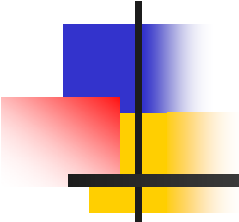


# **Guiding Principles for Feeding Infants and Young Children 6-23 months old: Evidence for Current Recommendations**



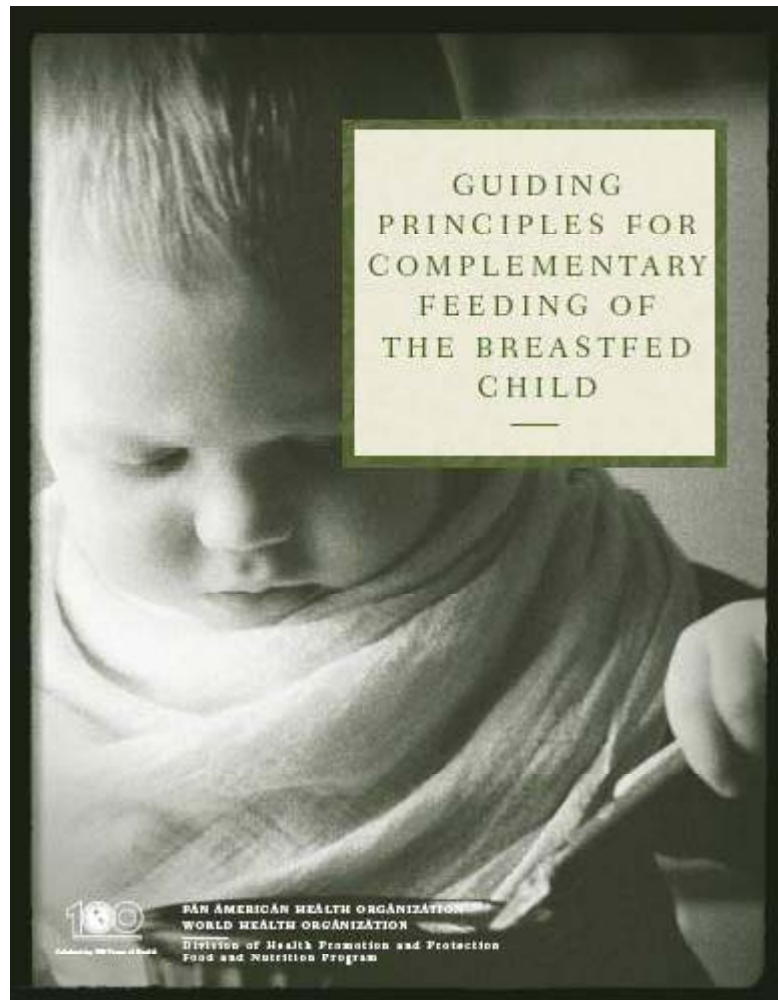
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October 2009

# Guiding principles for complementary feeding of the breastfed child (2003)



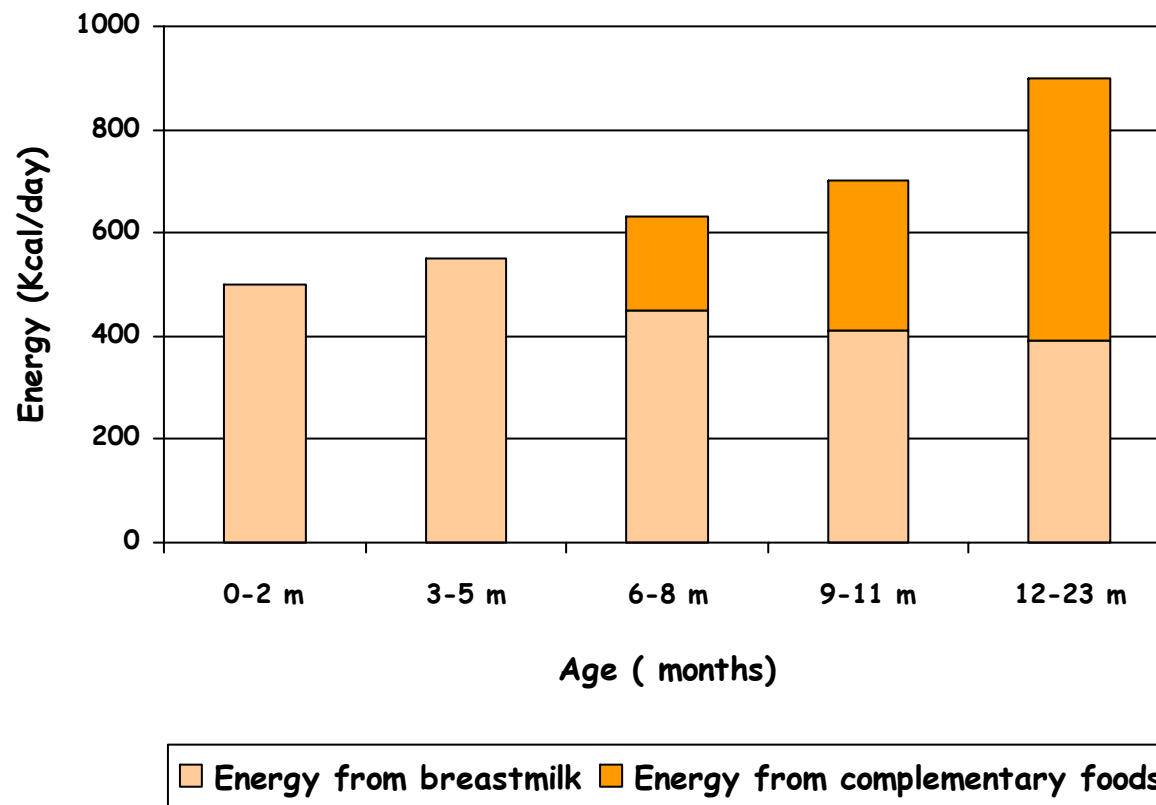
- **Guidelines for multiple dimensions of appropriate feeding in breastfed children 6-24 months**

# Guiding principles for complementary feeding the breastfed child

1. Practice exclusive breastfeeding from birth to 6 months of age, and **introduce complementary foods at 6 months** of age
2. **Continue** frequent, on demand **breastfeeding until 2 years** of age or beyond



# Energy required and amount provided by breast milk by age





# Nutritional contribution of breast milk beyond the first year of life

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- Provides 35-40% of energy (with average intake of about 550 g/d in children 12 - 24 months of age)
- Key source Essential Fatty Acids
- Key source of nutrients: e.g. among children 15-18 months in the Gambia
  - vitamin A (70%)
  - calcium (40%)
  - riboflavin (37%)
- Protects against illness
- Is a critical source of energy and nutrients during illness



# Guiding principles for complementary feeding the breastfed child



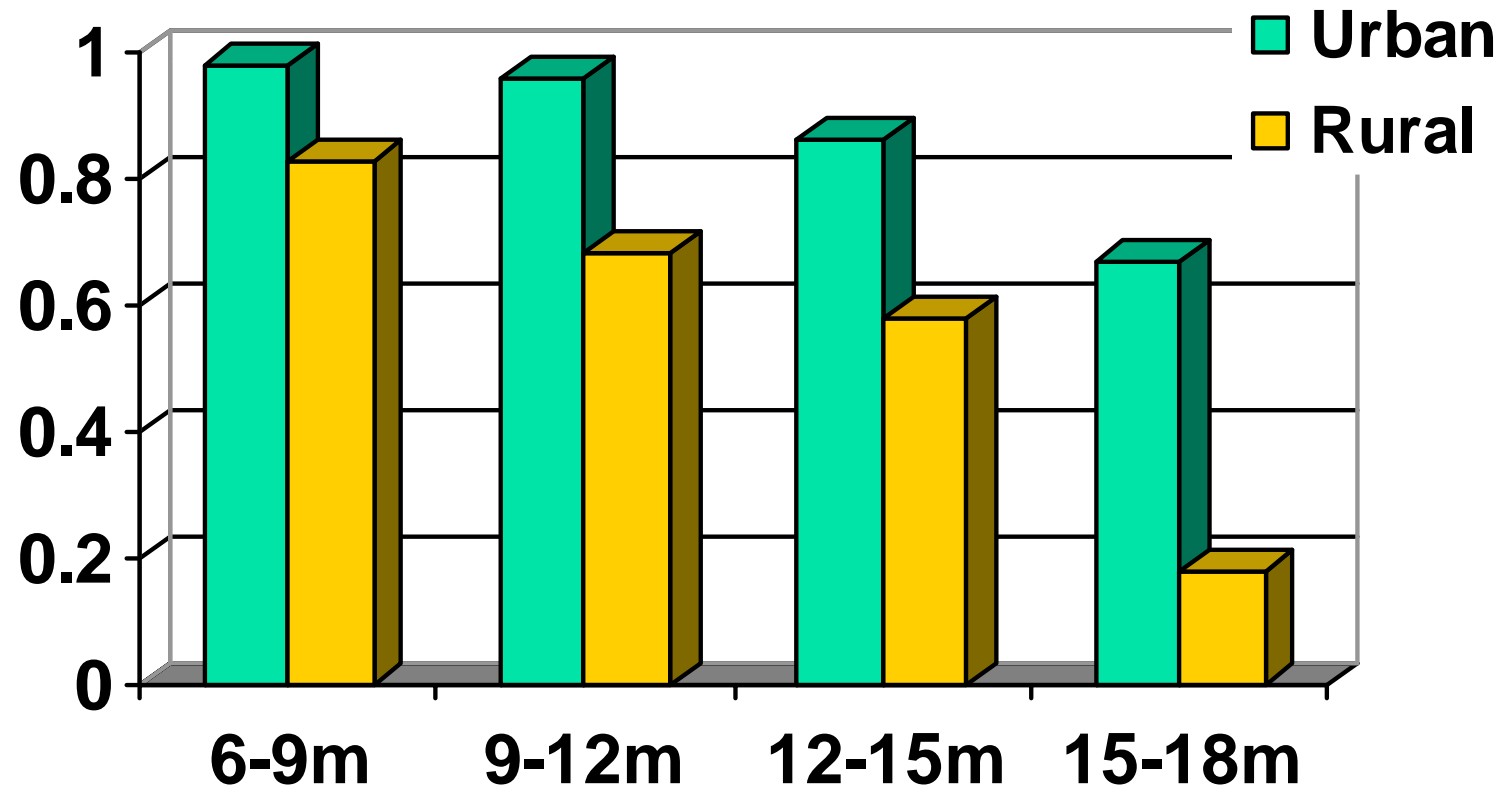
**3. Practice responsive feeding, applying the principles of psychosocial care**

# Responsive feeding recommendations

1. Help the child to eat, being sensitive to their cues or signals
2. Encourage child to eat but do not force
3. Talk to children during feeding with eye to eye contact
4. Respond positively to the child with smiles and encouraging words
5. Feed the child slowly and patiently and with good humor
6. Try different food combinations, tastes and textures to encourage eating
7. Wait when the child stops eating and then offer again
8. Give finger foods that the child can feed him/herself when developmentally appropriate
9. Minimize distractions if the child loses interest easily



## Proportion of bites offered by caregiver, in urban and rural Peru





## Acceptance of bite in Vietnam

Verbalization of caregiver	OR	95 % CI
Positive	2.4 *	1.8 – 3.1
Mechanical / direct	0.7 *	0.6 – 0.9
Ordered /threatened	0.6	0.3 – 1.2

\*  $p = < 0.001$

*Dearden KA et al. J Nutr. May 2009*

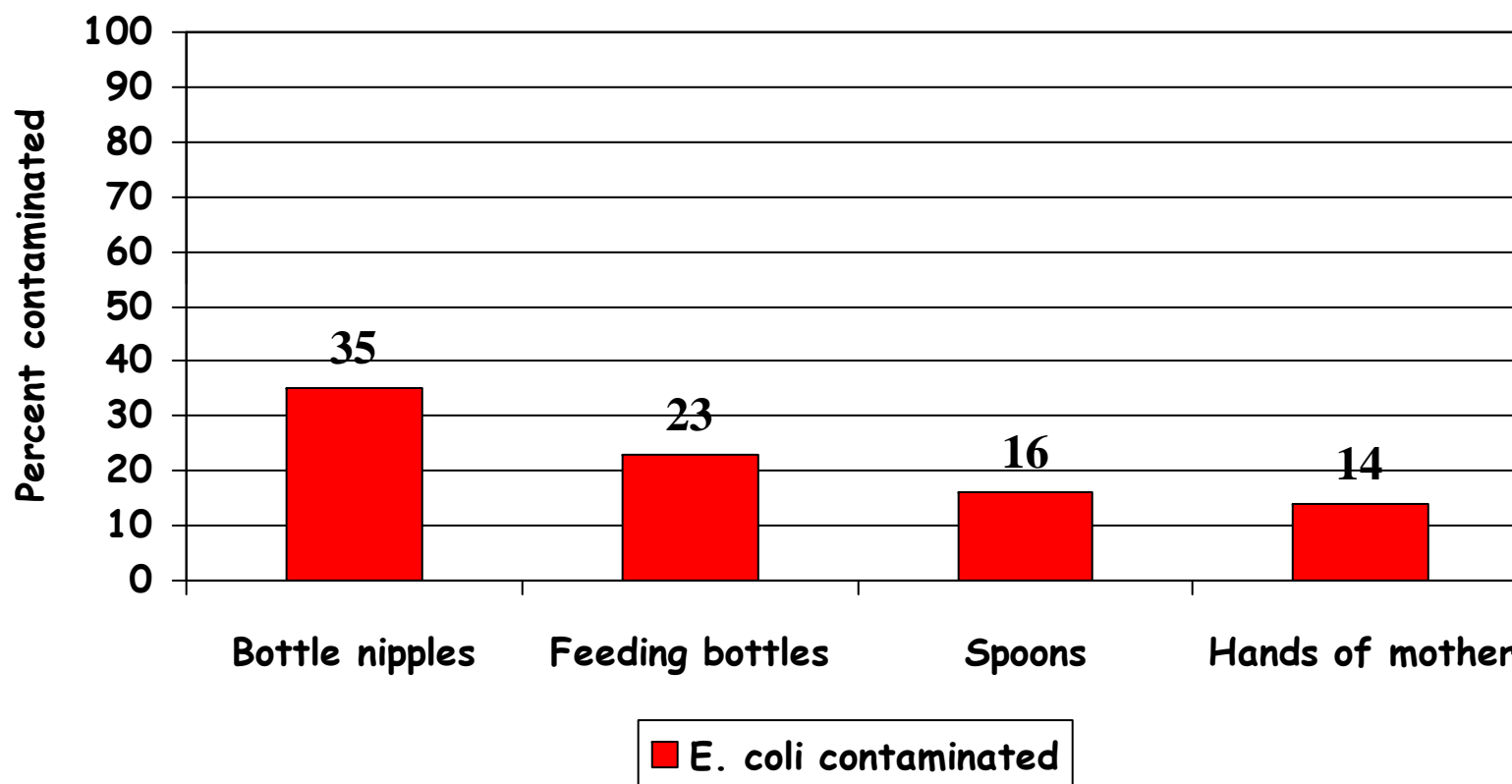
# Guiding principles for complementary feeding the breastfed child

## 4. Practice good hygiene and proper food handling

- Wash hands of caregiver and child before food preparation and eating
- Store ingredients safely in a cool and dry place, and serve foods immediately after preparation
- Use clean utensils to prepare and serve food, and use clean cups and bowls when feeding children
- Avoid use of feeding bottles, which are difficult to keep clean



# Faecal contamination of selected items - Huascar, Peru



## Guiding principles for complementary feeding the breastfed child

5. Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding
6. Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities

# Children's energy requirements: total and from complementary foods (kcal/d)

Age group (months)	Total requirement kcal/day	Average breastmilk intake	Requirement from CF
6-8	615	413	202
9-11	686	379	307
12-23	894	346	548

# Neurological development of infants and young children

Age (mo)	Reflexes/skills present
0-6	Suckle-swallow-breath
6-9	Sucking-swallow
4-7	Appearance of early "munching" Increased strength of suck Movement of gag reflex from mid to posterior 1/3 of tongue
7-12	Clearing spoon with lips Biting, chewing Lateral movements of tongue and movement of food to gums/teeth
12-24	Rotary chewing movements Jaw stability

**Give thick purés to your child**





## Guiding principles for complementary feeding the breastfed child

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7. **Increase the number of times per day that the child is fed complementary foods as he/she gets older**

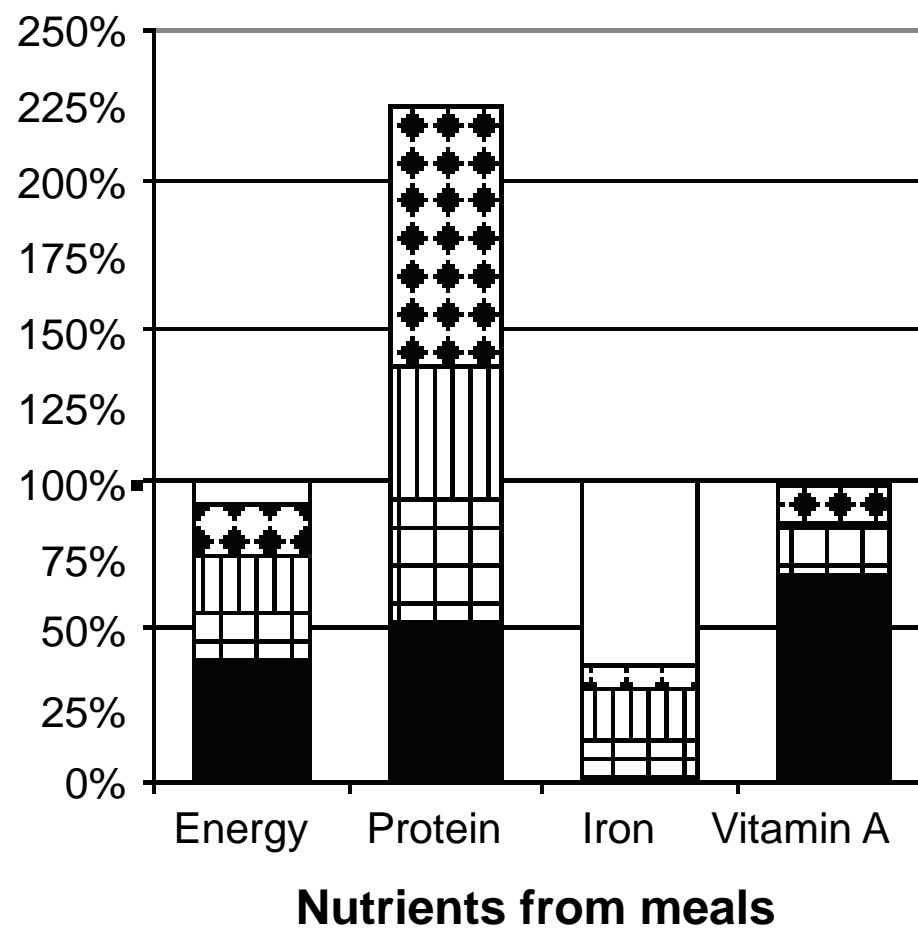


# Three meals



- Gap
- ▨ Mid-day meal
- ▩ Evening meal
- ▧ Morning meal
- Breast milk

## Percentage of daily needs



# Frequency of food consumption among breastfed children

## Number of meals a day\*

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6 – 8

2 – 3

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9 – 11

3 – 4

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12 - 24

3 – 4

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**Plus 1 – 2 nutritious snacks as desired, practising  
responsive feeding**

\* If energy density is 0.8kcal/g



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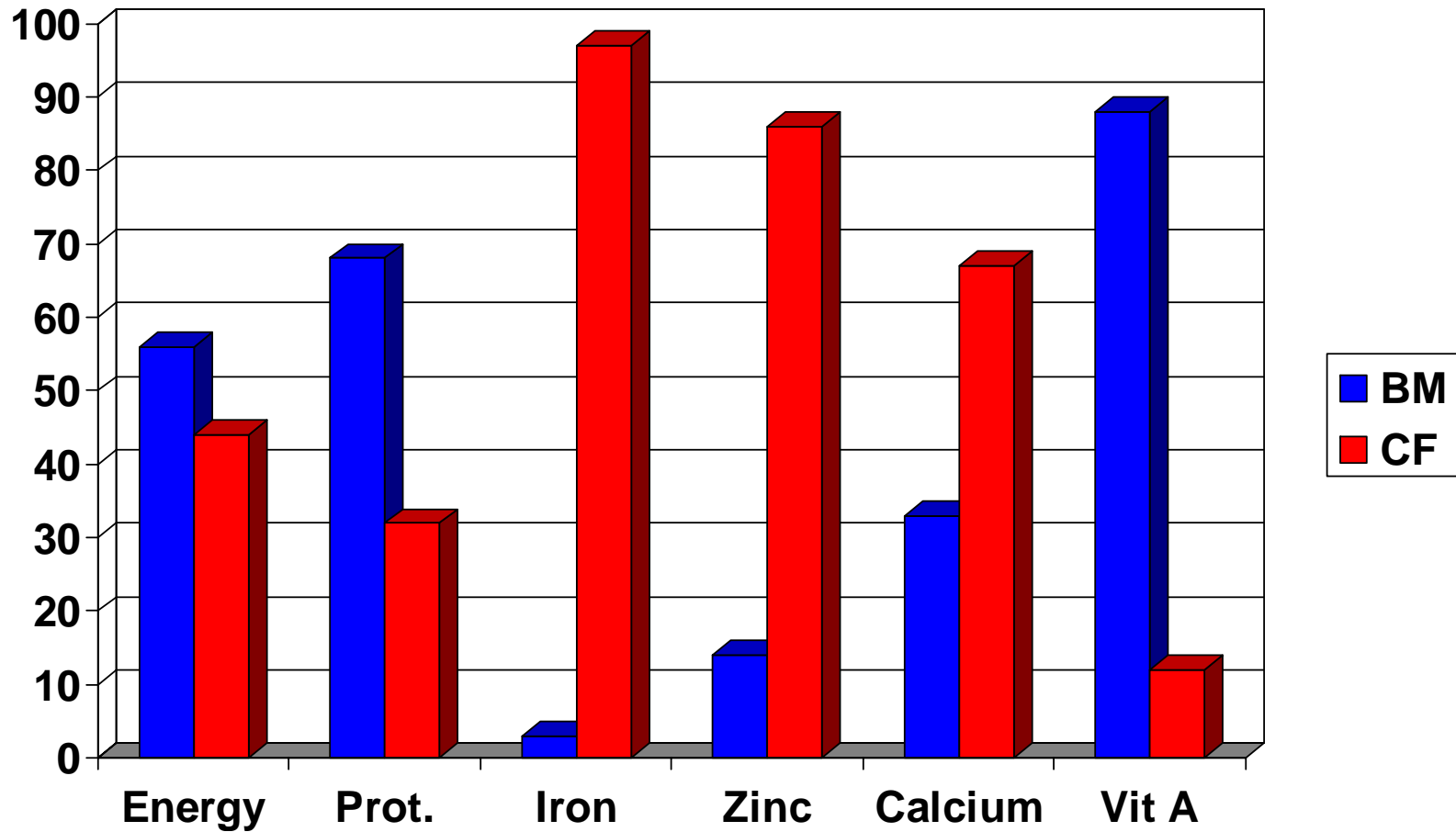
## Guiding principles for complementary feeding the breastfed child

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8. **Feed a variety of foods** to ensure that nutrient needs are met
  - Give meats, poultry, fish, or eggs daily or as often as possible
  - Give fruits and vegetables rich in vitamin A daily



## Percent of recommended intake of nutrients from BM and CF for infants 9 – 11m



## Nutrient density (per 100 Kcal) of food consumed by infants 6-8 months old in Huascar, Lima, Peru

<u>Nutrient</u>	<u>Mean desired</u>	<u>Median consumed</u>	<u>Minimum</u>	<u>Maximum</u>
Protein (g)	1.0	2.6	0	14.6
Vit A (ug)	31	35	0	2210
Calcium (mg)	105	19	0.9	185
Iron (mg)	4.5	0.4	0	6.1
Zinc (mg)	1.6	0.4	0	2.3
Riboflav (mg)	0.08	0.07	0	1.2
Thiamin (mg)	0.08	0.04	0	0.15
Niacin (mg)	1.5	0.5	0	8.0

# 9/10 Problem Nutrients

(Dewey & Brown, 2003)

- Vitamin A
- Thiamin
- Riboflavin
- Vitamin B6
  - Folate
- Vitamin C
  - Calcium
  - Iron
  - Zinc

And in infants > 12 mo and non BF children:

- Vitamin B12



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## Percent of Energy as Fat for Complementary Foods

<b>Percent of total dietary energy as fat</b>	<b>Level of breast milk energy intake</b>	<b>6 – 8 mo</b>	<b>9 – 11 mo</b>	<b>12 – 23 mo</b>
<b>30%</b>	<b>Low</b>	<b>19</b>	<b>24</b>	<b>28</b>
	<b>Average</b>	<b>0</b>	<b>5</b>	<b>17</b>
	<b>High</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>45%</b>	<b>Low</b>	<b>42</b>	<b>43</b>	<b>44</b>
	<b>Average</b>	<b>34</b>	<b>38</b>	<b>42</b>

# Guiding principles for complementary feeding the breastfed child

9. **Use fortified complementary foods or vitamin-mineral supplements** for the infant, as needed:

**Predominantly plant-based CF have insufficient key (“problem”) nutrients**



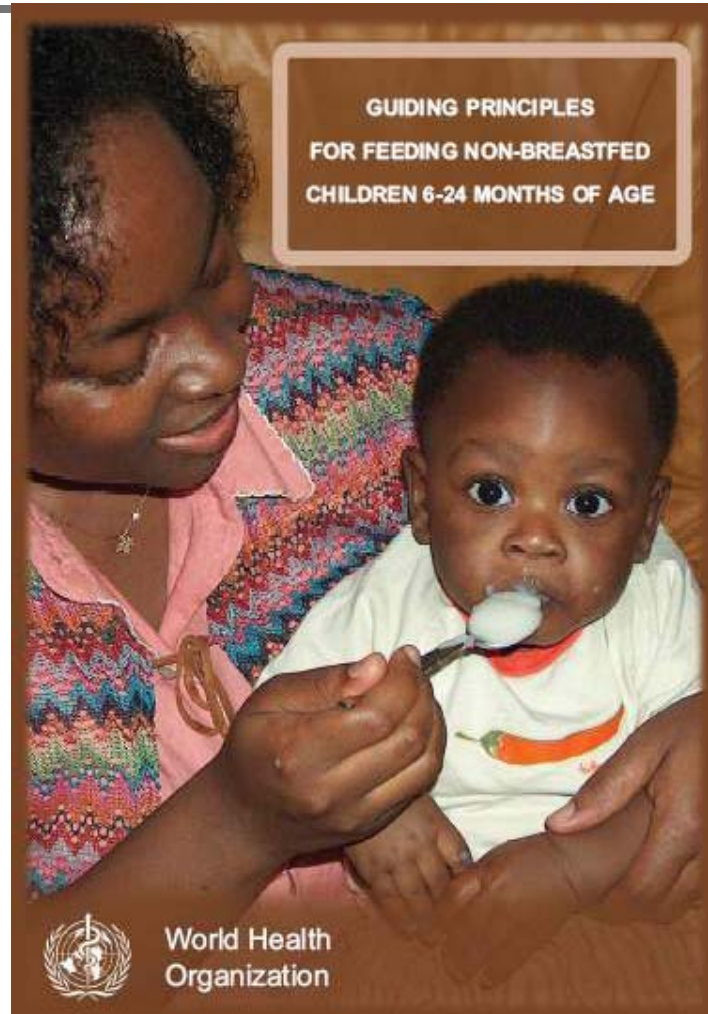
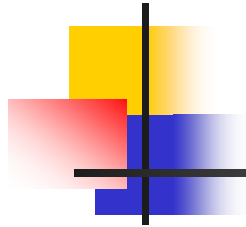
## Guiding principles for complementary feeding the breastfed child

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10. **Increase fluid intake during illness**, including more frequent breastfeeding, and **encourage the child to eat** soft, varied, appetizing, favourite foods.

**After illness, give food more often than usual**

# Guiding principles for feeding of the non-breastfed child (2005)



# Guiding principles for feeding non-breastfed children 6-24 months of age

- **Ensure that energy needs are met** (600 Kcal per day at 6-8 months, 700 Kcal per day at 9-11 months and 900 Kcal per day at 12-23 months)
- **Increased feeding frequency:**  
**Meals should be provided 4-5 times per day**, with additional nutritious snacks offered 1-2 times per day, as desired
- **Importance of animal source foods:**  
**Milk needs to be taken daily: 200 – 500 ml** depending on other animal source food intake.
- **Fortified foods**
- Non-breastfed infants and young children **need at least 400-600 ml/d of extra fluids**





**THANK YOU!**