ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #086 WITHDRAWN

1. Title:
Case Control Study of the Association of Atherosclerosis with Low Educational Achievement

2. Writing Group:
(lead) Al Tyroler            Moyses Szklo             Ed Davis
    Aaron Folsom               Alice White            Gerardo Heiss

3. Timeline:
Current

4. Rationale:
Our analysis working group (Education and Risk Factors in ARIC and MONICA) has demonstrated an inverse association between educational achievement and the major risk factors in the ARIC populations. The strongest association was present between educational achievement and smoking, with an approximately two times greater prevalence of current smoking among individuals with less than a high school education compared to participants with more than a high school education. This was true in multivariate analysis controlling for the effects of age, gender, race, and clinic. A similar though weaker association was present for hypertension. Several other studies have reported an inverse association between educational achievement and both the incidence and mortality associated with coronary heart disease. In the cohort studies, only a relatively small proportion of the association of incidence of coronary heart disease with educational achievement was attributable to the association of risk factors with education.

It is proposed to study the association of wall thickening, indicative of early atherosclerosis, with educational achievement in ARIC visit one. If there is an association, multivariate analysis will quantify how much of it is explained by the association of the major risk factors of smoking, elevated blood pressure, and serum cholesterol with education.

5. Main Hypothesis:
Atherosclerosis, assessed by carotid artery wall thickness, is inversely associated with level of educational achievement, partially explained by the association of smoking and hypertension with education.

6. Data:
Cases and controls will be defined by the standard wall thickness measurements and other criteria adopted by the ARIC program. Odds ratios of the association of increased wall thickness with education will be computed contrasting less than high school graduates with participants who have more than a high school education. Stratified analysis will compare the mean wall thicknesses among gender and race groups and regression modeling will assess the coefficients for education groups controlling first for age, race, sex, gender, and clinic, and then adding blood pressure, smoking and serum cholesterol to the model.