BREASTFEEDING BENEFITS, RISKS, CONTRAINDICATIONS

Key Components of Breastfeeding 2021

OVERVIEW

- Economic benefits of breastfeeding
- Maternal benefits of breastfeeding
- Infant benefits of breastfeeding
- Maternal risk factors
- Infant risk factors
- Contraindications for breastfeeding

THERE IS NO EQUAL SUBSTITUTE

"Human milk is species specific, and all substitute feeding preparations differ from it, making human milk uniquely superior for infant feeding." AAP, 2012

ECONOMIC BENEFITS

If 90% of U.S. mothers complied with the recommendation to exclusively breastfeed for 6 months:

- Savings of $13 billion annually
- Decrease healthcare system costs by $2.45 billion
- Eliminates formula costs of $4 to $10 per day

ECONOMIC BENEFITS

Globally:

- Save the lives of 800,000 children each year
- Save $300 billion
- Every $1 invested in breastfeeding generates $35 in economic returns

MATERNAL BENEFITS

- Psychological Benefits
- Postpartum Recovery
- Health Benefits

Nursing gives you superhuman powers. Great taste.
MATERNAL BENEFITS

Psychological:
- Maternal Hormones
- Maternal Empowerment & Fulfillment
- Increased Infant Interaction
- Decreased risk of postpartum depression and anxiety

Postpartum Recovery:
- Return to pre-pregnancy state quicker
- Oxytocin release

Reduced Health Risks of:
- Breast cancer and ovarian cancer
- Osteoporosis
- Rheumatoid Arthritis
- Cardiovascular Disease
- Type 2 Diabetes

LAWRENCE & LAWRENCE, 2016

INFANT BENEFITS

Species & Age Specific
- Nutritional Advantages
- Decreased Comorbidities
- Infection Prevention
- Immunologic Protection
- Allergy Prophylaxis
- Psycho/Social/Cognitive Benefits
- SIDS Prevention

AAP, 2012

Gestational Age Specific:
- Preterm milk contains higher levels of protective factors including immunoglobulins, fatty acids, and cytokines.
- Lower rates of NEC, sepsis, severe retinopathy, metabolic syndrome
- Enhanced neurodevelopment

LAWRENCE & LAWRENCE, 2016; USBC, 2020

PHOTO FROM HTTPS://WWW.INSTAGRAM.COM/THELEAKYBOOB/
INFANT BENEFITS - NUTRITIONAL

• Highly efficient bioavailability and utilization
• Contains cholesterol, DHA, & taurine essential for brain growth and development
• Iron almost completely absorbed compared with only 10% of the iron in formula

(LAWRENCE & LAWRENCE, 2016)

INFANT BENEFITS - NUTRITIONAL

• Nutrient to nutrient interaction
• Ligands bind to micronutrients
• Enzymes contribute to digestion
• Lactoferrin binds to iron
• Proteins
• Healthy eating habits

INFANT BENEFITS - COMORBIDITIES

• Cardiovascular Disease
  • Reduced risk of hypertension
  • Decreased risk of atherosclerosis
  • Lower LDL levels

• Diabetes
  • 30% reduction of type 1 diabetes mellitus after exclusively breastfeeding for 3 months
  • 40% reduction of type 2 diabetes mellitus

(AAP, 2012; LAWRENCE & LAWRENCE, 2016)

INFANT BENEFITS - COMORBIDITIES

• Obesity
  • 15-30% reduction in adolescent and adult obesity if any breastfeeding occurs
  • Additional 4% reduction associated with each month of breastfeeding

INFANT BENEFITS — INFECTION PROTECTION

Leukocytes, antibodies and additional antimicrobial factors protect against infection

Decreased risk of:
• Respiratory Tract Infections
• RSV Bronchiolitis
• Otitis Media
• Gastrointestinal Infections

INFANT BENEFITS — IMMUNOLOGIC PROTECTION

Decreased risk of:
• Leukemia
• Celiac Disease
• Inflammatory Bowel Syndrome
• Crohn’s Disease
INFANT BENEFITS — ALLERGY PROPHYLAXIS

• Decreased incidence of eczema, atopic dermatitis, and asthma
• Exclusive breastfeeding for 3-4 months results in
  • 27% reduction in risk in low-risk infants
  • 42% reduction in infants with positive family history
• Enhanced lung volume and function

INFANT BENEFITS — PSYCHO/SOCIAL/COGNITIVE

• More mature, secure, assertive, and progress farther on the developmental scale
• Greater rapid visual acuity development
• Higher intelligence test scores, teacher ratings and educational achievements
• Decreases risk of abuse and neglect

INFANT BENEFITS — SIDS

“21% of the US infant mortality has been attributed, in part, to the increased rate of SIDS in infants who were never breastfed.”

RISK FACTORS

“Prior to discharge, anticipation of breastfeeding problems should be assessed based on maternal and infant risk factors.”
• Risk factors have a dose effect!

MATERNAL RISK FACTORS — MEDICAL HISTORY

• Extremes of age
• Maternal Obesity
• Maternal medication use

MATERNAL MEDICATION USE

• Most medications are safe for use during breastfeeding
• Healthcare providers should consult lactation resources for individual medication information
  • U.S. National Library of Medicine (Formerly Lactmed)
  • Infantrisk.com (Dr. Thomas Hale)
• Inappropriate advice may lead to mothers discontinuing breastfeeding unnecessarily
• Weigh the risks of drug exposure through milk and the risk of interrupting or stopping lactation
MEDICATION CONSIDERATIONS

- Maternal need for the drug
- Potential effects on milk production
- Pharmacokinetics
- Potential adverse effects on infant
- Age of the infant
- Timing of the feeding

MEDICATION CONTRAINDICATIONS

- Live attenuated vaccines contraindicated
- Radiopharmaceuticals contraindicated
- Lithium is no longer contraindicated

MATERNAL RISK FACTORS — MEDICAL HISTORY

Significant medical problems:
- Untreated hypothyroidism, pituitary problems (Sheehan’s syndrome), diabetes, hypertension, cystic fibrosis and PCOS
- Acute medical conditions

Psychosocial problems:
- Sleep deprivation, anxiety, depression, PTSD, and lack of social support for breastfeeding
- Maternal history of abuse

MATERNAL RISK FACTORS — PSYCHOSOCIAL

Depression and Anxiety:
- Decrease oxytocin
- Breastfeeding challenges
- Bonding attachment
- Early cessation of exclusive breastfeeding
- Early weaning

MATERNAL RISK FACTORS — REPRODUCTIVE HISTORY

- Primiparity
- Infertility
- Conception by assisted reproductive technology
- Breastfeeding problems
- Low milk supply
- Antenatal administration of betamethasone

MATERNAL RISK FACTORS — A & P

- Previous breast surgery — Always ask!
- Previous breast abscess
- Lack of noticeable breast enlargement during puberty or pregnancy
- Flat, inverted, or very large nipples
- Variation in breast appearance (marked asymmetry, hypoplastic or tubular)
MATERNAL RISK FACTORS — LDRP EXPERIENCE

- Prolonged labor
- Long induction or augmentation of labor
- Use of medication during labor
- Unplanned c-section
- Postpartum Complications
  - Hemorrhage
  - Hypertension, preeclampsia, eclampsia
  - Infection

MATERNAL FACTORS — FINANCIAL NEEDS

Does she intend or need to return to school or work?

MATERNAL FACTORS — PLANS & INTENTIONS

Breastfeeding is considered “well established” after 6 weeks
- Does she plan to use medication during labor?
- Does she intend to breast and bottle feed (with PBM or formula) before 6 weeks of age?
- Does she plan on using pacifiers and/or artificial nipples/teats before 6 weeks of age?
- Does she plan on using hormonal contraception before 6 weeks?

MATERNAL RISK FACTORS — RED FLAGS

- No signs of milk “coming in” by 72 hours postpartum
- Mother is unable to hand express milk
- Need for breastfeeding aid or appliances at the time of discharge
- Requires special feeding plan

INFANT RISK FACTORS

- Medical
- Anatomy & Physiology
- LDRP Experience
- Environmental

INFANT RISK FACTORS — MEDICAL/A&P

- Low birth weight, SGA, IUGR
- Premature or late preterm
- LGA
- Postterm > 41 weeks
- Multiples
- Difficulty latching to one or both breasts
- Ineffective or un-sustained suckling
- Persistent sleepiness
INFANT RISK FACTORS — MEDICAL/A&P

Oral anatomic abnormalities:
- Cleft lip and/or palate
- Macroglossia
- Micrognathia (mandibular hypoplasia)
- Ankyloglossia (tongue tie)

Neurologic problems:
- Genetic disorders
- Hypertonia
- Hypotonia

INFANT RISK FACTORS — MEDICAL/A&P

Medical problems:
- Hypoglycemia
- Infection
- Jaundice
- Respiratory distress
- Hypothermia
- Prematurity

Excessive weight loss:
- > 7-10% of birth weight in the first 48 hours of life

INFANT RISK FACTORS — LDRP

- Stressful delivery
- Birth trauma
- Born after long epidural
- Less than 2 hours of skin to skin with mother immediately after birth

INFANT RISK FACTORS — ENVIRONMENTAL

- Breast pump deficiency
- Formula Supplementation
- Lack of established, effective breastfeeding prior to discharge
- Inability to latch/refusal to latch & transfer milk at time of discharge
- Discharge < 48 hours of age
- Early pacifier use (in term infants)

NICU:
- Maternal infant separation
- Medical interventions preventing skin to skin and/or breastfeeding

CONTRAINDICATIONS TO BF - MATERNAL

3 Categories:
- Should NOT breastfeed or feed expressed breastmilk
- Should temporarily NOT breastfeed and should NOT feed expressed breastmilk
- Should temporarily NOT breastfeed but CAN feed expressed breastmilk

CONTRAINDICATIONS TO BF - MATERNAL

A mother should NOT breastfeed or feed expressed breastmilk if she is:
- Infected with HIV (U.S. vs international)
- Infected with human T-cell lymphotropic virus type I or II
- Using an illicit street drug, such as PCP, cocaine, or cannabis
- Suspected or confirmed Ebola virus disease
CONTRAINDICATIONS TO BF - MATERNAL

A mother should temporarily NOT breastfeed and should NOT feed expressed breastmilk if she is:

• Infected with untreated brucellosis
• Taking certain medications, while the drug remains in her body at a harmful level to baby
• Undergoing diagnostic imaging with radiopharmaceuticals
• Active HSV infection with lesions present on the breast

Breastmilk should be expressed and discarded to maintain adequate supply.

(CONDC, 2019)

CONTRAINDICATIONS TO BF - MATERNAL

A mother should temporarily NOT breastfeed but CAN feed expressed breastmilk if she has:

• Untreated, active tuberculosis
• Active varicella infection that developed within 5 days prior to – 2 days following delivery

(MATERNAL DIET)

Recommendation: balanced diet similar to the non-lactating postpartum mother along with a few additions

• Additional 500 kcal daily
• Avoid diets/medications that promise rapid weight loss
• Eat a wide variety of foods daily
• Drink to thirst
• 200-300mg omega 3 fatty acids (DHA)
• Multivitamin/prenatal supplement

(LAWRENCE & LAWRENCE, 2016)

CONTRAINDICATIONS TO BF - INFANT

Infant is diagnosed with galactosemia

• A rare genetic metabolic disorder in which the infant is unable to metabolize lactose
• Duarte’s variant can breastfeed with close monitoring of galactose levels
• Formula recommendation

(MATERNAL SUBSTANCE USE)

“It is suggested instead that the mother be encouraged to breastfeed while, at the same time, it is strongly encouraged that she abstain completely from using marijuana as well as other drugs, alcohol, and tobacco.”

(AAP, 2018, p. 10)

CAFFEINE

• In a single cup of coffee, infant’s plasma level & milk level is low
• Has a dose effect
• Varies infant to infant
• Infant s/s: irritability, fussiness, short sleep cycles
MATERNAL SUBSTANCE USE

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>Nicotine</th>
<th>Cannabinoids</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Human milk metabolizes alcohol close to the same rate as the body</td>
<td>• Does transfer to the infant via breastmilk</td>
<td>• THC is highly protein bound, lipid soluble, and has a low molecular weight</td>
</tr>
<tr>
<td>• Breastfeed right before consumption</td>
<td>• Considerable transfer of chemicals via second-hand smoke</td>
<td>• Easily transfers to human milk</td>
</tr>
<tr>
<td>• Occasional use timed around breastfeeding does not appear to have harmful effects on the baby</td>
<td>• Nicotine (patch/gum) are acceptable when breastfeeding</td>
<td>• Is stored in lipid-filled tissues, including the brain</td>
</tr>
<tr>
<td>• Infant s/s: drowsiness, weakness, failure to thrive, slowed brain growth</td>
<td>• Insufficient data to assess the effects of exposure during BF</td>
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</tr>
</tbody>
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REFERENCES