Childhood exposure to parental smoking linked to poorer cognitive function in midlife

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A Finnish study coordinated by the Research Centre of Applied and Preventive Cardiovascular Medicine at the University of Turku, Finland, shows that exposure to parental smoking in childhood and adolescence is associated with poorer learning ability and memory in midlife.

With the aging population, cognitive deficits such as difficulties in learning and memory are becoming more common. Active smoking is known to be detrimental to cognitive function and to contribute to the occurrence of cognitive deficits. Similar short-term associations have been observed for secondhand smoking. Results from a longitudinal Finnish study show that the harmful effects of childhood secondhand smoking exposure may carry over to midlife learning ability and memory function.

"Previous studies have focused on adulthood exposure or on the short-term effects of childhood exposure, whereas this study brings novel information on the long-term associations between secondhand smoking exposure in childhood and cognitive function in midlife," says Senior Researcher Suvi Rovio from the Research Centre of Applied and Preventive Cardiovascular Medicine at the University of Turku.

The results of this study highlight that the focus of prevention of secondhand smoking exposure should be on children and adolescents in order to promote brain health in adulthood. In addition to protecting children and adolescents from starting active smoking, attention should be paid to their secondhand smoking exposure at home and elsewhere.

The cognitive performance of over 2,000 participants was measured at the age of 34–49 years. The results showed that participants who had been exposed to parental smoking in childhood had worse learning ability and poorer memory in midlife than those participants whose parents did not smoke in their presence. This association was present regardless of the participants' own smoking either in adolescence or adulthood. The difference in cognitive performance between those participants who had been exposed to parental smoking and those with non-smoking parents was equivalent to the difference caused by up to five years of aging.

The study is part of the ongoing national Cardiovascular Risk in Young Finns Study coordinated by the Research Centre of Applied and Preventive Cardiovascular Medicine at the University of Turku. The researchers of the follow-up study have studied 3,596 participants repeatedly over 31 years for their cardiovascular risk factors from childhood to adulthood.

More information: Suvi P Rovio et al. Childhood Exposure to Parental Smoking and Midlife Cognitive Function: The Young Finns Study, *American Journal of Epidemiology* (2020). DOI: 10.1093/aje/kwaa052

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