

Environmental tobacco smoke increases the risk of breast cancer among pre- and post-menopausal Mexican women

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Background and Aims: Tobacco smoke exposure is considered modifiable risk factor for female breast cancer (BC). According to a recent expert panel report, active smoking (AS) increases the risk of BC by 20%, while the association between environmental tobacco smoke exposure (ETS) or passive smoking, and BC in young non-smoking women, especially premenopausal women, is consistent with causality; however, evidence in relation to postmenopausal status is inconclusive (1).

BC has become the leading cause of female cancer in Mexico with highest incidence in northern states (2). By other hand, 6.5 million Mexican women between 12 and 65 years, who have never smoked, are currently exposed to ETS (3). For that reason the aim was to determine the association between cumulative ETS exposure and AS, and BC in pre- and postmenopausal women residing in northern Mexican states, as well as to explore potential windows of susceptibility.

Methods: We study 504 histologically confirmed incident BC cases and 504 age-matched controls from an ongoing population-based case-control study. AS and ETS lifetime exposure, at home and the workplace, targeting periods of suspected susceptibility, were estimated from direct interviews. Active and passive smokers were compared with never active smokers without a history of ETS exposure. Odds Ratios (OR) were estimated using multivariate logistic regression models, including known reproductive BC risk factors as covariables.

Results: ETS exposure significantly increased BC risk (OR T₃vsT₁=3.31, 95%CI 2.36-4.64, p-trend<0.001) even after stratifying by menopausal status. BC risk was also associated with AS (OR T₃vsT₁=1.49, 95%CI 1.06-2.09, p-trend<0.001). No window of susceptibility was found for ETSS; risk associated with AS increased when women began smoking between menarche and first childbirth.

Conclusions: Our results provide evidence that ETS exposure is a risk factor for both pre- and postmenopausal Mexican women, and confirm that AS is a risk factor for BC.

References:

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