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Letter

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Letter

Response to Dr Shikata's letter: 'Secondhand smoke exposure and risk of lung cancer in Japan: a systematic review and meta-analysis of epidemiologic studies'

Megumi Hori[1,*], Hirokazu Tanaka[2], Eiko Saito[1], Kenji Wakai[3], and Kota Katanoda[1]

[1]Division of Cancer Statistics Integration, Center for Cancer Control and Information Services, National Cancer Center, Tokyo, Japan, [2]Department of Public Health, Erasmus University Medical Center, Rotterdam, The Netherlands, and [3]Department of Preventive Medicine, Nagoya University Graduate School of Medicine, Aichi, Japan

*For reprints and all correspondence: Megumi Hori, Division of Cancer Statistics Integration, Center for Cancer Control & Information Services, National Cancer Center 5-1-1 Tsukiji, Chuo-ku, Tokyo, 104-0045, Japan. Tel: +81-3-3547-5201(ext. 1630); E-mail: mhori@ncc.go.jp

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To the Editor

This is in response to the letter by Dr Shikata and Prof. Takemura. We appreciate their comments and are glad to have deeper discussions about the effects of secondhand smoke (SHS) on lung cancer.

Our meta-analysis published in 2016 showed that exposure to SHS increased the risk of lung cancer in a Japanese non-smoking population (1). We validated the robustness of the results by conducting several analyses and concluded that there was an association of SHS with lung cancer. However, the article reported the relative risk of SHS exposure and did not discuss absolute risk. As Shikata and Takemura (2) note in their comment on our meta-analysis, relative risk tells us nothing about the magnitude of absolute risk. To evaluate the health and economic effects of SHS comprehensively, relative risks need to be interpreted in combination with absolute risks.

Lifetime cumulative risk is an index for absolute risk. In 2020, we reported lifetime cumulative mortality risk by smoking status in the *Japanese Journal of Clinical Oncology* (3). We estimated the lifetime cumulative mortality risk for lung cancer by SHS exposure status in never smokers, classified by those exposed or not exposed to SHS at home. The risk for never smokers aged 20 years not exposed to SHS at home and those exposed was 3.2 and 4.1% for men, and 1.9 and 2.4% for women, respectively. Regardless of current age, the estimated lifetime cumulative mortality risk for men and women was ~1% point and 0.5% point higher for never smokers exposed to SHS at home than for those not exposed, respectively. Although the absolute risk of lung cancer associated with SHS exposure was small, SHS exposure nevertheless made an observable difference in lifetime mortality risk in both sexes.

Our new addition of an absolute risk estimate allows individual-based evaluation of the lung cancer risk of SHS. From both relative and absolute perspectives, prevention of SHS exposure is an effective and actionable strategy in improving total health. We trust that our estimation results will prove helpful and meaningful to many people, including those in clinical situations.

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