

PMID	First Author	Title	Year	Study Type	CVD	RF by CQ	Study Origin	Setting	Search Range	Data Sources	Study Eligibility Criteria	Number of Studies	Main Study Objective	Study Pop. (N)	Target Population	Patient Characteristics	Study Characteristics	Interv. Type	Specific Intervention Examined	Observational Relationship Assessed	Outcomes Measured	Treatment Effect and Statistical Significance	Main Reported Findings by Critical Question	Limitations of Studies Reviewed	Quality of MA
12205266	Owen CG	Infant feeding and blood cholesterol: a study in adolescents and a systematic review	2002	MA	None	Q6 (RF3, RF5, RF13) Q13 (RF5)	UK	Don't Know/NR	NR	MEDLINE; EMBASE; Web of Science	All published papers, letters, abstracts and review articles on infant feeding and blood lipids Studies written in English Studies conducted on human subjects Studies from which estimates of a mean difference and its standard error between breastfed and bottle-fed infants could be derived	37 Infants: 26 Children or adolescents: 17 Adults: 9	Assess the effects of infant feeding on cholesterol in infancy (< 1 yr), childhood or adolescence (1-16 yr), and adulthood (≥ 17 yr)	NR	Pediatric/ Young Adults	NR	NR	N/A	N/A	Influence of infant feeding method on serum TC and LDL-C	TC LDL-C	Mean TC was higher in breastfed infants compared to bottle-fed infants in 25 of the 26 observations and was higher in a random effects model (mean difference: 0.64 mmol/L; 95% CI: 0.49 to 0.79) Mean TC in childhood or adolescence was not related to infant feeding pattern (mean difference: 0.00 mmol/L; 95% CI: -0.07 to 0.07 mmol/L) In adults, mean TC was lower among those who were breastfed compared to those who were bottle-fed in 7 of the 9 observations (mean difference: -0.18; 95% CI: -0.30 to -0.06 mmol/L) Mean LDL-C was higher among breastfed infants in 6 of 7 observations and in a random effects model (mean difference: 0.57 mmol/L; 95% CI: 0.40 to 0.75) Mean LDL-C levels were similar among breastfed and bottle-fed children and adolescents (mean difference: 0.01 mmol/L; 95% CI: -0.07 to 0.08) In adults, mean LDL-C was lower among those who were breastfed compared to those who were bottle-fed in all 4 observations (mean difference: -0.20; 95% CI: -0.32 to -0.08 mmol/L)	Q6, Q13. Breastfeeding is associated with increased mean TC and LDL levels in infancy but lower levels in adulthood/adult life. These results suggest that breastfeeding may have long-term benefits for cardiovascular health and may have implications for the content of formula feed milks	All comparisons are based on observational data, thus, confounding, particularly by social factors, body build, and later diet, needs to be considered	
12728092	Owen CG	Birth weight and blood cholesterol level: a study in adolescents and a systematic review	2003	MA	None	Q6 (RF5, RF13)	UK	Don't Know/NR	NR	MEDLINE; EMBASE; Web of Science	References concerning the effects of birth weight on cholesterol Studies written in English Studies conducted on human subjects	28 Infants: 6 Adolescents (4-16 yr): 14 Adults: 12	Examine the relationship between birth weight and blood TC and compare its strength with the relationship between current BMI and TC	NR	Pediatric/ Young Adults	NR	NR	N/A	N/A	Association between birth weight and cholesterol at all ages	Change in TC per 1 kg increase in birth weight	21 regression coefficients showed an inverse association between birth weight and cholesterol (11 having 95% CIs bridging the line of no difference), whereas 11 showed a positive association with CIs including the line of no effect Each 1-kg increase in birth weight was associated with a -0.048 mmol/L decrease (95% CI: -0.078 to -0.018) in TC The association was slightly weaker when studies of infants were omitted	Q6: There was a weak inverse relation between birth weight and TC level	NR	
16806228	Kelley GA	Aerobic exercise and lipids and lipoproteins in children and adolescents: a meta-analysis of randomized controlled trials	2007	MA	None	Q10 (RF8) Q13 (RF5, RF8, RF11)	USA	Don't Know/NR	January 1, 1955- January 1, 2005	MEDLINE EMBASE Current Contents Sport Discus Dissertation Abstracts International Cross-referencing from original and review articles Hand searching Expert review of the reference list	RCTs Aerobic exercise of at least 4 wk as the intervention (no diet intervention) Children and adolescents 5-19 yr Published in journal, dissertation, or Master's thesis format Published in the English language Published between January 1, 1955 and January 1, 2005 Assessment of one or more of the following lipids and lipoproteins in the apparently fasting state: TC, HDL-C, LDL-C, TG	12	Examine the effects of aerobic exercise on TC, HDL-C, LDL-C, and TG in children and adolescents	389 (at final follow-up)	Pediatric/ Young Adults	Mean age (SD): Exercise intervention: 11 yr (3) Control: 12 yr (3) Included both males and females: 7 studies Limited to males: 4 studies Limited to females: 1 study Among studies that reported information on race/ethnicity, 1 included Asians, Hispanics, and Whites; 1 included Asians Blacks and Whites, and another included only White subjects Studies reporting that none of the subjects had participated in any prior physical activity similar to the intervention: 7	Behavioral	Aerobic exercise Most common aerobic activities included walking, jogging, stationary cycling, and various movements to music	N/A	Mean change in TC [mg/dL] (SEM) Mean change in HDL-C [mg/dL] (SEM) Mean change in LDL-C [mg/dL] (SEM) Mean change in TG [mg/dL] (SEM) Mean change in body weight [kg] (SEM) Mean change in body fat [%] (SEM) Mean change in VO _{2max} [ml/kg/min] (SEM)	No statistically significant changes were observed for TC, HDL-C, or LDL-C. There was a trend for statistically significant decreases of approximately 12% for TG; when limited to subjects who were overweight or obese a statistically significant reduction in TG was found (mean ± SEM, -23.9±7.0 mg/dl; 95% CI, -37.6 to -10.1 mg/dl), as was a trend for statistically significant increases in HDL-C (mean ± SEM, 4.0±2.3 mg/dl; 95% CI, -0.5-8.5 mg/dl). There was a trend for statistically significant reductions in TG when analysis was limited to the 2 studies in which all subjects had Type 1 diabetes (mean ± SEM, -9.4±5.6 mg/dl; 95% CI, -20.4-1.6 mg/dl) but not when studies were limited to those in which there was no prior participation in the physical activity intervention (mean ± SEM, -14.2±8.4 mg/dl; 95% CI, -30.5-2.2 mg/dl). Statistically significant decreases in TC were found when results were limited to those studies that reported that subjects refrained from exercise for at least 24 hr prior to the assessment of lipids (mean ± SEM, -8.4±3.1 mg/dl; 95% CI, -14.5 to -2.3 mg/dl) Statistically significant reduction of 7% in percent body fat reported as well as a significant increase in fitness assessed by a 7% increase in VO ₂ . Greater increases in HDL-C were associated with lower initial levels of HDL-C (r =-0.75; 99% CI, -0.94 to -0.80); in addition, greater decreases in LDL-C were associated with older age (r =-0.90; 99% CI, -0.99 to -0.25) as well as higher levels of training intensity (r =-0.89; 99% CI, -0.99 to -0.74)	Q10: In subjects who were overweight or obese or who had T1DM, a statistically significant reduction in TG was found (mean ± SEM, -23.9±7.0 mg/dl; 95% CI, -37.6 to -10.1 mg/dl), as was a trend for statistically significant increases in HDL-C (mean ± SEM, 4.0±2.3 mg/dl; 95% CI, -0.5-8.5 mg/dl). No statistically significant changes were observed for TC, HDL-C, or LDL-C.	Less than half the studies (46%) reported data on compliance of subjects to the exercise protocol Only 4 studies reported that subjects refrained from exercise for at least 24 hr prior to the assessment of lipids; this could affect lipid and lipoprotein levels	Fair - see limitations.	
16806228	Kelley GA	Aerobic exercise and lipids and lipoproteins in children and adolescents: a meta-analysis of randomized controlled trials	2007																						
17569881	Avis HJ	A systematic review and meta-analysis of statin therapy in children with familial hypercholesterolemia	2007	MA	IMT	Q10 (RF5)	The Netherlands	Clinical	1996-2005	MEDLINE EMBASE CENTRAL	Patients with HeFH ≤ 18 yr Randomized placebo-controlled trials Exclusions: Lipid-lowering comedication was used Treatment was unblinded Duplicate reports or preliminary reports of data later presented in full recent reviews and editorials, and through personal communication with experts in the field	6	Assess the efficacy and particularly the safety of statin therapy in children with HeFH	798	Pediatric/ Young Adults	Age range: 8-18 yr Males: 60%	Sample size range: 54-214 participants Study duration range: 12-104 wk Studies evaluated various types of statins	Pharmacologic	Statin therapy	N/A	Mean change in TC [%] (SD) Mean change in LDL-C [%] (SD) Mean change in HDL-C [%] (SD) Mean change in TG Mean change in Apo B [%] (SD)	Compared with placebo, statin treatment significantly reduced TC with an overall mean of 23% (95% CI: -27% to -19%) LDL-C reduction ranged from 21% (95% CI: -27% to -15%) for lovastatin 40 mg to 39% (95% CI: -44% to -35%) for atorvastatin 10 to 20 mg; analysis of the pooled data of these studies showed a statistically significant reduction of 30% (95% CI: -36% to -24%); in general, the effect on TC and LDL-C increased with more potent drugs or higher doses. 2 of the 6 studies and the 40 mg group in another study showed a statistically significant increase in HDL-C after statin treatment as compared with placebo treatment; analysis of the pooled data showed a mild but significant elevation of HDL-C levels (3.64%; 95% CI: 1.33% to 5.94%) Data on TG could not be pooled because of the naturally skewed distribution of TG levels, but none of the individual studies showed a significant change Effects of statins on ApoB were slightly less but quite consistent with the effects on LDL-C; Apo B reductions ranged from 16% (95% CI: -23% to -9%) for lovastatin 40 mg to 35% (95% CI: -38% to -31%) for atorvastatin 10 to 20 mg, with an overall mean difference of 25% (95% CI: -31% to -19%)	Q10: Statins significantly reduced TC, LDL-C, and Apo B, as well as significantly increased HDL-C and Apo A-1 levels when compared to placebo. There were no reported adverse events of any kind.	Studies examined statin therapy for a duration ranging from 12-104 wk, whereas in clinical practice patients with FH are likely to continue statin treatment for the rest of their lives once therapy is initiated; further long-term follow-up studies are required to assess lifelong safety	Good