



## Well newborn care and Breast feeding



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Fifth year 22-23

# Breast feeding intended learning out comes

- Describe the main constituents of human milk and their function
- Understand the role of the doctor in supporting and advocating for breastfeeding
- Appreciate the wider social, cultural and political influences on infant feeding
- Appreciate the importance of human milk and breastfeeding to human health
- Appreciate low rate of exclusive breast feeding , national and international
- Understand composition of breast milk and. Its difference from cow;s milk
- What is Baby friendly hospital
- Understand the anatomy and physiology of lactation (during Ob @ Gyne rotation)
- Be able to list the key practices that facilitate the initiation and maintenance of breastfeeding
- Understand the national and international support of Breast feeding
- importance of the WHO International Code of Marketing of Breastmilk Substitutes and subsequent WHA resolutions (the Code) and how it impacts on practice

# Well newborn care intended learning out comes

- **Learning Objectives**

- Describe Apgar Score
- Understand when the baby need to be assessed
- Understand Voiding and stooling Pattern
- Understand the risks for hemorrhagic disease of newborn , and outline anticipatory guidance that may be preventive
- Identify the most common benign newborn problems after birth delineate appropriate guidance
- Identify types of mandatory neonatal screen
- SIDs

# *Primary Reference: Attached in e learning module*

## **Care of well newborn reference**

**1.** Benitz WE, Committee on Fetus and Newborn. AAP Policy Statement – Hospital Stay for Healthy Term Newborns. Pediatrics. 2015;135(5): 948-953.

<https://pediatrics.aappublications.org/content/135/5/948>

## **2 Lancet series on breast feeding**

<https://www.thelancet.com/series/breastfeeding>

**3.** Videos. For breast Feeding support to mothers

[https://globalhealthmedia.org/language/arabic/?\\_sft\\_topic=breastfeeding](https://globalhealthmedia.org/language/arabic/?_sft_topic=breastfeeding)



# Prenatal visit :

## Why

- Identification of **maternal risk factors (History /PE/Investigations)**
- Support breast feeding
  - GIVE parents **parentally** clear and unbiased information should be given to the family
    - Regarding the **benefits of breastfeeding** for both mother and infant
    - Breast feeding management in **delivery room , room in and postnatally**

Breastfeeding is the physiologic norm for mammalian mothers and babies



# Benefits of Breastfeeding

## MOTHER



Lowers risk of Breast & Ovarian cancer



Helps with weight loss



Oxytocin & Prolactin hormones help with PPD



Reduces uterine bleeding



Save money spent on formula

Categories: [Heart News](#) | Published: January 11, 2022

Breastfeeding reduces mothers' cardiovascular disease risk, review found

Journal of the American Heart Association Report

# Exclusive Breast Feeding (EBF)

Breast feeding for the first six months of age

is defined as

- feeding infants only breast milk,
- can be directly from breast or expressed,
  - except drops or syrups consisting of vitamins, mineral supplements or medicine

- (World Health organization (WHO)
- American Academy of Pediatrics (AAP)
- American College of Obstetrics and Gynecology (ACOG).



# Maintenance of breast feeding

- To be continued, with the addition of solid foods, for at least 12 months
- Best 18-24 months

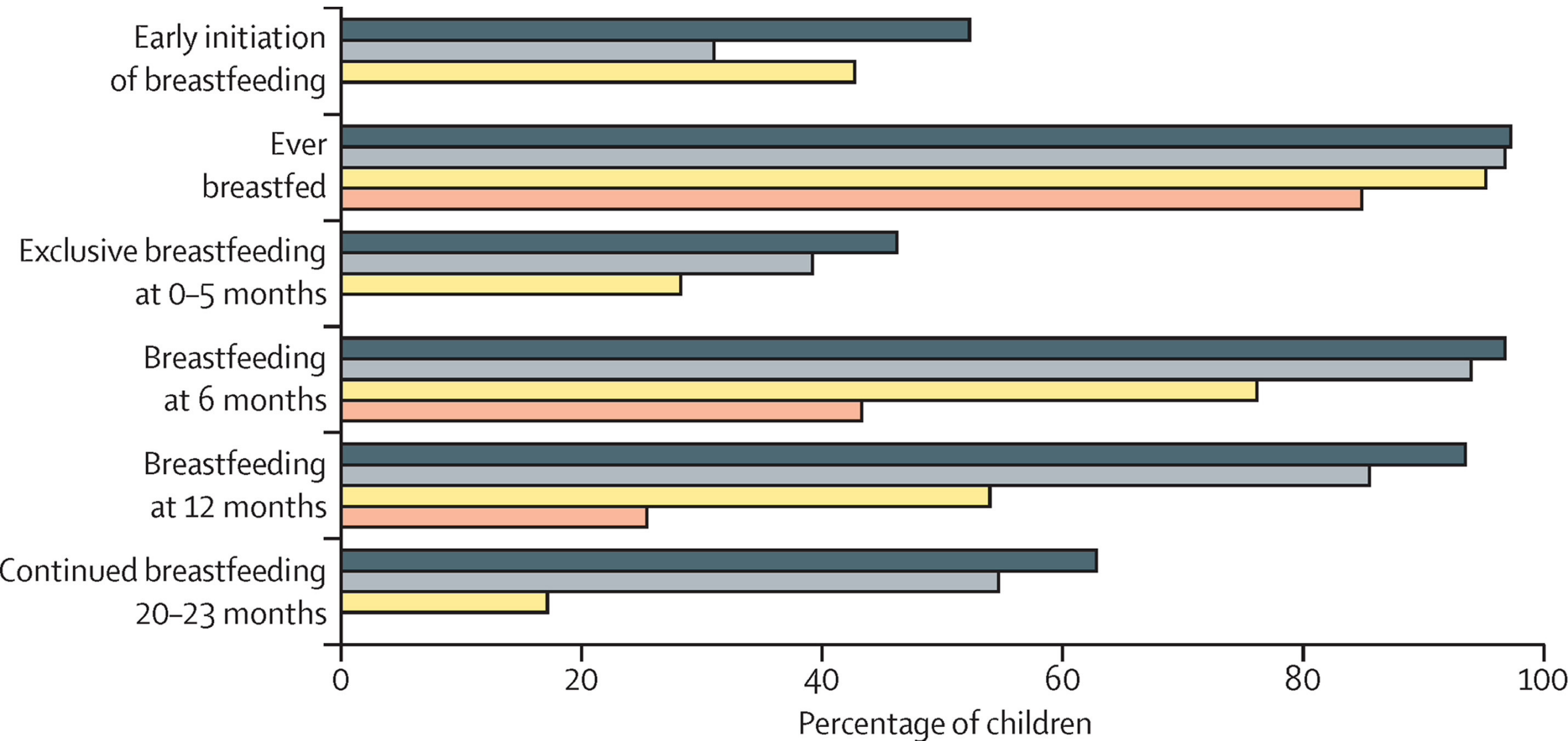
# Breast feeding rate in Jordan

Only 26 %

[1] Jordan Population and Family Health Survey. 2017-2018

[2] UNICEF 2020. Global Data base

Indicators for exclusive breast feeding



Low income Lower-middle income Upper-middle income High income

Why EBF

SERIES | BREASTFEEDING | VOLUME 387, ISSUE 10017, P491-504, JANUARY 30, 2016

## Why invest, and what it will take to improve breastfeeding practices?

Nigel C Rollins, MD · Nita Bhandari, PhD · Nemat Hajeebhoy, MHS · Susan Horton, PhD · Chessa K Lutter, PhD · Jose C Martines, PhD · et al. Show all authors · Show footnotes

Published: January 30, 2016 · DOI: [https://doi.org/10.1016/S0140-6736\(15\)01044-2](https://doi.org/10.1016/S0140-6736(15)01044-2) · Check for updates

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Summary

### Summary

References

Despite its established benefits, breastfeeding is no longer a norm in

Request Your  
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to the Lancet journal

**ESTIMATED COSTS  
ASSOCIATED WITH  
GLOBALLY, NOT BREASTFEEDING AMOUNT TO**

**\$300**  
BILLION ANNUALLY



The Lancet Breastfeeding Series

Not breastfeeding is associated with

- lower intelligence
- Economic losses of about \$302 billion annually or 0.49% of world gross national income.



## Breastfeeding for a Healthier Planet

**IMPROVING** BREASTFEEDING  
PRACTICES  
COULD SAVE MORE THAN  
**820,000**  
LIVES A YEAR



SOURCE: THE LANCET  
BREASTFEEDING SERIES

# Breastfeeding

No water

No waste

No energy

No pollution

No irrigation

No transport

No packaging

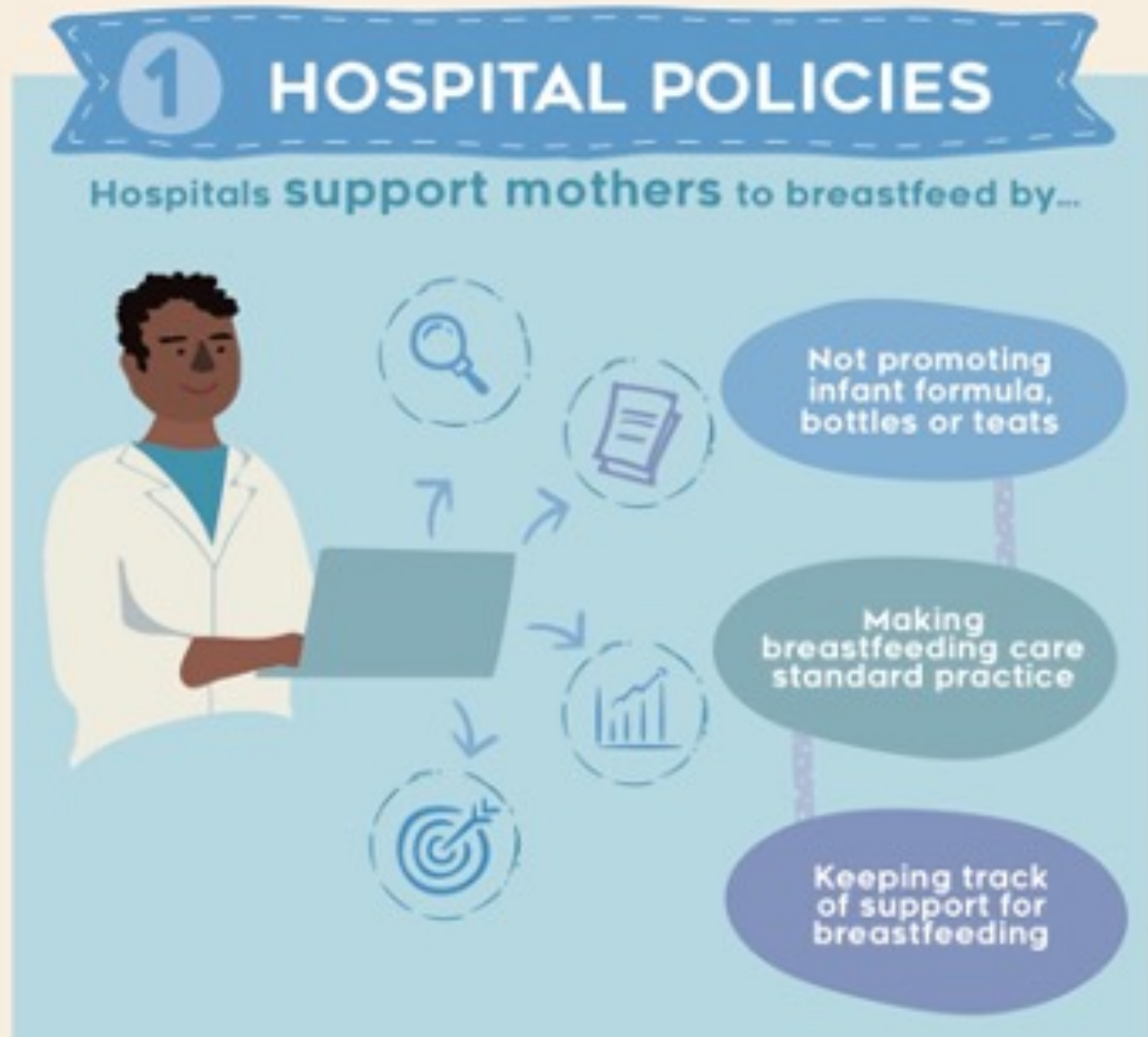
Totally  
environmentally friendly



[www.breastfeeding.asn.au](http://www.breastfeeding.asn.au)



## The **TEN STEPS** to Successful Breastfeeding



# The TEN STEPS to Successful Breastfeeding

## 2 STAFF COMPETENCY

Hospitals support mothers to breastfeed by...

Training staff on supporting mothers to breastfeed

Assessing health workers' knowledge and skills



## 3 ANTENATAL CARE

Hospitals support mothers to breastfeed by...



## 4 CARE RIGHT AFTER BIRTH

Hospitals support mothers to breastfeed by...



World Health  
Organization

unicef 



# The TEN STEPS to Successful Breastfeeding

## 5 SUPPORT MOTHERS WITH BREASTFEEDING

Hospitals support mothers to breastfeed by...



Checking positioning, attachment and suckling

Giving practical breastfeeding support

Helping mothers with common breastfeeding problems

## 6 SUPPLEMENTING

Hospitals support mothers to breastfeed by...



Giving only breast milk unless there are medical reasons

Prioritizing donor human milk when a supplement is needed

Helping mothers who want to formula feed to do so safely

## 7 ROOMING-IN

Hospitals support mothers to breastfeed by...



Letting mothers and babies stay together day and night

Making sure that mothers of sick babies can stay near their baby

## 8 RESPONSIVE FEEDING

## 9 BOTTLES, TEATS AND PACIFIERS

## 10 DISCHARGE

# The TEN STEPS to Successful Breastfeeding

## 8 RESPONSIVE FEEDING

Hospitals support mothers to breastfeed by...



Helping mothers know when their baby is hungry

Not limiting breastfeeding times

## 9 BOTTLES, TEATS AND PACIFIERS

Hospitals support mothers to breastfeed by...



Counsel mothers on the use and risks of feeding bottles, teats, and pacifiers



## 10 DISCHARGE

Hospitals support mothers to breastfeed by...

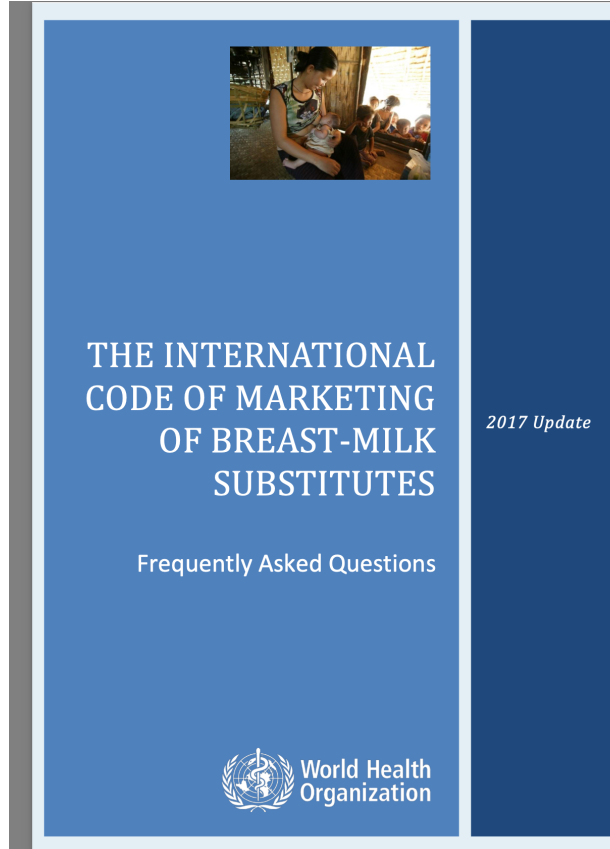


Referring mothers to community resources for breastfeeding support

Working with communities to improve breastfeeding support services

# نظام ضبط تسويق بدائل حليب الأم

- The Code is a set of recommendations to regulate the marketing of breast-milk substitutes, feeding bottles and teats.
- The Code aims to stop the aggressive and inappropriate marketing of breast-milk substitutes.



The Code represents an expression of the collective will of governments to ensure the protection and promotion of optimal feeding for infants and young children

<https://apps.who.int/iris/bitstream/handle/10665/254911/WHO-NMH-NHD-17.1-eng.pdf>

World Health Organization

Global database on the Implementation of Nutrition Action (GINA)

Home Map Policies Programmes / actions Mechanisms Commitments About GINA

**Policy - المدونة الاردنية لحماية وتشجيع الرضاعة الطبيعية - (Jordanian code for protecting and promoting breastfeeding)**

Date: 2009 Published by: Ministry of Health  
Published year: 2009 Is the policy document adopted?: No / N  
Type of policy: Legislation relevant to nutrition

File upload: JOR 2009 Code for Protecting and Promoting Breastfeeding.pdf

Reference: WHO Global Nutrition Policy Review 2009-2010 / Link to eLENA "Regulation of marketing breast-milk substitutes": [http://www.who.int/entity/elena/titles/regulation\\_breast-milk\\_substitute...](http://www.who.int/entity/elena/titles/regulation_breast-milk_substitute...)

<https://extranet.who.int/nutrition/gina/en/node/17827>

## نظام ضبط تسويق بدائل حليب الأم

المادة 1

يسمى هذا النظام (نظام ضبط تسويق بدائل حليب الأم لسنة 2015) ويعمل به من تاريخ نشره في الجريدة الرسمية.

المادة 2

يكون للكلمات والعبارات التالية حيثما وردت في هذا النظام المعاني المخصصة لها أدناه ما لم تدل القرينة على غير ذلك:-

الوزارة	:	وزارة الصحة .
الوزير	:	وزير الصحة .
بدائل حليب الأم	:	الحليب أو المنتج الغذائي الذي يسوق أو يعرض بأي شكل على أنه بديل جزئي أو كلي لحليب الأم للطفل الرضيع دون السن وتشمل المنتجات المنصوص عليها في المادة (3) من هذا النظام.
تركيبة حليب الرضع	:	المنتج الذي يصنع وفقاً لمعايير محددة ليفي بالمتطلبات الغذائية للرضع دون السنة أشهر وفقاً للمواصفة القياسية الأردنية.
حليب المتابعة للرضع	:	المنتج الذي يصنع ليفي بالمتطلبات الغذائية للرضع منذ الشهر السادس وفقاً للمواصفة القياسية الأردنية.
التركيبة الخاصة لتغذية الرضع	:	المنتج الذي يصنع ليفي وحده بالمتطلبات الغذائية الخاصة بالرضع الذين يعانون من خلل أو مرض ما أو من حالة صحية تقتضي نظاماً غذائياً خاصاً خلال الأشهر الأولى من حياتهم وإلى حين تقديم مكمل غذائي لهم .
الأغذية التكميلية	:	الأغذية التي تستعمل مكملاً للرضاعة الطبيعية أو غير الطبيعية لتحقيق المتطلبات الغذائية للرضع بسبب عدم كفاية الرضاعة الطبيعية.

حليب المتابعة للرضع	:	المنتج الذي يصنع ليفي بالمتطلبات الغذائية للرضع منذ الشهر السادس وفقاً للمواصفة القياسية الأردنية.
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التسويق	:	استعمال أي وسيلة إعلان مرئية أو مسموعة أو مقروءة , أو أي مجسم أو أي وسيلة لعرض المذكرات أو الارشادات أو بطاقات التعريف أو صفائح العرض أو الصور أو الأفلام أو البضائع بأي صورة للإعلان عن بدائل حليب الأم أو الترويج لها أو توزيعها أو بيعها بطريقة مباشرة أو غير مباشرة لتشجيع الشخص على شراء هذه البدائل أو استعمالها .
اللجنة الفنية	:	اللجنة المشكلة وفقاً لأحكام المادة (12) من هذا النظام.
لجنة المتابعة	:	اللجنة المشكلة وفقاً لأحكام المادة (13) من هذا النظام.
الموزع	:	الشخص الطبيعي أو المعنوي الذي يسوق أو يوزع بدائل حليب الأم.
بطاقة التعريف	:	البطاقة أو السمة أو العلامة أو الصورة أو المادة الوصفية أو المكتوبة أو المطبوعة أو الملصقة أو المعلقة لأي من بدائل حليب الأم.

المادة 3

- 1- تعتبر من بدائل حليب الأم أي من المنتجات التالية:-
- 2- تركيبة حليب الرضع.
- 3- أغذية الرضع .
- 3- حليب المتابعة للرضع .

يعاقب كل من يخالف أحكام هذا النظام بالعقوبات المنصوص عليها في قانون الصحة العامة.

<https://jordanianlaw.com/> الأنظمة/نظام-

ضبط-تسويق-بدائل-حليب-الأم/

# CASE

## Prenatal visit

**Q1. What are the 2 steps applied in the delivery room to support this Mom to Breast Feed her baby?**

# Baby Friendly Hospital Initiative

- BFHI is a global movement, spearheaded by WHO and UNICEF that aims to give every baby the best start in life by creating a health care environment where breastfeeding is the norm.
- Maternity wards and hospitals applying the principles in the joint statement are being designated baby friendly to call public attention to their support for sound environment.

## Goals of the Baby-friendly Hospital Initiative

1. To transform hospitals and maternity facilities through implementation of the “Ten steps”.
2. To end the practice of distribution of free and low-cost supplies of breast-milk substitutes to maternity wards and hospitals.



Delivery room  
management of well  
term newborn

First do **skin-to-skin** contact to maintain  
his or her temperature (30-60min)



# Breast feeding initiation

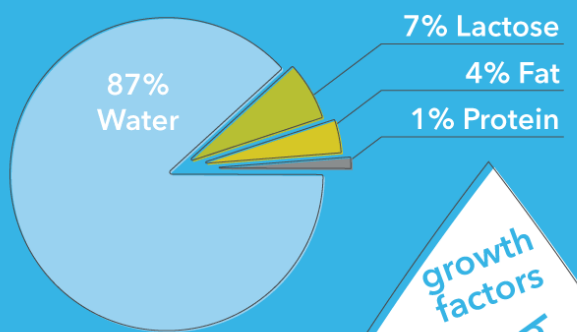
- The infant should be encouraged **to breastfeed** as soon as possible and **within the first hour of birth**






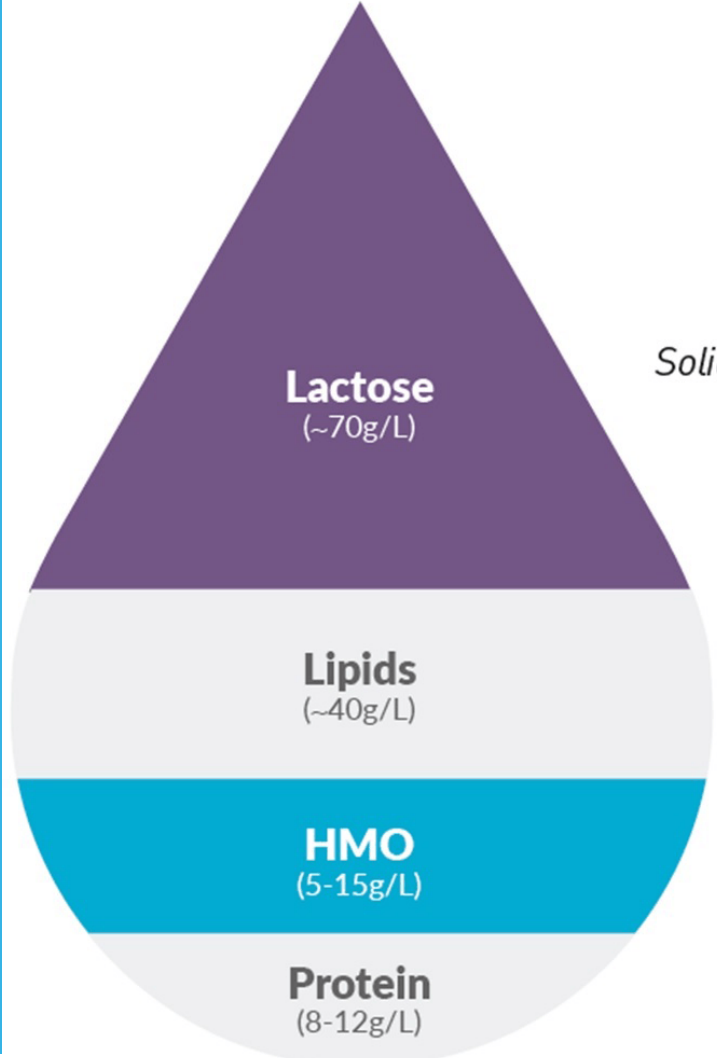
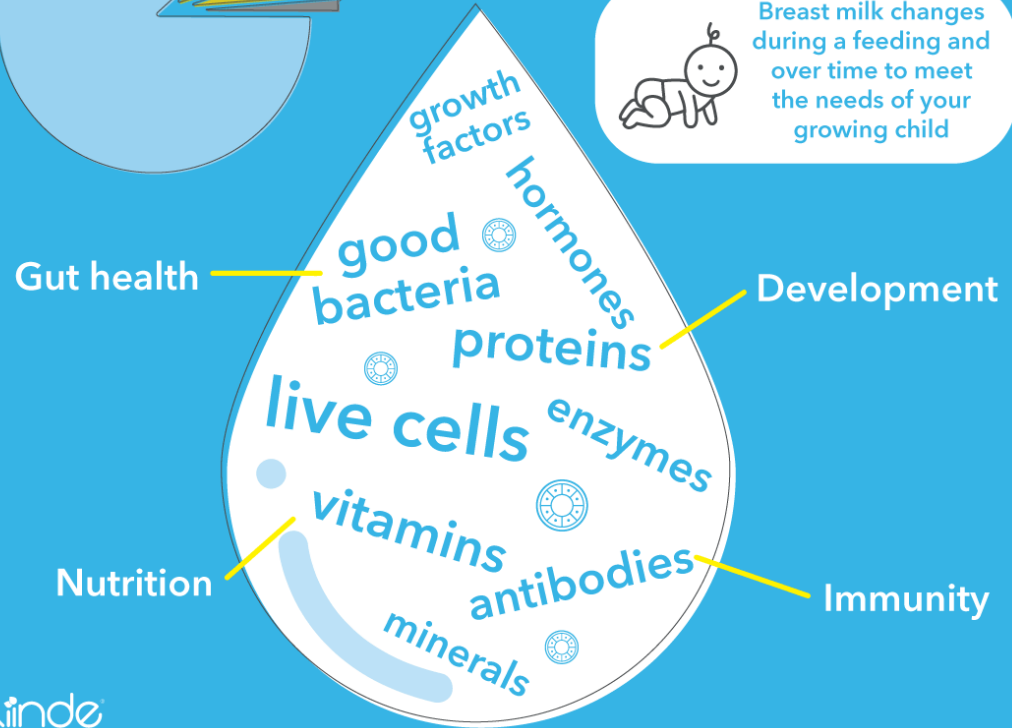
# Componets of Breast milk

HAVE YOU EVER WONDERED  
**What's in breast milk?**



 Lactose and fat provide most of the energy in breast milk

 Breast milk changes during a feeding and over time to meet the needs of your growing child







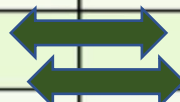




*Solid components in breast milk*

kiinde

**Nutrient breakdown of breast milk**



## Comparison of human milk with cow's milk (values per 100g)

Nutrient	Human milk	Cow's milk
Water(g)	88	87.5
Energy (kcal)	65	67
Protein(g)	1.1 	3.2 
Carbohydrate(g)	7.4 	4.4 
Fat(g)	4.2 	3.9 
Calcium(mg)	28	120 
Phosphorus(mg)	11	90 
Iron(mg)	-	0.2 
Carotene(mcg)	137	174
Thiamine(mcg)	0.02	0.05
Riboflavin(mcg)	0.02	0.19
Vitamin C(mg)	3	2
Caseinogen/ Lactalbumin ratio	1:2	3:1

*Source: National Institute of Nutrition ICMR, Hyderabad*

# Breast Milk vs Cow and Infant Formula Composition

Content per liter	Human	Cow	Infant Formulas		
			Preterm	Conv.	Milk-free
Energy (kcal)	690	660	676	676	676
Protein (g)	9	35	20	18	17
Taurine (mg)	80-40	1	48-57	40	
Fat (g)	45	37	35	35	35
Carbohydrates	68	49	74	79	75
Lactose	68	49	30	55	0

Whey/Casein ratio of 80/20 – 60/40

Whey/Casein ratio of 20/80

# Vitamins

- Vitamin A, C and E**
- Water soluble Vitamin D**
- Low in vitamin K**
- B1 and Vitamin C**

More than cow's milk

Protects from rickets

Need K supplement

Completely absorb

**Q2. What information's you need to give the Parents to convince them that Vitamin K injection is needed to be given in the first hour after Birth?**

# Vitamin K

- Vitamin K is an important clotting factor synthesized by intestinal bacteria.
- All neonates are born with low levels of vitamin K because of:
  - the absence of gut flora
  - low levels of transplacental passage
  - inability of the fetal liver to store vitamin K.
  - **Human breast milk is a poor source of vitamin K**
- **Vitamin K–deficient bleeding** (formerly known as hemorrhagic disease of the newborn) can occur:
  - directly after birth
  - or many weeks later (2-12 weeks)
- PRESENT AS.
  - (Vitamin K–deficient bleeding )
    - presenting as skin bruising, mucosal bleeding, bleeding at the umbilicus and circumcision site, or even fatal intracranial hemorrhage. Large hematomas at injection sites or on the head after delivery also may be presenting signs.

# Vitamin K

- Maternal risk factors for the infant's development of vitamin K–deficient bleeding include:
  - antiepileptic, antituberculin, and other vitamin K antagonist medications.
    - Infants born to mothers taking anticonvulsant (eg, phenytoin, barbiturates, carbamazepine) or antituberculosis medication (eg, rifampin, isoniazid)
- Vitamin K given to all babies after delivery in an intramuscular injection has been shown to prevent both early and late forms of bleeding.



# TYPES OF BREAST MILK

- Colostrum or Early Milk
- Transitional Milk
- Fore milk
- Hind milk

# COLOSTRUM

- During the first **two or three days** after delivery thick and yellowish fluid is secreted from the mammary gland.
- This differs from the regular milk and is called colostrum.
- It is secreted in **small quantity** of about 10-40 ml.
- it is **rich in protein**.
- The **total fat content** of colostrum **is less than** mature milk.
- Concentration of arachidonic acid and docosahexaenoic acid (DHA) as percent of total fatty acids is higher in colostrum than mature milk.

## ○ **TRANSITION MILK**

During the next two weeks, the milk increases in quantity and changes in appearance and composition is called transition milk.

The immunoglobulin and protein content decreases while the fat and sugar content increases.

Exclusive breast feeding of colostrum and transition milk minimizes infection related to neonatal death.

The composition of milk changes even during the length of a single feed to exactly suit the need of a particular baby.

○ **FOREMILK-** The milk that comes at the start of a feed is called foremilk. Foremilk which is watery has a low level of fat and is high in lactose sugar, protein, vitamins, minerals and water. It satisfies the baby thirst.

○ **HIND MILK:** Hind milk which comes later in a feed is richer in fat, it satisfies the baby's hunger and supplies more energy than foremilk. Babies who are fed fore and hind milk sleep well and grow healthy.

# Benefit of Breast feeding

## **Importance of breastfeeding.**

1. Benefits for infant.
2. Benefits for mother.
3. Benefits for society.
4. During emergency.



# Components of Breast Milk

## IMMUNOLOGICAL BENEFITS

<b>Immunoglobulins (IgA ,IgM, IgE, EgD)</b>	Protective against bacterial and virus infections
<b>Bifidus Factors</b>	Promotes formation of healthy bacterial colonization in infant's lower GI
<b>Lactoferrin</b>	Iron binding protein that reduces the availability of iron to bacteria in the GIT
<b>Lacto peroxidase</b>	Destroys bacteria
<b>Lysozyme</b>	Kills bacteria by destroying the cell wall

# Benefits of breastfeeding

## Anti-microbial components

- **Protein**

- Lactoferrin has antimicrobial activity.
- Lysozyme is active against bacteria by cleaving cell walls.
- IgA is synthesized ( by plasma cells against specific antigens)

- **Lipid** ( Components of lipid metabolism

- may be involved in improving host defenses against microbial agents)
- eg . Products of lipid hydrolysis, free fatty acids and monoglycerides, have a detergent-like **property that lyses** viruses, bacteria, and protozoa, such as Giardia.

- **Carbohydrate**

- Human Oligosaccharides (HMO) can change the intestinal bacterial flora by facilitating the **growth of bifidobacteria** and Lactobacillus species

- **WBC** :

- Human milk contains white blood cells, 90 percent of which are neutrophils and macrophages. These cells contribute to antimicrobial activity through phagocytosis and intracellular killing

# *Advantages to the infant:*

1. Human milk is **warm, ready @ available , sterile** and perfectly balanced (in protein, carbohydrate, fat and vitamin and does not cost anything).
2. It is more easily digested than cow's milk. (Breast milk has more why protein)
3. Breast-fed infants have greater immunity to certain childhood diseases (it provides immunologic factors to certain disease).
4. Infants are less likely to have gastro-intestinal disorders, anemia and vitamin deficiency.
5. Infants are less likely to acquire infection in homes where cleanliness is difficult to attain.
6. Infant **is secure through constant contact** with his mother and this has an effect on the child's psychology and development.





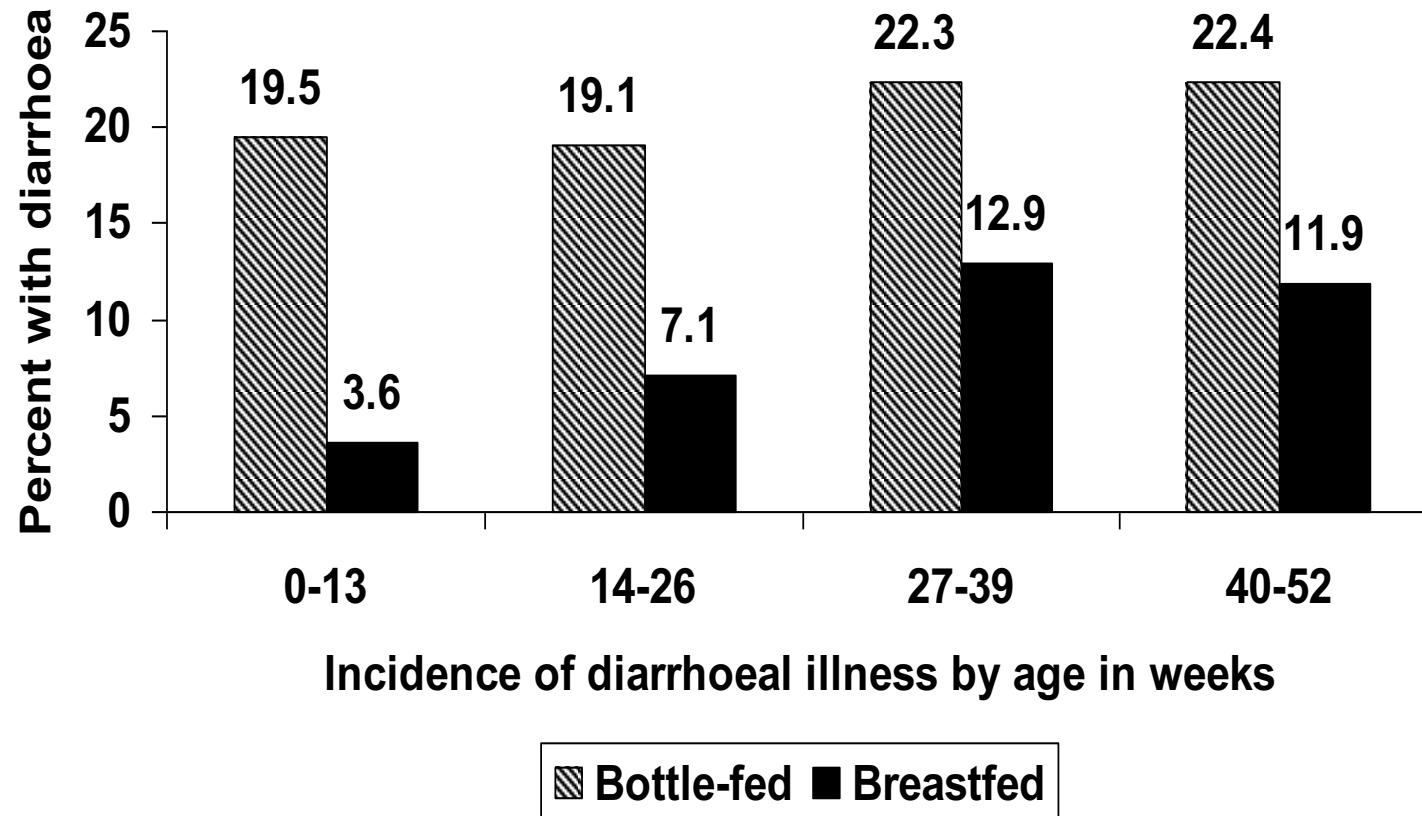
# benefits of breastfeeding

## Gastrointestinal function

- Several components of human milk stimulate gastrointestinal maturity including:
  - **growth factors** ( due presence of hormones, Growth factors, Anti-inflammatory agents )
  - **Motility** (which enhance the maturity of the gastrointestinal tract. )
  - factors that are protective and **decrease the risk of necrotizing** enterocolitis and other infections
  - Immunoglobulins IgA and IgG
  - Keep normalization. Of Intestinal microbiome Beneficial microbes . (colonization by the beneficial microbes of the Bifidobacteria and Lactobacilli )

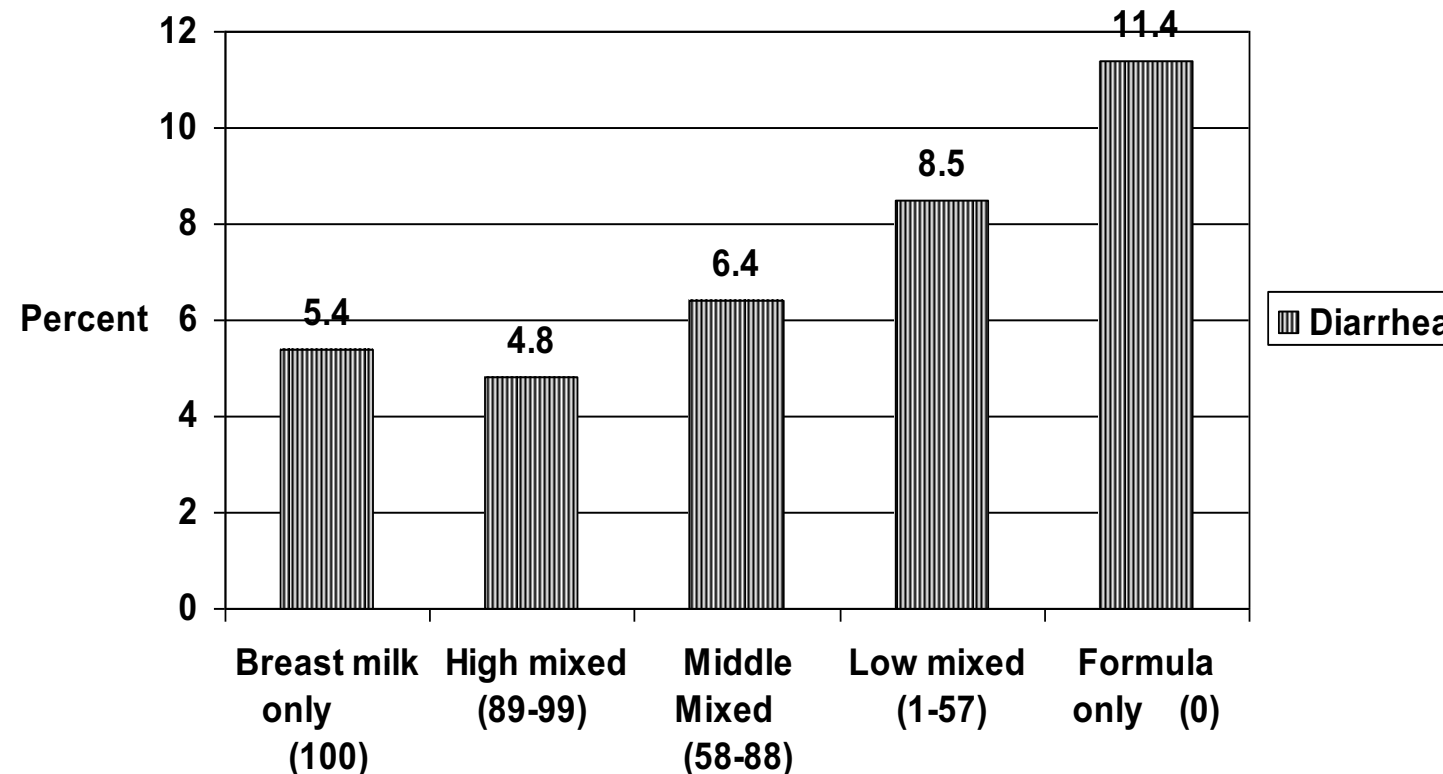
# Protective effect of breastfeeding on infant morbidity

Percentage of babies bottle-fed and breastfed for the first 13 weeks that had **diarrhoeal illness** at various weeks of age during the first year, Scotland



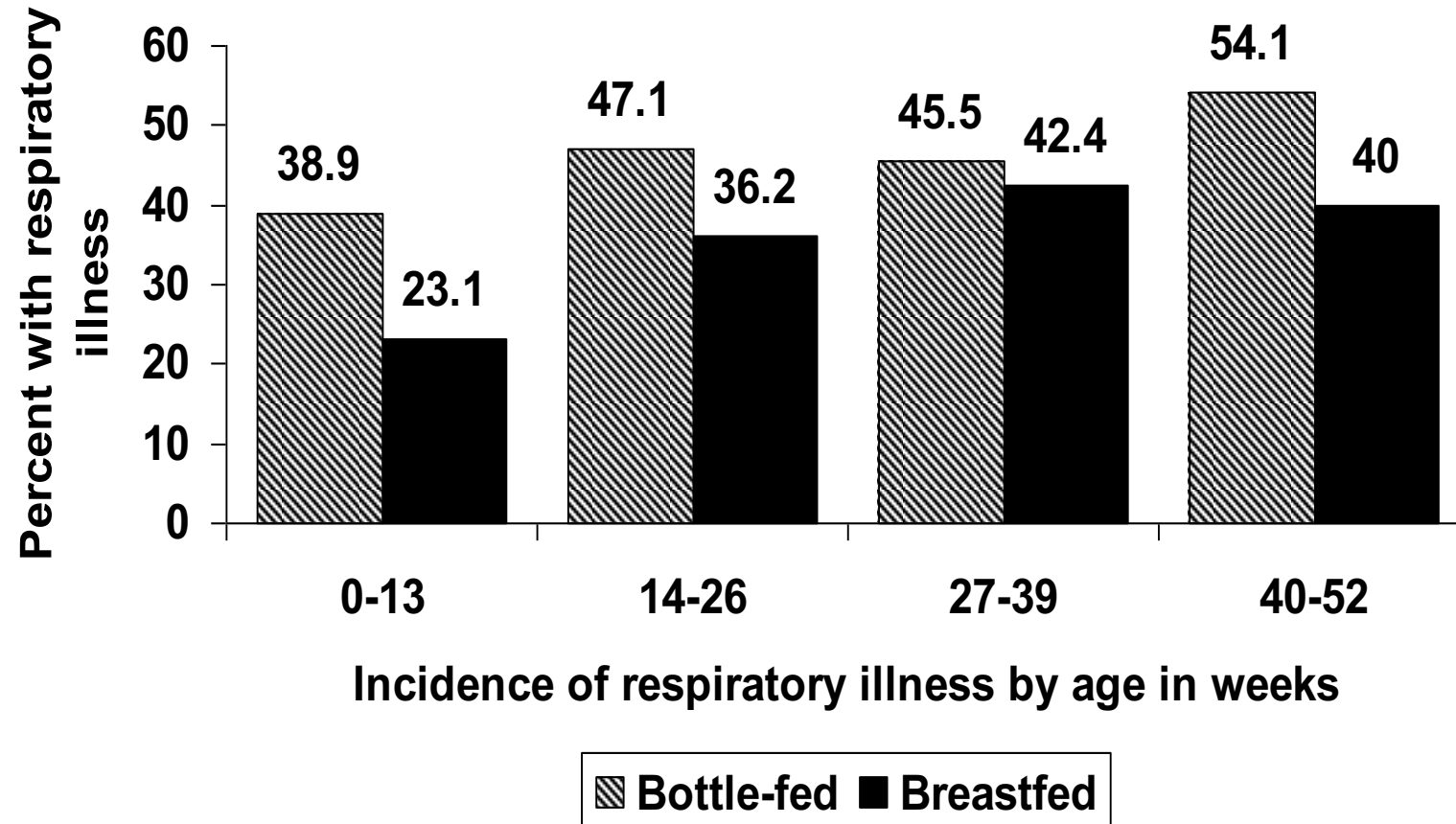
Adapted from: Howie PW, Forsyth JS, Ogston SA, Clark A, Florey CV. Protective effect of breastfeeding against infection. *Br Med J*, 1990, 300: 11-15.

Percentage of **infants 2-7** months of age reported as experiencing diarrhoea, by feeding category in the preceding month in the U.S.



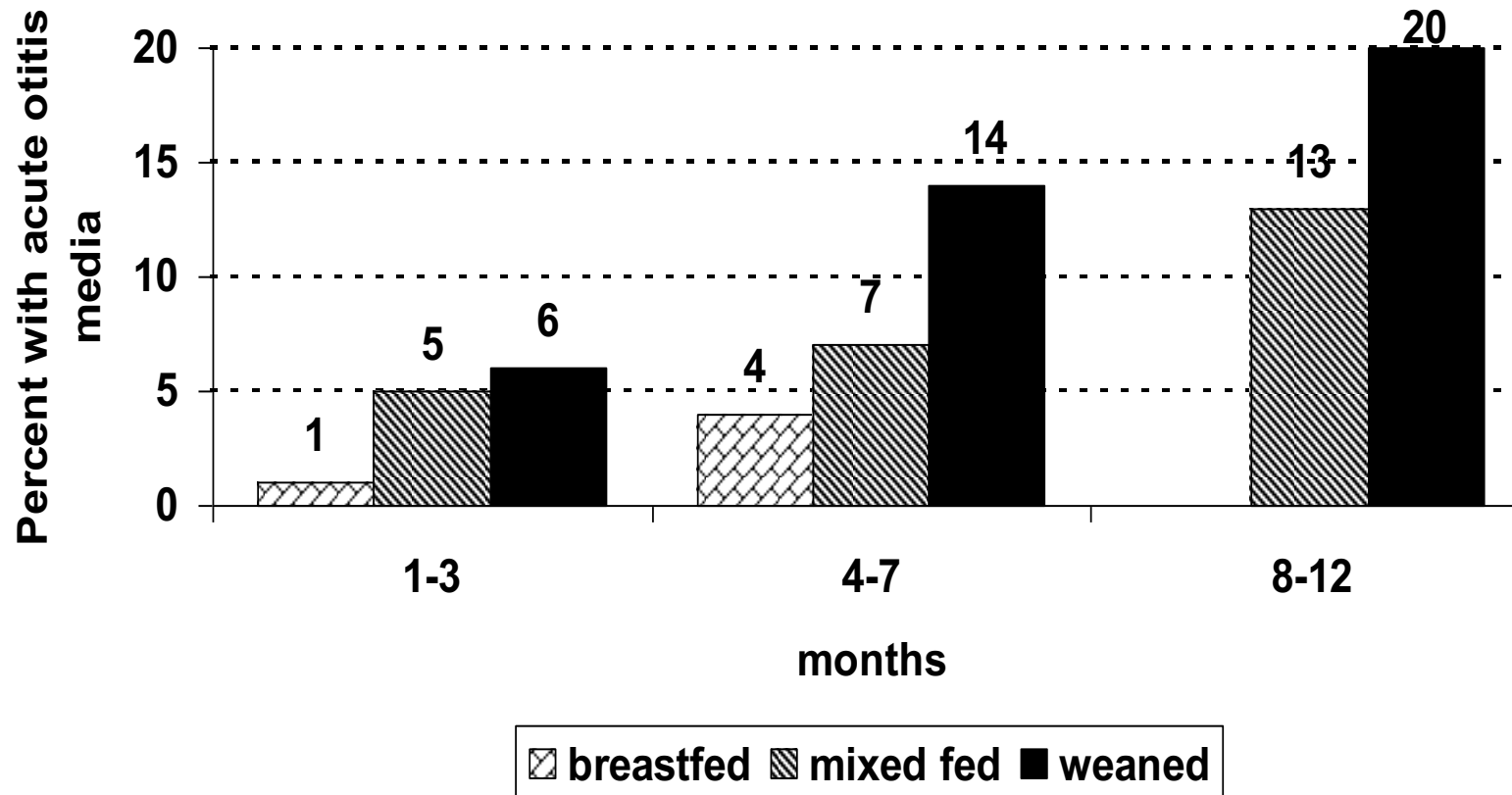
Adapted from: Scariati PD, Grummer-Strawn LM, Fein SB. A longitudinal analysis of infant morbidity and the extent of breastfeeding in the United States. *Pediatrics*, 1997, 99(6).

Percentage of babies bottle-fed and breastfed for the first 13 weeks that had **respiratory illness** at various weeks of age during the first year, Scotland



Adapted from: Howie PW, Forsyth JS, Ogston SA, Clark A, Florey CV. Protective effect of breastfeeding against infection. *Br Med J*, 1990, 300: 11-15. Transparency 2.45

# Frequency of acute otitis media in relation to feeding pattern and age, Sweden



Adapted from: Aniansson G, Alm B, Andersson B, Hakansson A et al. A prospective coherent study on breast-feeding and otitis media in Swedish infants. *Pediatr Infect Dis J*, 1994, 13: 183-188.

## **Anti-allergic:**

**It protects against allergic diseases such as infantile eczema , allergic rhinitis , asthma and allergic gastroenteropathy.**

### **-Mechanism:**

**As in the intestinal tract there are minute pores which can pass high molecular protein directly into the circulation leading to antibodies formation**

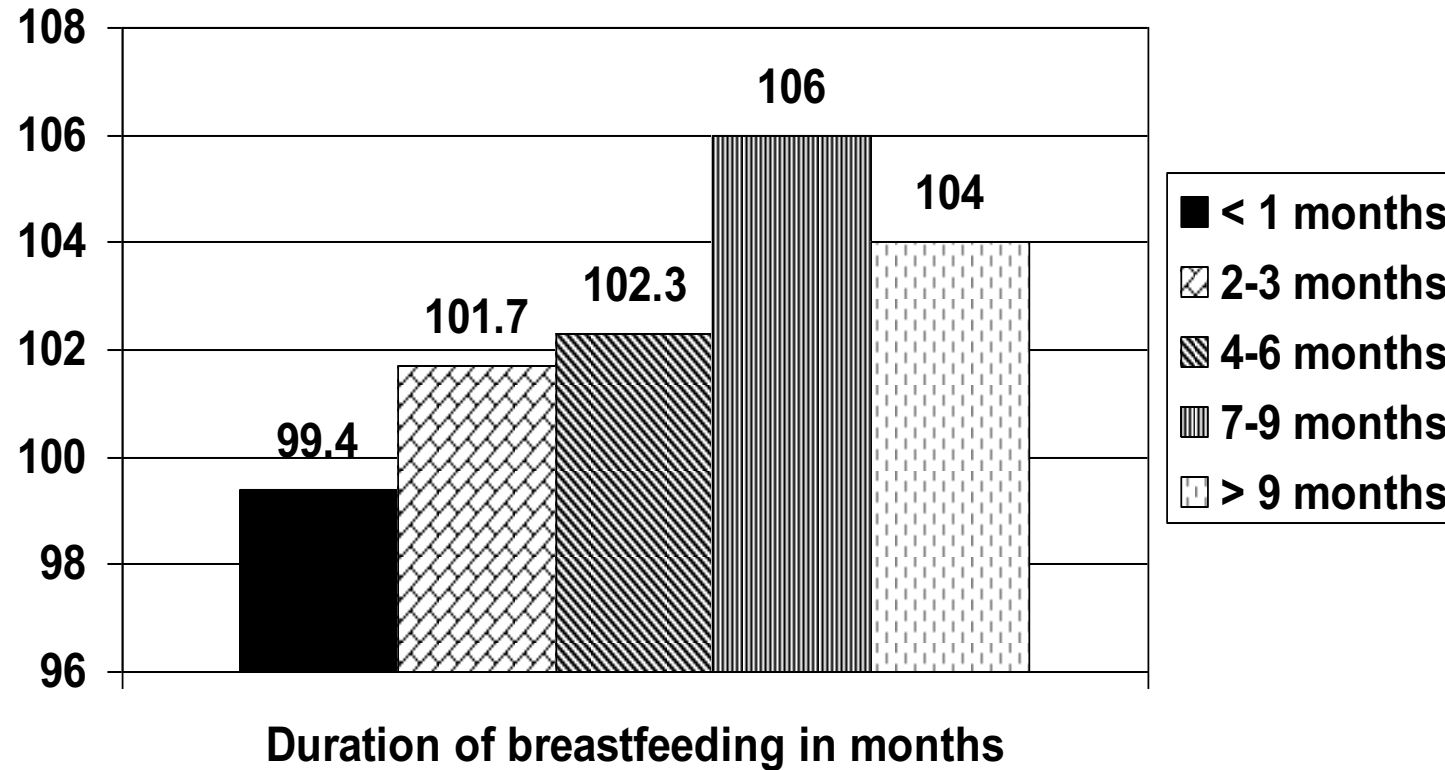
**Breast milk has secretory immunoglobulin A (IgA) which lines the GIT and closing the passes leading to no leakage of lactoproteins into the circulation and no formation of antibodies.**



benefits of breastfeeding

Long term effects

## Duration of breastfeeding associated with higher IQ scores in young adults, Denmark



Adapted from: Mortensen EL, Michaelsen KF, Sanders SA, Reinisch JM. The association between duration of breastfeeding and adult intelligence. *JAMA*, 2002, 287: 2365-2371.

Long term benefit.

## Cognitive development

Although there have been several reports that breastfeeding improves cognitive development later in childhood and adolescence to breastfeeding a positive association between the duration of breastfeeding and scores from two cognitive tests Breastfeeding was associated with a five to six point increase in IQ scores.

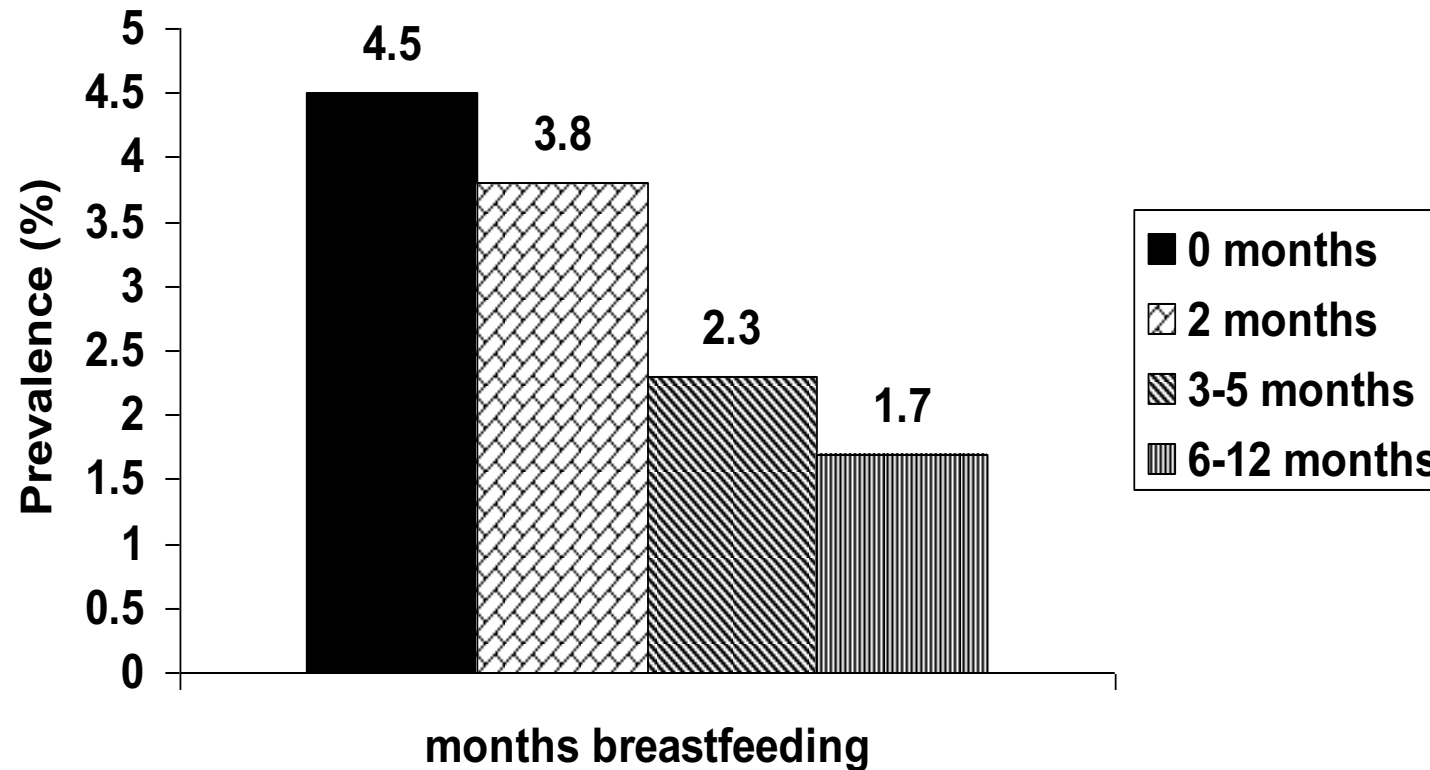


# Breastfeeding and Obesity

## Scientific evidence

- *Surveys of **Norwegian** youth indicated that breastfeeding reduced subsequent risk of obesity.*
- Kvaavik e et al (2005), J Clin Epidem Vol 58, Iss 8, p 849.e1 – 849.e8
- Breastfeeding during infancy appears to protect against adolescent overweight and obesity.

Breastfeeding decreases the prevalence of **obesity** in childhood at age five and six years, Germany



Adapted from: von Kries R, Koletzko B, Sauerwald T et al. Breast feeding and obesity: cross sectional study. *BMJ*, 1999, 319:147-150.

## Disadvantages of breast feeding

- Transmission of infections – i.e. HIV
- Breast milk jaundice
- Transmission of drugs
- Vitamin K deficiency
- Less flexibility
- Emotional upset if unsuccessful

# Breast milk composition differences (dynamic)

- Gestational age at birth  
(preterm and full term)
- Stage of lactation  
(colostrum and mature milk)
- During a feed  
(foremilk and hindmilk)

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*Published in final edited form as:*

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[Aliment Pharmacol Ther. 2017 Nov; 46\(9\): 780–789.](#)

PMID: [28892171](#)

Published online 2017 Sep 11. doi: [10.1111/apt.14291](#)

## Systematic review with meta-analysis: Breastfeeding and the risk of Crohn's disease and ulcerative colitis

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# EBF decrease the risk



## Initial newborn assessment

The parents are concerned about their baby when you can reassure them about their baby condition after birth ? .

**Q3-** When is the initial newborn assessment is done?

# The initial newborn assessment

- **WHAT IS INITIAL ASSESSMENT**

- It Include a **thorough examination** of the infant **after birth for** :
- Asses if
  - Resuscitation is needed
  - Gestation Age and birth weight
  - Apgar Score
  - any anomalies and **identification** of infant
  - maternal **risk factors** necessitating further evaluation

- **When.** **IMMEDIATELY AFTER DELIVERY**

- **Who** -Typically is performed by a labor and delivery nurse or the birth attendant for **low-risk deliveries**.

- For **higher-risk deliveries**, a specialized neonatal resuscitation team may be present at the delivery and perform this assessment.

# Apgar Score

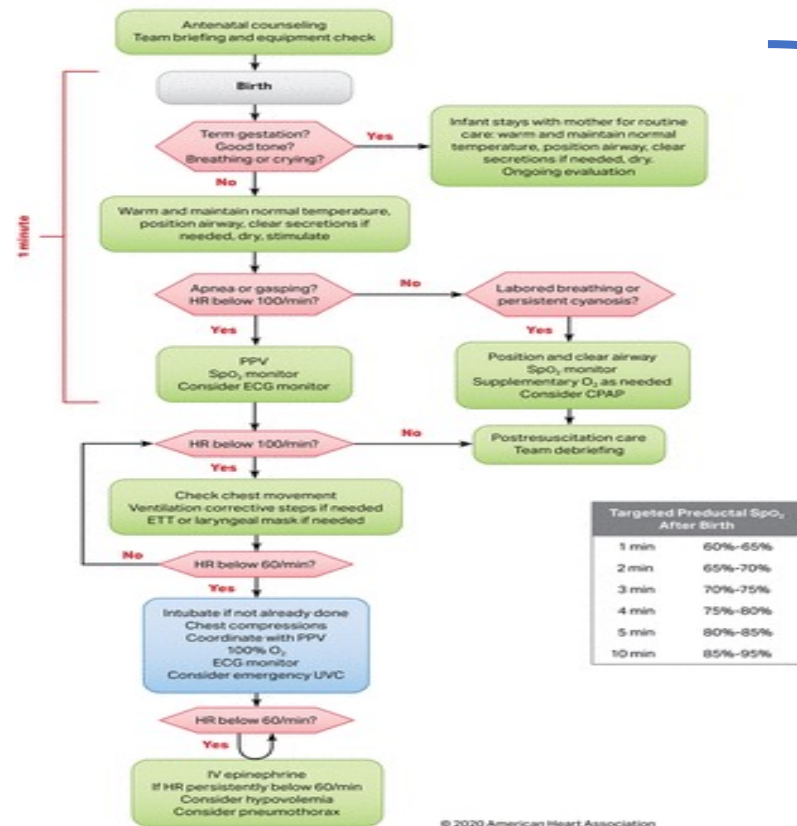
<b>PARAMETER</b>	<b>0</b>	<b>1</b>	<b>2</b>
Heart Rate	Absent	<100	>100
Respiratory Effort	Absent	Irregular, slow	Good, strong cry
Muscle Tone	Limp	Some flexion of extremities	Well flexed
Reflex Irritability	No response	Grimace	Cry, Sneezes
Color	Blue, Pale	Body pink, extremities blue	Completely pink.

Table 1. The Apgar Score

The Apgar Score	0	1	2
Heart rate	Absent	<100 beats per min	>100 beats per min
Respiratory effort	Absent	Weak cry; hypoventilation	Good cry
Muscle tone	Flaccid	Some flexion	Active motion/Well flexed
Reflex irritability	No response	Grimace	Cry/Cough/Sneeze
Color	Blue/Pale	Acrocyanotic	Completely pink

- A 5-minute Apgar score of 7 to 10 is considered normal.
- Apgar scores can be helpful **in assessing an infant's transition** from intrauterine to extrauterine life
- It may reflect neonatal resuscitation efforts
- It **should not guide** these resuscitation efforts.
- Apgar scores should **not be used to predict** neurologic outcomes or development of infants

Neonatal Resuscitation Algorithm



Neonatal resuscitation steps 2020

After normal delivery of her healthy male baby. Mom was in good condition.

She did skin to skin contact to with her baby immediately after birth, and started to breast fed her baby in the first hour of his life.

**She asked you if her baby can stay with her at her own room in obstetric floor.**

You were also excited since the hospital is baby friendly

**Q4-How you support breast feeding during her stay?**

# Support Breast feeding during Stay

- **Answer: Do Room In policy ( Baby stay with his mother )**
- Breastfeeding Information should be given to the family
  - GIVE parents **postnatally** clear and unbiased information
    - Regarding **the benefits** of breastfeeding for both mother and infant
    - Dextrose water and sterile water are to be **avoided**
    - Individuals education in:
      - **breastfeeding skill**
      - as well as the **assessment** and **management** of breastfeeding **problems**
      - This should be readily available **during** hospitalization and after discharge (Post discharge feeding counseling).
- Mothers who are **unable to breastfeed** their infants
  - should have access to high-quality breast pumps and providers skilled in lactation.

## Q 5. When the pediatric clinician's examination is completed

- The pediatric clinician's examination is completed in the first 24 -48 hours after birth.

### What to do at time of exam

#### 1-Look at Nurse Assessment ( it is complemaentary)

- Nurses often have assessed the infant fully before this examination, and their evaluations should be viewed as complementary.
- Do The initial examination serves the purpose of:
  - Identify Further **risk factors** through history and physical exam
  - Identifying anomalies
  - **Reassuring parents** about the health of their new infant.
  - Education, sometimes termed "**discharge teaching,**"
  - Identifies and discusses common findings.
    - as **safe sleep** positioning, skin and cord care, jaundice,
    - As **voiding patterns** common to the newborn.

# The TEN STEPS to Successful Breastfeeding

## 5 SUPPORT MOTHERS WITH BREASTFEEDING

Hospitals support mothers to breastfeed by...



Checking positioning, attachment and suckling

Giving practical breastfeeding support

Helping mothers with common breastfeeding problems

## 6 SUPPLEMENTING

Hospitals support mothers to breastfeed by...



Giving only breast milk unless there are medical reasons

Prioritizing donor human milk when a supplement is needed

Helping mothers who want to formula feed to do so safely

## 7 ROOMING-IN

Hospitals support mothers to breastfeed by...



Letting mothers and babies stay together day and night

Making sure that mothers of sick babies can stay near their baby

## 8 RESPONSIVE FEEDING

## 9 BOTTLES, TEATS AND PACIFIERS

## 10 DISCHARGE



# Before discharge

- **Q 5.1** When the pediatric clinician's examination is completed before discharge
- **Q5.2** What is required prior to discharge?

## ➤ Take history

You Asked about the main Pointes needed to be in the History that include

- **Prenatal and Antenatal History that Include :**
  - Maternal Age, method of pregnancy,
  - Maternal disease Diseases before and during pregnancy (UTI, PET , DM etc.... )
  - Mother blood group and Hepatitis B Status
  - Maternal screen (first and second. And third)
  - Fetal condition during Obstetric follow up
  - Maternal Medications before and during Pregnancy and during labor
  - Maternal family and Social history
  - Previous pregnancies history and Birth outcome
- social history (level of education, living, smoking ,working status etc...)
- **Delivery History including:**
  - method of delivery and gestation age Birth weight
  - Maternal medication during labor
  - resuscitation history for the baby and any problem -during deliver
- What happened to mother or the baby. (Apgar score

**Do second exam at 24 -48 hour of age**

Now, you are planning to meet this Mom and Dad who have just had their first male baby. They are a friendly young couple who are very excited about their new son

As ideal, you completed in the first 24-48 hours after birth  
**a second exam (preferable with parents' attendance**  
( first was initial Assessment was immediately after birth )

**Q7:** How you address these  
parental concerns regarding  
Growth and gestation Age  
assessment

**Q 7.1** How you Gestational Age

**Q 7.2** How you Assess Growth

# Q 7.1 How you Gestational Age Gestation Age Assessment

- Last menstrual period (**LMP**)
- first trimester **US**
- When the gestational age or due dates are uncertain, a gestational age assessment is completed using the **Dubowitz/Ballard** examination

**Gestation calculator**

Mode

LMP-based

Ultrasound-based

Date of Ultrasound scan

Month: January Day: 1 Year: 2000

Scan data

Fetal biometry

Derived gestation

Weeks: 18 Days: 0

Measurement

Crown rump length

Biparietal diameter 37 mm

Head circumference

**NHS perinatal institute**  
for maternal and child health  
[www.gestation.net](http://www.gestation.net)

Calculate EDD

Cancel and RESTART

This software EXPIRES on 31st October 2013

## Q 7.2 How you Assess Growth Growth assesment

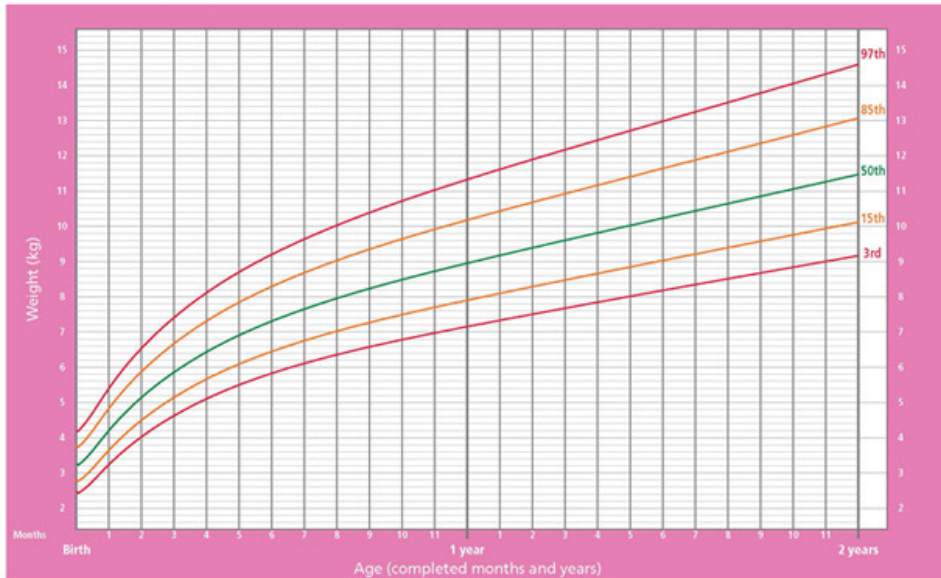
- Do Growth Mesurment
- Plot them on CDC, WHO , fenton and intergrowth charts.
- Know if ( for AGA, SGA and LGA)

# Types of Growth Charts

## 1-WHO Growth chart for Breastfed infants

### Weight-for-age GIRLS

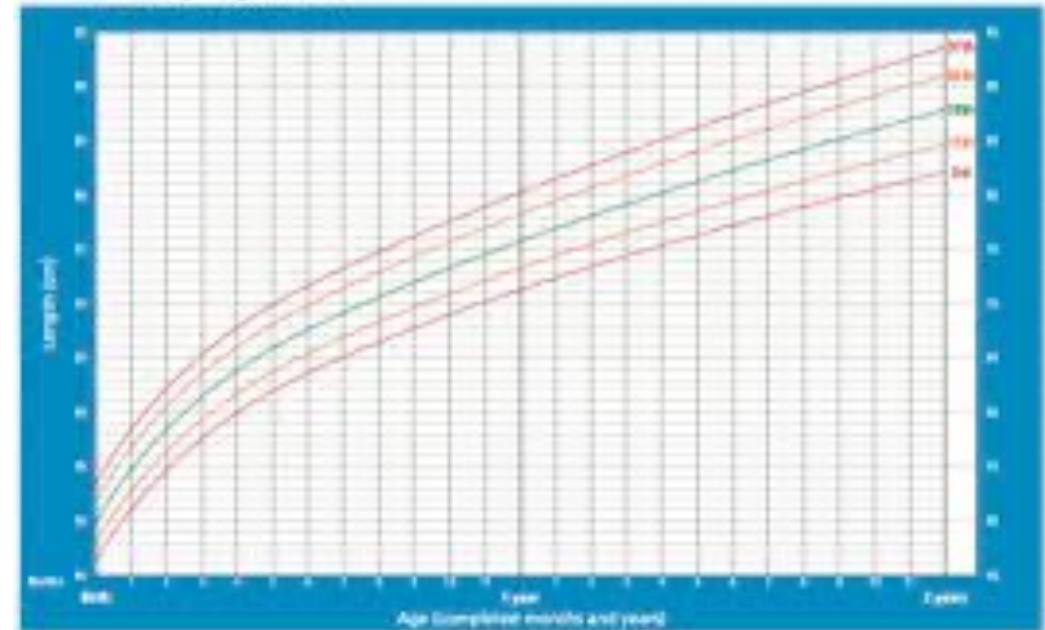
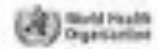
Birth to 2 years (percentiles)



WHO Child Growth Standards

### Length-for-age BOYS

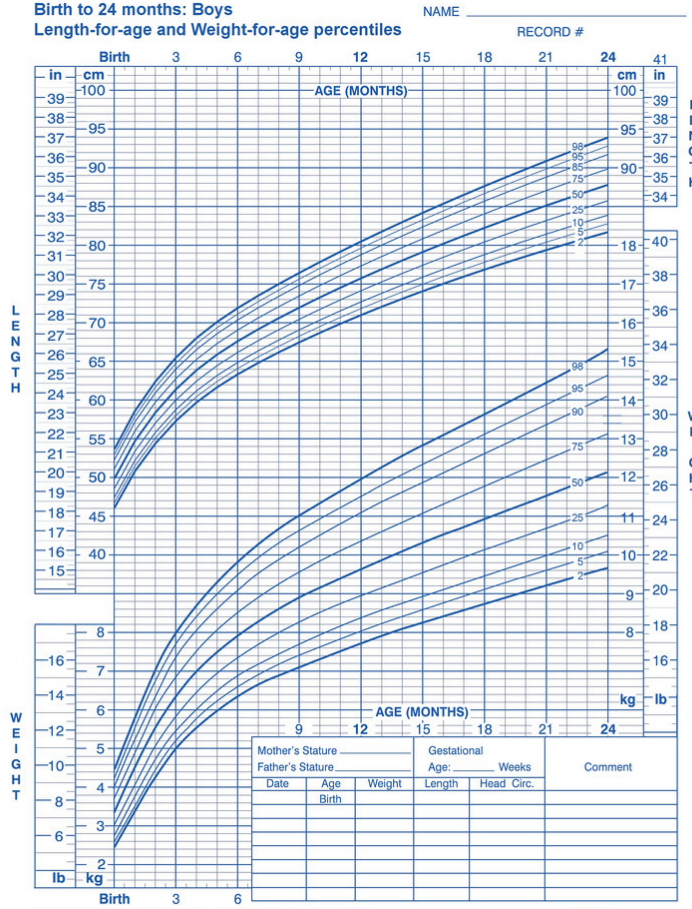
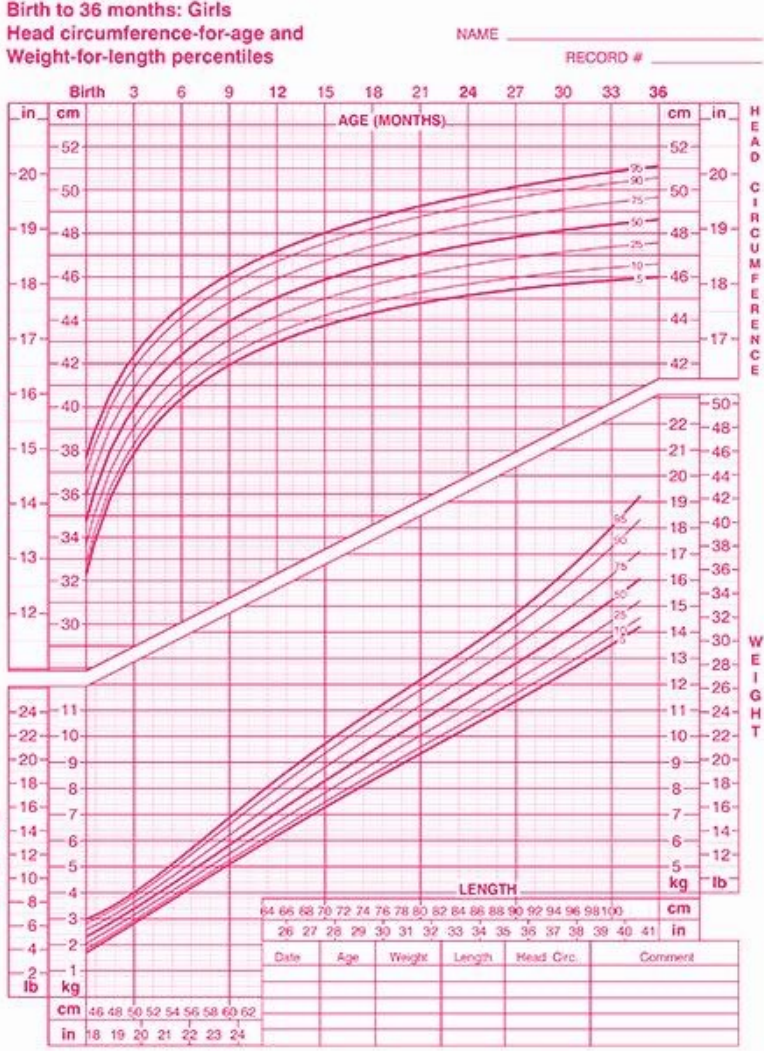
Birth to 2 years (percentiles)



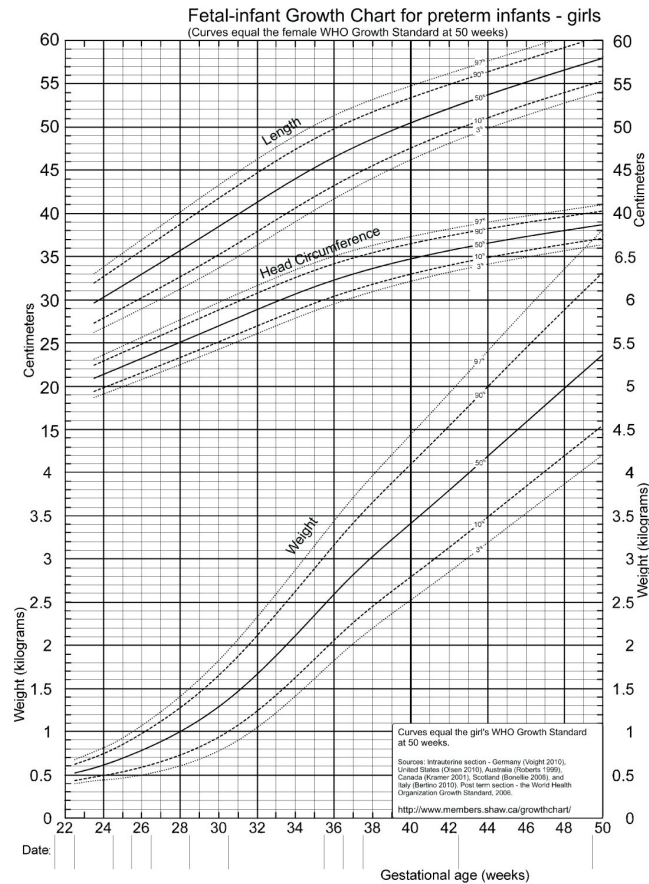
WHO Child Growth Standards



# 2-CDC growth Charts for US Children



# Fenton charts for preterm infants. (Girls and Boys)



- <https://www.pdfFiller.com/jsfiller-desk10/?projectId=6158b1b361eaf62627634145&lp=true#ac4cf-c9622534c769873b5b26163e308>

# How you Assess Growth

## Growth assesment foor preterrm

- Intergrowth charts.
  - Intergrowth charts <36 weeks. And international
  - ( <https://intergrowth21.tghn.org/standards-tools/> )
  - Hc, Weiigt and length

CDC



Home / Tools and toolkits / Child growth standards / Standards

### Child growth standards

This web site presents the WHO Child Growth Standards. standards were developed using data collected in the WHK Multicentre Growth Reference Study. The site presents documentation on how the physical growth curves and mo milestone windows of achievement were developed as wel application tools to support implementation of the standard

Child growth standards

Standards

WHO Multicentre Growth Reference Study (MGRS)

#### The WHO Child Growth Standards

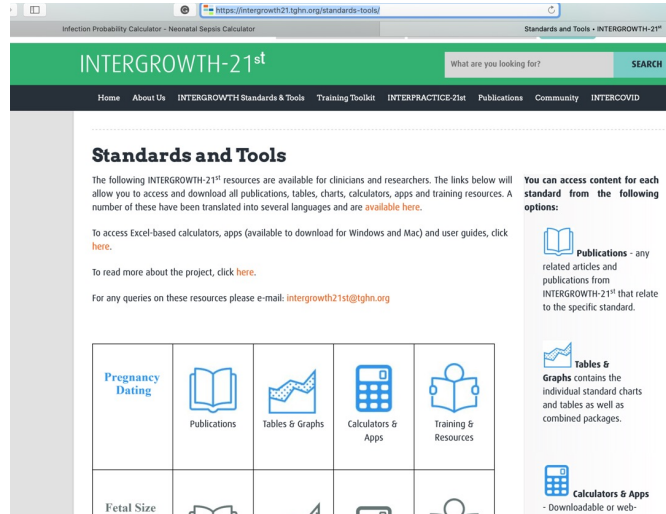
Documentation

The following documents describe the sample and methods used to construct the standards and present the fi

[https://www.cdc.gov/growthcharts/cdc\\_charts.htm](https://www.cdc.gov/growthcharts/cdc_charts.htm)

# Growth charts for preterm

Example : Intergrowth charts.



<b>Gestational Weight Gain</b>	 Publications	 Tables & Graphs	 Calculators & Apps	 Training & Resources
<b>Newborn Size for Very Preterm Infants</b>	 Publications	 Tables & Graphs	 Calculators & Apps	 Training & Resources
<b>Newborn Size</b>	 Publications	 Tables & Graphs	 Calculators & Apps	 Training & Resources
<b>Postnatal Growth of Preterm Infants</b>	 Publications	 Tables & Graphs	 Calculators & Apps	 Training & Resources

<https://intergrowth21.tghn.org/standards-tools/>

Mom and Dad have

They have many questions for you. Their Son **is one** day old now,  
He is **Breast fed every 2-3** Hours . You found that

- He passed urine 4-5 times of “**brick dust**” color .
- He did not gain any weight at 24 hour of age
- He did not pass stool yet at 24 hour of age.

You examined the Baby and found that he has normal physical exam and normal vital signs. Mom asked You Is that normal?

- **Q8:** Does he need formula since he did not gain weight today?
- **Q9:** Is he having an Obstruction?”
- **Q10:** Is the urine color cause of concern?
- **Q11:** Does he need to test his blood sugar to know if it is low?
- **Q12:** Can they discharge her baby and observe his stooling pattern at Home ?

How you address these parental concerns (Q8 - Q12)

## Q 8 : Does he need formula since he did not gain weight today?

- Weight loss in newborns is observed **frequently**
- In general, **if** weight loss of **>10% to 12%** in the first postnatal week is a cause for concern (necessitates a thorough **evaluation** ).
- Families should be **reassured** about this progression and can become preoccupied with a normal process because this is a value **commonly measured**, reported, and compared in the course of routine newborn care.
- **Numerical weight loss** of concern in the presence of a progressively improving feeding relationship **should not drive supplementation**.
- It is typically taught that newborns should **regain their birth weight by 2 weeks** after the birth, although many newborns reach this value much sooner if feeding is well established.
- **Emphasis** should return to the feeding relationship between mother and infant and **the promotion of breastfeeding**.



## Q 8.1 : : When the newborns should regain this birth weight?

- It is typically taught that newborns should **regain their birth weight by 2 weeks** after the birth, although many newborns reach this value much sooner if feeding is well established.
- **Emphasis** should return to:
  - the feeding relationship between mother and infant ( demand feeding)
  - and **the promotion of breastfeeding.**
- **How do I know if my newborn is breast milk is enough?**
  - **Baby is swallowing during feeding**
  - **Breast feel empty or softer**
  - **Passing urine (4-6 times /day ) @ stool**
  - **Sleep after feed or feel satisfied**
  - **Start to gain weight**

You examined the Baby and found that he has normal physical exam and normal vital signs. Mom asked You Is that normal?

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- **Q12:** Can she discharge her baby and observe his stooling pattern at Home ?

# Normal Stooling Patterns

## Meconium

- The infant typically passes a **first meconium** stool shortly after birth, often within the first hours and typically **before** 48 hours
- These black, tarry, and sticky stools



## Transition Stool

- Occur as the mother's human milk production increases.
- Typically occurs in a pattern, often from green/brown to a seedy, loose, mustard yellow appearance.

It is not rare for an **infant to pass stool** with nearly **every breastfeeding** when the mother's milk is in because of the **gastrocolic reflex** signaling the colon to empty

# Stool in infants



# Delayed passage of stool

- When the passage of meconium stool is delayed,
  - carefully **recheck the infant's anus** for the normal characteristic.
  - continue to observe **if** the infant is feeding well without abdominal concerns (distension or vomiting).
- Delayed passage of stool beyond **48** hours can indicate serious problems,
  - Such as colonic obstruction from **imperforate anus** with or without fistula, **meconium plug syndrome**, or **Hirschsprung disease**.
  - **Need Imaging**, including barium enema, and **rectal suction biopsy** as the diagnostic gold standard for Hirschsprung should be considered.

Q9: Is he having an Obstruction?”

- Answer:
- May be

You examined the Baby and found that he has normal physical exam and normal vital signs. Mom asked You Is that normal?

- **Q8:** Does he need formula since he did not gain weight today?
- **Q9:** Is he having an Obstruction?”
- **Q10: Is the urine color cause of concern?**
- **Q11:** Does he need to test his blood sugar to know if it is low?
- **Q12:** Can she discharge her baby and observe his stooling pattern at Home ?

# Normal voiding

- **When** urine should pass
  - The infant's first urination nearly **always occurs in the first 24 hours.**
  - Should passed urine 4-6 times /day
- Why there is **Difficulty in urine detection**
  - Urine can be difficult to detect in the presence of frequent meconium stool
  - Urine could not be seen



How you address these parental concerns (Q1 10)

He passed urine 4-5 times of “**brick dust**” color

What is the normal stooling and urine pattern in their newborn baby after birth?

# How to detect Urine

- **Review notes**

- Clinical notes should be reviewed to determine if the infant **voided at delivery** or elsewhere and the **voiding was not recorded**.

- **Look at Diaper with strips**

- Commercially available diapers now commonly have a strip that changes color in the presence of urine, which helps identify small amounts of urine



- **Use A cotton ball**

- A cotton ball is placed between the labia or a bag may be applied to collect urine if there is concern that the urine was simply not observed.



- **Use Invasive**

- If there are continued concerns for anuria, **catheterization**, bladder and **renal ultrasound with urologic consultation**, and evaluation of **renal function** can be considered.

How you address these parental concerns  
(Q1: 10)

He passed urine 4-5 times of “**brick dust**”  
color

What is the normal stooling and urine  
pattern in their newborn baby after birth?



# Appearance of newborn urine

- can initially be scant and darkly colored.
- Can be (“**brick dust**”)
  - this is *urate crystals* (often termed “brick dust”) can be confused with blood in diapers
  - **urate crystals** tend to sit on the surface of the diaper and are iridescent and completely **benign**.
- **DDX**
  - Vaginal discharge can be clear, yellow, or white, and even blood-tinged as the female *infant “withdraws bleed”* from maternal hormones.



A newborn should not be discharged until the passage of stool and urine can be documented

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- **Q11:** Does he need to test his blood sugar to know if it is low?
- **Q12:** Can she discharge her baby and observe his stooling pattern at Home ?

**Q 11.** Is her baby at risk of Hypoglycemia?

# Who at Risk for Hypoglycemia

1. Infants born to mothers with diabetes mellitus  
(IDM)
2. those who are SGA, or LGA
3. Preterm and late preterm
4. as well as **sick infants** :
  - as those with birth asphyxia, are at risk for hypoglycemia.



You examined the Baby and found that he has normal physical exam and normal vital signs. Mom asked You Is that normal?

- **Q:** Does he need formula since he did not gain weight today?
- **Q:** Is he having an Obstruction?”
- **Q:** Is the urine color cause of concern?
- **Q:** Does he need to test his blood sugar to know if it is low?
- **Q: Can she discharge her baby and observe his stooling pattern at Home ?**

**Q12.** What should you tell parents about bathing their infant , cleaning the genitalia and cord care

# Who should be bathed immediately

- hepatitis B–positive mothers or Corona or HIV Mothers should be bathed at birth

# skin and Umbilical cord care.

- The newborn infant does **not require frequent bathing**. (2-3 times/day)
- **Cleansers** should be mild (Non irritant)
- Initially. should have **sponge baths** until the umbilical cord detaches.
  - In the past, antibiotic ointments, dyes, and alcohol have all been applied to the umbilical cord, but this practice is unnecessary. (AAP recommendation)
- **Parents should keep the umbilical stump dry and allow it to fall off naturally, generally in 10 to 14 days.**
- Long, flexible but sharp fingernails often are a source of concern for the new family.
  - With good lighting and when the child is quiet, the nails can be clipped, cut, filed, or torn.

# Care of Genitalia

- Care **of the uncircumcised** penis requires little effort.
  - It can be **cleansed externally** when regular bathing is established.
  - **Retracting** the foreskin of an infant **is discouraged** because it will likely cause pain, bleeding, and even adhesions.
  
- **If circumcised** the penis should **be kept clean and simple petroleum ointment**. applied to keep the newly exposed glans from adhering to adjacent skin or diaper.



**Q13.** What sort of anticipatory guidance can you give these new parents regarding avoidance of Sudden infant death

# Safe sleep



**free of**

1) quilts, 2) sleep positioners, 3) other soft objects, such as stuffed animals

# Safe sleep





# Infant Safe Sleep

**4**

Baby's face uncovered.

**1**

Baby sleeps in crib.

**5**

No smoking around baby.

**2**

Baby sleeps on back.

**6**

Do not overheat or overdress.

**3**

Nothing in sleep area.

**7**

Firm mattress, tight-fitting sheet.



# Anticipatory guidance for safe sleep positioning

To reduce the risk of sudden infant death syndrome

## ➤ **Breastfeeding**

➤ a **pacifier** can be offered **once breastfeeding is established.**

# Well newborn care with emphasis on breast feeding

- **Learning Objectives**

- Understand the role of the prenatal visit in establishing a newborn medical care
- Understand Breast feeding (BF. ) issues regarding :
  - rate of exclusive breast feeding, national and international
  - benefits, of breast feeding
  - composition of breast milk and. Its difference from cow;s milk
  - national and international support of Breast feeding
  - 10 steps to support breast feeding.
  - Baby friendly hospital
- Describe Apgar Score
- Understand when the baby need to be assessed
- Understand Voiding and stooling Pattern
- Understand the risks for hemorrhagic disease of newborn , and outline anticipatory guidance that may be preventive
- Identify the most common benign newborn problems after birth delineate appropriate guidance
- Identify types of mandatory neonatal screen
- SIDs

# Breast feeding ILOs

# Breast feeding intended learning out comes

- Describe the main constituents of human milk and their function
- Understand the role of the doctor in supporting and advocating for breastfeeding
- Appreciate the wider social, cultural and political influences on infant feeding
- Appreciate the importance of human milk and breastfeeding to human health
- Understand the anatomy and physiology of lactation (during Ob @ Gyne rotation)
- Be able to list the key practices that facilitate the initiation and maintenance of breastfeeding
- Understand the importance of the WHO International Code of Marketing of Breastmilk Substitutes and subsequent WHA resolutions (the Code) and how it impacts on practice

Thank you

