Managing the Breastfeeding Woman

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Objectives

• Identify the benefits of breastfeeding and the importance of encouraging breastfeeding.

• Understand the physiological changes of the breast during pregnancy and lactation.

• Describe the nutritional requirements for women during lactation.

• Review contraindications of breastfeeding and medications which are excreted into breast milk.
Healthy People 2010 Goals

• Increase to at least 75% the proportion of mothers breastfeeding upon discharge and 50% still breastfeeding when the infant is 6 months of age.

• In 1995, 59.4% were breastfeeding at discharge, 21% were breastfeeding at 6 months.

• In 1970, 20% were breastfeeding at discharge, <10% were breastfeeding at 6 months.
Obstacles to Initiating and Continuing Breastfeeding

• Physician apathy and misinformation
• Insufficient pre-natal breastfeeding education
• Distribution and promotion of infant formula
• Disruptive hospital policies
• Inappropriate interruptions of breastfeeding
• Early hospital discharge
• Lack of social support
Role of the Health Professional

• Establish positive attitudes in pregnancy
• Address medical issues/ physical obstacles
• Encourage nursing immediately after delivery
• Provide post-partum support
• Explain nutritional needs
• Assess substance use
• Discuss employment concerns
Establish Positive Attitudes

• Endorse and encourage breastfeeding because it is best for mother and baby.
• Ask about previous experience.
• Provide positive statements about breastfeeding.
• Offer confirmatory words from all office staff.
• Distribute appropriate education materials.
• Be supportive no matter what the woman plans.
Breastfeeding
Advantages for Mothers

• May delay return of ovulation.
• Loss of pregnancy associated adipose tissue.
• Reduction in postpartum blood loss due to increased oxytocin levels.
• Reduction in pre-menopausal breast cancer and reduced risk of ovarian cancer.
• Improved bone remineralization postpartum.
General Benefits of Breastfeeding

• Maternal-infant bonding
• Inexpensive
• Convenient (no preparation)
• Perfect temperature
• Easily digested
• Immunological protection
• Allergy prophylaxis
Immunological Contents of Breast Milk

- Immunoglobulins
  - IgA, IgG, IgM, leukocytes, cytokines
- Host resistance factors
  - Complement macrophages, lymphocytes, lactoferrin
- Anti-inflammatory components
  - Enzymes: catalase, histaminase, lysozymes, lactoperoxidase
  - Antioxidants: ascorbic acid, alpha-tocopherol
  - Prostaglandins
- Interleukin-6
  - Stimulates an increase in mononuclear cells in breast milk.
Breastfeeding
Advantages for Baby

• Decreased incidence and/or severity of otitis media, diarrhea, lower respiratory infections, bacteremia, bacterial meningitis, botulism, urinary tract infections, and necrotizing enterocolitis.

• Less hospitalization in first 6 months.

• Possible protective effect against sudden infant death syndrome, type 1 diabetes, Crohn’s disease, ulcerative colitis, lymphoma, allergies, and chronic digestive diseases.
Evaluating the Pregnant Woman

• Consider physical obstacles
  ➢ Physical examination of breasts and nipples.
  ➢ Inverted or flat nipples.
  ➢ Use breast shells for 6-8 weeks before delivery.
  ➢ Breast cancer-avoid pregnancy and lactation for 5 years.

• Encourage communication and support
  ➢ Misinformation, fears, self assurance.
  ➢ Father’s and family’s attitudes.
  ➢ Prenatal referral to lactation consultants/educators.
Physiological Changes During Pregnancy

- Ductal proliferation of the breast
- Alveolar arborization
- Stromal elements decrease
- Breast consists mostly of glands
- Skin over the nipple becomes hardier
- Darkening of the areola
Physiological Changes Following Delivery

- Decrease in progesterone and estrogen levels.

- Prolactin stimulates \( \alpha \)-lactalbumin production resulting in lactose synthase \( \Rightarrow \) lactose.

- Further increase in mammary blood flow for glands to secrete milk and engorgement.
Physiology of Lactation

- Suckling stimulates nipple --> pituitary gland secretes oxytocin --> let down reflex results in milk ejecting cells contract forcing milk from milk cells into milk ducts.

- Milk pools in lactiferous sinuses under the areola. Suckling stimulates milk to come from the nipple.
When to Breastfeed

• Initiate feeding as soon as possible after delivery.
• Signs of hunger include:
  ➢ Alertness, increased activity, mouthing and rooting
• Feed on demand at least every 4 hours.
  ➢ 10 minutes per breast for first few weeks.
  ➢ Breast milk empties from stomach in 1.5 hours.
  ➢ Not unusual to breast feed every 2 to 3 hours or
    8 to 12 times in a 24 hour period.
• Do not give glucose water to infant.
Proper Positioning of the Infant

- **Cradle position**
  - Lay the baby in the arm near the breast on his side facing the breast. Mom and baby are stomach to stomach.

- **Football hold**
  - Place a pillow from the mother’s lap out to her side. Lay the baby on the arm near the breast with his head in her hand and his body beside her.

- **Lying down**
  - Place the baby on his side facing the mother, stomach to stomach. The mother’s arm cradles the baby close to her and guides the head.
Latching on Properly

• Hold the breast in the opposite hand.
• Stroke the baby’s cheek or lips with the nipple to get him to open his mouth (rooting reflex).
• Once his mouth is open, pull the baby towards the breast, making sure that his head is facing the breast and mother and baby are stomach to stomach.
• Get as much of the nipple and areola into the baby’s mouth as possible.
Care of the Breasts and Nipples

- Demonstrate proper latch on and positioning.
- Cleanliness and attention to fissures.
- Use Lansinoh (pure lanolin) for cracked nipples.
- Avoid soaps and other ointments.
- Insert nipple shield into bra for irritated nipples.
- Use breast pads for leakage and change often.
Assessing Breastfeeding

• Mom feels tugging on nipple without pain.
• Infant weight gain pattern consistent (4-7 oz/wk).
• Voiding: 6-8 wet diapers/day.
• Stooling: generally more stools than formula.
• Feeding pattern—generally every 2-3 hours.
• Duration of feedings—generally 10-20 minutes/side.
• Activity and vigor of infant.
Infant Growth Patterns

- Most full-term, breast fed infants lose up to 10% of their body weight in the first few days of life.

- Infants breast fed during the first year of life show slower growth velocities and less body fat compared to formula fed infants.

- Updated growth charts will now include breast fed infants as part of the sample size.
Nutrition During Lactation

• Nutrition plays a key role in normal, as well as in, high-risk pregnancies and during lactation.

• Total energy needs during lactation depend on greatly on level of physical activity.

• Excessive caloric intake during lactation may be a major contributor to obesity.
Composition of Breast Milk

- **Colostrum**: small amount during days 3 to 5
  - High in protein, immunoglobulins and minerals,
  - Low in lactose and fat
- **Transitional milk**: produced during days 6 to 10
  - High in fat, lactose
  - Lower in protein and minerals
- **Mature milk**: available by 2 weeks post-partum
  - Average secretion: 750 mg/d
  - Provides 20-22 kcal/ounce
  - 60-80% whey protein, 40% lactose, 50% fat
  - Growth factor
  - Low in vitamin D
Breast Milk Volume

• Major determinant of milk volume is infant’s demand not maternal nutritional status.

• Influence of maternal intake of specific nutrients on milk volume not studied extensively.

• Early studies in developing countries suggest a positive association between protein intake and milk volume.
Nutritional Requirements During Lactation

• Requirements for protein, zinc, niacin, vitamins A, E, C increase above those in pregnancy.

• Macronutrient intake has little effect on nutrient composition of breast milk, except for fatty acid content.

• All essential water and fat-soluble vitamins in breast milk depend on current maternal intake and stores.

• Chronically low maternal vitamin intake leads to low content in breast milk.
Calcium

• Maintaining maternal calcium stores during pregnancy and lactation very important to prevent bone loss.

• Dietary Reference Intakes recently increased for pregnant and lactating women:
  • 9-18 y  1300 mg/d
  • 19-50 y  1000 mg/d
  • >50 y    1200 mg/d

• One glass of milk contains ~300 mg of calcium
Factors Associated with Iron Deficiency

- Low socio-economic status
- Low levels of education
- African American or Hispanic background
- High parity and multiple gestation
- Pregnancy (2nd and 3rd trimester)
- Chronic use of aspirin
- Diets low in meat
- Menorrhagia (> 80 ml of blood loss/month)
Common Problems and Contraindications to Breast Feeding
Engorged Breasts

• Usually occurs 2 - 3 days post-partum from the increased blood flow and milk supply.
• Wear a supportive nursing bra which is not too tight.
• Nurse frequently, such as every 1 - 3 hours.
• Take warm shower before breastfeeding.
• Apply cold packs for short period after nursing.
Sore Nipples

- May result from improper latch on or disengagement.
  - Areola must be placed in the infant’s mouth
  - Place finger inside infant’s mouth to break suction

- May result from use of abrasive soaps or alcohol.
  - Rinse nipples with water and air dry after nursing
  - Use only Lansinoh for dry, cracked skin

- Late onset (after 1 month) causing burning throughout breast.
  - May be caused by yeast (Monilia) infection and treated with Mycostatin
Mastitis

• Symptoms
  ➢ Breast pain, swelling, flu-like symptoms, headache and fever

• Causes
  ➢ Clogged ducts, cracked nipples, feeding on one breast only
  ➢ Tight bra, wet breast pads, infrequent feeding
  ➢ Anemia, fatigue, stress

• Treatment
  ➢ Nurse frequently, feeding on unaffected breast first
  ➢ Apply moist heat before nursing
  ➢ Rest, wear comfortable bra, change breast pads often
  ➢ May require antibiotics- (Dicloxacillin)
Jaundice

- Early onset (3 to 4 days postpartum)
  - Encourage mothers to nurse frequently (>8X/day)
  - Avoid formula supplementation of glucose water

- Late onset (7 to 10 days postpartum, peaks by 10 to 15 days and may persist 27 to 80 days)
  - Stop breastfeeding at bilirubin > 17 mg/dl.
  - Resume breastfeeding after bilirubin decreases.

- Majority of infants require no intervention and can be safely observed.
Insufficient Lactation
Infant Failure-to-Thrive

• Maternal causes
  ➢ Poor milk production: diet, illness, fatigue
  ➢ Poor let down: psychological, drugs, smoking
  ➢ Inverted nipples
  ➢ Significant breast reduction

• Infant problems
  ➢ Poor intake: poor suck, infrequent feedings, Cleft palate
  ➢ Low intake: vomiting, diarrhea, malabsorption
  ➢ High energy needs: CNS impairment, premie, SGA, CHD
Substance Abuse

• Smoking should be avoided, as nicotine can cause:
  - Vomiting, diarrhea and restlessness for the baby.
  - Decreased milk production for the mother.
  - May increase risk of SIDS.
  - Opportunity to urge and instruct on smoking cessation.

• Alcohol readily passes into breast milk and is neurotoxic.

• Recreational and illicit drugs are a contraindication to breastfeeding.
Drugs Compatible With Breastfeeding

• Acetaminophen
• Many antibiotics
• Antiepileptics (except Primidone)
• Most antihistamines
• Most antihypertensives
• Aspirin (with caution)

• Caffeine in moderation
• Codeine
• Decongestants
• Ibuprofen
• Insulin
• Quinine
• Thyroid medications
Drugs Contraindicated While Breastfeeding

- Bromocriptine (hormone antagonist)
- Cyclophosphamide/ Doxorubicin/ Methotrexate (antineoplastic agent)
- Cyclosporine (immunosuppressant)
- Drugs of abuse (cocaine, PCP)
- Ergotamine (migraine headaches)
- Lithium (psychotropic agent)
Contraindication to Breastfeeding

- Recreational and illicit drug use
- Untreated active tuberculosis
- Radioactive mineral use for diagnostic tests
- Known primary acute cytomegalovirus infection
- Human immunodeficiency virus (HIV) infection
- Human T-cell leukemia/lymphoma virus
- Herpes simplex virus
- Hepatitis B, C (potential risk)
Breastfeeding Recommendations

- “Exclusive breastfeeding is the ideal nutrition source and sufficient to support optimal growth and development for the first six months of life.”

- The American Academy of Pediatrics recommends breastfeeding continue for at least the first 12 months.

Returning to Work and Weaning
Introducing a Bottle

- Breastfeeding does not have to be all or nothing.
- Try to wait at least 6 weeks to introduce the bottle.
- Pumping breast milk is an ideal option.
- Helpful strategies for introducing the bottle:
  - Give bottle when infant is not extremely hungry.
  - Start at the mid-day feeding.
  - Let spouse, relative or care-giver offer the bottle initially.
Employment Issues

- Encourage renting an electric breast pump.
- Discuss milk storage facilities.
  - Use breast milk within 24 to 48 hours or freeze
- Consider time and place for pumping.
- Consider traveling issues.
- Set an example and breast feed your children.
How to Wean

• Try to wait as long as possible to wean the baby.
• Eliminate the same feeding everyday for one week, assuming no pumping will occur.
• Gradually eliminate additional feedings.
• Let spouse, relative or care-giver offer the bottle initially.
Suppressing Lactation

- Simplest method: comfortable binder, cold packs, mild analgesics
- Bromocriptine (dopamine agonist): an effective prolactin secretion inhibitor