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The long shadow of childhood disadvantage on lifelong health: getting worse over time?

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Social inequalities in health and their early life origins have been extensively documented. Although the complex direct and intermediate mechanisms linking early life disadvantage to later health are not yet fully understood, new findings on biological markers distinctly related with early life experiences suggest a causal relation. In their paper, Fuller-Rowell et al step back to examine the role of childhood disadvantage in the United States in different periods, and observe that the relationship with later health seems to have strengthened over time. The main explanation the authors bring up has to do with increased income segregation and changes in labour market composition which limit opportunities for persons with low educational attainment. In other words, while the rich get richer, the poor get poorer, the middle class shrinks, and there are fewer interactions across different socio-economic groups and the social ladder is blocked. Other evidence suggests that investments in children, through early education and academic support programs, could help reduce the consequences of childhood disadvantage on long-term health.

In a new study based on data from the representative Midlife in the United States study (MIDUS) conducted in 1995 and 2012 among respectively 7,108 and 3,577 adults aged on average 45-48 years, Fuller-Rowell et al report that a composite index of childhood socioeconomic disadvantage is associated with indicators of health including a higher body mass index, waist circumference, chronic conditions, functional limitations and self-rated health (1). Importantly, the authors report stronger associations between childhood socioeconomic disadvantage among participants interviewed in 2012 than those who participated in 1995, suggesting a steepening of socioeconomic inequalities in health over time with an approximate doubling of the effect between the two study waves. While race/ethnicity does not appear to modify the strength of the association between childhood socioeconomic disadvantage and adult health, there is an interaction with sex such that women appear more vulnerable to the consequences of early socioeconomic difficulties.

These findings add to a growing body of evidence indicating that childhood socioeconomic circumstances are associated with long-term health patterns (2-4), including increased cardiovascular risk (5) and biological markers of inflammation (6, 7). In addition, growing up in disadvantage has also been associated with later mental health difficulties including depression (8-10), anxiety (11), autism (12) and psychosis (13).

Fuller-Rowell et al. put much emphasis in the discussion of their findings on the rise of income inequality in the United States since the 1990s, which results in the concentration of wealth on the one hand and poverty on the other hand, and limits labour market opportunities for those who are least qualified or reside in areas where employment is scarce. It is important to bear in mind that one of the reasons why childhood socioeconomic position influences long-term health is because it shapes educational and employment opportunities (9). For instance, a recent study estimated that 10-20% of the relation between childhood socioeconomic position and mid-life adiposity is statistically explained by low educational attainment (14). Research showing that the accumulation of disadvantage over the lifecourse is more strongly associated with poor health in adulthood than more transient socioeconomic difficulties is consistent with this interpretation (11, 15).

However, it may also be that the experience of adversity in childhood has direct negative effects on individuals' biology because of a heightened probability of experiencing chronic stress (ex. negative life events, violence or instability). Early research in this area was primarily based on the hypothesis that growing up in disadvantage is related to 'toxic stress' (16), which results in the circulation of high levels of stress hormones that can be damaging to multiple tissues in the body and brain (17). Recently, researchers have turned to the quest for epigenetic marks which could sign exposure to disadvantage and condition biological functioning (18, 19). The important question now is whether these biological mechanisms can be modified by individuals' personal characteristics (ex. certain personality traits, social support received from other persons)(20) or by improvements in socioeconomic circumstances (21). Future research using longitudinal data collected in large-size samples and taking into consideration individual as well as family and neighborhood characteristics should help better understand the way in which socioeconomic inequalities in childhood translate to health disadvantage in adult life.

Still, the body of evidence showing that childhood disadvantage bears negative consequences on individuals' long-term life opportunities and health is solid enough to suggest that protecting families with children from socioeconomic difficulties and their consequences should be a public health priority. Fuller-Rowell et al imply that decreasing income inequalities through economic policies such as taxation could be a solution. Additionally, as shown by a recent meta-analysis of randomized controlled trials, various kinds of social policies, particularly those aiming to improve early life and educational opportunities, have also been shown to have a positive impact (22). Once again, as Fuller-Rowell et al remind us, determinants of lifecourse health largely lay outside of the realm of medicine and health science, and should be addressed in an intersectoral and long-term way, by including approaches such as Health in All Policies (23).

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