PMID	First Author	Title	Year	Study Type	Prospect./ Retrospect.	Study	CVD	RF by CQ	Country	Setting	Main Study Objective	N at Baseline (N at Follow-up)	Target Population	Eligibility Criteria	Patient Characteristics	Study Groups	n at Baseline (n at Follow-up) for Study Groups	Total Follow-up Duration	Outcomes Measured	Results	Main Reported Findings by Critical Question
2239869	Reimers TM	Risk factors for adolescent cigarette smoking. The Muscatine study	1990	Cohort	Retrospective	Muscatine	None	Q5 (RF10)	USA	Community (schools)	Evaluate RFs for adolescent cigarette smoking.	705/ 443	Pediatric/ Young adults	All students in grades 8-11 in 3 schools in Muscatine were administered a smoking questionnaire annually X 4 yrs. All those with completed questionnaires at all 4 assessments are included in this study.	Longitudinal cohort study based in Muscatine, IA of children aged 8-18 y at enrollment between 1971 & 1981, followed with biennial school surveys into adult life. A total of 14,066 children have undergone 32,636 evaluations. For this study, subjects were evaluated in annually in early to late adolescence	N/A	N/A	4 y	Questionnaire assessment of : Friends who smoke Attachment to father Attachment to mother Parental supervision Extracurricular activity Negative attitude re: smoking Positive perceptions of smoking Academic achievement Parental smoking # of cigarettes smoked --> 3 categories: Nonsmoker; Experimenter; regular smoker	By 11th grade, 16.9% of Ms and 12.6% of Fs were regular smokers vs. 3.3 and 2.2% in 8th grade. Over time, the %age of those who were regular smokers among the 11 th grade regular smokers doubled each year while > 90% of those who remained non-smokers were non-smokers in each previous year. Parental smoking did not predict 11th grade smoking status. ANOVA analysis of smokers vs. non-smokers revealed best predictor of future smoking status was current regular smoking status followed by association with peers who smoked, beginning in the 8th grade. Non-smokers were consistently more involved in extra-curricular activities and had higher academic achievement. With discriminant analysis, statistically significant predictors for future smoking were identified: smoking status in the 8th grade and association with friends who smoke were significant predictors in all 4 surveys.	On longitudinal F/U, statistically significant predictors for future smoking were identified as smoking status in the 8th grade and association with friends who smoke.
2382740	Wagenknecht LE	Racial differences in serum cotinine levels among smokers in the Coronary Artery Risk Development in (Young) Adults study.	1990	CrS	Retrospective	CARDIA	None	Q5 (RF 10)	USA	Community (other)	To correlate serum cotinine levels with reported smoking status in CARDIA cohort at baseline.	1545	Pediatric/ Young adults	Those participants in the original CARDIA cohort who reported current, regular smoking status of at least 5 cigarettes/ wk X at least 3 months.	Population-based , prospective observational study with participants recruited from 4 metropolitan areas (Birmingham, Ala; Chicago, Ill, Minneapolis, Minn; & Oakland, Calif) in 1985 1986 at 18-30 yrs of age (44.9% black, 53.9% women) Smoking hx & cotinine levels determined at baseline assessment.	n= 1,424; 42% W; 54%F.	N/A	N/A	Age Sex Ethnicity # of cigarettes smoked/ d (1-5,6-10,11-20,21-40)	95% of reported smokers had cotinine levels > 13 ng/ml, indicative of smoking. Cotinine levels correlated with # of cigarettes smoked/ d. Median cotinine level was higher in B than W smokers (221 ng/ml vs 170 ng/ml, 95% CI for difference: 34,65) despite estimated higher nicotine exposure & thiocyanate levels in W smokers. This difference was not explained by nicotine content of cigarettes, frequency of inhalation, environmental smoke exposure, age, gender or education.	Black race was strongly and consistently correlated with serum cotinine as a measure of nicotine exposure even after adjustment for all known potential confounders.
3728437	Freedman DS	Cigarette smoking initiation and longitudinal changes in serum lipids and lipoproteins in early adulthood: the Bogalusa Heart Study	1986	Cohort	Retrospective	Bogalusa	None	Q5 (RF 5,10) Q6 (RF 5,10)	USA	Community (other)	Evaluate changes in serum lipid & lipoproteins post initiation of cigarette smoking.	1978/ 747 162 smokers at follow-up	Pediatric/ Young adults	From 2,543 9-17 y olds examined in 1976-77, 347 smokers, 98 with no smoking information & 28 OC users were excluded --> 1,978 non-smokers at baseline. At F/U at 14-23 yrs, 568 did not smoke & 162 were smokers.	Community-based cohort of black(B) & white(W) children and young adults - originally examined at 5-17 yrs; 52% female(F),48% male(M); 44% B. For this study, 1,978 non-smoking 9-17 yr olds underwent fasting lipid testing; at re-evaluation, 5-6 yrs later, all were re-evaluated; 162 reported now smoking cigarettes. 45% M; 62% W.	Smokers: n= 162 Non-smokers:n= 568	1978/747	5-6 yrs	# of cigarettes smoked Age Sex Wt Ht Ponderal index (PI) Triceps skin fold (TSF) TC TG VLDL HDL LDL Thiocyanate levels	20 % of the cohort were smokers at F/U with median # of cigarettes smoked/ week of 20. Ws were more frequently smokers than Bs (23% vs 16%, p=S). BFs had lowest prevalence of smoking; BFs who smoked used a significantly lower # of cigarettes /wk, 10 vs 20. Compared with non-smokers, WM smokers had significantly higher TGs (p=S*) & VLDL (p=S**) & significantly lower HDL (p=S**). Differences occurred in the same direction in WFs, BMs & BFs but were less striking. In WM smokers, changes were exaggerated when associated with increased ponderosity. Compared with change from baseline in non-smokers, W males and females smoking >/= 3 packs/wk, LDL-C increased an additional 13.2 and 11.6 mg/dl, TGs increased an additional 5.9 & 2.4 mg/dl and HDL-C decreased an additional 15.6 & 9.2 mg/dl. In B smokers, there were larger increases in TGs and VLDL-C levels than in B non-smokers.	Cigarette smoking is associated with adverse lipid profile changes, greatest in WMs, which are exaggerated by association with obesity. Adverse lipid profile changes increase as the # of cigarettes smoked increases. There are race & gender differences in the lipid response to cigarette smoking.
7485047	Greenlund KJ	Impact of father's education and parental smoking status on smoking behavior in young adults. The CARDIA study. Coronary Artery Risk Development in Young Adults	1995	CrS	Retrospective	CARDIA	None	Q% (RF10)	USA	Community (other)	Correlate parents education & smoking status with smoking status of young adults at baseline for CARDIA cohort.	5,115	Pediatric/ Young adults	All participants in the baseline CARDIA sample who provided information on smoking status and on parental education.	Population-based , prospective observational study with participants recruited from 4 metropolitan areas (Birmingham, Ala; Chicago, Ill, Minneapolis, Minn; & Oakland, Calif) in 1985 1986 at 18-30 yrs of age (44.9% black, 53.9% women). Smoking and educational status of participants & parents + parents' educational status assessed at baseline.	Smokers: n=427 BMs; 463 BFs; 310 WMS; 357 WFs Non-smokers:n=730 BMs;1017 BFs;861 WMs;950 WFs.	N/A	N/A	Participant smoking status # of cigarettes smoked/ day Participant education (4 y increments) Parental education (4 y increments) Parental smoking status Age Ethnicity Sex	With adjustment for age, father's education was significantly inversely associated with participant smoking status in BMs, WMs & WFs. After adjustment for participants' educational status, there was no significant correlation between parental education & participant smoking status Parental smoking status was directly associated with participant smoking status for all race/sex groups. Participant education was strongly inversely asst'd with participant smoking status.	Smoking status in young adult life is inversely correlated with the educational status of the subject and the subjects' parents. When educational status is not considered, participant smoking status is positively associated with parental smoking status.
9279273	Greenlund KJ	Cigarette smoking attitudes and first use among third- through sixth-grade students: the Bogalusa Heart Study	1997	CrS	Retrospective	Bogalusa	None	Q5 (RF10) Q6 (RF10)	USA	Community (other)	Evaluate conditions associated with cigarette smoking in 3rd to 6th grade students.	933	Pediatric/ Young adults	All 960 Bogalusa participants in the 3rd-6th grades who completed a questionnaire assessing smoking attitudes, beliefs & experience in 1993-1994	Community-based cohort of black(B) & white(W) children and young adults - originally examined at 5-17 yrs; 52% female(F),48% male(M); 44% B. For this study, subjects in grades 3-6, evaluated in 1993-4. 50% B; 50% M.	N/A	N/A	N/A	Sex Gender Responses to smoking questionnaire: Friend smoking status Family member smoking status Access to cigarettes	15% of children had tried smoking - 40% of these with a family member. 46% of first cigarettes were obtained from a family member and/or at home. Correlates of ever smoking in multiple logistic regression:: Race (B vs W): OR = 0.38, CI=0.23-0.64,p=S** Sex (F vs M): OR = 0.56, (CI=0.36-0.87),p=S Best friend smokes: OR = 4.10, (CI=2.28-7.40) p=S** Any family member smokes: OR = 2.29, CI=1.39-3.75,p=S* "Smoking is disgusting"(T vs F):OR = 0.46,CI=0.25-0.88,p=S* "Non-smokers get better grades" (T vs F): OR = 0.47, CI=0.29-0.75, p=S*	Even in these 8-12 y old children, a significant number had tried cigarettes. Cigarette use differed between races, more common in Ws than Bs and slightly more common in Ms. Strongest correlates with history of having smoked were peer and family member smoking.
10407501	Zieske AW	Smoking and atherosclerosis in youth	1999	CrS	Retrospective	PDAY	Atherosclerosis	Q2 (RF10) Q4 (RF10)	USA	Clinical	Evaluate the stage at which smoking affects atherosclerosis by comparing the coronary arteries of smoking & non-smoking adolescents & young adults post traumatic death	100	Pediatric/ Young adults	Random group of 50 smokers and 50 non-smokers from among the 3000 25-34 yr old post-mortem subjects in PDAY.	15-34 yr olds who died accidentally in 15 different cities in the U.S.; information on age/ gender/lipids/smoking/HBP/obesity/ hyperglycemia available - for this study, 50 smokers/ 50 non-smokers selected randomly from among 25-34 yr subjects.	Smokers: n=50 Non-smokers: n=50	N/A	N/A	Thiocyanate levels Prevalence of histologic type I - typeVI coronary lesions	At autopsy, smokers had > 2X as many advanced lesions, types 4 & 5, as non-smokers (32 v 14%) and fewer early lesions compared with non-smokers (38 v 62%). The prevalence of type 4 & 5 lesions was > 2X (32%) that of intermediate lesions or type 3 lesions (14%) in smokers vs. the opposite in non-smokers, suggesting that intermediate lesions progress rapidly to advanced lesions in smokers. Descriptive study only - no statistical analysis, no correlation made with other RFs.	At autopsy, smokers had a higher prevalence of advanced lesions and a lower prevalence of early and intermediate lesions than did non-smokers. Smoking is a major RF for the development of accelerated atherosclerosis.
17365762	Wilkinson JD	Secondhand smoke exposure and C-reactive protein levels in youth	2007	CrS	Retrospective	NHANES 1999-2002	None	Q6(RF6, RF10)	U.S.A	Clinical	Examine the association of secondhand tobacco exposure with serum C-reactive protein concentrations in nonsmoking participants, aged 6-18 yrs.	NR	Pediatric/ Young adults	6-18 yr	NR	NR	NR	NR	Change in serum cotinine Change in CRP	With MRA, a change in serum cotinine of 0.5 ng/ml was associated with a 0.96 mg/dl change in CRP (CI=0.93-1.00), after adjustment for age, sex, race/ethnicity, white blood cell count, BMI, and HDL-C. Of these variables, the greatest effect was for HDL-C with an increase of 10 mg/dl in HDL associated with a 3.20 mg/dl decrease in CRP (CI:-4.01,-2.55) Correlation between 'smokers in the home' and log-cotinine was 0.62.	Q6: There is a significant association between secondhand smoke exposure assessed by serum cotinine and elevated CRP among non-smoking youth.

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17548727	Kallio K	Tobacco smoke exposure is associated with attenuated endothelial function in 11-year-old healthy children	2007	Cohort	Prospective	STRIP	FMD	Q2 (RF13)	Finland	Community (other)	Study the effect of passive smoking on endothelial function in children	NR (402)	Pediatric/ Young Adult	Children who had cotinine measurements at 4 age points between 8 and 11 yrs and brachial artery measurements at 11 yr	Finnish RCT of individualized counseling focusing on healthy low fat & low saturated fat diet & good exercise behaviors 2 X/ y beginning in infancy. At age 7 mos, 540 children randomized to intervention, 522 to control. Serum lipids checked annually beginning at 13 mos of age. For this study, no child reported active smoking and all subjects had cotinine measurements at 4 age points between 8 and 11 yrs plus brachial artery FMD assessment at 11 yr	Noncotinine Low cotinine Top decile cotinine	NR (229) NR (134) NR (39)	N/A	Cotinine concentration Attenuated peak FMD response Total dilation response	At age 11, elevated cotinine concentration was associated with attenuated peak FMD response (mean+/-SD: the no cotinine group 9.10+/-3.88%, the low-cotinine group 8.57+/-3.78%, and the top-decile cotinine group 7.73+/-3.85%; P=S for trend) Total dilation response (the area under the dilation response versus time curve between 40 and 180 sec after hyperemia) was affected by the cotinine level (p=S for trend) These trends were not explained by traditional atherosclerosis risk factors. Arterial measures and passive smoking showed even stronger association when longitudinal cotinine data were used (peak FMD, p=S* for trend; total dilation response, p=S** for trend)	Q2: Passive smoke exposure assessed by elevated cotinine concentration is associated with attenuated peak FMD response in 8-11 yr old children.