Relation of Educational Level to Inflammation-Sensitive Biomarker Level

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It is a well-established finding that cardiovascular morbidity varies among groups of different socioeconomic status. Inflammatory processes have been proposed as a possible mediator of this variance. Level of education is an important indicator of socioeconomic status, inversely related to levels of inflammatory biomarkers. Whether this association was significant in a subpopulation of highly educated individuals was questioned. This cross-sectional study enrolled attendees of an executive health screening program intended specifically for executive and high-wage personnel from September 2002 to November 2007. A detailed questionnaire, anthropometric measurements, and laboratory data were used to determine self-reported years of education and cardiovascular risk factors. Linear regression models included high-sensitivity C-reactive protein, fibrinogen, erythrocyte sedimentation rate, and white blood cell count as dependent variables and were adjusted for multiple potential confounders. Data for 8,998 subjects (5,757 men, 3,241 women) with a mean age of 44 years (range 18 to 84) were analyzed. More than two-thirds reported >14 years of schooling, and more than 2,900 reported >17 years of schooling. We found a statistically significant inverse association between number of school years and high-sensitivity C-reactive protein, fibrinogen, and erythrocyte sedimentation rate. Higher levels of education were associated with lower prevalences of diabetes and current smoking in both genders and lower prevalences of hypertension and dyslipidemia in women. In conclusion, level of education was inversely associated with inflammatory biomarkers and prevalence of cardiovascular risk factors, even within highly educated populations.

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