

Quality early childhood programs help prevent chronic diseases in later life, study shows

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Disadvantaged children who attend high-quality early childhood development programs including healthcare and nutrition have significantly improved health as adults, reports a new study.

The study was led by researchers from UCL (University College London), the University of Chicago and the University of North Carolina. These findings build upon existing evidence that high-quality [early childhood](#) programs produce better economic and social outcomes for disadvantaged [children](#).

Based on more than three decades of studying children involved in the Abecedarian program in North Carolina, this new research shows that children who participated in the early childhood development program, which combined early education with early health screenings and nutrition, have a significantly lower prevalence of risk factors for cardiovascular and metabolic diseases in their mid-30s than children in the control group who did not participate in the program.

"Prior to this research, we had indications that quality early childhood interventions that enrich the environments of disadvantaged children helped produce better health later in life," said Dr Gabriella Conti, study author from the UCL Institute of Epidemiology & Health Care.

"Abecedarian shows that investing in early childhood programs that offer a nurturing and stimulating environment, together with [health care](#)

and nutritional components, can promote health and prevent disease. It also shows that an integrated developmental approach to health offers a different way to fight costly adult chronic diseases."

The Abecedarian program was unique in providing cognitive and socio-emotional stimulation, together with primary pediatric care and nutrition to disadvantaged children, beginning shortly after birth. Children received two meals and an afternoon snack at the early learning center and were also offered periodic medical check-ups. Children who received this treatment, as well as those in control groups who did not, have been followed for over 30 years to determine whether an intellectually stimulating early childhood environment could prevent developmental delays among disadvantaged children. This is the first time their health outcomes have been analyzed.

The intervention improved the body mass index of the participants in their childhood. The boys in the treated group were less likely than those in the control group to be overweight throughout their preschool years.

Men who were children in the treatment group were found to have lower systolic and diastolic blood pressure and were less likely to develop stage I hypertension in their mid-30s. They also had lower prevalence of multiple risk factors. None of the treated group males manifested metabolic syndrome – co-occurring hypertension, central obesity and dyslipidemia, which dramatically increases risk of heart disease, stroke and diabetes. In contrast, the prevalence of metabolic syndrome among control group males was 25 percent. Women in the treatment group were less likely to be affected by abdominal obesity and less likely to develop pre-hypertension. Both men and women were at significantly lower risk than their non-participating peers for coronary heart disease.

"Creating fully functioning and flourishing adults depends crucially on a variety of early life experiences: health, nutrition, good parenting and

early stimulation and learning. Together, they boost the capability for knowledge and self-regulation, giving children the capacity to shape their lives in many positive ways – educational achievement, higher earnings, better [health](#) and stronger families," said study author Professor James Heckman, Nobel laureate economist from the University of Chicago. "We need to invest early if we want to raise a generation of healthy, socially and emotionally talented people equipped to lead successful lives. It's the most effective and cost-efficient investment we can make."

More information: "Early Childhood Investments Substantially Boost Adult Health," by F. Campbell et al. *Science*, 2014.

Provided by University College London

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