

## Social Inequalities and Atherosclerosis. The Atherosclerosis Risk in Communities Study

Ana V. Diez-Roux, F. Javier Nieto, Herman A. Tyroler,  
Larry D. Crum and Moyses Szklo

### ABSTRACT:

The cross-sectional associations of social class indicators with coronary heart disease prevalence and subclinical atherosclerosis were investigated among 15,800 persons from four US communities between 1987 and 1989. Among persons without clinical atherosclerotic disease, ultrasound-determined intimal-medial wall thickening of the carotid arteries was used as an indicator of subclinical atherosclerosis. Odds ratios for coronary heart disease prevalence and mean differences in carotid wall thickness were investigated before and after adjustment for cardiovascular risk factors. After adjustment for age and gender, the lowest income category was associated with a threefold increase in coronary heart disease odds compared with the highest category (for whites, odds ratio (OR) = 3.4, 95% confidence interval (CI) 1.8-6.6; for blacks, OR = 3.2, 95% CI 2.2-4.8). Odds ratios increased linearly with decreasing income ( $p < 0.0001$ ). Low education was also associated with increased odds of coronary heart disease after adjustment for age and gender, but the association was stronger in whites than in blacks (lowest category vs. highest: for whites, OR = 3.8, 95% CI 2.5-5.9; for blacks, OR = 1.7, 95% CI 0.9-3.1).

Similar patterns were found for subclinical atherosclerosis: Carotid wall thickness increased with decreasing income and education, but trends by education were clearer in whites than in blacks. Lower occupational categories were also associated with increased coronary heart disease prevalence odds and increased carotid wall thickness. After adjustment for risk factors, associations with clinical coronary heart disease persisted but associations with carotid wall thickness disappeared, suggesting that factors related to the clinical expression of lesions may vary by social class. The process of atherogenesis and its clinical expression are patterned by social class, emphasizing the need to address social inequalities in the prevention of cardiovascular disease. *Am J Epidemiol.* 1995; 141(10): 960-72



Moyses Szklo, MD, DrPH, MPH