**Appendix 3. Description of included systematic literature reviews (SLRs) and meta-analysis. (Studies presented in Summary tables 1-11)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author (alphabetical order), year (ref.nr)** | **Literature review (search: years and databases)** | **Countries**  **(nr developed/nr developing)** | **Number and type of included studies** | **Number and type of excluded studies** | **Exposures** | **Outcomes** | **Quality** | **Comments A-C** |
| Akobeng, 2006 (83) | Medline (1966-May 2004), Embase (1080-May 2004), Cinahl (1982-May 2004) + additional studies from reference lists, suggestions from domain experts | Germany, Italy (2), Sweden (3) | 6 included;  6 case-control (retrospective) | 9 excluded;  3 review articles, 4 retrospective without control group, 1 only investigated changing infant feeding practices and incidence of CD, 1 was a short letter | Brf;  (various definitions and therefore not combined) | Celiac disease | A- | Characteristics of excluded papers not given, conflict of interest only stated for the authors not the included studies.  Strengths: Included only studies based on histologically confirmed coeliac disease.  various definitions of breastfeeding were used in the primary studies and exact timing and amount of gluten consumed was not given |
| Dujits, 2009 (51) | Medline, Cochrane library, Science Citation Index >1986 - <January 2007 + additional studies from reference lists | Industrialized countries (defined by the World Bank as *High income*) | 21 included;  4 case-control, 16 follow-up, 1 RCT  (>40 participants/study, brf at least as one of the major determinants | 6 excluded | Brf;  (various definitions) | Overall infections, gastrointestinal or respiratory tract infections in infancy. The included studies varies between 0-30 days and 0-24 months. | B | Discusses publication bias, but no calculation.  No description of the methodology used to assess dietary intake. |
| Ip, 2009 (22) | Medline, CINAHL, Cochrane Database of Systematic Reviews <Nov 2005 (some outcomes <May 2006) + additional studies from reference lists, suggestions from domain experts | Developed (varying nr for different outcomes) | 32 primary studies on infant health outcomes, 43 primary studies on maternal health outcomes, 28 systematic literature reviews or meta-analysis covering a total of appr 400 individual studies | Details given in major report | Brf;  Most studies did not differentiate between exclusive and partial brf. All definitions of exclusive brf accepted, but conclusions qualified with respect to the definitions used | Infant health;  Acute otitis media, nonspecific gastroenteritis, severe lower respiratory tract infections, atopic dermatitis, asthma (young children), obesity, type 1 and 2 diabetes, childhood leukemia, CVD risk (serum cholesterol, blood pressure), cognitive performance, SIDS, VCD, infant mortality  Maternal health;  Type 2 diabetes, breast and, ovarian cancer, maternal depression, osteoporosis, weight | A |  |
| Klement, 2004 (84) | Medline + Embase < Nov 2003+ additional studies from reference lists + internet search | 8+  (UK, Sweden, Canada, US, Japan, Italy, Israel + “9 countries (Europe, North America and Mediterranean)” | 17 included;  15 retrospective case-control, (2?)  Age of subjects: appr. ¼ >18 y, ¼ <18 y, ¼ = mix, ¼ =? | None excluded, but only 6 graded A | Brf;  (various definitions) | Inflammatory bowel disease (Ulcerös colitis and/or Crohn disease) | A | Most of the included studies relied on long recall for the breastfeeding data. Only two had data from infancy, but then only breastfeeding at maternity ward. However, breastfeeding was only documented as ever-never, and this kind of recall from mothers tend to be accurate. |
| Kramer 2002 (updated 2009) (2) | Medline (1966-), Index Medixus (-1966), HealthSTAR, BIOSIS, CAB Abstracts, EMBASE-Medicine, EMBASE-Psychology, EconLit, Index Medicus for WHO Eastern Mediterranean Region, African Index Medicu, LILACS, EBM Reviews-Best Evidence, the Cochrane Database | Country stated only for some studies; Belarus, Iran, Nigeria, Honduras, Finland, Austria (11 developing +11 developed countries) | 2 clinical trials, 20 observational | 19 excluded | Brf; exclusive 6 mo vs. exclusive 3-4 mo with mixed brf | Child health, growth and development | A |  |
| Lubianca Neto, 2006  (Excluded) | Medline January 1966-July 2005 + reference lists | Articles on brf: country only stated for some studies; Finland, India, Canada | 12 included on brf;  4 prospective, 2 retrospective, 2 case-control, 1 meta-analysis, 3 not stated | Not stated | Brf (various definitions) and other modifiable risk factors for acute and recurrent acute otitis media | Acute otitis media and recurrent acute otitis media | C | Excluded  No duplicate study selection and data extraction. (No info/ list of excluded studies), (few data for some of the included studies), risk factors classified in accordance with levels of evidence, but scientific quality of included studies not documented. |
| Martin RM, 2005a (55) | Medline (1966-June 2004) + OVID alert system and manual searches | Most studies based in Europe or North America; France (2), Austria, UK (4), US (3), N-Ireland, Germany (2), Sweden, United Arab Emirates, Canada, New Zealand, Scotland, Russia, US/Canada/Australia, US/Canada (2), Greece, Shanghai, Italy, The Netherlands | 26 included;  2 cohort/nested case-control, 24 case-control | 23 excluded; 4 ineligible because OR or its variance could not be derived, 5 were reviews, 6 studies already identified within incl reports, 1 on cancer risk in young women who had breast-fed, 1 was commentary, 6 did not report on brf in infancy | Ever or exclusive brf vs never brf, various durations of brf, separate meta-analysis of prolonged brf > 6-8 mo vs never brf, 2 studies examined exclusive brf vs never brf. 85 % relied on long-term recall | Childhood cancers (all cancers and specific cancers) | C | No duplicate study selection and data extraction, 85 % relied on long-term recall, only 8% examined breastfeeding exclusivity and control response rates were under 80% in over half.  Included in summary due to few studies with outcome cancer. |
| Martin RM, 2005b (56) | Medline (1966-June 2004) + OVID alert system through July 2005 and manual searches. + incl Boyd Orr cohort | Not stated | 14 included;  11 case-control, 3 cohort/nested case-control studies  + Boyd Orr cohort | 64 excluded;  46 related to childhood cancers, 7 were reviews, 11 either did not report on brf- cancer outcomes or considered only breast-cancers among brf mothers | Ever or exclusive brf vs never brf, various durations of brf, separate meta-analyses comparing any or exclusive brf of > 6 mo with never brf were undertaken | Adult cancer (all cancers and specific cancers) | C | No duplicate study selection and data extraction. (Stated that one author extracted the data on two separate occasions to check the consistency of data extraction), infant feeding was assessed in adulthood for most studies included.  Included in summary due to few studies with outcome cancer. |
| Monasta, 2010 (23) | Review of SLR in April 2008: Medline (from Jan 1966), Embase (from 1980), Web of Science (Soc Sci Cit Index/Science Cit Index from 1970), Cochrane library (issue 22008) – including central register of controlled trials and the databease of abstracts of reviews of effects, CINAHL (Cumulative Index to Nursing & Allied Healht Literature from 1982), PsycINFO (from 1887). Citations were catalogued and managed, including removal of dublicates etc. Added 4 syst rev from personal files, bibliography of selevcted apers, and consultation with experts = 23 incl (1 had no anthropometrical data => 22 used) SLR. Further search of single papers after the most recent SLR to confirm or explain the SLR. | Not stated in all SLR reviewed. But when done the original studies were mostly conducted in N-USA and Western Europe. Australasia is in 1-2 studies in half of the reviews, 5 reviews include some from developing countries and 5 more include studies from China and Japan. | 22 SLR + 58 papers in further search | 21 436 hits; removal by duplicates gave 12 021 papers; of 589 were reviews; of those 17 + 18were SR of early determinants; removal by duplicates gave 19 AND 4 were added (own papers etc..) | Brf., exclusivity and duration; Includes our searched SLR refs: 10, 131, 152, 295, 294, 301 and Horta et al 2007.  The papers incl many other exposures | Overweight and obesity in childhood or later in life  They evaluated whether no or short breastfeeding was one of five factors associated with overweight and obesity in childhood and/or adult life. | B | publication bias not assessed, some characteristics not included, methodology of dietary intake not exact |
| Moorcroft, 2011 (24) | Cochrane Library and the Datebase of Reviews of Effectiveness; Medline, Embase, British Nursing Index, CINAHL, Maternity and Infant Care, PsycINFO. Initial (no date limit), first and second updates had date limit up to July 2010. (see table 1) | Only studies from developed countries. USA and Europe | 24 | 2541 identified by search; after removal of duplicates and pre-screening of abstracts: **92 were left;** further exclusion shown in Appendix I was partly because introduction of solids were not clear. In total 24 | Introduction of solids | Overweight and obesity in childhood | B | publication bias not assessed, some characteristics not included, RQ hard, studies not designed for RQ, conflict of interest not stated for included studies |
| Owen, 2008 (47) | Medline (1950-June 2007), EMBASE (1980- June 2007, Web of Science (1970-June 2007) | Only studies from developed countries. | 17 | 3, 1 examined the association between duration of brf and plasma lipids only at 17 y, 1 mothers nutritional supplementation, 1 was review | Brf., exclusivity (if possible) and duration | Blood cholesterol | A |  |
| Tarini, 2006 (64) | Medline (January 1966-March 2005), the Cochrane Library (as of March 1, 2005), the Drugs and Pharmacology section of EMBASE (1991 through March 1, 2005), bibliographies of relevant articles | Mostly developed countries; Finland, UK, New-Zealand, Australia and 1 study from India | 13 included; 10 cohort studies, 1 case-control and 1 cross-sectional | 26 excluded: duplicate publications, combined prenatal and postnatal dietary intervention and these evaluated delayed and not early intro of solids | Early introduction of solid foods (before age 4 mo) | Allergic disease;  Eczema,  Asthma or wheezing, Food allergy, Allergic rhinitis, pollen allergy, animal dander allergy, any allergic disease | B | Publication bias not assessed |
| Yang 2009 (57) | Medline (January 1966-May 2008), Embase (1980-May 2008) | (probably) developed countries. Not stated. | 21 studies with 27 study populations | 12 excluded | Brf., duration at least 3 months, exclusive brf (no other milk products, solids etc added to infants diet in first 3 mo) + never brf or brf < 3 mo | Atopic dermatitis during childhood (follow-up 1 y to 7 y) | B | Discusses publication bias, but no calculation.  Several characteristics of included studies reported, but not all. Characteristics of excluded papers not given, |

**Appendix 4. Description of included prospective cohorts** **(including the PROBIT-study). (Studies presented in Summary tables 1-11)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author**  **(alphabetical order), year (ref.nr)**  **Cohort, country** | **No. of participants** | **Age, gender** | **Exposure** | **Outcome** | **Dietary assessment method** | **Follow-up period** | **Confounders adjusted for** | **Quality** | **Comments A-C** |
| WHO, 2002 (25) | 7 countries with 500-700/country | 0-32 w  40-50% girls (depending on age) | Differential timing and content of complementary food (Excl brf 4-6 mo) | Growth 0-32 w | Daily records of infant feeding | Weight every 2 w, length every 4 w | Site, previous growth performance, maternal size, SES. + Birth weight, mother´s height and smoking covariates in repeated-measures analyses | B | Power calculation done for fertility – not growth. |
| Aarts, 2003 (26)  NOTE – part of WHO, 2002 (25)  Sweden | 147 excl brf, 325 not exkl brf from 1st week of life | 40-50% girls (depending on age) | Excl brf 4-6 mo | Growth 0-6 mo | Excl brf  Daily records of infant feeding | Weight every 2 w, length every 4 w | Birth weight, mother´s height and smoking covariates in repeated-measures analyses | B | Power calculation done for fertility – not growth. |
| Alm, 2009 (65)  *Infants of western Sweden Study,* Sweden | 4921 (60.2% of selected population) | 6-12 mo, Gender not given | Current patterns of food introduction (to assess risk factors for exzema) | Eczema at 1 y | FFQ at 6 and 12 mo.  Note: Excl brf defined as “*no cow´s milk protein introduced*”. Food data retrospective 6 and 12 mo | 6 and 12 mo | Many factors both in mother and infant | B | No power calculation.  Excl brf wrongly defined (no cow´s milk) |
| Bergmann, 2002 (58)  *The German Multicenter Atopy Study (MAS-90)* | 1314 of a birth cohort of 7609 | 0-7 y  Gender not stated | Duration of any breastfeeding. Brf <1 week and no brf combined. | Prevalence of atopic eczema during the first 7 y | Mothers continually protocolled foods offered to their infants + questionnaire on feeding habits at follow-up | follow-up at 1, 3, 6, 12, 18 and 24 mo + yearly afterwards | Parents other atopic disorder, parents eczema, age of mother (y), SES, gender, parity, smoking in pregnancy, number of URTI, cord blood IgE | B | No power calculation. Brf only as total duration. No consideration of other feeding. 92% breastfed at maternity ward, but 2% received glucose solution and 49% formula in addition (13% hydrolyzed) |
| Chivers, 2010 (27)  Western Australia (RAINE). Pregnancy cohort | Origin cohort: 2868, but criteria excl 369 = 2499. In this study only part w/gest age and BMI at 14 years were included giving N=1403; but **1330** had mothers education and **1320** had BFcategory <4months or >4months | AGE: 0-14 years. Gender: male/female = 52%/48% | Brf+Compl (other milk introd) | Adiposity rebound  overweight at 14 years of age | Parent recalls at 1, (2 and 3) year and interviews w study nurse and survey questions at later follow-ups | 1,2,3,6,8,10,14,years | Maternal prepregnant weight; mothers education; fathers professional occupation; income. | B | Physical activity not reported and sample size and power calculations not reported and by chance finding not considered |
| Cole, 2002 (28) | 120 infants from the Cambridge Infant Growth Study.  All were singletons, >34 wk of gestation and 2.3 kg birthweight. All but 2% were white, and their social class profile matched that of Cambridge | 0-52 w | fed breast milk (with no formula) for at least 24 wk, with solids introduced at a mean age of 15 wk | New median weight curves were constructed and compared with the British 1990 reference curves. The British 1990 reference, reflects the growth of long-term breastfed infants only imperfectly, with mean weight falling by 0.5 SDS from 2 to 12 mo. | No details given but presumably data was collected at the 4 wk weighing sessions(?) | weighed every 4 wk from birth to 52 wk, (+at 18 mo and 24 mo) | NA | B | No power calculation, no details of how feeding history was collected.  The authors conclude that the provision of breastfeeding-specific centiles, either as a transparent overlay or as an alternative chart, should be useful for professionals and parents to monitor the weight of long-term breastfed infants. |
| Couper 2009 (49)  Australia (Baby Diab study, Melbourne?) | 548, of which 17 had more than 1 first degree relative with T1DM | AGE: 0-6 years. Gender: Male 46% w islet autoimmune and 54% Not islet autoimmune | Weigth gain;  Brf;  Exclusive and Total month, >0-3 months, >3months. Age of intro cow’s milk, gluten, non-gluten. Breast-fed at intor of cereals and cow’s milk. | Islet autoimmunity (higher risk of later development of T1DM) | Parent record in home diary | 1,2,3,4,5 mo | Weight z-score f 2yrs and 4 yrs corrected for relationship with birth weight | B | Physical activity not reported, sample size and power calculations not reported,by chance finding not considered |
| de Hoog, 2011 (29)  *The Amsterdam Born Children and their Development study (ABCD),* Netherlands | 2998 (Original number difficult the ascertain) | 0-6 mo  46.6-52-2% females in the different groups (Dutch native, African, Turkish, Moroccan, other) | Infant feeding | Ethnic differences in growth during first 6 mo.  SDS at 6 mo minus SDS at 4 w | Feeding data obtained from health records + at 5 y (good realibility).  Brf duration <1 mo, 1-3 mo, 4-6 mo and >6 mo  Age at intro formula none, <1 mo, 1-3 mo, 4-6 mo, >6 mo  Age at intro solids <4 mo, 4 mo, 5 mo, >5 mo | Measurements 12 times during first 4 y; | Maternal age (y), education, smoking during pregnancy, diabetes (no, pre-existent, gestational), hypertension (no, pre-existent, gestational), pre-pregnacy BMI, parity, parental heights, birth weight, gestational age. | B | No power calculation, no definition of excl brf, do not refer to the new WHO growth curves |
| de Jonge, 2010 (46)  *Generation R study,*  Netherlands | 807-845 of 1071 (75-79%) | 0-2 y  49% females | Brf; 1) never, 2) partially, 3) exclusive for >=4 mo (good definition of exclusive) | Left cardiac structures and blood pressure at 2 y | Questionnaires at 2, 6 and 12 mo | Follow-up at 6 w, 6 mo and 24 mo | Date of birth, gender, Apgar score at 5 min, birth weight SDS, BMI at 6 w, 6 mo, 24 mo, BM, maternal age, pre-pregnancy weight, parity, maternal hypertension, maternal high cholesterol and heart abnormalities, family history of stroke, myocardial infarction <65 y, education, family income, smoking and alcohol during pregnancypregnancy complications, maternal height, BMI during first trimester | B | No power calculation |
| de Kroon, 2011 (30)  *The Terneuzen Birth Cohort,* Netherlands | 810 out of 822  58% females | 0 to 18-28 y (follow-up) | Excl brf duration (only brf and formula considered)  0-15 d, 16-45, 46-74, 75-104, 105-134, 135-164, 165+ (=0, 1, 2, 3, 4, 5 and 6 mo) | BMI, body fat at 18-28 y | Health visits at 1, 2, 4, 8, 10, 14 w and 5 and 6 mo +  Validated questionnaires at 18-28 y (frequency of breakfasts and meals, fruit and vegetables consumption etc | Health visits at 1, 2, 4, 8, 10, 14 w and 5 and 6 mo + Q at 18-28 y | Dietary behavior at 18-28 y, parity, birth weight, BMI at 18-28 y, BF duration (total), mother education, | B | No power calculation, duration of excl brf does not include solids |
| Duijits, 2010 (52)  *Generation R study,* Netherlands | 4 164 of 7 893 (53%) | 0-1 y | Brf; 1) never, 2) partial for <4 mo, not thereafter, 3) partial 4-6 mo, 4) excl 4 mo, partial thereafter, 6) excl for 6 mo (good definition of exclusive. Partial = breastmilk + formula and/or solids) | Infectious disease <1 y (serious cold, ear or throat infection, pneumonia, bronchitis, gastrointestinal tract infection | Questionnaire at 6 and 12 mo | Questionnaire at 6 and 12 mo | Ethnicity, education, family history of asthma, house dust mite allergegy and hay fever, birth weight, gestational age, siblings, day care attendance, maternal smoking | B | No power calculation |
| Durmus, 2011 (31)  *Generation R study,* Netherlands | 5047 out of 7295 (70%) | 0-3 y  50% females | Brf never vs ever,  Brf duration; 1) never, 2) 0-3 mo, 3-6 mo, 6-12 mo)  Excl brf; 1) never, 2) partially until 4 mo, 3) exclusive until 4 mo (good definition of exclusive) | Growth rate (change is SDS in age intervals between 0-3, 3-6 and 6-12 mo + Overweight (BMI>1.1-2.3 SDS = appr adult BMI 25-30), and obesity (BMI>2.3 SDS) at 3 y | Delivery reports and postal questionnaires at 2, 6 and 12 mo | Questionnaires at 2, 6 and 12 mo  Measurments at median 3.1 mo, 6.6 mo, 13.0 mo, 24,3 mo and 36.4 mo | Childs age at visit, sex, birth weight, gestational age, maternal ethnicity, education and BMI, parity and smoking | B | No power calculation |
| Elliott, 2008, (59)  *Avon Longitudinal Study of Parents and Children (ALSPAC)*, UK | 13 978. Brf data from 12 623-12 706 and outcome data from 51-79% | 0-8 y  Gender not given | Brf never-ever,  Brf duration never, <1 mo, 1-3 mo, 3-6 mo and 6+ mo  Excl brf duration never brf, excl brf <4 mo, excl brf >=4 mo | Wheeze at 3 y and 7.5 y (self-report)  Asthma 7.5 y (self reporte)  Atopy at 7 y (skin prick test)  Lung function at 8 y | Q at 4 w, 6 and 15 mo, 2, 3 and 4 y. | Q at 4 w, 6 and 15 mo, 2, 3 and 4 y. + 7-8 y | Sex, older sibling, maternal age, allergy and asthma, maternal smoking during last 2 mo of pregnancy, exposure to environmental tobacco smoke during forst 4 y | B- | No power calculation, no definition excl brf |
| Fisk, 2011 (53)  Birth cohort, infants of Southampton Women’s Survey, UK | 1764 | Infants followed up at 6 and 12 months, 47 % girls | Duration of breastfeeding in the first and second 6 mo of infancy; never brf, <1 mo, 1-3 mo, 4+ mo, 4-6 mo, 7-11 mo, 12+ mo  Adj for age of intro solid foods | Lower respiratory tract infections  Ear infections Gastrointestinal morbidity | Visit by trained research nurses at 6 and 12 mo – interview | 6 and 12 mo | 13 maternal and infant factors maternal age, BMI, smoking in infancy, number of months that the mother had been back at work, whether the mother lived with a partner, Index of Multiple Deprivation, education, social class, birth order, intro solid foods, gestational age, birthweight, sex of the infant | B | Sample size reported *(large sample size)*, but not study power and power calculations.  By chance findings not considered |
| Fredriksson, 2007 (69)  Population-based cohort, city of Espo, Finland | 1933  (of 2568 at baseline in 1991 and 1984 at follow-up in 1997) | Baseline: 1-7 y, 49% girls  Follow-up: 7-14 y, 49,5% girls | Breastfeeding duration; 0-3 mo, 4-6 mo, 7-9 mo, 10-12 mo and 12 mo or longer.  Brf is defined as exclusive breastfeeding, but no detailed definition is given. AGNETA: The word exclusive is only mentioned once, and this is in method with heading”Definition and categories of breastfeeding”. The remainder of the paper they only write duration of breastfeeding. I believe that the mention of exclusive is a mistake | Asthma (doctor-diagnosed) as primary outcome  Chronic respiratory symptoms (included persistent wheezing, cough, phlegm) as secondary outcomes | Questionnaire filled in by parents or guardians at baseline study (children 1-7 y) | 6-year follow-up (children 7-14 y) | Age, gender, parent’s highest education, single parent or guardian, exposure to environmental tobacco smoke, smoking during pregnancy, parental atopy, parental asthma, presence of hairy or feathery pets at home, type of day care during the past year | B | Sample size reported *(large sample size)*, but not study power and power calculations.  By chance findings not considered |
| Gale, 2010  (Excluded)  Prospective cohort study, children of the Southampton Women’s Survey (SWS), UK | 241  (From cohort of 1981 singleton live births, after exclusion, and follow-up at 6 and 12 mo. Of those with complete dietary data, recruited 396 for the follow-up study at 4 y, 268 participated, 241 with complete data. | Children aged 4 y followed up from birth, 46,1% girls | Breastfeeding from birth to 6 mo, calculated no of days to age 6 mo that infants were fed breast milk, DHA-fortified formula or unfortified formula. Cluster analysis produced three clusters | Neuropsychological function at 4 y (IQ test scores; full-scale IQ, verbal IQ, performance IQ and other neurocognitive test scores, like visual attention score) | Milk feeding history since birth was recorded at 6 mo by mothers | 6 mo, 12 mo, 4 year | Maternal IQ, education, social class, on benefits, age at birth, birth weight | C | Excluded  Particulars of dietary assessment tool not reported in detail . Amounts of breastmilk or formula is not considered – only the number of days of feeding and the amount of DHA/100 g of fluid. Presumably a mean amount of fluid/day were used, but never stated.  By chance findings not considered |
| Giwercman, 2010 (60)  High-risk birth cohort (born to mothers with a history of asthma), the Copenhagen Study on Asthma in Childhood (COPSAC) birth cohort, Denmark | 321  411 included in the cohort, 321 after exclusion | First 2 years of life, 52,3% girls | First: Duration of exclusive breastfeeding; 0-3 mo, 3-6 mo and 6-9 mo.  Second: influence of the fatty acid composition of mother’s milk on the risk from breastfeeding. | Eczema (recorded by doctors) and wheezy disorders (recorded by parents) | Mothers were asked about breastfeeding cessation at every scheduled and acute visit at the clinical research unit. Recorded as duration of exclusive breastfeeding. | First 2 years of life | Sex, birth weight, BMI at birth, filaggrin, father’s and mother’s eczema, cat and dog at home at birth (adjusted for in the analysis of eczema). Mother’s smoking in third trimester and age at the infant’s start in day care (adjusted for in the analysis of wheezing episodes). | B- | No definition of exclusive breastfeeding, no particulars of dietary assessment tool reported. Unclear if duration of exclusive breastfeeding is really duration of any breastfeeding.  Sample size reported, but not study power and power calculations.  By chance findings not considered *)* |
| Gubbels, 2011 (32)  Prospective cohort study, KOALA Birth Cohort, Maastricht, the Netherlands | 1863  (of a birth cohort of 2834, after exclusion (n=10), questionnaires at all 5 ages returned for a total of 1863) | Birth to 4 years, 48,8% girls | Breastfeeding duration in months (up to 12 mo) vs. formula feeding, feeding pattern (on demand, to schedule, mixed) | Weight gain in the first year, BMI and overweight up to 4 y. | Questionnaires to parents at 3 mo, 7 mo and 12 mo. 3-mo questionnaire asked whether the child had received breast milk, formula feeding or a combination. 7 and 12 mo questionnaire asked about brf duration.  Eating style asked for at 1 y, unhealthy snacking asked for at 2 y. | Questionnaires at 3 mo, 7 mo, 1 y, 2 y and 4 y. | Adjusted for feeding pattern at 3 mo (on demand, to schedule, mixed) and child gender and birth weight, maternal age, prepregnancy BMI, maternal smoking during pregnancy, recruitment group (alternative vs. conventional) | B- | An additional alternative recruitment group; healthy pregnant group, recruited through alternative lifestyle channels*.* parental reported child data on anthropometry*.* Sample size reported, but not study power and power calculations. By chance findings not considered |
| Huang, 2007  Excluded  *The Raine Cohort,* Australia | 406 children with blood samples at 8 y of original sample of 2860 | Pregnancy to 8 y | Influence of birth weight, postnatal weight gain, smoking during pregnancy, breastfeeding | Subsequent predisposition to CVD measured through BMI, skin fold, BP, S-TG, S-chol, LDL and HDL-chol, S-glucose  (Cluster analysis on the combined CVD-risk) | Duration of any brf (<4 mo or >=4 mo) obtained prospectively (Sic!) with questionnaire at 12 mo follow-up | 12 mo follow-up + blood samples at 8 y | Birth weight, post-natal weight gain 1-8 y, | C | Excluded  No power calculation, Perinatal and childhood origins of CVD, BUT no other intake data than brf included no physical activity |
| Huh, 2010 (33)  *Project Viva,* USA | 847 children of 1579 eligible (54%) | 0-3 y  50.3% females | Introduction of solid foods at <4, 4-5 and >=6 mo analysed separately among infants brf for >=4 mo (*breastfed*) or never breastfed or stopped breastfeeding <4 mo (*formula fed)* | Obesity at 3 y (BMI for age and gender >=95th percentile)  +  Subscapular and triceps skin fold thickness | At 6 mo questionnaire about brf and age at introduction of 10 solid foods or food groups (<2 mo, 2-3 mo, 3-4 mo, 4-5 mo, 6 mo or older)  At 12 mo brf status.  Breastfed = brf >=4 mo at least partially  Not brf = never or <4 mo brf | 6 mo and 3 y (visit) + 12 mo questionnaire | Maternal race and ethnicity, age, education, household income, prepregnancy weight and height, paternal weight and height, gestational age, birth weight + 4 mo weight from clinical records, infant growth0-4 mo (change in z-score) | B | Loss to follow-up 46%  No power calculation  No other dietary intake or physical activity accounted for.  Never breastfed and brf>4 mo = one group |
| Jedrychowski, [e-print ahead of time in 2011] (77)  Poland | 469 (314 excl brf, 154 complementary fed at 3 mo) | 0-3 y  52.9% girls in group excl brf at 3 mo, 42.2% in group complementary fed at 3 mo | Exclusive breastfeeding of various durations. | Neurodevelopment over a 7-y follow-up  Bayley Mental Scales of Infant Development-second edition (BSID-II) at 1-3 y, Weschler intelligence test for children (WISC-R) at 6 and 7 y+ | Interview on infant feeding at 3 mo | 1, 2, 3, 6 and 7 y | Maternal education, weight change during pregnancy, maternal IQ, child´s gender, parity, | B | No power calculation.  Exclusive breastfeeding is defined in accordance with WHO, but it is unclear whether it is actually used in practice. It seems unlikely that 119 (25%) is exclusively breastfed >6 mo. Complementary feeding is defined as never breastfed or mixed fed the first 3 mo. |
| Kalies, 2005 (34)  *LISA study group*, Germany | 2624 out of 3097 (85%) | 0-24 mo  49% females | Brf 0-1 mo (incl 6.8% never brf), 2-3 mo, 4-5 mo, 6+ mo | Elevated weight gain at 2 y (>90th percentile for age and gender) | Excl brf (defined as breastfed without concomitant formula feeding. Solids considered separately) | Monthly during first year, then medical records the 2nd year (or weight at 2 y) | Age at introduction of solid foods, composition of solids, smoking during pregnancy, birth order, study centre, SES, mother´s BMI, gender | B | No power calculation  Excl brf does not consider solids |
| Karmaus, 2008 (70)  *The Isle of Wight Birth Cohort Study*,  UK | 1456 of 1536 children born (95%)  1360 (86%) remaining at 10 y | 0-10 y  48.8% females | The triad of maternal smoking, any brf >=3 mo, recurrent lower respiratory tract infection (RLRTI) | Childhood asthma | Brf data collected at 1 y | Follow-up at 1, 2, 4, 10 y | Gender, LBW, child´s age at examination, maternal history of asthma | B | No power calculation |
| Kitnas 2010 (35)  Early Childhood Longitudinal Study-Birth Cohort, USA | 6519 follow-up of possible 8900 (singleton); original cohort 10700 | From birth to 2-4 yr | Brf duration in months | Anthropometry and BMI | Questionnaire at 2 y and 4 y | Follow-up at 2+4 y | Maternal prepregnant health behaviors and BMI; mothers race, income, education; marital status, fathers professional occupation; income, education | B | Study power not considered, power calculation not performed. By chance findings not considered |
| Kramer 2008 (78)  PROBIT  Belarussian | 13889 of totally 17046 | Follow-up to 6.5 yr | Duration of any brf in months, exclusive brf 3 mo or 6 mo: | IQ (Wechsler Abbreviated Scales of Intelligience) and teacher evaluations of academic performance (reading, writing, mathematics and other subjects) | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 6.5 y | Cluster-level (geographic region, urban vs rural) and individual level (child age at follow up, sex, birth weight, parental education) | B | no power calculation |
| Kramer 2009a (37)  PROBIT  Belarussian | 2951 of totally 3483 followed during the first year | Follow-up to 6.5 yr (50/50 M/F) | Duration of any brf in months, exclusive brf 3 mo or 6 mo: | Anthropometry (height, weight; head, waist, hip, mid-thigh circumference; skinfold), blood pressure, IQ, teacher and parents´ ratings; atopic symptoms, skin-prick tests; dental caries | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 6.5 y | Cluster-level (geographic region, urban vs rural) and individual level (birth weight, maternal education, and child age at follow up), within-policlinic clustering covariates. + (varies depending on outcome): father´s education (for cognitive and behavioral outcomes); , parental BMI (for anthropometric outcomes and blood pressure); maternal pre- and postnatal smoking, paternal postnatal smoking, number of older and younger siblings, atopic family history (for atopic outcomes) | B | No power calculation for these outcomes (power calculation done on outcome gastroenteritis (mentioned in paper 180)  The results are not validated blind but double checked with blinded methods. |
| Kramer 2009b (62)  PROBIT  Belarussian | 13889 of totally 17046 | Follow-up to 6.5 yr (52/48 M/F) | Duration of any brf in months, exclusive brf 3 mo or 6 mo: | Allergic symptoms and atopic sensitization at 6.5 yr (wheezing or hayfever in the past 12 m, recurrent itchy rash, one or more positive skin-prick tests)  (assessed by ISAAC questionnaire and skin-prick test of five inhalant antigens) | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 6.5 y | First degree atopic family history, maternal age and education, maternal smoking during pregnancy, parental smoking at 6.5 y follow-up, geographic region, urban vs rural, child sex, birth weight, duration of excl brf (<3m, 3-<6m, >=6 m), number of older and younger siblings. | B | No power calculation for these outcomes (power calculation done on outcome gastroenteritis (mentioned in paper 180)  The results are not validated blind but double checked with blinded methods. |
| Kramer 2007b (61)  PROBIT  Belarussian | 13889 of totally 17046 | Follow-up to 6.5 yr (52/48 M/F) | Duration of any brf in months, exclusive brf 3 mo or 6 mo: | Childhood asthma and allergy by 6.5 y  (assessed by ISAAC questionnaire and skin-prick test of five inhalant antigens) | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 6.5 y | Cluster-level (geographic region, urban vs rural) and individual level (age at follow-up, sex, birth weight, family history of atopy, pet ownership, contact with farm animals, previous exposure to probiotics. | B | No power calculation for these outcomes (power calculation done on outcome gastroenteritis (mentioned in paper 180)  The results are not validated blind but double checked with blinded methods. |
| Kramer 2007a (36)  PROBIT  Belarussian | 13889 of totally 17046 | Follow-up to 6.5 yr (52/48 M/F) | Duration of any brf in months, exclusive brf 3 mo or 6 mo: | Anthropometry (height, weight), adiposity, blood pressure | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 6.5 y | Cluster-level (geographic region, urban vs rural) and individual level (age at follow-up, sex, birth weight, maternal education, parental height (for standing and sitting height); parental BMI (for adiposity measures and blood pressure) . | B | No power calculation for these outcomes (power calculation done on outcome gastroenteritis  The results are not validated blind but double checked with blinded methods. |
| Kramer 2011 (38)  PROBIT  Belarussian | 16 483 of totally 17046 (96.7%) | Follow-up to 12 mo (52/48 M/F) | Infant size (z-scores; WAZ. LAZ and WLZ) | Subsequent feeding decisions  **Note** - Studying reverse causality – useful for outcome growth | Feeding status at 1,2,3,6,9 and 12 mo (policlinic visits) | Follow-up at 12 mo | Cluster-level (geographic region, urban vs rural) + random effects term for hospital/ployclinic +  Maternal smoking at onset of interval, maternal education, parental height and BMI (reported at child age 6.5 y) | B | No attempts to standardize anthropometric measurements (because infant growth was not a major outcome of Probit).  No power calculation for these outcomes (power calculation done on outcome gastroenteritis  The results are not validated blind but double checked with blinded methods. |
| Kull 2010 (71)  Stockholm, Sweden (BAMSE) | Birth cohort, N= 4089, this follow-up n=3825 | Outcomes at 1,2 4 and 8 yr | Exclusive breast-feeding <4 months compared with ≥4 months  Exclusive vs. partial breast-feeding, the durations of exclusive and partial breast-feeding were each grouped into 3 categories (0 to <2, 2 to <4, ≥4 months) | Recurrent wheeze, asthma, lung function and sensitization (specific IgE) at the age 1, 2,4 and 8 y | Questionnaire 1y: Duration of any brf in months, exclusive brf 4 mo vs. partial | Follow-up at 8 y | Parental history of allergic disease, maternal smoking during pregnancy or at enrollment, maternal age | B | No power calculation |
| Landomenou 2010 (54)  Creece, Grete | 926 from Birth cohort (6878) | 1 yr | Duration of brf in weeks (excluxive vs. partial) | All infectious (incl. otitis media, acute respiratory infection, gastroenteritis, urinary tract infection, conjunctivitis, thrush) at 1, 3, 6, 9 and 12 mo | Duration of brf in weeks (excluxive 6 mo vs. partial) | Follow-up at 12 mo | Parental smoking | B | No power calculation |
| Midodzi, 2010 (72)  Canada Early Childhood Development (ECD, panels 1 and 2), the study is part of : The Canadian National Longitudinal Study of Children and Youth (NLSCY) | Panel 1 1996/7-2000/1: N= 4634; Panel 2 1998/9-2002/3: N=13 546 To this study: N=8499 considered for this study, had complete baseline data and no prior asthma and biological parent as the person most knowledgeable | < 2yrs at baseline, 51%/49% male/female | Prenatal problems, Cesarean delivery, low birth weight, breastfeeding, wheezing, allergy, infection, daycare.  Breastfeeding; Never, 0-3 mo, >3 mo | Asthma | Retrospective questionnaire (but<2yrs) with answers:  Never  0-3 months  >3 months | Until 4- 5 yrs | Parental, household and demographic factors | B- | Breastfeeding not a major subject in the study. (< 50% of original sample incl ). |
| Oddy 2006 (39)  Birth cohort, *Second Perth Infant Feeding Study (PIFSI II)*, Perth, Australia | 587 of 870 contacted (68%) and of 1068 eligible (55 %) | Infancy; 0-52 wk, 46,2 % girls | Duration of full breastfeeding; <4 wk vs >4 wk (also considered as continuous variable), and age regular infant formula feeding commenced | Growth, overweight.  (Other outcomes; health problems, doctor visits maternal rating of child health) | Telephone interview | Regular intervals to 52 wk after birth; 4, 10, 16, 22, 32, 40 and 52 wk) | Infant gender and birth weight | B | No power calculations. |
| Oken, 2008 (79)  Danish national birth cohort | 25 446 with all prior data /of 28 277 18 month postpart interview/of 50 276 initial interview + FFQ in pregn/92 676 liveborn singletons/of 101 042 pregnancies ’97-‘02 | Women and babies | Breastfeeding categories: <1mo, 2-3, 4-6, 7-9, >10 months (As well as Prenatal diet –with emphasis on fish) | 18 mo (and 6 mo) developmental milestones | Questionnaire to mothers about infant feeding | Until 1.5 year | Maternal age, prepregnancy BMI, parity, smoking, alcohol, postpartum depression, marietal status, maternal and paternal school problems, education, scial class, size at birth, gestational age, fish intake | B | Only breastfeeding duration, only size at birth, no power calculations, study power and sample size not considered– BUT very many participants included |
| Pohlabeln, 2010  Excluded  Germany | 1686 from 3132 pregnant mothers | 0-2 yr, 49.7 % male | Exclusive brf at least 4 mo | Allergic reactions | Retrospective Questionnaire at 6 mo and 12 mo with answers:  Never  ≤4 months  >4 months | 2 yr | Family history of allergic disease | C | Excluded  Criteria for inclusion/exclusion was not clearly formulated  only exclusive BF with three variants: Not, <4months, >4months. Partial BF can be anywhere) |
| Rebhan 2009 (40)  Germany (Bavaria birth cohort) | 1901 | 9 months | Exclusively-brf at least 6 mo, at least 4 mo or not brf/≤ 4 mo | Health and growth | Retrospective questionnaires at 9 mo | Follow-up at 9 mo | Siblings, term/preterm, maternal education, employment, age, BMI, smoking, living area, family history of allergies | B | Confounders ok PARTLY  Follow-up only 9 mo  No power calculations |
| Rzehak 2009 (41)  GINI and LISA birth cohorts  Germany | 7643 | 0-6 yrs, | Full-brf at least 4 mo | Weight, length, BMI | Questionnaires at 0, 6, 12, 18, 24, 36, 48, 60 and 72 mo | Follow-up at 6 y | SES | B | 2 groups based on family history of allergy  BF definition= at least 4 mo, no total duration |
| Scholtens 2008 (43)  The Netherlands,  The PIAMA birth cohort | 2043 of originally 4146 | 8 y (50% female) | Infant feeding practices | Overweight as BMI (height, weight) | Questionnaire of infant feeding practices at 3 mo and 1 y | Follow-up at 8 y | Maternal education, employment, BMI, smoking | A |  |
| Scholtens 2007 (42)  The Netherlands,  The PIAMA birth cohort | 2347 | 8 y (50% female) | Duration of breastfeeding | Overweight as BMI at 1 y and 7 yr | Questionnaire of infant feeding practices at 3 mo and 1 y | Follow-up at 7 y | Maternal education, employment, BMI, smoking | B | no power calculations, no identification of confounders |
| Scholtens 2009 (73)  The Netherlands,  The PIAMA birth cohort | 3115 | 8 y (50% female) | Infant feeding practices | Asthma | Questionnaire of infant feeding practices at 3 mo and 1 y | Follow-up at 8 y | Maternal education, employment, BMI, smoking | B  A | no power calculations, no identification of confounders |
| Silvers 2009 (63)  NZ Asthma and allergy cohort study, Christchurch and Wellington | 1105 | Recruitment before birth =>from birth – 15 months | Exclusive BF, Any BF and Additional BF – all as continuous variables | Doctor diagnosed asthma; Wheezing; Inhaler use; Eczema; Atopy | Prospective Questionnaire at birth, 3, 6 and 15 months | Follow up at 15 months | Gender, gest length<37 weeks, study site, smoking in household smoking in pregnancy, respiratory infections in first 3 mo in life (binary variables). Ethnicity. Birth weight, parity, crowding, BMI at 15 months, Marker of soc econ status as continous variables. In final model, as potential confounders : parent allergy and mother asthma. | B  B | Other food not reported  Power calculation only from asthma – but that might be enough |
| Snijders, 2008 (66)  Prospective cohort study, KOALA Birth Cohort, Maastricht, the Netherlands | 2558 infants included of 2834 enrolled at birth. | Birth to 2 years, 49% girls | Age at first intro (0-3 mo, 4-6 mo, 7-9 mo, > 9 mo) of cow milk products; defined as artificial formulas, raw/pasteurized milk, porridge, dairy products and yoghurts. Age of intro of other foods products (eg, fruit mash) (3 mo, 4-6 mo, after 7 mo. Brf duration included as confounder (never, 0-3 mo, 4-6, 7-9, > 9 mo). | Atopic manifestations in the first 2 y of life;  Eczema (parental questionnaire), atopic dermatitis (according to UK Working Party Criteria), recurrent wheeze, any sensitization, sensitization against cow milk, hen egg, peanut(venous blood samples at 2 y postpartum). | Information on infant feeding patterns collected by questionnaires at 3, 7, 12 and 24 mo. | 3, 7, 12 and 24 mo | Duration of breastfeeding, gender of infant, recruitment group, maternal smoking during pregnancy, infant exposure to environmental tobacco smoke, maternal age at delivery, maternal education, presence of parental allergic disease, siblings atopic history | B | An additional alternative recruitment group; healthy pregnant group, recruited through alternative lifestyle channels *(yes/no 2a).*  Sample size reported, but not study power and power calculations.  By chance findings not considered |
| Van Rossem, 2010 (44)  Prospective cohort study, Project Viva,  Massachusetts, US | 884 mother-infant pair  Of 2128 women who delivered a live infant, 1579 were eligible for a 3-y follow-up, after 1244 loss to follow-up and excluded, the study sample was 884 | Birth to 3 y, 50 % girls | Brf the first 6 mo of life, 4 categories: “never brf”, “any brf for less than 6 mo”, “partial brf for 6 mo”, “full brf for 6 mo”.  (solids or liquids other than breast milk and formula not considered)  In addition, a continuous duration of Brf (to 12 mo) | At 3 y: age- and sex-specific BMI z score, the sum of subscapular and triceps skinfold thicknesses (SS+TR) (a measurement of subcutaneous adiposity) and obesity. Obesity defined as BMI for age and sex >95th percentile | Interview at 6 mo postpartum.  Also asked at 1 y postpartum those who had reported brf on when they had stopped brf | 6 mo, (12 mo) and 3 y | Child’s sex and age, mother’s educational level, race/ethnicity, smoking, BMI, pregnancy weight gain, birth weight adjusted for gestational age and infant weight change | B | Loss to follow-up >30%.  Sample size reported, but not study power and power calculations.  By chance findings not considered |
| Whitehouse, 2011 (80)  Longitudinal cohort study of women and their children, the Raine Study, Perth, Australia | 1195  Cohort of 2868  1976 followed up at 10 y and with complete brf data and 1195 of these with language data at 10 y. | Birth to 10 y, 47,5 % | Duration of predominately brf: “never brf”, “brf predominately for <4mo, “brf predominately for 4-6 mo”, “brf predominately for >6 mo” (Predominately brf presumed to occur up to intro of other milk than breast milk. Definition did not preclude solids). Similar 4 categories of duration of any brf | Language ability test at 10-y (also at 5 y) using the Peabody Picture Vocabulary Test - Revised; PPVT-R | Data on duration of brf (in months) prospectively collected during infancy by feeding questionnaires completed by mothers at 1, 2, 3 y follow-ups | 1, 2, 3, 5, 10 y | Maternal age, smoking and alcohol during pregnancy, maternal education, child gender, parity, reading to children, family functioning, parenting style at 10 y. Other variables also analysed, but non-significant in univariat analysis and therefore not included in final model | B | Sample size reported, but not study power and power calculations.  By chance findings not considered |
| WHO, 2002 (25)  Australia, China, Chile, Guatemala, India, Nigeria Sweden | 500-700/country | 0-32 w  40-46% females | Differential timing and of complementary food (Excl brf 4-6 mo) | Growth 0-32 w | Excl brf  Daily records of infant feeding | Weight every 2 w, length every 4 w (China 2w) | Many factors in both mother and infant incl brf pattern | B | Power calculation done for fertility – not growth.  7 of 9 participating countries not compatible with Nordic pop. |
| Zhou 2007 (81)  Australia | 302 | 4 y (150 male) | Brf prospectively | IQ | Questionnaire of brf at birth, 6 wk, 3 mo, 6 mo and 4 y | Follow-up at 4 y | Sex of study child, birth weight, maternal age, smoking during pregnancy, birth order, parental education and occupation, quality of home environment | B | Brf was asked at 6 mo and 4 yr of age  No power calculations |
| Zutavern 2008 (67)  LISA birth cohort  Germany | 2073 | 6 y | Feeding history at 6 mo (solid food introduction) and at 4 yr | Skin and allergic symptoms | Questionnaire of brf and solid food introduction at 6 mo and 4 y | Follow-up at 0.5 y, 1 y, 1.5 y, 2y, 4 y and 6 y | Sex of study center, parental allergy, child gender, parental education and breastfeeding type  Also possible confounders: number of siblings, maternal smoking during pregnancy | B | Original cohort was 3097/ Reasons for lower response rate was not reported  No power calculations |

**Appendix 5. Description of included reports from organizations, committees and similar. (Studies presented in Summary tables 1-11).**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Reference/source** | **Publication type**  **(if possible year and databases)** | **Objective** | **Countries** | **Number and type of included studies** | **Exposures** | **Outcomes** | **Conclusion/**  **recommendation** |
| American Academy of Pediatrics (AAP), 2008 (16)  Effects of early nutritional interventions on the development of atopic disease in infants and children: the role of maternal dietary restriction, breastfeeding, timing of introduction of complementary foods, and hydrolyzed formulas.  Greer FR, Sicherer SH, Burks AW  Pediatrics. 2008;121:183–191. | Clinical report/statement | Review the nutritional options duringpregnancy, lactation, and the first year of life that may affectthe development of atopic disease (atopic dermatitis, asthma,food allergy) in early life |  | The reference list included 63 references | Maternal dietary restriction, breastfeeding, timing of introduction of complementary foods, and hydrolyzed formulas | Atopic disease in infants and children | Evidence that breastfeeding for at least 4 mo, compared with feeding formula made with intact cow milk protein, prevents or delays the occurrence of atopic dermatitis, cow milk allergy, and wheezing in early childhood.  Little evidence that delaying the timing of the intro of complementary foods beyond 4 to 6 mo prevents the occurrence of atopic disease. At present, insufficient data to document a protective effect of any dietary intervention beyond 4 to 6 mo for the development of atopic disease. |
| American Academy of Pediatrics, 2012 (15)  Breastfeeding and the Use of Human Milk  Pediatrics Vol. 129 No. 3 March 1, 2012  pp. e827 -e841 | Policy Statement | The current statement updates the evidence for this conclusion and serves as a basis for AAP publications that detail breastfeeding management and infant nutrition. |  | The reference list included 151 references | Breastfeeding and the use of human milk | Respiratory tract infections, otitis media, gastrointestinal tract infections, necrotizing enterocolitis, sudden infant death syndrome, infant mortality, allergic disease, celiac disease, inflammatory bowel disease, obesity, diabetes, childhood leukemia and lymphoma, neurodevelopmental outcomes | Research and practice in the 5 y since publication of the last AAP policy statement have reinforced the conclusion that breastfeeding and the use of human milk confer unique nutritional and nonnutritional benefits to the infant and the mother and, in turn, optimize infant, child, and adult health as well as child growth and development. Recently, published evidence-based studies have confirmed and quantitated the risks of not breastfeeding.  The AAP reaffirms its recommendation of exclusive breastfeeding for about 6 mo, followed by continued breastfeeding as complementary foods are introduced, with continuation of breastfeeding for 1 y or longer as mutually desired by mother and infant. |
| Svenska barnläkarföreningen, 2010 (68)  (Swedish Paediatric Society) | Stencil | Scientific review on risk factors for allergy among children | Data from developed countries | The reference list included 156 papers | Environmental factors including breastfeeding, genetics etc | Allergies, atopy etc | Breastfeeding give some protection against infection-induced airway symptoms of asthma type, but breastfeeding has not been proven to decrease the risk of allergies. |
| EFSA Panel on Dietetic products, Nutrition and Allergies (NDA), 2009 (17)  Scientific Opinion on the appropriate age for introduction of complementary feeding of infants.  EFSA Journal (2009) 7(12): 1423 | Scientific opinion | Appropriate age for the introduction of complementary foods for infants in the EU | Infants in the EU  Data from developed countries | The reference list included 162 papers | Appropriate age for introduction of complementary feeding of infants | Growth, developmental aspects, health aspects (obesity, type 2 diabetes, allergy, celiac disease, type 1 diabetes, infections, dental health) | The introduction of complementary food in the diet of healthy term infants in the EU between the age of 4 and 6 mo is safe and does not pose a risk for adverse health effects. Exclusive breastfeeding provides adequate nutrition up to 6 mo of age for the majority of infants, while some may need complementary foods before 6 mo (but not before 4 mo) in addition to breastfeeding to support optimal growth and development.  With regard to celiac disease and diabetes 1 diabetes mellitus, EFSA state that present available data support the belief that gluten containing foods should be introduced not later than 6 mo of age, preferably while still breastfeeding. |
| ESPGHAN Committee on Nutrition, 2008 (19)  Complementary Feeding: A Commentary by the ESPGHAN Committee on Nutrition  Journal of Pediatric Gastroenterology and Nutrition. 2008;46:99–110 | Position Paper | Review current knowledge and practice, summarize the evidence for the short- and long-term health effects of the timing and composition of complementary feeding, provide advice to health care providers and regulatory bodies and identify areas for future research. | Focuses on healthy infants in Europe | The reference list included 100 papers. | Complementary feeding | Health effects (growth, neurodevelopment, allergy, cardiovascular disease, celiac disease, type 1 Diabetes Mellitus, development of taste and food preferences, dental caries, miscellaneous) | Exclusive or full breastfeeding for about 6 mo is a desirable goal. Complementary feeding should not be introduced before 17 weeks and not later than 26 weeks. |
| ESPGHAN Committee on Nutrition, 2009(18)  Breast-feeding: A Commentary by the ESPGHAN Committee on Nutrition  Journal of Pediatric Gastroenterology and Nutrition. 2009; 49:112–125 | Position article | Summarize the current situation with regard to breastfeeding, knowledge of the composition of human milk, advisable duration of exclusive and partial breastfeeding, growth of the breastfed infant, health benefits associated with breastfeeding, supplementation of breastfed infants and contraindications to breastfeeding. | Focuses on term-born infants living in Europe | Compares (in Table) WHO, 2007, US Agency for Healthcare Research and Quality, 2007, Dutch State Institute for Nutrition and Health, 2005 + other studies.  The reference list includes 96 papers. | Breast-feeding | Health effects (growth, cardiovascular health, overweight, obesity, type 2 diabetes, allergy, type 1 diabetes, celiac disease, IBD, malignant disease, neurodevelopment) | The article delineates the health benefits of breastfeeding, reduced risk of infectious diarrhoea and acute otitis media being the best documented.  Exclusive breastfeeding for around 6 mo is a desirable goal, but partial as well as breastfeeding for shorter periods of time are also valuable. |
| SACN and COT, 2011 (50)  Timing of introduction of gluten into the infant diet | Joint statement | Assess the evidence of timing of introduction of gluten into the infant diet and subsequent risk of developing celiac disease or type 1 diabetes mellitus.  – response to the EFSA publication on complementary foods. |  | The reference list included 31 papers | Timing of introduction of gluten into the infant diet | Celiac disease | Evidence on the timing of intro of gluten into the infant diet and subsequent risk of celiac disease and T1DM (type 1 diabetes mellitus) is insufficient to support recommendations about the appropriate timing of intro of gluten into the infant diet beyond 3 completed mo of age, for either the general population or high-risk sub-populations.  SACN and COT do not consider the evidence sufficient to support EFSA’s conclusion on the introduction of gluten into the infant diet no later than 6 completed mo of age with the aim of reducing the risk of subsequent development of coeliac disease and T1DM. |
| SACN, 2011 (20)  The influence of maternal, fetal and child nutrition on the development of chronic disease in later life | Report | Review the influence of maternal, fetal and child nutrition, including growth and development in utero and up to the age of 5 y, on the development of chronic disease in later life in the offspring. Identify opportunities for nutritional intervention that could influence the risk of chronic disease in later life in the offspring. |  |  | Maternal, fetal and child nutrition, including growth and development in utero and up to the age of 5 y | Chronic disease in later life | Inconsistent evidence that breastfeeding influences subsequent cardiovascular mortality although infants who are not breastfed tend to have slightly higher blood pressure and serum total cholesterol concentrations in adult life. Infants who are not breastfed are also at greater risk of type 2 diabetes and are more likely to be obese in later life.  Strategies that promote, protect and support exclusive breastfeeding for a round the first 6 mo of life should be enhanced, and should recognize the benefits for long-term health. |
| WHO, 2007 (21)  Horta et al,  Evidence on the long-term effects of breastfeeding | Report, systematic reviews and meta-analyses  Medline search 1966 to March 2006 and Scientific Citation Index databases | To assess the effects of breastfeeding on blood pressure, diabetes and related indicators, serum cholesterol, overweight and obesity, and intellectual performance |  | The reference list includes 188 papers | Breastfeeding | Blood pressure, diabetes and related indicators, serum cholesterol, overweight and obesity, and intellectual performance | Subjects who were breastfed experienced lower mean blood pressure and total cholesterol, as well as higher performance in intelligence tests. The prevalence of overweight/obestity and type-2 diabetes was lower among breastfed subjects. All effects were statistically significant, but for some outcomes their magnitude was relatively modest. |
| WHO Child Growth Standards 2006 (45)  Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age  Methods and development. | Report | WHO undertook the Multicentre Growth Reference Study (MGRS) between 1997 and 2003 to generate new curves for assessing the growth and development of children the world over. | The MGRS combined a longitudinal follow-up from birth to 24 months and a cross-sectional survey of children aged 18 to 71 months (A minimum of three months of any breastfeeding was required for participants in the study’s cross sectional component). Primary growth data and related information were gathered from 8440 healthy breastfed infants and young children from widely diverse ethnic backgrounds and cultural settings (Brazil, Ghana, India, Norway, Oman and USA). | Cohort study with 6 countries involved (Brazil, Ghana, India, Norway, Oman and USA). | Selecting healthy children living under conditions likely to favour the achievement of their full genetic growth potential. More than 20% of mothers followed WHO feeding recommendations and breastfeeding support was available. Individual inclusion criteria were: no known health or environmental constraints to growth, mothers willing to follow MGRS feeding recommendations (i.e. exclusive or predominant breastfeeding for at least 4 months, introduction of complementary foods by the age of 6 months, and continued partial breastfeeding up to at least 12 months), no maternal smoking before and after delivery, single term birth, and absence of significant morbidity | In the longitudinal component, mothers and newborns were screened and enrolled at birth and visited at home a total of 21 times on weeks 1, 2, 4 and 6; monthly from 2–12 months; and bimonthly in the second year. In the cross-sectional component, children aged 18–71 months were measured once, except in the two sites (Brazil and USA) that used a mixed-longitudinal design in which some children were measured two or three times at three-month intervals. | New growth charts (available at [www.who.int/childgrowth/en](http://www.who.int/childgrowth/en).) |
| Reports that were read but not refered to in the SLR. | | | | | | | |
| EuroPrevall, 2009 (  - A European multicentre research project funded by the EU  Infant feeding and allergy prevention: a review of current knowledge and recommendations  Grimshaw KE et al.  Allergy. 2009; 64:1407-1416. | State of the art paper | To document the differing feeding recommendations made across Europe, to investigate the current evidence base for any allergy prevention feeding recommendations | Europe | The reference list includes 77 papers. | Infant feeding | Allergy | Little evidence supporting current recommendations on infant feeding with the objective of reducing the prevalence of allergic disease. Breastfeeding is widely regarded as the ideal food for infants, although its effect in the prevention of allergic diseases has not been conclusively demonstrated. |
| Michaelsen et al, 2010  Science base of complementary feeding practice in infancy  Kim F. Michaelsen, Anni Larnkjær, Lotte Lauritzen and Christian Mølgaard.  Current Opinion in Clinical Nutrition and Metabolic Care 2010, 13:277–283 | Review | Presents a selection of publications on complementary feeding during 2008-2009, after the publication of the ESPGHAN position paper in early 2008 | Industrialized countries | The reference list includes 37 papers in addition to the two ESPGHAN position papers. | Complementary feeding | Functional effects of age at introduction and composition of complementary foods | Despite several relevant studies having been published during the last 2 years, there is still a great need for randomized studies examining functional effects of age at introduction and composition of complementary foods. There is a need for randomized studies in industrialized countries comparing the effects of introduction of complementary foods at different ages within the 4-6 mo age interval. |
| World Cancer Research Fund/American Institute for Cancer Research, 2007  Second Expert Report, Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective  http://www.dietandcancerreport.org/expert\_report/index.php | Report (Chapter 8 Determinants of weight gain, overweight, and obesity) | Report: Review all the relevant research to generate recommendations on food, nutrition and physical activity to reduce the risk of cancer.  Chapter 8: Examines food, nutrition, and physical activity as factors that modify the risk of weight gain, overweight, and obesity, which themselves influence cancer risk. | Global perspective | On breastfeeding:  2 SLRs (Arenz 2004; Owen 2005) and 3 subsequent cohort studies (Burke 2003; Reilly 2005; Kvaavik 2005) | On breastfeeding: Being breastfed | Weight gain, overweight and obesity | On breastfeeding: Being breastfed is probably protective against weight gain, overweight and obesity*.*  It is noted that the evidence relates principally to obesity in childhood, but that overweight and obesity in children tend to track into adult life. |

AAP - American Academy of Pediatrics

COT – Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment

EFSA – European Food Safety Authority

EFSA Panel on Dietetic products, Nutrition and Allergies (NDA)

ESPGHAN – European Society for Pediatric Gastroenterology, Hepatology, and Nutrition

EuroPrevall – EU FP6 project “The Prevalence, Cost and Basis of Food Allergy Across Europe

SACN – Scientific Advisory Committee on Nutrition

WHO – World Health Organization