Preventing Cardiovascular Disease
Going Beyond Conventional Risk Assessment

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The rise of cardiovascular disease (CVD) as a leading cause of medical morbidity and mortality worldwide has long been thought to be a consequence of industrialization. As industrialization has spread globally, CVD has risen as a worldwide cause of illness and death. Diets higher in saturated fat and salt, sedentary lifestyle, tobacco use, and obesity, known cardiovascular risk factors, all appear to accompany industrialization. However, it is unlikely that a “return to nature” will solve the CVD problem. A positive consequence of industrialization is a longer life expectancy in part as a result of a more stable food supply, modern control of infectious diseases, and reduced perinatal morbidity. Because CVD has a long incubation period, perhaps the most potent cardiovascular risk factor is age. One “cause” of higher disease rates may be simply living long enough to acquire heart disease.

The most important of these psychosocial factors, according to the data of Pulkki-Råbach et al, are socioeconomic environment (the better off an individual is, the more likely that individual is to have better cardiovascular health) and self-regulatory behavior (the more an individual is able to tolerate frustration, to get along well with others, and not to engage in violent behavior, the likelier that individual is to have low risk). Favorable family health behaviors and emotional environment performed the next best in multivariate models, with smaller contributions from social adjustment and recent stressful events. These findings lend credence to the idea that improved education per se will lower CVD rates. Education by itself can improve health judgments and social adaptation and help reduce psychosocial stressors.

Understanding psychosocial factors that predict cardiovascular health is important insofar as they can be modified to improve outcomes. Although Pulkki-Råbach et al state that attainment of the American Heart Association goal of improving population health by 2020 might be facilitated by targeting psychosocial factors, they do not discuss if and how specific psychosocial factors examined in this study can realistically be modified. Certainly, this is no easy feat, particularly for factors related to economic status and family environment, and it is not likely to be achieved by pediatricians or medical specialists who are typically charged with the task of improving the health of individual children. Instead, population-based, family-focused prevention and intervention efforts are likely to have the highest yield. Universal prevention strategies are also consistent with the finding of Pulkki-Råbach et al that the effects of psychosocial factors persist throughout the range of cardiovascular health rather than simply in the high-risk population.
Several family-focused prevention/intervention programs have demonstrated beneficial effects on child and family psychosocial factors. The Incredible Years, a group of workshop-based programs for parents and teachers, has been shown to increase positive parenting and to improve children’s behavior, emotional literacy, social skills, problem solving, and school readiness. The Triple P-Positive Parenting Program, which provides support and guidance to parents in a variety of formats (eg, group sessions, public seminars, one-on-one support, 8-module online parenting course), has demonstrated positive effects on children’s social, emotional, and behavioral outcomes; parenting practices; parenting satisfaction and efficacy; and child-parent relationships. Mothers participating in the Nurse–Family Partnership, a program with prenatal and infancy home visits by nurses for low-income mothers having their first babies, demonstrated reduced prenatal tobacco use, greater intervals between births, improvements in employment, and reduced use of Medicaid and other public assistance, and their children exhibited reduced behavioral problems, depression, and injuries. Of note, aspects of public assistance, and their children exhibited reduced behavioral problems, depression, and injuries. Of note, aspects of each psychosocial factor examined by Pulkki-Råbach et al (socioeconomic environment, emotional environment, parental health behaviors, stressful events, self-regulation of the child, social adjustment of the child) have been affected by 1 or more of the family-focused programs described above. However, such programs cannot be successfully implemented at the population level without significant community, state, and federal commitment.

Besides concerns about whether the factors identified in this study are modifiable, it is unclear if they are generalizable. A high psychosocial score is strongly dependent on having a classic nuclear family and strong social support networks. For several of the categories, particularly self-regulatory behavior and lack of stressful events, the vast majority of the cohort achieved the highest possible score; for others (high social adjustment and favorable health behaviors of parents), this was also true for a high percentage. This suggests that those children at highest future risk are at the extreme adverse end of the psychosocial scales herein and may have many more proximate problems to worry about than CVD 30 to 50 years in the future. Furthermore, these data were collected several decades ago, long before the “digital age,” which has considerably altered both the activities of daily life and interpersonal communication.

In reviewing this thought-provoking paper, it was hard for us not to wonder about the actual meaning of the term psychosocial. Is it simply a catch-all phrase for that universe of factors that are not biologically measurable such as lipid levels, blood pressure, body mass index, or other novel risk factors? Or more positively, is it a useful construction describing measureable psychological and sociological factors that are important in contemporary life? Perhaps the safest thing to say about psychosocial is that, like increasing rates of CVD, psychosocial factors, as currently defined, are an inevitable consequence of industrialization.

Disclosures

None.

References

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Circulation. 2015;131:230-231; originally published online January 12, 2015;
doi: 10.1161/CIRCULATIONAHA.114.013886
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://circ.ahajournals.org/content/131/3/230

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