

# Secondhand smoke exposure linked to myopia in children

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Secondhand smoke (SHS) exposure is associated with greater myopic

refraction, longer axial length, and increased odds of developing moderate and high myopia, according to a study published online May 11 in *JAMA Network Open*.

Youjuan Zhang, Ph.D., from The Chinese University of Hong Kong, and colleagues examined the association between SHS exposure and childhood myopia using cross-sectional data from a population-based study involving 12,630 children aged 6 to 8 years.

The researchers found that 32.4 percent of the children had SHS exposure. SHS exposure was associated with greater myopic refraction and longer axial length ( $\beta = -0.09$  and  $0.05$ ) after adjustment for age, sex, parental myopia, body mass index, near-work time, outdoor time, and [family income](#). The likelihood of developing moderate and high myopia was increased for children with SHS exposure (odds ratios, 1.30 and 2.64, respectively).

In [younger children](#), the association of SHS exposure with spherical equivalence and axial length was magnified; SHS exposure was associated with a 0.07-D decrease in spherical equivalence and a 0.05-mm increase in axial length for each younger year of a child's exposure to SHS. SHS exposure was associated with an earlier mean age at myopia onset (72.8 versus 74.6 months). Every 10-cigarette-per-day increase in SHS exposure was associated with greater myopic refraction ( $\beta = -0.07$ ), axial length ( $\beta = 0.04$ ), and odds of developing moderate and high myopia (odds ratios, 1.23 and 1.75, respectively), as well as earlier myopia onset ( $\beta = -1.30$ ).

"Eliminating SHS exposure for eye care among [children](#) is important, particularly in families with [young children](#)," the authors write.

One author disclosed financial ties to the pharmaceutical industry.

**More information:** Youjuan Zhang et al, Analysis of Secondhand Smoke Exposure and Myopia Among Children Aged 6 to 8 Years in Hong Kong, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.13006](https://doi.org/10.1001/jamanetworkopen.2023.13006)

Ian G. Morgan, Exposure to Secondhand Smoke and Myopia in Children Aged 6 to 8 Years in Hong Kong, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.12995](https://doi.org/10.1001/jamanetworkopen.2023.12995)

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