Commentary: Socioeconomic position and the risk of type 2 diabetes

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As the incidence of type 2 diabetes rises in the developed world, researchers continue to work on characterizing modifiable risk factors that go beyond the traditional biomedical paradigm. The article by Maty et al.\textsuperscript{1} examines the association between income, education, and occupation and the 34 year incidence of type 2 diabetes in the Alameda County Study. It also evaluates how time-dependent measures of socioeconomic position (SEP) might be associated with incident diabetes. The authors find that after adjustment for demographics, respondents with ≤12 years of education had a 50% excess risk of diabetes compared with those with more education, but income and occupation were not significantly associated. Furthermore, time-dependent effects were not statistically significant after adjustment for demographics and other potential factors in the causal pathway.

The authors should be commended for their attention not only to the contribution of SEP in the development of diabetes but also to SEP’s inherent time-dependency. They reference several previous studies that specifically examined the association between SEP and diabetes, but these studies are few compared with the much larger body of work examining biological and clinically-oriented risk factors. Increasing interest in this area is evident by a recent review article\textsuperscript{2} that highlighted the significance of SEP in the development of diabetes as well as its affect on mediators and moderators for appropriate diabetes care and the development of diabetes complications.

The impact of SEP is extremely important even after the development of type 2 diabetes. Work by our group suggests that socioeconomic and family needs must be addressed before patients can attempt traditional diabetes self-management,\textsuperscript{3} that problems in an urban community (crime, money, housing) had a similar contribution to health-related quality of life as clinical parameters (hypertension, hypercholesterolaemia),\textsuperscript{4} and that a multi-faceted intervention incorporating clinical, family, and community context is needed to improve diabetes control among African Americans with type 2 diabetes.\textsuperscript{5,6}

In addition to individual-level SEP, there has been recent interest on how the environment (socioeconomic characteristics, availability of resources) might influence health behaviours and the development of disease above and beyond an individual’s SEP.\textsuperscript{7} In particular, disadvantaged neighbourhoods appear to confer a higher risk of coronary heart disease.\textsuperscript{8} Furthermore, undesirable aspects of the environment could also inhibit individuals from engaging in healthy behaviours that contribute to the risk of chronic disease.\textsuperscript{9} More work is needed to expand these concepts to further investigate how they influence the risk of diabetes and diabetes-related outcomes.

To determine the independent contribution of SEP to diabetes risk, the authors developed multivariate models in stages: the first model included demographic characteristics that might differ between the SEP groups and subsequent models included health behaviours, body composition, co-morbid conditions, and access to health care. The lack of association with SEP and incident diabetes after adjustment raises a key question: Should these adjustment variables be considered as confounders or as mediators in the causal pathway? Insofar as some of these factors actually mediate the ill effects of low SEP, then these models may be ‘overadjusted’ and so represent conservative estimates of SEP-related risk.

For an effective public health attack on type 2 diabetes, an understanding of the full range of diabetes risk factors is critical. It has long been recognized that poverty is associated with poorer health and national initiatives, including the Healthy People 2010 objectives, have specifically called for the elimination of health disparities related to SEP. In demonstrating the ill effects of low SEP on diabetes risk, Maty et al. have highlighted the importance of that goal for policy and public health experts concerned about American’s diabetes epidemic.

References


