



## **Diet and exercise for infants and breastfeeding mothers**

Updated recommendations by  
Healthy Start – Young Family Network,  
an initiative by IN FORM

Slide presentation

Version 09/2016

# The aims of the network

- **To promote a healthy lifestyle** during pregnancy and the first three years of a child's life (counteracting the current trend toward malnutrition, obesity and allergies).
- **The same message for EVERYONE:** Agreement and dissemination of uniform and clear **recommendations** based on scientific insight.
- **Comprehensive competency:** To establish a nationwide communications network (health professionals) and achieve the greatest possible range (even among educationally disadvantaged strata of society).

# 3 recommendations for 3 phases in life



2011/2012



2010/2013/2016



2013

**Principles of  
the network**

# Recommendations

- Drafted in cooperation between scientists from a broad variety of professional organisations and institutes
- Based on current scientific insight
- Focusing on the lives of young families

# Updated recommendations: consensus process

**Survey of professional organisations** to identify areas that require updating, **consideration of the evaluation results** on the acceptance of the recommendations → **identification of critical issues**



**Consideration and appraisal of new recommendations, guidelines, meta-analyses and systematic reviews**



**Assessment of the data and approval of recommendations by the Scientific Advisory Board**



**Publication of the updated and extended recommendations**  
(special issue of the monthly journal *Monatsschrift Kinderheilkunde*;  
September 2016)

# Selection of reviewed recommendations

## National recommendations

- German Association of Paediatricians (BVKJ)
- Federal Institute for Risk Assessment (BfR)
- Federal Office for Health Education (BZgA)
- German Nutrition Society (DGE)
- German Society of Paediatrics and Adolescent Medicine (DGKJ)
- European Food Safety Authority (EFSA)
- National Breastfeeding Committee
- Research Institute of Child Nutrition (FKE)
- Society for Paediatric Allergology and Environmental Medicine (GPAU)

## European recommendations and recommendations in other countries

- European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN)
- American College of Obstetricians and Gynecologists (ACOG, USA)
- Clinical Practice Obstetrics Committee (Canada)
- National Institute for Health and Clinical Excellence (NICE, UK)
- National Association for Sport and Physical Education (NASBE, USA)
- Royal College of Obstetricians and Gynaecologists

## International recommendations

- World Health Organization (WHO)
- Cochrane Library
- Institute of Medicine (IOM, USA)

# Drafted by the Scientific Advisory Board

- Prof. Berthold Koletzko (Chair), Munich, **German Society of Paediatrics and Adolescent Medicine**
- Prof. Carl-Peter Bauer, Gaissach
- Prof. Manfred Cierpka, Heidelberg\*
- Prof. Christine Graf, **German Sport University Cologne**
- Prof. Ines Heindl, Flensburg\*
  
- Prof. Claudia Hellmers, Osnabrück, **German Society of Midwifery Science**
- Prof. Mathilde Kersting, Dortmund, **Research Institute of Child Nutrition**
- Prof. Michael Krawinkel, Giessen, **German Nutrition Society**
- Prof. Hildegard Przyrembel, Berlin
- Prof. Klaus Vetter, Berlin, **National Breastfeeding Committee** at the Federal Institute for Risk Assessment
- Dr Anke Weissenborn, Berlin, **Federal Institute for Risk Assessment**
- Prof. Achim Wöckel, Würzburg, **German Society of Gynaecology and Obstetrics**

\*No longer a member of the Scientific Advisory Board

# Structure of the updated recommendations

## 1. Recommendations

## 2. Basis for the recommendations:

NEW

Description of the methodical, scientific and/or legal foundations

→ Transparency in regard to evidence and derivation

## 3. Backgrounds:

additional information on the recommendations  
(e.g. for use in practice)



# Worded in the characteristic style of guidelines

- 1. Should = strong recommendation**
- 2. Ought to = moderate recommendation**
- 3. Can = open recommendation**

# Topics addressed by the recommendations

- Infant nutrition
- Learning to eat during infancy
- Movement during infancy
- Recommendations for breastfeeding mothers
  - Diet
  - Movement
- Recommendations on allergy prevention

New from  
2016

New from  
2016

New from  
2016

# Overview of media: 1<sup>st</sup> year of life

## Media for distribution to parents:



Flyer for parents



Sticker for the child's check-up booklet



Leaflet on breastfeeding

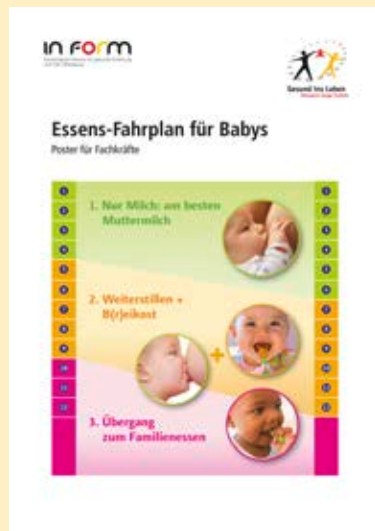


App 'Baby & Food' with post card

**All media:**  
[www.gesund-ins-leben.de/fuer-fachkraefte/medien-materialien](http://www.gesund-ins-leben.de/fuer-fachkraefte/medien-materialien)

# Overview of media: 1<sup>st</sup> year of life

For advice:



Nutritional roadmap poster



Presentation slides

**All media:**  
[www.gesund-ins-leben.de/fuer-fachkraefte/medien-materialien](http://www.gesund-ins-leben.de/fuer-fachkraefte/medien-materialien)

# Breastfeeding

Breast is best –  
but for how long?

Plenty of benefits  
for the mother  
and child



# Breastfeeding: the best thing for the mother and child

- Breastfeeding is the natural and preferred form of feeding an infant
- Mother's milk provides the baby with the important macro and micro-nutrients it needs for growth and healthy development
- Breastfeeding has positive short and long-term effects on the health of the mother and child

(Ballard, Morrow 2013; Valentin, Wagner 2013; Hassiotou et al 2013)

(Ip et al 2009; Horta, Victora 2013, Horta et al 2015; Chowdhury et al 2015)

# Health benefits of breastfeeding, compared with not breastfeeding

## For the child

- Reduced risk of gastrointestinal infection  
(Ip et al 2009)
- Reduced risk of acute otitis media  
(Ip et al 2009)
- Reduced risk of obesity later in life  
(Ip et al 2009; Oddy et al 2014; Yan et al 2014)



# Health benefits of breastfeeding, compared with not breastfeeding



## For the mother

- Reduced risk of breast cancer  
(Ip et al 2009; Zhou et al 2015; Chowdhury et al 2015)
- Reduced risk of ovarian cancer  
(Ip et al 2009; Li et al 2014; Luan et al 2013; Chowdhury et al 2015)



## For the mother and child

Breastfeeding can contribute to strengthening the emotional bond between the mother and child

(Jansen et al 2008)



# Breastfeeding and mortality – a systematic review and meta-analysis

Type of breastfeeding	Relative risk (95% CI)	Number of studies
-----------------------	------------------------	-------------------

## Overall mortality; breastfeeding for 0–5 months

Exclusively	1.0	
Predominantly	1.48 (1.13–1.92)	3
Partially	2.84 (1.63–4.97)	3
No breastfeeding	14.4 (6.13–33.9)	2

## Infection-related mortality; breastfeeding for 0-5 months

Exclusively	1.0	
Predominantly	1.7 (1.18–2.45)	3
Partially	4.56 (2.93–7.11)	3
No breastfeeding	8.66 (3.19-23.5)	2

(Sankar, M.J.; Sinha, B.; Chowdhury, R.; Bhandari, N.; Taneja, S.; Martines, J.; Bahl, R. (2015): Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. Acta paediatrica, 104, 3-13)

# Breastfeeding recommendations

- Exclusive breastfeeding is the best form of nutrition for infants in the first few months of life
- Partial breastfeeding\* is also beneficial



\*Partial breastfeeding = the infant sometimes receives the breast, and sometimes formula

# Promotion of breastfeeding

- Parents ought to receive advice on the practical aspects of breastfeeding
- Additional support will prolong the phase of breastfeeding (Renfrew et al 2012)
- Face-to-face advice (Renfrew et al 2012)
- Continuous advice (Hannula et al 2008)
- Cross-sectoral advice (Sinha et al 2015)



Renfrew et al. *Cochrane Database Syst Rev* 2012; 5:CD001141

# The effects of skin contact immediately after birth



- Has a positive effect on the start of breastfeeding
- Promotes breastfeeding in general
- Fosters a positive breastfeeding relationship
- Reduces screaming



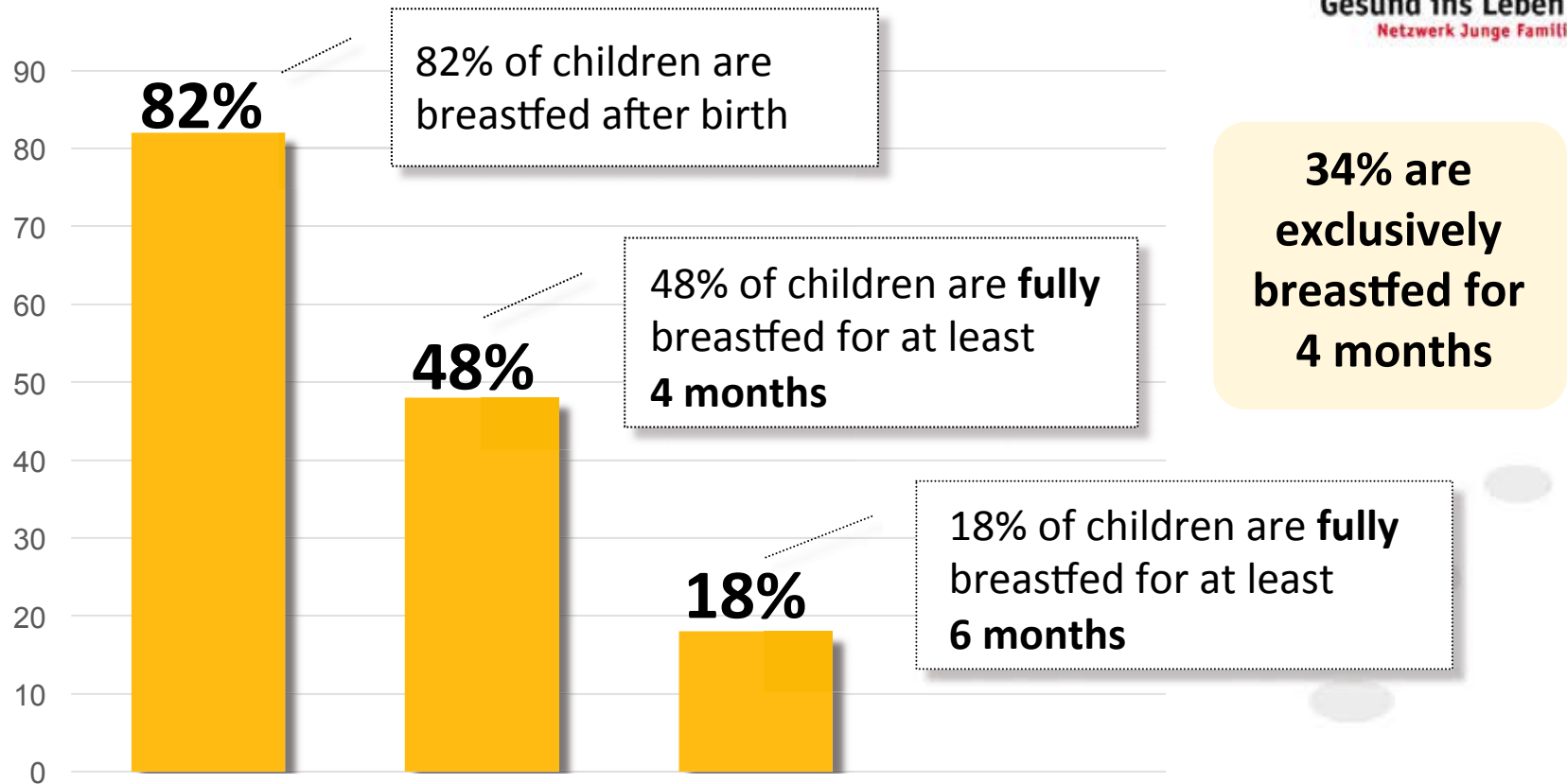
Moore et al. *Cochrane Database Syst Rev* 2012; 5:CD003519  
Bystrova et al. *Birth* 2009; 36:97–109

# Recommendations for the start of breastfeeding

- Mothers ought to be allowed skin contact with their baby immediately after birth
- The baby ought to be placed on the mother's tummy for the first feeding; it should then be given time to locate the nipple spontaneously and to start sucking\*

\*Breast crawl: most newborn babies will look for the breast themselves within the first hour

# Breastfeeding habits in Germany



Average duration of breastfeeding: 7.5 months

Robert Koch Institute, 2015: KIGGS Welle 1

# Recommendations for the duration of breastfeeding

- Infants should be breastfed for the first 6 months, and exclusively until the start of the 5th month
- Continue breastfeeding even after the introduction of complementary food (complementary food from the start of the 5th month at the earliest, and from the start of the 7th month at the latest)
- In principle, the mother and child decide how long breastfeeding continues
- The recommendations also apply to children with an elevated risk of allergies

# Practical recommendations for breastfeeding

- The needs of the child determine the frequency and duration of breastfeeding
- It may be necessary to waken the child to give it the breast in particular situations

Breastfeeding is a learning process for the mother and child.

Find an individual, needs-based breastfeeding rhythm.



# Infant formula

Which one  
is right?

Benefits of HA?

What must be  
considered during  
preparation?



# Alternatives to breastfeeding

- Feeding expressed/extracted milk

Handling expressed/extracted milk:

- Leaflet for parents
- Leaflet for nurseries and day-care

National Breastfeeding Committee at  
the Federal Institute for Risk Assessment



- Infant formula  
(pre and 1 formulae)

# Recommendations for selecting infant formula I

If babies are not breastfed, or not breastfed exclusively

- they should receive an infant formula manufactured according to the statutory provisions
- Infant formula (pre and 1 formulae)
  - From birth
  - Suitable for the entire first year
- Follow-on formula (2 formula) no earlier than with the introduction of complementary food

Provide sufficient formula to satisfy the needs of the child

# Recommendations for selecting infant formula II

Do not make your own infant formula using milk\* or other ingredients

- The nutrients are not balanced
- Increased risk of gastrointestinal infections
- Increased risk of abnormal weight development

\*Neither using milk from cows, goats, sheep nor mares

# Special formulae

- Legally speaking, they are 'dietary foods for particular medical purposes'
  - They are frequently advertised for indications such as 'spitting', 'susceptibility to flatulence' or 'colic'
  - 'Spitting' is often harmless and does not require any special diet
  - But spitting, flatulence and colic may be symptoms of a serious illness requiring medical attention
- Parents ought only to give their child special formulae on the advice of a doctor

# Pro and prebiotics in infant formula

**Probiotics** = bacteria that produce lactic acid

**Prebiotics** = indigestible carbohydrates

- There is currently no certain evidence of their benefits
- Contradictory results concerning the positive effects\*  
on the child's health

\*As a protection against allergies and infections

# Infant formula in the event of an elevated allergy risk\*

If the baby is not exclusively breastfed ...

- HA infant formula (HA = hypoallergenic) during the 1st six months (at least until the start of the 5th month)\*\*
- Not suitable:
  - Infant formula manufactured using soy milk, goat's or mare's milk and other animal milks

\*Children whose parents/siblings currently suffer or in the past have suffered from allergic illnesses

\*\*Based on the GINI studies by von Berg, Filipiak-Pittroff, Krämer et al. *J Allergy Clin Immunol* 2008; 121:1442–7; 2013, 131:1565–73. von Berg, Filipiak-Pittroff, Schulz et al. *Allergy* 2016, 71:210–219

# Recommendations for preparing infant formula I

- Always prepare fresh infant formula before the meal
- Always discard leftovers
  - Do not keep them
  - Do not reheat them

→ to prevent the main hygiene risk 'propagation of pathogenic bacteria'



# Recommendations for preparing infant formula II

Use fresh drinking water (tap water)

- Leave to run until it comes out of the tap cold
- The water ought to be no more than lukewarm\* (max. 40°C) when shaking the infant formula in order to prevent scalding

\*Do not take hot water from the tap

# Recommendations for preparing infant formula III

- No drinking water from lead pipes
- No water filters
- Only use drinking water from house wells if the water quality has been confirmed as harmless

If the source of the water is unclear or the pipes are made of lead:

- Use packaged, still water bearing the mark 'Suitable for the preparation of infant formula'

# Recommendations on bottles and nipples

Thoroughly clean bottles and nipples

- Immediately after each meal, then store in a dry place

# Complementary food

When is it time  
for complementary  
(baby) food?

Home-made  
or in jars?

Cow's milk with the  
complementary  
food?



# Introducing complementary food – when?

The recommendations consider:

- The child's increasing nutrient requirements (no longer guaranteed by exclusive breastfeeding in the second six months)\*
- Short- and long-term effects on health (e.g. allergy prevention, obesity, cardiovascular diseases, diabetes)\*\*
- Development of motor, cognitive and social skills: individually different
- Promotion of sensory acceptance for new foods

\*Dewey. *Pediatr Clin North Am* 2001; 48:8–104

\*\*Kramer, Kakuma. *Cochrane Database Syst Rev* .2012; 8:CD003517; Leitlinie Allergieprävention – Update 2014; EFSA NDA Panel. *EFSA J* 2009; 7:1423

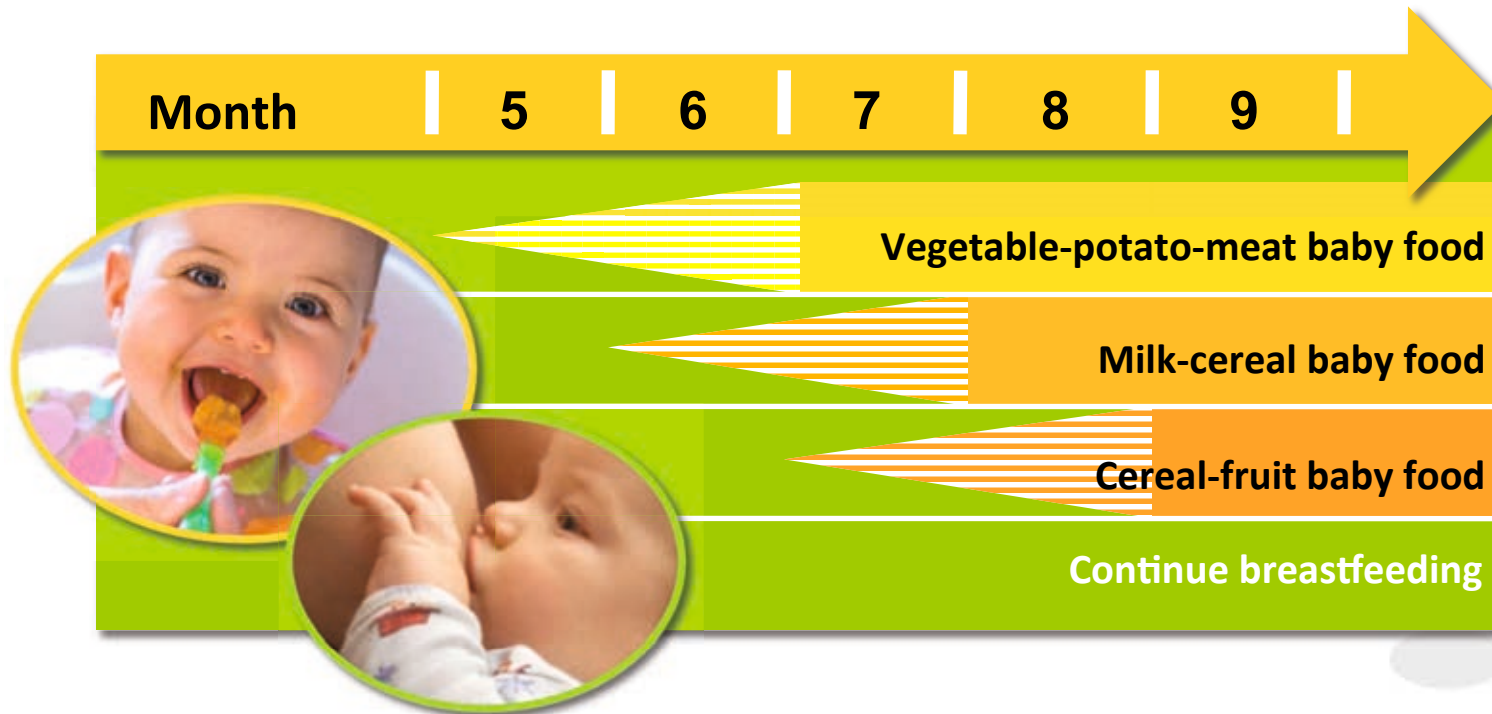
# Recommendations on the introduction of complementary food

- Start of complementary food
  - at the beginning of the 5th month at the earliest
  - at the beginning of the 7th month at the latest
- Continue to breastfeed even after the introduction of complementary food

The precise time to introduce complementary food depends on the child's personal development (e.g. ability to eat from a spoon, interest and craving for new foods ...)

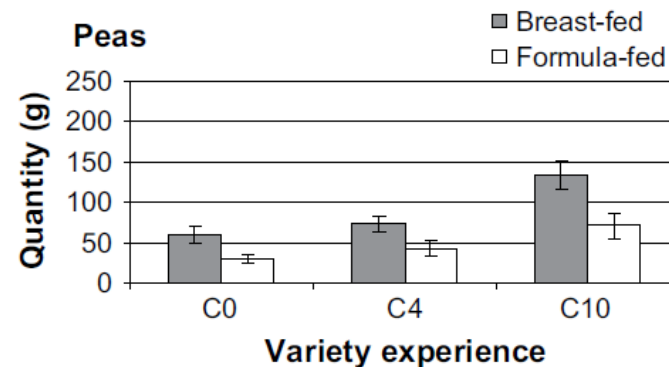
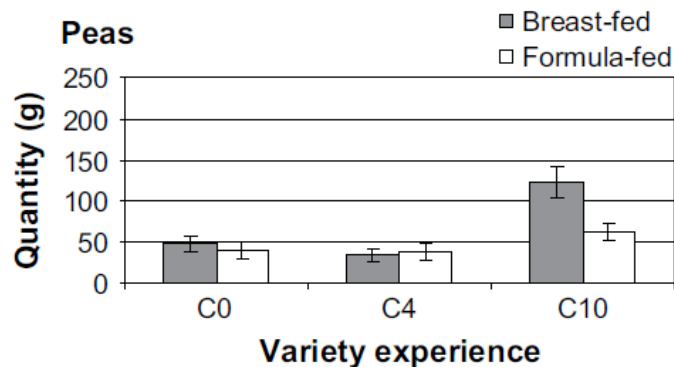
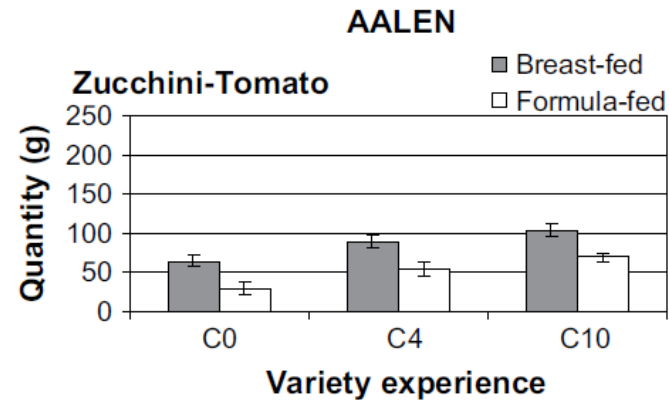
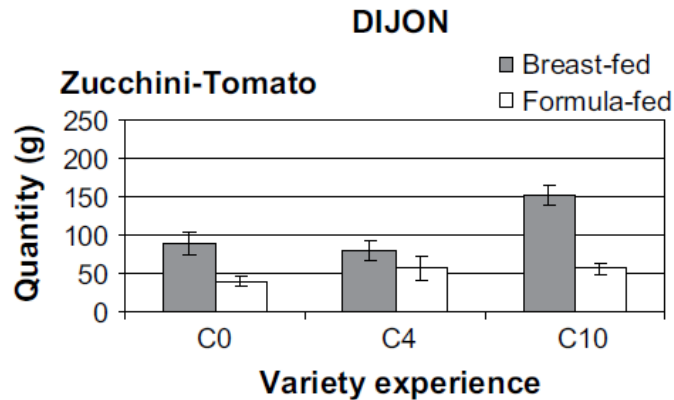
# Sequence of complementary food

The recommendations follow the nutritional roadmap for the first year



Hilbig et al. *Monatsschr Kinderheilkd* 2012; 160:1089–95; Nutrition Committee of the DGKJ. *Monatsschr Kinderheilkd* 2014; 162:527–538; FKE 2009

# Sequence of complementary food and acceptance of new tastes



Zucchini-tomato and peas = newly introduced foods;  
C0: previously no variety; C4: previously moderate variety; C10: previously frequent variety

Maier et al. *Clinc Nutr* 2008; 27: 849–57



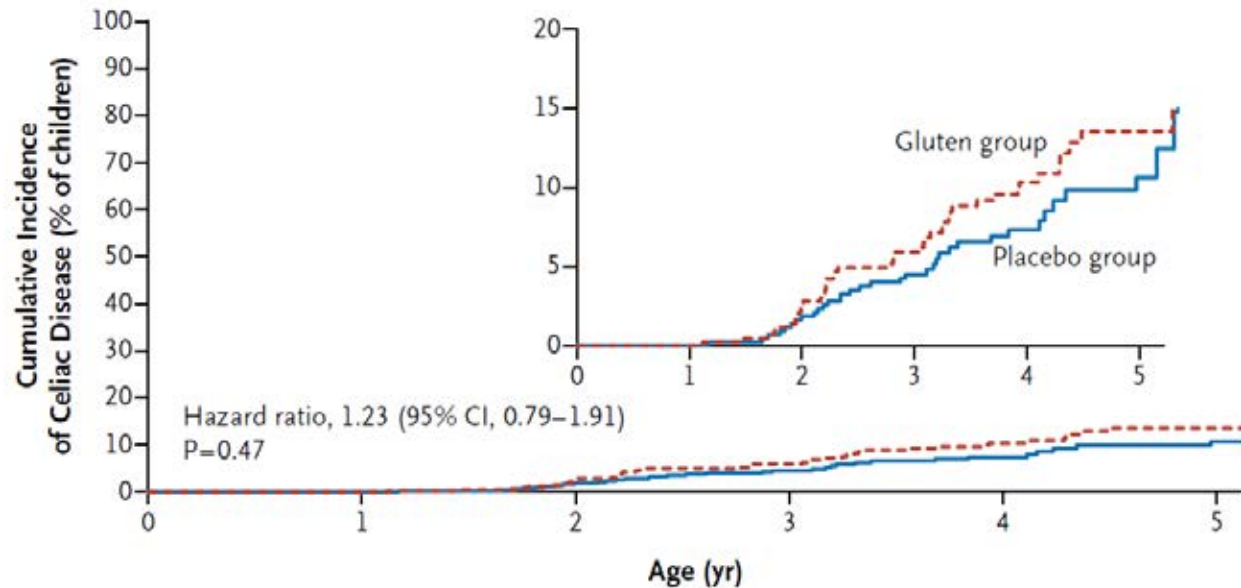
# Early introduction of gluten and the frequency of coeliac

## Double-blind, randomised Prevent Coeliac Disease Study\*

944 children with an elevated risk of coeliac

100 mg daily of immuno-active gluten from an age of 16 weeks

**Breastfeeding is not influential**



**No. of Events/No. at Risk**

Gluten group	475	0/440	11/416	14/350	13/214	5/92
Placebo group	469	0/444	8/417	11/356	8/222	5/96

\*Vrienzinga et al. *N Engl J Med* 2014; 371:1304-15

# Recommendations on the selection of complementary food

- Vary the ingredients in complementary food
  - Different types of fruit and vegetable
  - Fish instead of meat 1 to 2x per week; also fatty fish
- Complementary food can be home-made or ready-made

Varied sensory experiences promote the acceptance of other new foods, e.g. vegetables.

Adding small quantities of glutinous cereal is no longer necessary, as breastfeeding will provide the required protection.

# Home-made complementary food

- Parents can ensure variety
- Parents decide on the ingredients
- Parents can do without salt and sugar
- Breastfed children receiving exclusively home-made baby food: roughly 50 µg iodine/day (mother's milk has a low iodine content)



# Ready-made complementary food

## Convenience products

- Satisfy strict statutory requirements
- Save time and work

## Selection recommendations

- Welcome: Products with ingredients that satisfy the recommendations for home-made baby food
- Unwelcome: The addition of salt or a strong sweet taste

# Complementary food in the event of an elevated allergy risk

No specific recommendations

- Earliest start of complementary food at the beginning of the 5th month, no later than the beginning of the 7th month
- Sequence of complementary food the same as for children without elevated allergy risk

Contrary to previous beliefs, the avoidance or delayed introduction of foods that frequently trigger allergies does not protect against allergies. There is no evidence for benefits of early introduction of complementary food.

# Vegetarian or vegan infant nutrition?

## Vegetarian complementary food is possible

- Vegetable-potato-**cereal** baby food instead of vegetable-potato-**meat** baby food

## Parents are advised against giving their babies a vegan diet

- The risk of nutrient deficiency is substantial, and the health of the child is therefore endangered
- If parents decide to give their infant a vegan diet nevertheless: meaningful advice, medical support and continuous dietary supplements are necessary\*

\*Also applies to vegans who choose to breastfeed their babies

# Baby-led weaning instead of complementary (baby) food?

## Baby-led weaning

- Offer of bite-sized pieces
  - The infant decides autonomously what it wants to eat
  - Safety is not proven
  - Sufficient nutrient intake is not always guaranteed
  - Benefits not proven (e.g. in regard to strengthening of self-regulatory skills, prevention of obesity)
- Nutritional plan based on baby food
- The infant can pick up and eat suitable foods additionally

Hilbig, Lentze, Kersting. *Monatschr Kinderheilkd* 2012; 160: 1089–95

# Cow's milk during the complementary food period

## Observational and controlled studies show:

- High protein intake (especially in cow's milk) – greater risk of obesity

## Possible effect:

- Stimulation of IGF-1 and insulin secretion by milk protein
  - Promotes greater weight increase and fatty deposits
  - Promotes higher risk of obesity later in life

Koletzko et al. *Am J Clin Nutr* 2016; 103: 303–304;  
Gunther et al. *Am J Clin Nutr* 2007; 86: 1765–1772;  
Pearce et al. *Int J Obes* 2013; 37: 477–485



## Recommendations on milk and dairy products in complementary food

Small quantities of drinking milk (up to around 200 ml/day) can be used:

- As an ingredient in the milk-cereal baby food
- As a drink toward the end of the 1st year
  - Instead of the milk-cereal baby food as part of a bread meal
  - From a mug or a cup
  - No unpasteurised or certified raw milk!

# Drinks (additional liquid intake)

From which age do babies need drinks?

What is the ideal beverage?

Mug or bottle?



## Recommendations for drinks served with complementary food (1)

- Water ought to be offered in addition to mother's milk or formula with the 3rd baby food\*
- Serve in a mug or a cup
- On all accounts avoid continuous sucking and a 'bottle for the night'
  - Increased risk of tooth decay

\*Water can be offered even earlier. The infant needs additional liquids from the third baby food

## Recommendations for drinks served with complementary food (2)

- Drinking water is best (tap water)
  - Leave to run until it comes out of the tap cold
  - No drinking water from lead pipes
  - Only use drinking water from house wells if the water quality has been confirmed as harmless
- Alternative: unsweetened herbal and fruit teas
- No sweet drinks



# Dietary supplements in the 1<sup>st</sup> year

Fluoride:  
Toothpaste or  
tablet?

Additional  
vitamins?



# Recommendations on dietary supplements

## In the 1st year

- Vitamin K: 3 x 2 mg as drops during check-ups U1, U2, U3
  - A one-time vitamin K injection as an alternative and in special circumstances
- Vitamin D: 400–500 IU/day (until the second spring after birth)
- Fluoride: 0.25 mg/day\*

\*Depending on the content in drinking water

# Fluoride to prevent caries

- Fluoride in tablet form, usually 0.25 mg/day
- Combined with the administration of vitamin D

Administration of fluoride in the form of fluoridated toothpaste is not recommended

- In most cases there is no proof that the fluoride content in children's toothpaste protects against caries
  - Infants and small children are not able to spit out toothpaste reliably
- **No matter which prophylactic is used: teeth cleaning as soon as the first milk tooth emerges**

# Learning to eat

When food doesn't  
'taste nice'?

Babies at the  
family table?

What to do  
with poor eaters?



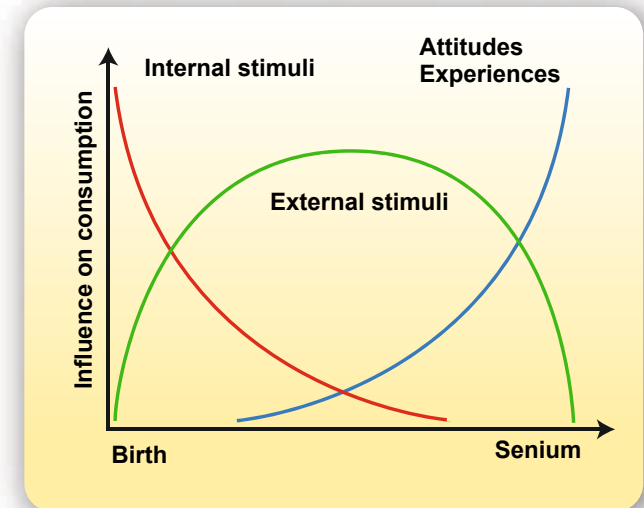


# Backgrounds

- The main focus in the first months is on regular food intake and the development of a rhythm in hunger and satiation
- The child will develop the desire to eat and drink by itself as it becomes more independent
- By applying a tactic of responsive feeding, parents can help their baby learn how to eat and therefore strengthen the bond

# Self-regulation skills

- Hunger and satiation = internal mechanisms to control food intake
- 'Responsive feeding' respects the child's signals and reinforces self-regulation
- Reinforcing self-regulation = preventing obesity
- Parents can learn to recognise how their child signals hunger and satiation



Ellrott. *Oralprophylaxe Kinderzahnheilkunde* 2009; 31: 78–85

# Expanding variety and taste

- Taste preferences are not congenital, they are acquired
- Key factors
  - Early variety (taste and texture)
  - Repeated offering
- Mother's milk offers sensory variety early on – building a 'taste bridge' to family food\*

\*Mennella, Trabulsi. *Ann Nutr Metab* 2012; 60(Suppl 2): 40–50

# Recommendations for learning to eat

Parents can support their child in developing healthy eating habits:

- They create a loving and relaxed atmosphere during mealtimes
- They accompany their child during meals, speak with it and look for eye contact. They do not leave their child alone during meals
- They respond to its signals
- They coordinate the selection and texture of foods with the child's psycho-motor development
- They support their child when it wants to eat independently



## Recommendations for recognising hunger and satiation

- Parents provide an appropriate range of food
- The child decides how much it wants to eat and drink
- Pay attention that the child shows active participation during meals (e.g. it moves its head toward the spoon)

**Needs-based eating!** This applies to breastfeeding, bottle feeding, eating complementary food and to family meals.

Portions stated on packaging = guide values

## Recommendations for recognising hunger and satiation

Parents ought to avoid distractions at mealtimes

- No tricks to encourage the child to eat
- No urging to continue eating

If the child discontinues the meal prematurely, or refuses any more food ...

- 1–2 attempts to encourage the child to continue eating are enough

# Recommendations on enlarging variety

- Children ought to have the chance to discover new foods
- Taste preferences emerge from trying the food repeatedly (mere exposure effect)\*
  - Offer new foods several times, but without compulsion
  - Be patient
  - Accept refusal and try again another time

\*Mennella, Trabulsi. *Ann Nutr Metab* 2012; 60 (suppl 2): 40–50

# Movement

Rocker or crawl  
blanket?

Encourage  
movement this  
early?

TV as  
a babysitter?





# The importance of movement

- Promoting and enhancing the development of motor skills
- Accident prevention
- Promotion of various health outcomes



\*Tremblay et al. *Appl Physiol Nutr Metab* 2011; 36: 36–46; 47–58  
Graf et al. *Monatsschrift Kinderheilkunde* 2013; 116: 439 et seq.  
Ekeland et al. *Cochrane Database Syst Rev* 2004; (1): CD003683  
Timmons et al. *Appl Physiol Nutr Metab* 2012; 37: 773–92

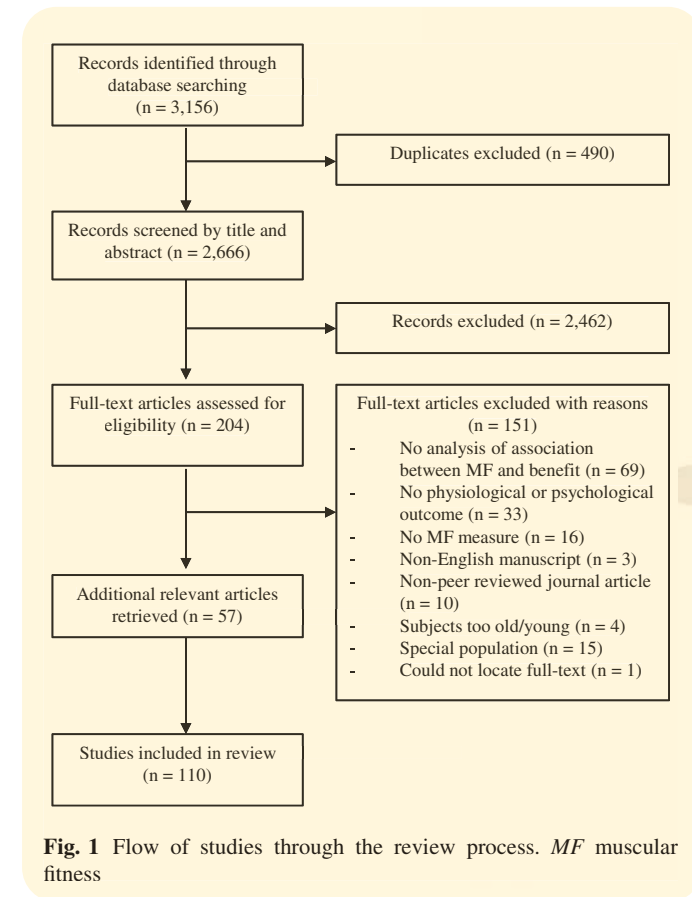
# Systematic review/ meta-analysis (110 studies)

## Muscular fitness

- **Muscular strength and power:**  
Development of strength, i.e. effort/power (force times distance(/time))
- **Local muscular endurance:** Repeated contractions, stamina

## 6 health outcomes

- Obesity
- Bone health
- Cardiovascular/metabolic risk factors
- Musco-skeletal complaints
- Psycho-social health
- Cognitive skills\*



**Fig. 1** Flow of studies through the review process. *MF* muscular fitness

Smith et al. *Sports Med* 2014; \*van der Fels et al. *J Sci Med Sport* 2014

# Muscular fitness and health outcomes

## Physical health outcomes

- Obesity: ↓
- Bone health ↑
- Cardiovascular diseases and metabolic risk factors: ↓

## Mental health outcomes

- Self-confidence (psycho-social health): ↑
- Cognitive skills\*: ?

Smith et al. *Sports Med* 2014; \*van der Fels et al. *J Sci Med Sport* 2014

↓ = strong evidence of inverse association  
↑ = strong evidence of positive association

# Recommendations for movement

- An infant's natural urge for movement ought not to be restricted

Enable independent unfettered experimentation!

The development of motor skills differs strongly from child to child, and each one has its own tempo

# Recommendations to promote movement

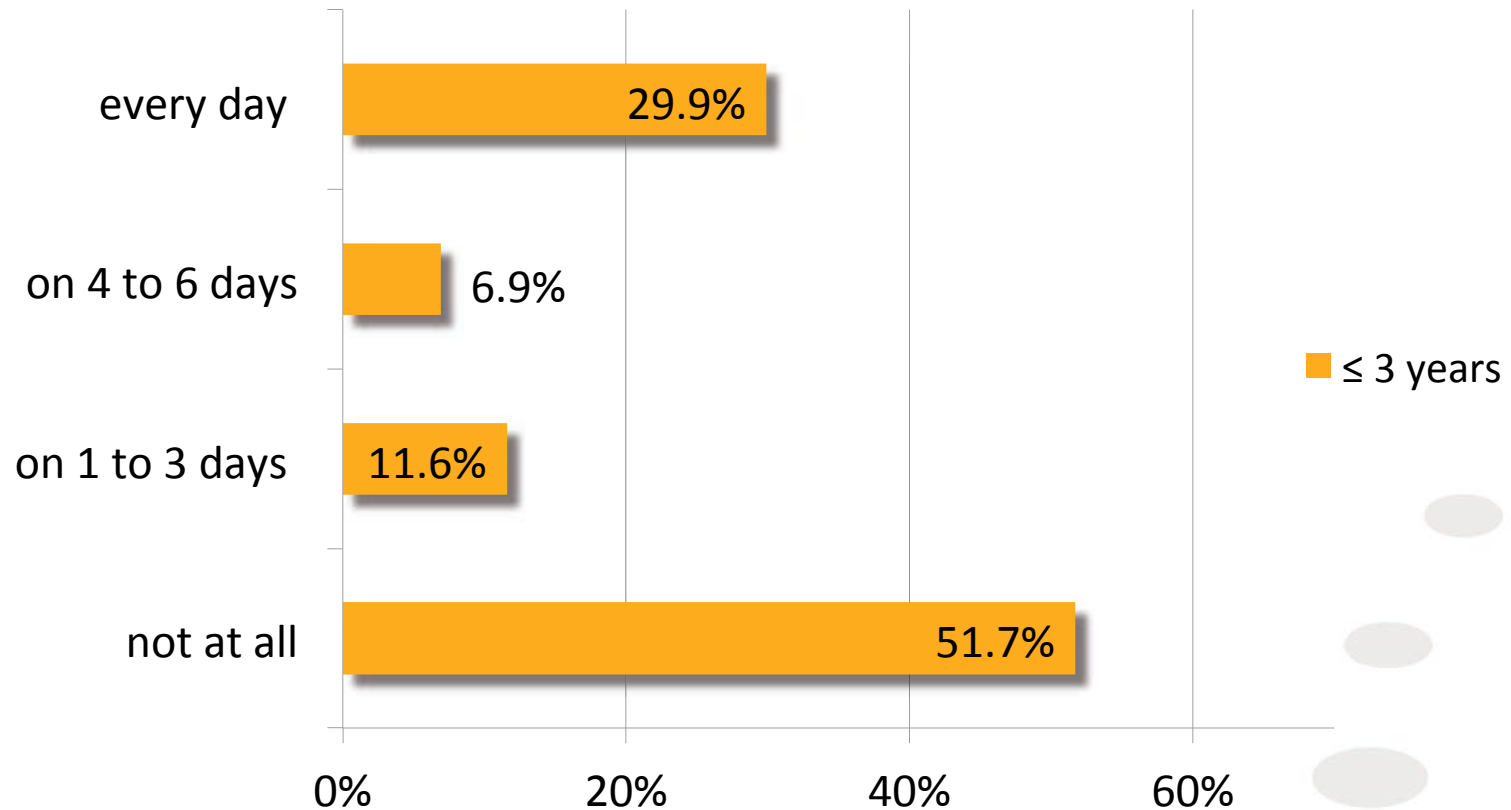
- Parents should recognise and support their child's need for movement
  - Also in everyday routines like changing nappies or bathing
- Parents can actively support an experience of movement that suits the child's individual development

The benefits of special exercise courses, e.g. baby swimming, is not proven, apart from the advantages of an active lifestyle

# Recommendations to promote movement

- Parents should create an opportunity for movement several times a day
  - Both inside and outside
  - e.g. kicking, pulling, rolling, sliding, crawling
  - Babies should be placed on their fronts or their backs when awake
- The surroundings should encourage movement, but still be safe
- No walkers!

# Weekly media consumption among children



Manz & Graf. DGSP Congress 2012

# Recommendations

- Do not 'park' children in car seats, high chairs or buggies
- Do not place infants in front of screen media
- Pay attention to their need for rest
- Create rituals, for example, to support a balanced ratio between activity and rest (sleep-wake rhythm)





# Nutrition for breastfeeding mothers

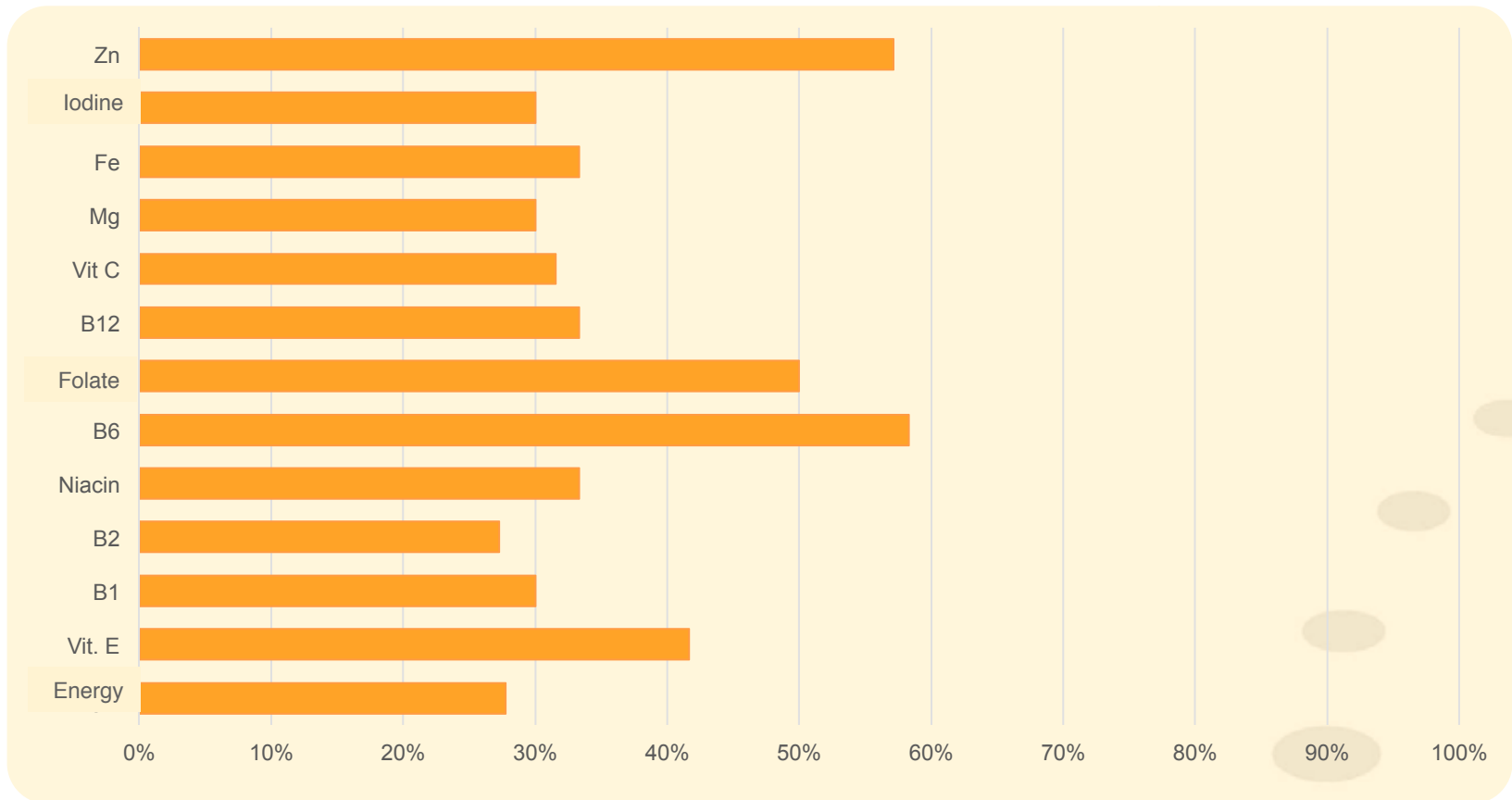


Which factors  
are important in  
eating?

Drinking – how  
much?

Losing weight  
while  
breastfeeding?

# The need for energy and nutrients rises



DGE 2015

# Recommendations on eating

- Varied, balanced, regular
- Salt water fish 2x per week
  - Of which at least 1x should be fatty fish (e.g. herring, mackerel, salmon, sardines)
- Do not maintain a strict weight-loss diet
- Do not avoid foods to prevent allergies in the child



# Vegetarian diet while breastfeeding

- A vegetarian diet can provide sufficient nutrients while breastfeeding
  - Eat milk & dairy products and eggs
  - Select foods carefully



# Vegan diet: inadequate supply of nutrients

## Critical nutrient: vitamin B12

- Up to 86% of vegans\* show insufficient vitamin B12 intake or deficiency
- Vitamin B12 deficiency → neurological damage, megaloblastic anaemia
- Mother maintains a vegan\* diet – infant is exclusively breastfed: symptoms of deficiency as early as the first months of life

**Other critical nutrients:** protein, vitamin B2, calcium, iron, iodine, zinc, selenium, long-chain omega-3 fatty acids

\*no intake of dietary supplements

DGE. *Ernährungs Umschau* 2016; 4: 92–102

# Vegan diet while breastfeeding

- Presents serious health risks
  - Development of the child's nervous system is particularly at risk
- Special medical advice and the intake of micro-nutritional supplements is necessary

Additionally:

- Qualified dietary advice
- Regular check-ups of nutrient supply

# Recommendation for drinking during breastfeeding

- Breastfeeding women should drink plenty of fluids on a regular basis
  - e.g. 1 glass of water with each breastfeeding meal



# Alcohol and smoking while breastfeeding



(N)one for the road?

No thanks!



# Recommendations for alcohol and smoking while breastfeeding

- Breastfeeding mothers ought to steer clear of alcohol
  
- Breastfeeding mothers should not smoke
  - On no accounts should they smoke in the presence of the child (neither the parents nor other persons)
  
  - On no account should they smoke at home or in rooms in which the child spends time

# Medication and dietary supplements while breastfeeding

How much additional iodine?



# Medication during breastfeeding

Medication\* should only be taken while breastfeeding on the advice of a doctor

There are medicines for most indications that breastfeeding women can take. Please refer to [www.embryotox.de](http://www.embryotox.de) → information page by the Pharmacovigilance and Advice Centre for Embryonal Toxicology

\*Both prescription and over-the-counter medicines

# Recommendations on supplements for breastfeeding women

- Take additional iodine tablets while breastfeeding (100 µg iodine/day)\*

Pay attention to iodine as part of the diet:

- Use iodised salt (table salt enriched with iodine)
- Regularly eat salt water fish

\*Do not take several supplements containing iodine

# Physical activity for breastfeeding mothers

Sport:  
yes or no?

When should I  
resume exercise?



# Moderate exercise while breastfeeding

- Positive benefits for the mother's health
- Postpartal weight reduction
- Promotes emotional well-being
- No disadvantages for breastfeeding (no elevated lactate values if the exercise is moderate)
- No disadvantages for the child's growth

Am Coll of Sport Medicine 2006; Evenson et al. *Obstetrical & Gynecological Survey* 2014; 69: 407–14

# Recommendations for exercise during breastfeeding

- Women should also remain active while breastfeeding and should exercise at moderate intensity
- After giving birth, women should increase their physical activity
  - To at least 30 minutes on as many days as possible,
  - According to their personal condition

**Ensure sufficient fluid intake!**

# Preventing allergies in children

Is it better to breastfeed for longer?

Better to avoid some foods?

Changes around the house?





# Nutrition for children with an elevated allergy risk\*

- Breastfeeding
- Sequence and composition of the complementary food
- Do not avoid foods that frequently trigger allergies or introduce them later on
- Continue breastfeeding after the introduction of complementary food

**According to general recommendations**

**Children that are not exclusively breastfed or not at all should be given HA formula at least until the start of the 5th month**

\*Children whose parents/siblings have suffered or continue to suffer from allergic illnesses

# Children with an elevated risk of allergies (1)



## What breastfeeding mothers should do

- No dietary restrictions
- Regularly eat salt water fish
- Do not smoke

## Applies to all adults

- Never smoke in the presence of the child or in the home/rooms in which the child spends time

# Children with an elevated risk of allergies (2)

## The child's home environment

- Do not keep cats

## In addition

- Protect against air contaminants (e.g. use paints and varnishes that have a low solvent content)
- Have your child immunised as recommended by the Standing Committee on Immunisation (STIKO)

Thank you for your  
attention!



[www.gesund-ins-leben.de](http://www.gesund-ins-leben.de)  
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