

## How Healthy Lifestyle and Socioeconomic Status Interact with CV Risk

*Although unhealthy lifestyles apparently mediate only a small proportion of socioeconomic inequity in health, a healthy lifestyle remains the foundation of CVD prevention.*

Lower socioeconomic status (SES) is associated with higher total mortality, cardiovascular disease (CVD) mortality, and CVD events. To determine whether lifestyle factors mediate these associations, investigators used data from two distinct population-based cohorts: 44,462 adults in the U.S. National Health and Nutrition Examination Survey (NHANES) and 399,537 adults in the UK Biobank.

SES was stratified by family income, occupation/employment status, education, and, in the U.S., health insurance. Scores were developed for lifestyles; a healthy lifestyle involved never smoking, low alcohol consumption, physical activity (top tertile), and higher dietary quality. Over a mean follow-up of 11 years, 8906 deaths occurred in NHANES and 22,309 deaths occurred in UK Biobank. Low SES was associated with higher all-cause mortality than high SES (hazard ratios: NHANES, 2.13; UK Biobank, 1.96).

Incident CVD was followed in UK Biobank (6903 cases). The low SES group had higher CVD risks (HR, 1.65) and CVD mortality (HR, 2.25). Lifestyle did not interact with SES in NHANES but did so in UK Biobank. Lifestyle factors appeared to mediate only a small amount of the differences in risks between low-SES and high-SES groups (range, 3.0%–12.3%). The combination of low SES and no or one healthy lifestyle factor, compared with the combination of high SES and three or four healthy lifestyle factors, was associated with higher risks for all-cause death, CVD death, and incident CVD (range of HRs, 2.09–3.53).

### COMMENT

Unhealthy lifestyles apparently mediate only a small proportion of the socioeconomic inequity in health in U.S. and U.K. adults. Therefore, healthy lifestyle promotion alone is unlikely to substantially reduce this inequity. This study's observational nature makes it vulnerable to the limitations inherent to the design. Nonetheless, healthy lifestyles were associated with lower mortality and CVD risk in different SES subgroups, supporting the importance of healthy lifestyles in CV risk reduction.

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Zhang Y-B et al. Associations of healthy lifestyle and socioeconomic status with mortality and incident cardiovascular disease: Two prospective cohort studies. *BMJ* 2021 Apr 14; 373:n604. (<https://doi.org/10.1136/bmj.n604>)