

PMID	First Author	Title	Year	Study Type	CVD	RF by CG	Study Origin	Setting	Search Range	Data Sources	Study Eligibility Criteria	Number of Studies	Main Study Objective	Target Population	Parent Characteristics	Interv. Studies (n)	Interv. Study Characteristics	Interv. Type	Specific Intervention Examined	Intervention Results/Conclusions	OB Studies (n)	OB Study Characteristics	Observational Relationship Assessed	Observational Results/Conclusions	Main Reported Findings by Critical Question	Limitations of Studies Reviewed	Quality of SR	
12131866	Clauss SB	Long-term safety and efficacy of low-fat diets in children and adolescents	2002	SR	None	Q10 (RF5, RF9)	USA	Don't Know/NR	NR	NR	NR	8	Evaluate the long-term safety and efficacy of low-fat diets in children and adolescents with elevated plasma TC and LDL-C levels	Pediatric/Young Adults	Age range: 0-12 yr	8	NR	Behavioral	Low-fat diets	Significant decrease in the levels of TC or LDL-C was observed in each of the 5 studies in which efficacy was assessed 7 of 8 studies showed normal growth and development on a low fat diet. In 1 small observational retrospective study, there were small but significant decreases in growth rate with low fat diet and low fat diet + bile acid sequestrant interventions. However, results in this study are confounded by inclusion of males & females during puberty. In 3 of 8 studies, nutritional requirements for calcium, zinc, phosphorus and vit E were below recommended levels	N/A	N/A	N/A	N/A	Q10: In each of the 5 studies in which efficacy was assessed, a significant decrease in the levels of TC or LDL-C was observed 7 of 8 studies showed normal growth and development on a low fat diet. In 1 small observational retrospective study, there were small but significant decreases in growth rate with low fat diet and low fat diet + bile acid sequestrant interventions. However, results in this study are confounded by inclusion of males & females during puberty. In 3 of 8 studies, nutritional requirements for calcium, zinc, phosphorus and vit E were below recommended levels	NR		
15601964	Faith MS	Parent-child feeding strategies and their relationships to child eating and weight status	2004	SR	None	Q6 (RF2, RF9) Q13 (RF8, RF9)	Mult	Don't Know/NR	Up to June 2003	Electronic databases that included MEDLINE and PsycINFO Citations for review articles and chapters	Exclusions: Theoretical articles Case studies Studies focusing on child developmental or eating disorders	22	Summarize associations between parental feeding styles and child eating and weight status	Parental/Family/Caregiver	NR	N/A	N/A	N/A	N/A	N/A	22	NR	Parental feeding style and child energy intake and weight status	Parental feeding restriction, but not other feeding domains, was generally associated with increased child energy intake and weight status. 19 studies (86%) reported at least 1 significant association between parental feeding style and child outcome Certain associations differed by gender and by outcome measurement. For example, 1 study found that increased maternal feeding restriction was associated with increased eating distribution in girls but not in boys. Another study found that increased maternal feeding control was associated with overeating in girls but under-eating in boys. Several large-scale studies reported associations between feeding restriction and child eating specifically in mother-daughter relations	Q6: Certain associations differed by gender, such as maternal feeding restriction and rate of eating as opposed to total energy intake Q13: Parental feeding restriction, but not other feeding domains, was generally associated with increased child energy intake and body weight.	NR		
16351702	Blanchette L	Determinants of fruit and vegetable consumption among 6-12-year-old children and effective interventions to increase consumption	2005	SR	None	Q13 (RF9)	The Netherlands	Mult Settings	1990-March 2005	PubMed PsycINFO References of identified articles	Studies examining potential determinants of fruit and/or vegetable intakes or interventions promoting fruit and vegetable intakes among 6-12 yr old children Exclusions: Papers examining food allergies/intolerances, pesticide levels or exposures Research conducted outside established market economies as determined by the World Bank Studies examining potential socio-economic correlates such as ethnicity, gender, socio-economic status (SES), and parental education, since these cannot be easily influenced through interventions	38	Review the current literature about potential determinants of fruit and vegetable intakes and effective intervention strategies to increase the consumption of fruits and vegetables among 6-12-year-old children	Pediatric/Young Adults	Age range: 6-12 yr	15	(17 NR publications)	Behavioral	School-based Scouts-based Multimedia-based Multicomponent	Interventions showed increases from 0 to 2.54 daily fruit and vegetable consumption servings or portions, with 14 of the 15 interventions resulting in increased consumption of fruit and/or vegetables Increases in fruit intake were more frequent and generally more substantial than increases in vegetable intake Results of multi-component interventions were all positive (results ranging from +0.2 to +1.88 portions of fruits and vegetables) One of 2 single-component interventions had significant changes (+0.14 to +0.17 portions) 2/2 scouts-based interventions resulted in consumption increases of 0.4 to 0.8 The 1 multimedia intervention resulted in an increased consumption of 1.0 servings of fruits and vegetables	19 studies (21 NR publications)	NR	Determinants of fruit and/or vegetable intakes	4 studies indicated that the availability and accessibility of fruit and vegetables were associated with consumption among children Highly controlling parenting may have a counter-productive influence on children's diets, especially with regard to fruit and vegetable intakes. Other authors insist on a clear division of feeding responsibilities between children and adults TV viewing was inversely associated with fruit and vegetable intakes among 11-yr old students The literature reporting on peer influence among the 6-12-yr-old age group is limited and yields conflicting results Elementary students gaining access to school snack bars, where top-selling foods are high in fat and calories, consumed fewer healthy foods, including fruit and vegetables, compared with the previous school yr, when they only had access to lunch meals served at school, which always included 2 servings of fruits and vegetables Research provided mixed results about the influence of outcome expectations on fruit and vegetable consumptions	Q13: Interventions showed increases from 0 to 2.54 daily fruit and vegetable consumption servings or portions, with 14 of the 15 interventions resulting in increased consumption of fruits and/or vegetables Increases in fruit intake were more frequent and generally more substantial than increases in vegetable intake Results of multi-component interventions were all positive (results ranging from +0.2 to +1.88 portions of fruit and vegetable) One of 2 single-component interventions had significant changes (+0.14 to +0.17 portions) 2/2 scouts-based interventions resulted in consumption increases of 0.4 to 0.8 The 1 multimedia intervention resulted in an increased consumption of 1.0 servings of fruits and vegetables Highly controlling parenting may have a counter-productive influence on children's diets, especially with regard to fruit and vegetable intakes. Other authors insist on a clear division of feeding responsibilities between children and adults TV viewing was inversely associated with fruit and vegetable intakes among 11-year old students	Differences in study designs, determinants that were included, the way these determinants were measured, as well as in intervention components between the reviewed studies were too large to conduct a more formal quantitative meta-analysis		
16351702	Blanchette L	Determinants of fruit and vegetable consumption among 6-12-year-old children and effective interventions to increase consumption	2005																									
16375956	Knafl C	Getting children to eat more fruit and vegetables: a systematic review	2006	SR	None	Q13 (RF9)	UK	Mult Settings	NR	PUBMED CAB Abstracts The Cochrane Library Web of Knowledge IBSS PsycINFO (BIDS) EMBASE AGRICOLA LILACS ID21 ERIC SIGLE INGENTA Cited references Expert information on unpublished and published projects	Children (5-18 yr) Individual and population-based interventions Programs promoting a diet high in fruits and vegetables where the primary outcome was measured (i.e., change in fruit and/or vegetable intake) Individuals followed for at least 3 mo	15 studies (17 articles)	Collect and summarize worldwide evidence on current evaluations of all interventions and programs which promote fruit and vegetable consumption in children	Pediatric/Young Adults	Age range: 5-18 yr	15	RCT: 11 CT: 4	NR	Behavioral	Diet	9/11 studies in primary school children had a significant positive effect on fruit/vegetable intake. 7 of these 9 studies showed higher intake at follow-up (+0.3 to +0.59 servings/d) and the other 2 studies had a significant positive net effect (+0.07 and +0.03 servings/d) 1/4 secondary school interventions showed positive results (net effect of +0.32 servings/d) None of the interventions had a negative effect on fruit/vegetable intake Particular attention to fruits and vegetables (as opposed to nutrition in general), hands-on exposure to fruits and vegetables, special training of teachers, peer leaders, active participation by school food service staff, parent involvement at school and home, school nutrition policies, and community involvement were associated with higher intakes on at least 1 occasion	N/A	N/A	N/A	N/A	Q13: 9/11 studies in primary school children had a significant positive effect on fruit/vegetable intake. 7/9 studies showed higher intake at follow-up (+0.3 to +0.59 servings/d) and the other 2 studies had a significant positive net effect (+0.07 and +0.03 servings/d) 1/4 secondary school interventions showed positive results (net effect of +0.32 servings/d) None of the interventions had a negative effect on fruit/vegetable intake	Only a small number of studies from developed countries represented Some studies may not have been captured by search Relatively short follow-up periods Self-reported dietary assessment methods	
16375956	Knafl C	Getting children to eat more fruit and vegetables: a systematic review	2006																									
16607131	Schack-Nielsen L	Breast feeding and future health	2006	SR	None	Q13 (RF4, RF5, RF6, RF7, RF8)	Denmark	Don't know/NR	Mid 2004-late 2005	International Society for Research in Human Milk and Lactation (ISRHM)	Studies on the long-term effects of human milk and lactation	120	Discuss the long-term health effects of breastfeeding	Parental/Family/Caregiver	NR	N/A	N/A	N/A	N/A	N/A	NR	NR	Breastfeeding and type 2 diabetes, obesity, BP, and cholesterol	Studies from the second half of 2004 and 2005 were reviewed. Breastfeeding seems to be associated with a small reduction in SBP in later life Only a few studies on breastfeeding and type 2 diabetes and no convincing association was demonstrated Large number of studies have shown a small but consistent protective effect of breastfeeding against risk of obesity Breastfeeding may provide protection against some immune-related diseases, such as type 1 diabetes and inflammatory disease Breastfeeding seems to be associated with lower BP and serum cholesterol, but it is not clear if breast feeding is associated with reduced risk of CVD or death	Q13: Large number of studies have shown small but consistent protective effect of breastfeeding against risk of obesity Breastfeeding is associated with lower BP and serum cholesterol, but no clear association with CVD or death Breastfeeding may provide protection against some immune-related diseases, such as type 1 diabetes and inflammatory disease Breastfeeding seems to be associated with lower BP and serum cholesterol, but it is not clear if breastfeeding is associated with reduced risk of CVD or death Overall, existing studies suggest that breast feeding has important long-term health effects.	Residual confounding and reverse causality in observational studies Use of information on breastfeeding collected decades after breastfeeding periods Studies do not provide evidence for dose-response association between duration of breastfeeding and CVD Publication bias Definition of breastfeeding, classification of duration, and inclusion and definition of potential confounders vary between studies, making pooled analysis difficult		
16681362	van der Horst K	A systematic review of environmental correlates of obesity-related dietary behaviors in youth	2007	SR	None	Q5 (RF9)	The Netherlands	Mult Settings	January 1980 - December 2004	PubMed PsycINFO Web of Science and Human Nutrition databases	Healthy young people ages 3-18 yr (or mean age within this range) A measure of energy and/or fat intake (total or %E), fruit, vegetable, snack, fast food or soft drink consumptions as the dependent variable(s) and as outcome measure(s) assessed for at least 1 complete day Study samples drawn from countries with established market economies as defined by the World Bank Study published in international peer-reviewed journals in English Exclusions: Intervention studies Studies that included only overweight/obese children	58	Examine which environmental correlates have been studied in relation to child and adolescent energy, fat (total and %E), fruit, vegetable, snack, fast food and soft drink intake and which environmental factors are consistently associated with these obesity-related dietary behaviors	Pediatric/Young Adults	Age: 3-18 yr	N/A	N/A	None	N/A	N/A	58	Cross-sectional study design: 55 Studies in children: 29 Studies in adolescents: 27	Examined environmental correlates of energy, fat, fruit, vegetable, snack/fast food and soft drink intake in children and adolescents Most studies examined household socioeconomic and economic factors as potential environmental determinants. The review showed consistent evidence for the relationship between parental intake and children's fat, fruit, and vegetable intake, and the relationship between parent and sibling intakes and adolescents' energy and fat intake. There was a (+) relationship between parent educational level and adolescents' fruit and vegetable intake. There was a (+) association between availability and accessibility with children's F & V intake.	Q5: The review showed consistent evidence for the relationship between parental intake and children's fat, fruit, and vegetable intake, and the relationship between parent and sibling intakes and adolescents' energy and fat intake. Parental education was inversely associated with fat intake in children and positively associated with adolescent fruit and vegetable intake; this suggests that fruit and vegetable promotion should focus especially on adolescents with parents who have lower levels of education.	Few studies have examined the same specific environmental factor-dietary behavior combination Most studies were cross-sectional, making conclusions about direction and possible causality of associations impossible Most studies relied on self-reported data	Good		

NHLBI Evidence Table: RF9-SR

PMID	First Author	Title	Year	Study Type	CVD	RF by CG	Study Origin	Setting	Search Range	Data Sources	Study Eligibility Criteria	Number of Studies	Main Study Objective	Target Population	Patient Characteristics	Interv. Studies (n)	Interv. Study Characteristics	Interv. Type	Specific Intervention Examined	Intervention Results/Conclusions	OB Studies (n)	OB Study Characteristics	Observational Relationship Assessed	Observational Results/Conclusions	Main Reported Findings by Critical Question	Limitations of Studies Reviewed	Quality of SR	
16895873	Malik VS	Intake of sugar-sweetened beverages and weight gain: a systematic review	2006	SR	None	Q6 (RF8, RF9) Q10 (RF8)	USA	Community (schools)	1968-May 2005	MEDLINE	English language CrS, prospective cohort (study duration ≥ 6 mo), and experimental studies in humans ≥ 1 endpoint evaluating body size or weight measurements (i.e., BMI, BMI z score, weight) Studies examining the intake of sugar-sweetened beverages (soft drinks, soda, fruitades, fruit drinks, sports drinks, sweetened iced tea, squashes, and lemonade) and weight gain, obesity, or both	30	Examine whether there is an association between sugar-sweetened beverages and weight gain	Pediatric/Young Adults	NR	N/A	N/A	N/A	N/A	N/A	N/A	30 Cohort: 10 CrS: 15 Experimental: 5	NR	Sugar-sweetened beverage consumption and obesity/weight gain	Most of the CrS studies, especially the large ones, found a positive association between the consumption of sugar-sweetened beverages and body weight Several prospective studies found that an increase in consumption was significantly associated with greater weight gain and greater risk of obesity over time in both children and adults A 1 yr intervention study found that reducing soft drink consumption in school children led to a significant reduction in the prevalence of overweight and obesity, and a 25 wk RCT in adolescents found that a reduction in the intake of sugar-sweetened beverages had a beneficial effect on body weight that was strongly associated with baseline BMI	Q6: The combined evidence from epidemiologic and experimental studies indicates that greater consumption of sugar-sweetened beverages is associated with weight gain and obesity Q10: A school-based intervention found significantly less soft-drink consumption and prevalence of obese and overweight children in the intervention group than in control subjects. A second RCT in adolescents found higher intake of sugar-sweetened beverages to be associated with higher body weight.	Interpretation of the published studies is complicated by several method-related issues, including small sample sizes, short duration of follow-up, lack of repeated measures in dietary exposures and outcomes, and confounding by other diet and lifestyle factors	
17381953	Jago R	Fruit and vegetable availability: a micro environmental mediating variable?	2007	SR	None	Q5 (RF9) Q6 (RF2, RF9) Q13 (RF9)	USA	Mult Settings	Through December 2005	PubMed PsycINFO	Assessed aspects of fruit and vegetable availability	NR	Illustrate associations between food availability and consumption; highlight how increasing availability has been used to increase consumption; propose the mechanisms by which availability is associated with consumption; and highlight the areas in which further research is required	Parental/Family/ Caregiver	NR	7	NR	Behavioral	Interventions to increase consumption or increase availability of fruit and vegetables	6 of 7 intervention studies attempting to increase availability resulted in increased consumption	24	NR	Association between food availability and consumption Also examined the factors affecting the degree of availability of food, including the variety and kinds of food available	Availability of fruit and vegetables appears to be associated with increased fruit and vegetable consumption. More research is needed to elucidate the mechanism between availability and consumption Cross-sectional studies found that the availability of fruit and vegetables was associated with self-reported intake among girls, but not among boys Q6: Cross-sectional studies found that the availability of fruit and vegetables was associated with self-reported intake among girls, but not among boys Q13: Intervention studies attempting to increase availability of fruit and vegetables resulted in increased fruit and vegetable consumption during the intervention.	Q5: Studies indicated that the degree of availability of fruit and vegetables, and, therefore, consumption of fruit and vegetables, appeared to be influenced by broader sociodemographic characteristics, including SES (income and location [urban, rural, or reservation]), but not ethnicity. For example, children from higher-income homes were more likely to have a greater variety of fruit and vegetables, whereas children in lower-income homes were likely to have less choice. One study also found that availability of fruit and vegetables in the home was associated with increased fruit intake among white adolescents, but not among black adolescents, while vegetable availability was not associated with intake in either group	NR	Fair - narrative review only.	