

Complementary food for breastfed infants



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Háskóli Reykjavíkur næringarfræði



0-6 month – signs of hunger

- Sign of hunger come long before the infant starts crying.
- The infant moves his head, opens his mouth and moves his tongue.
- If you are always together you will soon learn to know this sign.
- You offer the breast when the infant is calm and ready to take the breast, before he gets restless.

Breast feeding protects the infant

- Colostrum.
- Immunologic benefit.
- Immune system development.
- Autoimmune disorders.
- Infections.



(4woman.gov, WHO 2001 F)

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Exclusive breastfeeding

- Believe in yourself.
- Breastfeeding is physiological and works like your stomach or a kidney.
- A Mother who has stopped Breastfeeding can always start again, relactation.

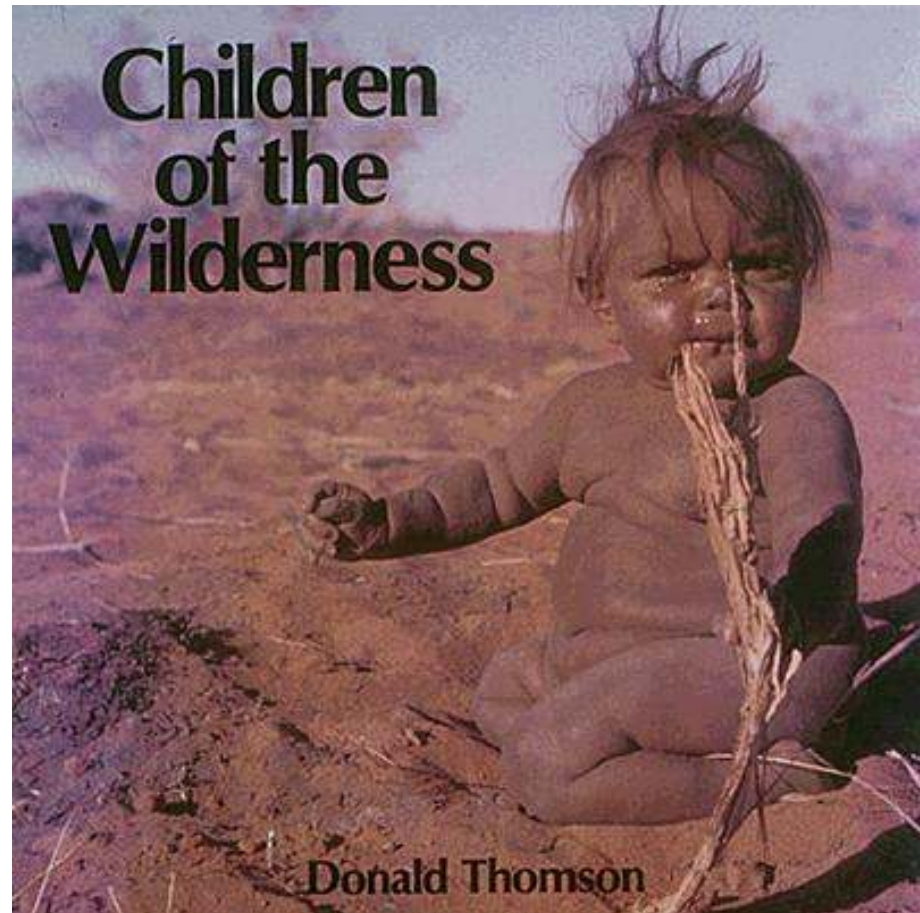


(Mohrbachers and Stock 2003).

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The infant does not need extra water



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Perfect food for the baby

- 0-6 months practice breastfeeding exclusively.
- 6-12 months breastfeeding first then food.
- 12-24 months breastfeed as often as the infant likes.
- Breastfeeding at night is important for most infants the first year, so they get all the nutrients they need.



When should complementary food be offered to the infant?

When the infant can:

- Can control this tongue.
- Starts to make up-and down movements.
- Starts to get teeth.
- Likes to put things in his mouths.
- Can sit.

When should complementary foods be started?

- At 6 months of age.
- Infant appears hungry soon despite frequent breastfeeding.
- Infant is not gaining weight.



(WHO 2001 E).



Why is it not recommended to give complementary food sooner

- The infant does not need complementary food, and if given it will displace breast milk.
- The mother will produce less milk.
- More difficult to meet the infants need of nutrition.
- Get less protective factors against infectious disease
- Influence on immune system development.

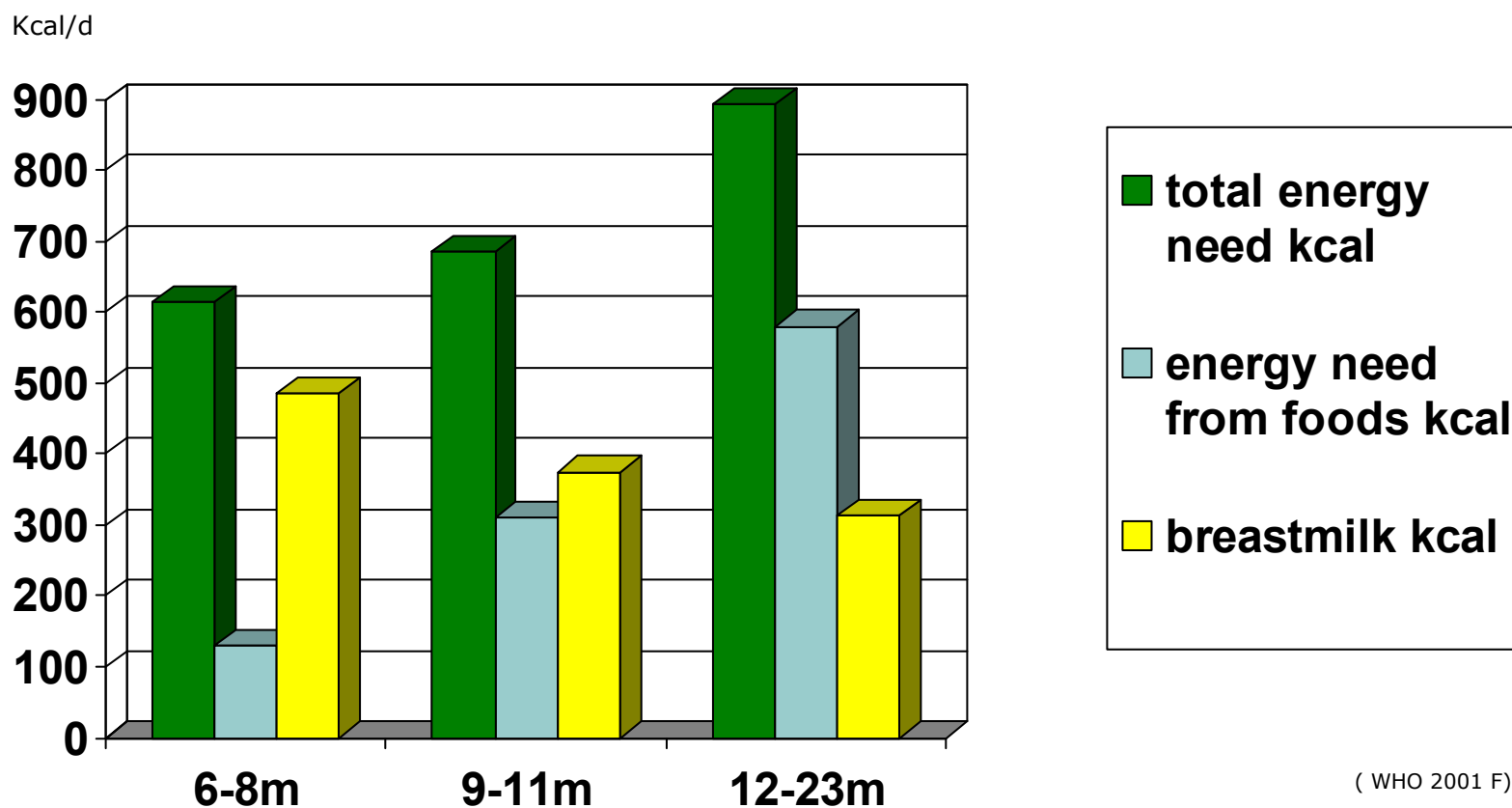
(Cohen, Brown, Canahuati, Rivera and Dawey 1994).

Starting complementary feeding too late?

- The energy and nutrient gap is not filled.
- Child stops growing.
- Risk of malnutrition.
- Risk of micronutrient deficiencies increases.



Energy required and the amount from breastmilk at age 0-23 months



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Complementary food from 6-9 months

- Specially made for the infant.
- Family food that has been modified to make it easy to eat and provide nutrients needed for the infant.

(WHO 2001 E; WHO 2001 F).



What does good complementary food for infants have?

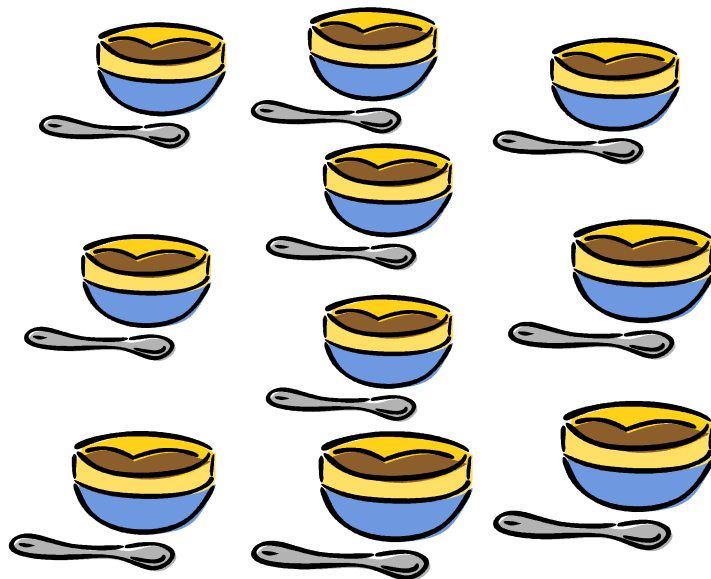
- Rich of energy and nutrients, protein, micronutrients such as Zinc, Iron, Calcium, Vitamin A, Riboflavin, Vitamin B₆, Vitamin B₁₂ and Vitamin D.

(WHO 2001 F).



A baby stomach can hold only 200 ml

- The child needs to eat 2 bowls at each meal.
- Not possible.



WHO Child Growth Standards

"says Chessa Lutter, regional advisor on food and nutrition at the Pan American Health Organization (PAHO). "No matter what country or ethnic group they're from, children will grow in a similar way as long as they are properly fed and have good health conditions."

(WHO 2006 C).



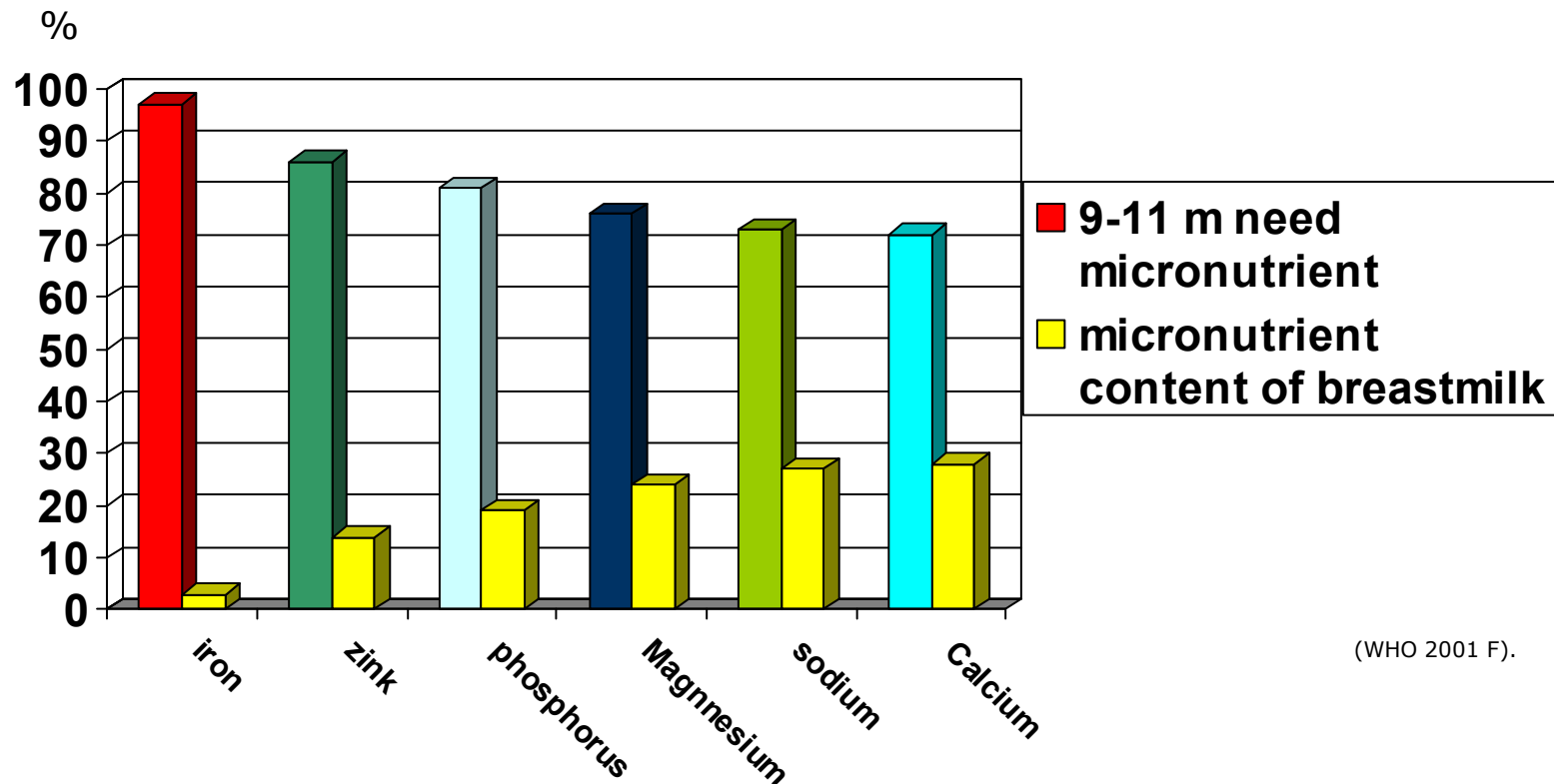
What do we need to think about when preparing food for infants

- Micronutrients content.
- Fat content.
- Beverages must have good nutrient value.

(WHO 2001 E; WHO 2001 F).



Need of micronutrients at age 9-11 months infant



(WHO 2001 F).

Food for healthy infant as often as possible

- Meat.
- Poultry.
- Fish.
- Eggs.
- Dairy products,
clean yogurt and
cheese and dried
milk for cooking
porridge.



(WHO 2001 F).

Infants with a family history of allergies or food sensitivities should not receive

- Cow milk until 1 years of age.
- Eggs until 2 years.
- Peanuts, nuts and fish until 3 years.

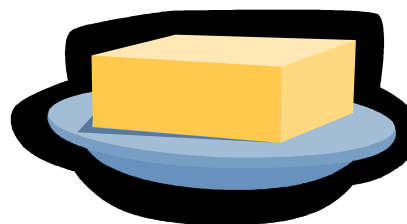
Recommendation of American Academy of Pediatrics recommend and Lýðheilsustöð Reykjavík Iceland.



(WHO 2001 F, Lýðheilsustöð 2003).

Fat content in infants diets

- Soy oil
- Olive oil
- Coconut oil
- Sunflower oil
- Coconut cream
- Maize oil
- Palm oil
- Sesame oil
- Butter
- Fat from meat



(WHO 2001 E).



What is good to know?

- Breast milk provides important amounts of energy and nutrients.
- Adding fruit such as orange improves the absorption of iron in rice and beans.
- Fish with fish liver has small effect on energy needed, enough protein, has small effect on iron needed but improves the absorption of iron from vegetarian foods.

(WHO 2001 E).



What is good to know?

- Liver has small effect on energy gap, enough protein, iron and vitamin A needed.
- Rice and beans have no vitamin A.
- Fruit (with meal) improve the absorption of iron from other food.
- Some food available are iron-fortified.
- Dark-green leaves (1 tsp) have small effect on the energy gap but provide some protein, iron and lots of Vitamin A.

(WHO 2001 F).

The child is born with a storage of iron which lasts until the child is about 6 months old

- The child gets iron from the breastmilk and uses it highly but needs to get extra from the food.
- If the child does not receive extra iron from the food it will become anemic.
- More risk for premature and low-birth –weight babies.

(WHO 2001 E).



Feeding recommendation up to 6 months

- Breastfeed as often as the child wants day and night.
- 10-12 times a day or more.
- When you think you are short of breast milk use kangaroo care and give breast more often. (Riordan and Auerback 1998).



Idea of food for 6-12 months

- Breastfeed as often as the child wants.
- Give porridge made of maize, millet or Soya mixed with oil and milk.
- Mixtures of mashed food, potatoes, rice mix with fish/liver/meat or bean, add green vegetables.
- 3 meals per day.
- Snacks like egg, banana or bread.



(WHO 2001 F).

Idea for meals for 12-23 months

- Breast milk.
- Mashed food potatoes, maize, millet, or rice with beans and orange with oil.
- Potatoes, fish/liver/meat and green leaves with oil.
- Rice, liver and green leaves with oil.
- Bread with margarine and banana.
- 3 meals and 2 snacks per day.

(WHO 2001 F).



High iron and good absorption

- Liver of all kinds.
- Other organs.
- Meat.
- Red meat especially
- Meat of birds, especially dark.
- Foods fortified with iron as cereals.



Heimild: Complementary feeding Family foods for breastfed children. WHO 2001 F.

Iron absorbed increased from

Combination of eggs,
milk and
vegetables during
the same meal:

- Food rich in vitamin C.
- Meat and organs from animals or birds.
- Fish or other seafood.



(WHO 2001 F).

Use variety of vegetables

- Peas and green beans, tomatoes, spinach, sweet potato, cabbage, broccoli, carrots, chard and pumpkin.

(WHO 2001 F).



Daily need of Vitamin A for 6-23 months

- Carrots 1 ½ teaspoon a day.
- Sweet potato 1 teaspoon a day.
- Dark green vegetables 1/3 cup a day.



(WHO 2001 F).

Vitamin D

- Add supplements to the mother's diet if it is low in vitamin D.
- Give Vitamin AD to the child.
- Sunlight 10 minutes per day.



(Matvæla og næringafræðingafélag Íslands 2000).

Favorable snacks provide both energy and nutrients

- Banana.
- Avocado.
- Mango and other fruits.
- Yoghurt.
- Milk.
- Pudding made with milk.
- Bean cakes.
- Cooked potatoes.
- Bread with margarine.
- Cheerios.



Unfavorable snack

- Soda.
- Sweet.
- Snack.
- Sweet Cookies/
biscuits.



Favorable drinks give nutrition and energy

- Breastmilk is the main nutrition for the child, other liquids should not replace breastmilk or other food.
- If offering a drink, do it by the end of a meal.
- 240 ml of liquid a day.



(WHO 2001 E; WHO 2001 E).

How to start at 6 months

- 1-2 teaspoons.
- 2 x day .
- Gradually increase the amount and variety.
- At 9 months the child should be able to eat a variety of family food.

(WHO 2001 F).



How can the small child eat

- There is only space for 200 ml.
- Therefore it must be food of good quality.

(WHO 2001 F).



The child gets older and the amount of food has to be increased

- Breastfeed.
- Increase the amount of food.
- 6-7 months 3x meals still small.
- Increase to 3x meals and 2x snacks.
- 9 months about half a cupful at each meal.
- Second year small bowl.



(WHO 2001 F).

Use all the opportunities you have to get nutrition to the child

- Remember to breastfeed the child over the day.
- Give breast at night when the child wakes up hungry or thirsty.
- Over the day the child is tired and needs you; use the opportunity and give the breast. (Mohrbaier and Stock 2003).



Idea of food for one day

- Early in the morning: breastmilk
- In the morning: breastmilk, porridge vitamin AD drops.
- Lunch: breastmilk, bread with margarine, porridge or vegetables.
- Noon: breastmilk mixture of mashed fruits or vegetables.
- Evening: meat, potatoes, vegetables and milk.
- Late evening: breastmilk.



Heimild: Næring ungbarna 2003

Teach my to eat right.....



- Evrópusáttmáli WHO nóvember 2006.
- Heilsueflandi starf í leikskólum.
(Sigurðardóttir, A. Aradóttir, E. Brjörnsdóttir E, Svavarsdóttir, E. Ívardóttir Á. 2007)
- Heilsuleikskóli. Health playschool
http://www.kopavoqur.is/news.asp?cat_id=53&module_id=220&element_id=13254

.....so we will be fit and nice!

Breastfeeding at age of 3 years

- The breast milk is still giving important amounts' of energy and nutrients.
- The child is able to eat family food.
- If decided to stop breastfeeding then it is best to do it gradually.

(WHO 2001 F).



Signs of malnourished children

- Frequent infection.
- Growth failure.
- Slower recovery.
- More severe illness.
- More often and longer ill than a well-nourished child.
- Lack of antibodies and other substance that fight disease.

(WHO 2001 E, WHO 2001 F).



When the child is sick

- It is important to keep the child well nurtured.
- Offer the breast often.
- Offer food more often when the child is recovering from illness.
- If child is vomiting.
- Sick children may prefer breastmilk to other foods.

(WHO 2001 F).





Evidence on the long-term effects of breastfeeding

- Breastfeeding has a clear short-term benefits- i.e. it reduces morbidity and mortality because of infectious diseases.
- Possibly lower blood pressure, but small impact.
- Lower cholesterol in blood.
- Lower incident of overweight or obesity
- Possibly lower the incident of Type II diabetes, further studies needed .
- Higher intelligence test scores.

Heimild: Evidence on the long-term
Effects of breastfeeding 2007.



Worldwide Breastfeeding

- World Alliance of Breastfeeding Action WABA
- The International Baby Food Action Network IBFAN
- La Leche League International LLLI
- International Lactation Consultant Association ILCA
- Academy of Breastfeeding Medicine ABM
- Unicef



The breast is best

“WHO and UNICEF now recommend that every infant should be exclusively breastfed for the first six months of life, with continued breastfeeding for up to two years or longer.”

Heimild: Evidence on the long-term
Effects of breastfeeding 2007.



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