Commentary: Education, education, education

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There is no doubt that, broadly within a given society, poorer education is linked with poorer health. The research question is why this linkage exists, and having gained an understanding of the mechanisms, to examine what is to be done about it at policy level. Kilander et al.'s new analysis of 25-year mortality of men born 1920–1924 in Uppsala, Sweden, provides further valuable evidence for the education-health association, and

References


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focuses on the role of lifestyle factors as mediators between level of education and elevated risks of coronary and cancer death. Compared with those who completed high school or university education, men who had ≤7 years of schooling were more likely to die of cardiovascular disease (CVD) (relative risk [RR] = 1.7) and cancer (RR = 1.9). Those who had an intermediate education level (8–10 years of schooling) were at intermediate risk for CVD mortality (RR = 1.3), but at similar two-fold increased risk for cancer mortality (RR = 2.2) as those in the lowest education category. The educational gradient in CVD mortality was statistically well accounted for by differences in lifestyle, whereas for cancer deaths adjustment for all measured lifestyle risk factors left around half of the education effect unexplained. These findings mirror the current state of aetiological knowledge. Cardiovascular disease has better characterized behavioural causes than cancer.

The risk factor analyses are informative. Smoking appeared to explain about a quarter of the difference in risk between the top and bottom education categories for each aggregate cause of death, and remained a significant predictor of mortality in the full multivariate models that included education level and all measured risk factors. Educational differences in degree of obesity, blood pressure, blood glucose, serum triglycerides and cholesterol together explained an additional quarter of the gradient in CVD mortality. This finding is further evidence that development of obesity, and related metabolic disturbances, is a key aspect of the social gradient in CVD. Dietary differences according to level of education also emerge as explanatory factors for the CVD mortality gradient. However, as the authors of the study point out, collinearity of the dietary measures (serum cholesterol ester fatty acids and serum antioxidants) means that identification of the active nutrients is difficult. Notably, the univariate analyses of risk factor-mortality effects suggest that high oleic acid intake is not desirable. This finding does not undermine the evidence in favour of the Mediterranean diet, but points to the likelihood that at the 1970–1973 baseline, study participants obtained a considerable proportion of dietary oleic acid from animal fats. A second dietary finding that cannot be taken at face value is the apparent protection against CVD death of high serum beta-carotene. Repeatedly, controlled trials have shown an adverse effect, and it seems that in observational studies a protective effect.

Length of education is the socioeconomic indicator used by Kilander et al. It is probable that stratification of Uppsala men by other measures of their socioeconomic position would reveal similar substantial inverse gradients in mortality rates, and that explanatory models would identify smoking, obesity and poor diet as key intervening variables, though perhaps not such powerful ones. Length of education is a signpost of the route to adult socioeconomic destination, to the income, occupation, and living conditions of the participant, aged about 50, at the study baseline. It is therefore not appropriate to interpret the Uppsala study to show that lack of education is necessarily a direct cause of the adverse adult lifestyles of those who spent less time at school. For example, area deprivation was tightly linked with local exam performance and mortality rates in England in the 1990s. Childhood circumstances influence both quality and quantity of education obtained, and later lifestyle.

The nature of the trajectory of the individual from family of origin into adulthood, adolescence and young adulthood is thus central to understanding the development of health capital. This process is evident in the Uppsala cohort, where high education men are on average 2.8 cm taller.

Analyses of working men and women in the Whitehall II study suggest that upward social mobility is associated with reduction of CVD risk. Current rather than childhood socioeconomic disadvantage appeared to be the more important influence on most risk factors, including physical inactivity, metabolic and haemostatic profile, and smoking among men. Policy interventions that raise the social trajectory of those at relative disadvantage in childhood are, on this evidence, likely to reduce social inequalities in health. Primary, secondary and tertiary education thus have a key role in maximizing health capital because they are important determinants of adult socioeconomic position. As a consequence, the social and political value attached to the goal of equity of participation in higher education is an important issue for public health.

In the UK, progress is being made towards a less discriminatory education system, in particular for women. In 1994–1995, full-time higher education participation was lower among women (1.59% UK population) than men (1.65%), but this was no longer the case in 1998–1999 (women 1.78%, men 1.60%, mean increase 0.07%). By 2000, the proportion of those going into higher education from social classes I and II family backgrounds fell to 51%, compared with two-thirds among those entering the pre-1992 universities in 1992. However, data from HECF for young full-time first-degree entrants for 1998–1999 show a shocking level of bias in contemporary rates of social participation. For the UK in total, 25% of entrants were from families of manual workers, which make up some 50% of the population. The pinnacles of higher education remain largely reserved for those with advantage, while the children of manual workers go to the new universities (Oxford Brookes 18%, versus Oxford 9% participation, Thames Valley 41% versus University College London 14%, West of England 22% versus Bristol 9%).

Limited funding is allocated to programmes for widening participation in higher education in England. Special initiative funds, administered by the universities funding council, amounted to £7.5 million in 1999–2000. The student loan system has, however, introduced a new burden for those weighing up the decision to commit to a university degree course. Average debt among full-time students was £840 in 1995–1996 and £2530 in 1998–1999 (Hansard, 14 February 2001). Given some 870 000 full-time undergraduates in the 1998 academic year, that amounted to £2.2 billion. This corresponds, broadly, to the money saved by ending the grants system. If these cost savings were used to encourage and support educational participation within under-represented population groups we might see some narrowing of health inequalities. But £7.5 million is not enough.

References


