing and maintaining the milk supply
- Technique of breastfeeding
- Expression of breastmilk
- Contraindications



introduction

- Breastfeeding is the normal feeding for infants during the first months of life which can't be replicated.
- It contains over 200 known component.
- Breast milk bring both nutritive & non nutritive (cognition, make personality healthy) signals to the neonate .
- It contain fat ,carbohydrate, proteins, minerals, vitamins, living cells, complements, enzymes, hormones as GH ,cortisol ,insulin ,erythropoietin , thyroxin
- Living cells mainly macrophages, Immunoglobulin and others
- **Colostrum definition:**
- Golden liquid produced in the initial first 5 days sometimes up to 10 days according to the gestational age, like the baby in full term last longer than premature
- **Colostrum Contents :**
- Rich in Immunoglobulin, proteins, stem cells “ from maternal side and paternal side” it's important for inheritance” هذا هو سبب وجود أخوان من الرضاعة

Figure shows the different between human milk and artificial milk “formula”:
Human milk: like blood full of living cells.
Formula milk: blank has no living material.



Content of human milk

Proteins 0.9 g per 100 ml

fat(3.5 g per 100ml)

Carbohydrates **lactose** (7 g per 100 ml)

Mineral **iron** and **zinc** in low amount
& vitamins all except **vitamin D**



Breastfeeding Definitions :



Exclusive breast milk :

- Just breast milk from 1st day of life without water ,herbal tea ,formula or anything “except vitamin supplements ” Until 6 months then the mother give the breast milk + food until 2 years.

Total breast milk:

- Within one week the baby receives exclusive breastfeeding.

Predominant breast milk:

- Mainly breastfeeding but the baby might receives 2 artificial milk per day .

Partial :

- The baby is taking 2 or more Artificial milk .

No :

- Means No breastfeeding , full Artificial milk .



Sub-Optimal Breastfeeding :

Around **32%** of children less than 5 years of age in developing countries are **stunted**¹ and **10%** are wasted.

¹prevent from growing or developing properly.

It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years.



How Do I Know If my Baby is Getting Enough Breast Milk ?

1- Checking his or her diapers – By day 4 or 5 after birth, babies should have at least 6 wet diapers a day.

2-Checking his or her bowel movements – By day 4 after birth, babies should have 4 or more bowel movements a day. By day 5, their bowel movements should be yellow.

3-Having your doctor or nurse check to see if your baby is gaining weight.



The benefit of breast feeding

Important note: The baby has organism on his/her skin, when the mother touch or kiss him or even the baby cough > this organism will go to the maternal GIT “**entromammry circulation**” > then to the lymphoid tissue to form antibodies against this organism > the baby will receive the antibody through the milk

The Breastfed Baby

Immune system.

Responds better to vaccinations. Human milk helps to mature immune system. Decreased risk of childhood cancer.

Skin.

Less allergic eczema in breastfed infants.

Joints and muscles.

Juvenile rheumatoid arthritis is less common in children who were breastfed.

Throat.

Children who are breastfed are less likely to require tonsillectomies.

Bowels.

Less constipation.

Urinary tract.

Fewer infections in breastfed infants.

Appendix.

Children with acute appendicitis are less likely to have been breastfed.

Digestive system.

Less diarrhea, fewer gastrointestinal infections in babies who are breastfeeding. Six months or more of exclusive breastfeeding reduces risk of food allergies. Also, less risk of Crohn's disease and ulcerative colitis in adulthood.

Eyes.

Visual acuity is higher in babies fed human milk.

Ears.

Breastfed babies get fewer ear infections.

Higher IQ.

Cholesterol and other types of fat in human milk support the growth of nerve tissue.

Endocrine system.

Reduced risk of getting diabetes.

Mouth.

Less need for orthodontics in children breastfed more than a year. Improved muscle development of face from suckling at the breast. Subtle changes in the taste of human milk prepare babies to accept a variety of solid foods.

Respiratory system.

Breastfed babies have fewer and less severe upper respiratory infections, less wheezing, less pneumonia and less influenza.

Heart and circulatory system.

Breastfed children have lower cholesterol as adults. Heart rates are lower in breastfed infants.



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Superior health outcomes in breastfed infant

Advantages of breastfeeding

Protection during breastfeeding	Protection after weaning in early childhood	Protection later in childhood
Gastrointestinal and respiratory infections	Gastrointestinal and respiratory infections	Obesity ⁵
Urinary infections	Wheezing	Types I and II diabetes
Sepsis and meningitis	Celiac disease	Leukemia/lyphomas
Atopic dermatitis ¹	Growth faltering	Crohn disease
Food allergies ²	Cognition	Cognition
Wheezing ³	Visual acuity	Strong, secured personality
Necrotizing enterocolitis ⁴	<p>1-The breastfed babies will be at lower risk for getting eczema which is going to be chronic in breastfed babies.</p> <p>2-cause they have disturb reaction to the Antigens"Ag" , b.c the mothers who give their babies Food which have different Antigens, in addition to breastfeeding which will control the immune response to food Ag .</p> <p>3-Bronchial asthma will be less in breastfed baby b.c they've less .</p> <p>4-necrosis in the lumen which might extend to the underlying layer which may lead to Perforation & the baby will have peritonitis & can lead to death .</p> <p>5-الله سبحانه خلق كل شيء بمقدار فالطفل حديث الولادة معدته صغيرة ، و حليب الأم كميته مناسبة لحجم معدته لهذا يكتسب الطفل احساس الشبع غير الي يرضع رضاعة صناعية القارورة حجمها ١٨٠ مل يرضعها ويستفزغ اعزكم الله وتتنوع معدته فيكون معرض للسمنة أكثر</p>	
Celiac disease		
تعرثر النمو Growth faltering		
Visual acuity		

1- Helps the uterus to regress to its size before pregnancy.

2-Losing accumulated fat during pregnancy¹

3-Empowerment^{1,2}.

4-Decrase risk of osteoporosis .

5- Improve blood sugar control for diabetics .

Benefits of breastfeeding for mothers :

6-Decrease the incidence of high cholesterol ,diabetes ,breast, cervical , ovarian, uterine cancers, less chance for gallstone formation and rheumatoid arthritis .

7-Bonding ,decrease post partum depression³.



Notes :

1-حاطة رجل ع رجل وفالة أمها وتحرق ٥٠٠ كالوري وغيرها يتعذب عالسير "say ماشاءالله"

2-because she achieved something by helping her baby to be healthy , strong & smart.

3-because she keep on hugging & kissing the baby all the time .



what is Colostrum? oColostrum = Baby's first vaccination

secreted in the **first 2–3 days** after delivery. about **40–50 ml** on the first day **sIgA** contains a larger percentage of protein, minerals and fat-soluble vitamins (**A, E and K**) than later milk

It is the often yellow referred to as "**liquid gold**" and sometimes clear fluid that is released by a new mother's breasts before her breast milk comes in.

This fluid has often been and it resembles blood more than it does milk as it contains protective white blood cells capable of attacking harmful bacteria.

Colostrum provides a new baby high levels of antibodies from his/her mother and it also acts to "seal*" the inside of the baby's intestines thus preventing the invasion of bacteria.

Colostrum is an ideal first food for baby as it is high in protein and low in sugar and fat, thus making it easy to digest.

Anti-microbial Activity of Breast Milk

Breast milk contains many factors that help to protect an infant against infection including:

- **Immunoglobulin**, principally (**IgA**), which coats the intestinal mucosa and prevents bacteria from entering the cells.
- **White blood cells** which can kill micro-organisms.
- **Whey proteins** (**lysozyme** and **lactoferrin**) which can kill bacteria, viruses and fungi.
- **Oligosaccharides** which prevent bacteria from attaching to mucosal surfaces.



When the baby is premature baby or sick the mother should save the colostrum for her baby By:

- manual expression by the hand
- Direct sucking by the baby

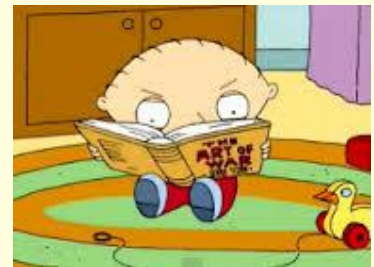
Why some mothers choose formula vs. breast milk



Mother's milk vs. formula milk

Human milk is designed to support the development of large brains, capable of processing and storing lots of information.

Cows milk is designed to support functions, like constant grazing



Contraindication of breast feeding

Infections

Mothers who are positive for HIV

Untreated brucellosis

Active or untreated tuberculosis (use expressed milk)

Active herpes simplex on her breast (use expressed milk)

Mothers with H1N1 influenza, temporarily be isolated until become afebrile

Diseases of mother or neonate

Mother on medications that can be secreted in milk

Mothers who are receiving diagnostic or therapeutic radioactive isotopes. **CANCER**

Infant with galactosaemia

Conditions that are not contraindications to breastfeeding

Mothers with:

Hepatitis B

Hepatitis C



Preparation of the prospective mother

Most women are physically capable of breastfeeding, provided they receive sufficient encouragement and are protected from discouraging experiences and comments while the secretion of breast milk is becoming established.

Physical Factors: leading to a good breastfeeding include: good health, having enough rest, freedom of worry, treatment of any disease, and adequate nutrition.
Retracted & inverted nipples.



Establishing and maintaining the milk supply

The most satisfactory stimulus to the secretion of human milk is regular and complete emptying of the breast; milk production is reduced when the secreted milk is not drained.

The breastfeeding should begin as soon after delivery as the condition of the mother and the baby permits, preferably within the first hour. (the most important one)

If the baby grasps the most of the areola when he sucks the milk will eject easily .
But if the sucking is in the small projection of the nipple the milk will not eject >> causes "nipple sores" and ulceration

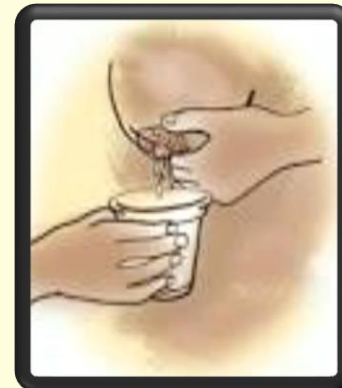
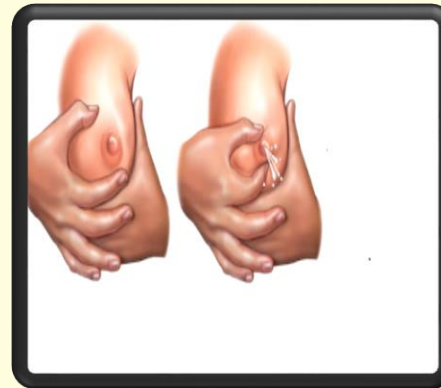
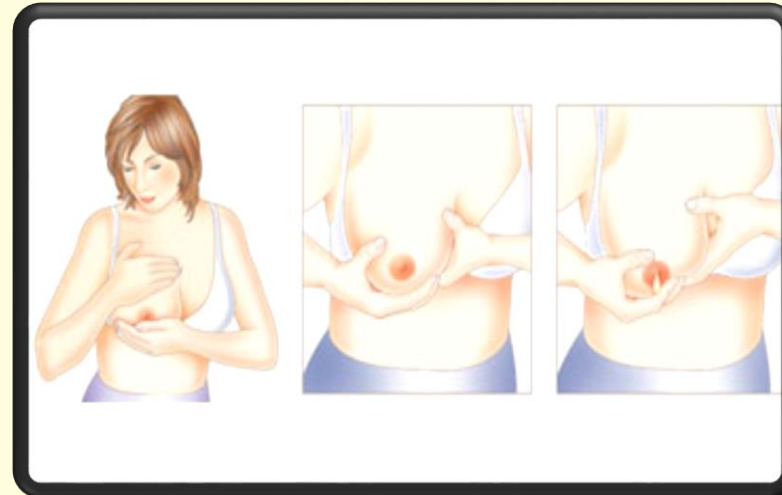


Breastfeeding position



Helpful in cas caesarean section

Manual expression of breast milk



Expression of breastmilk



We have many types of breast pump such as:

- Manual
- electrical

Extra info

- Formula milk has abnormal antigens ,immune system not developed yet so it's disturbing immune system which not capable to fight , so it will fail, baby might have over-respond of immune system in a haphazard way > that's why they high risk of allergic diseases such as eczema , bronchial asthma .. Other immune mediated disease such as chron's , celiac , ulcerative cholitis
- Their immune system very weak because maternal milk contain antibodies and memory cells against antigen she had exposed
- Less constipation because mother milk act as laxsitives, loos and frequent stool and not foul smelling compared to artificial milk
- GI : mainly they have IgA cover GIT and respiratory tract, it locks the site of organism adherence, so organism has no chance to penetrate
- barrier
- Mother milk changing according his demand of growth
- Babies with full breastfeeding they have much less risk to develop DM1(associated with immunity)
- Smell of mother nipple and milk improving circulation to frontal lobe which is the center for cognition and emotion
- IQ : premature babies on breastfeeding they have 10 points higher than who are premature on formula milk
- But full term higher about 4-5 points



MCQs

Q1 what component of breast milk and colostrum is related to inheritance?

- A. Immunoglobulin
- B. proteins
- C. stem cells
- D. Steroid hormones

Q2 when the baby is mainly breast feed it's called?

- A. Exclusive breast milk
- B. Predominant breast milk
- C. Total breast milk
- D. Partial

Q5 which one of the follow in are not Contraindicate to breast feed ?

- A. positive for HIV
- B. therapeutic radioactive isotopes
- C. Hepatitis C &B
- D. On antiepileptic drugs

Q3:which of the following is not present in human milk?

- A. RBC
- B. WBC
- C. Vitamins
- D. Proteins
- E. Fat

Q4 which one of the following vitamins is not secreted in breast milk ?

- A. Vitamin A
- B. Vitamin D
- C. Vitamin B12
- D. Vitamin C

- 1- C
- 2- B
- 3- A
- 4- B
- 5- C



SAQs

Q1 name 5 of the benefits of breast feeding on the baby?

Decrease possibility of:

- Necrotizing enterocolitis
- Celiac disease
- Types I and II diabetes
- Leukemia/lymphomas

Baby who are breastfeed have Higher IQ

Q3 name 3 cases where the mother is contradicted to breast feed her baby?

- decrease post partum depression
- Decrease possibility of development of cervical , ovarian, uterine cancers
- Improve blood sugar control for diabetics

Q2 explain briefly how can breast feeding protect against infections ?

Immunoglobulin, principally (IgA), coats the intestinal mucosa and prevents bacteria from entering the cells.

White blood cells which can kill micro-organisms.

Whey proteins (lysozyme and lactoferrin) which can kill bacteria, viruses and fungi.

Oligosaccharides which prevent bacteria from attaching to mucosal surfaces.

Also the mother body can make specific antibodies to the baby current infection through



Thank You for checking Our Team work

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