Session 2: The benefits of breastfeeding
Benefits of breastfeeding for the infant

- Provides superior nutrition for optimum growth.
- Provides adequate water for hydration.
- Protects against infection and allergies.
- Promotes bonding and development.
## Summary of differences between milks

<table>
<thead>
<tr>
<th></th>
<th>Human milk</th>
<th>Animal milks</th>
<th>Infant formula</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein</strong></td>
<td>correct amount, easy to digest</td>
<td>too much, difficult to digest</td>
<td>partly corrected</td>
</tr>
<tr>
<td><strong>Fat</strong></td>
<td>enough essential fatty acids, lipase to digest</td>
<td>lacks essential fatty acids, no lipase</td>
<td>no lipase</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>enough</td>
<td>extra needed</td>
<td>may need extra</td>
</tr>
<tr>
<td><strong>Anti-infective properties</strong></td>
<td>present</td>
<td>absent</td>
<td>absent</td>
</tr>
</tbody>
</table>

### No water necessary

<table>
<thead>
<tr>
<th>Country</th>
<th>Temperature °C</th>
<th>Relative Humidity %</th>
<th>Urine osmolarity (mOsm/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>20-39</td>
<td>60-80</td>
<td>105-199</td>
</tr>
<tr>
<td>India</td>
<td>27-42</td>
<td>10-60</td>
<td>66-1234</td>
</tr>
<tr>
<td>Jamaica</td>
<td>24-28</td>
<td>62-90</td>
<td>103-468</td>
</tr>
<tr>
<td>Peru</td>
<td>24-30</td>
<td>45-96</td>
<td>30-544</td>
</tr>
</tbody>
</table>

(normal osmolarity: 50-1400 mOsm/l)


Slide 2.3
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)
Colostrum

**Property**
- Antibody-rich
- Many white cells
- Purgative
- Growth factors
- Vitamin-A rich

**Importance**
- Protects against infection and allergy
- Protects against infection
- Clears meconium; helps prevent jaundice
- Helps intestine mature; prevents allergy, intolerance
- Reduces severity of some infection (such as measles and diarrhoea); prevents vitamin A-related eye diseases
Breast milk in second year of life

% daily needs provided by 500 ml breast milk

- Energy: 31%
- Protein: 38%
- Vitamin A: 45%
- Vitamin C: 95%

Protective effect of breastfeeding on infant morbidity
Risk of diarrhoea by feeding method for infants aged 0-2 months, Philippines

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

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

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.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Bottle-fed</th>
<th>Breastfed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-13</td>
<td>38.9</td>
<td>23.1</td>
</tr>
<tr>
<td>14-26</td>
<td>47.1</td>
<td>36.2</td>
</tr>
<tr>
<td>27-39</td>
<td>45.5</td>
<td>42.4</td>
</tr>
<tr>
<td>40-52</td>
<td>54.1</td>
<td>40</td>
</tr>
</tbody>
</table>

Incidence of respiratory illness by age in weeks.

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

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

Protective effect of breastfeeding on infant mortality
Relative risks of death from diarrhoeal disease by age and breastfeeding category in Latin America


Slide 2.15
Relative risks of death from acute respiratory infections by age and breastfeeding category in Latin America

Breastfeeding reduces the risk of chronic disease
Breastfeeding decreases the risk of allergic disorders – a prospective birth cohort study

<table>
<thead>
<tr>
<th>Type of feeding</th>
<th>Asthma</th>
<th>Atopic dermatitis</th>
<th>Allergic rhinitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children exclusively breastfed 4 months or more</td>
<td>7.7%</td>
<td>24%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Children breastfed for a shorter period</td>
<td>12%</td>
<td>27%</td>
<td>9%</td>
</tr>
</tbody>
</table>

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

Breastfeeding has psychosocial and developmental benefits
Intelligence quotient by type of feeding

BF 2 points higher than FF
Study in 3-7 year-olds
1982

BF 2.1 points higher than FF
Study in 6 months to 2 year-olds
1988

BF 8.3 points higher than FF
Study in 7.5-8 year-olds
1992

BF 12.9 points higher than FF
Study in 9.5 year-olds
1996

BM 7.5 points higher than no BM
Study in 7.5-8 year-olds
1992

References:
• Lucas A et al. Lancet 1992
• Riva E et al. Acta Paediatr 1996

BF = breastfed
FF = formula fed
BM = breast milk
Duration of breastfeeding associated with higher IQ scores in young adults, Denmark

Benefits of breastfeeding for the mother

- Protects mother’s health
  - helps reduces risk of uterine bleeding and helps the uterus to return to its previous size
  - reduces risk of breast and ovarian cancer
- Helps delay a new pregnancy
- Helps a mother return to pre-pregnancy weight
Breast cancer and breastfeeding: Analysis of data from 47 epidemiological studies in 30 countries

Relationship between duration of breastfeeding and postpartum amenorrhoea (in months)

Risks of artificial feeding

- Interferes with bonding
- More diarrhoea and respiratory infections
- Persistent diarrhoea
- Malnutrition
  - Vitamin A deficiency
- More likely to die
- May become pregnant sooner
- More allergy and milk intolerance
- Increased risk of some chronic diseases
- Overweight
- Lower scores on intelligence tests
- Increased risk of anaemia, ovarian and breast cancer

Benefits of breastfeeding for the family

- Better health, nutrition, and well-being
- Economic benefits
  - breastfeeding costs less than artificial feeding
  - breastfeeding results in lower medical care costs
Benefits of breastfeeding for the hospital

- Warmer and calmer emotional environment
- No nurseries, more hospital space
- Fewer neonatal infections
- Less staff time needed
- Improved hospital image and prestige
- Fewer abandoned children
- Safer in emergencies