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Correspondence

Response regarding the methodological approach used to calculate the burden of respiratory disease attributable to secondhand smoke exposure in children in Spain for the year 2015

Dear Editor,

We would like to thank to Dr. Khosravi and Dr. Masournia for their thorough and critical reading of our paper (Continente et al., 2019). We have read with interest their comments on the methodological approach that we used to calculate the population attributable fraction (PAF) and we would like to raise some issues that should be taken into account for the calculation of such an estimation.

As Khowravi et al. state, some approaches such as the Miettinen formula or model-based estimations might be more appropriate than Levin's formula to calculate the PAF when using adjusted risk rate estimates. However, since we mainly used secondary data for risk estimates and incident cases, and there was a lack of available information on the prevalence of SHS exposure among children diagnosed with otitis media, asthma and lower respiratory infections, the use of the Miettinen formula was not feasible. Therefore, as it has been done in previous published studies (Max et al., 2015), Levin's formula was used in order to get an estimation for the PAF.

Regarding risk estimates, we agree that the use of relative risks (RR) would have been more accurate to calculate PAF estimates. Nevertheless, as stated in the limitations of the study, the lack of cohort studies in the Spanish population showing RR for the diseases included in the analysis made us to use a valid proxy like odds ratio (OR) as risk estimate. Although these ORs came from meta-analysis that included some cross-sectional studies, we would like to highlight, as it is shown in Table 1 of the article (Continente et al., 2019), that they also included large cohort studies conducted in different countries around the world. Additionally, we only analyzed the PAF for diseases that have strong evidence to be linked to SHS exposure in children (U.S. Department of Health and Human Services, 2014).

With regard to differences in age and sex for the different estimates (prevalence of exposure and burden) used in the formula, as discussed in the article, we are aware that these differences might affect the results obtained. However, once again, the lack of disaggregated information on the number of cases and risk estimates, which come from secondary data, did not allow us to use more accurate data. Nevertheless, it should be considered that PAF and the burden of disease attributable to SHS were independently conducted for different sex, age groups and totals in order to get the best accurate results for all groups analyzed.

In the light of all points raised, and mainly considering the current available published data on risk estimates and burden of disease in this field, we performed one of the best possible approaches to be done in order to estimate the burden of disease attributable to SHS exposure. We would like to highlight the importance and the usefulness of conducting such epidemiological studies, despite their intrinsic limitations, to guide policymakers towards necessary public health actions. In addition, it brings forward the need to systematically record and monitor information on SHS exposure at the different healthcare levels.

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Xavier Continente[a,b,c], Teresa Arechavala[a,d], Esteve Fernández[e,f,g], Mónica Pérez-Ríos[h,i], Anna Schiaffino[f,j], Joan B. Soriano[k], Giulia Carreras[l], Ángel López-Nicolás[m], Giuseppe Gorini[l], Maria José López[a,b,c,d,*]

[a] *Agència de Salut Pública de Barcelona (Public Health Agency, Barcelona), Pl. Lesseps, 1, PC 08023 Barcelona, Spain*

[b] *CIBER en Epidemiología y Salud Pública (CIBERESP) (Biomedical Research Centre Network for Epidemiology and Public Health), Av. Monforte de Lemos, 3-5, Pabellón 11, Planta 0, PC 28029 Madrid, Spain*

[c] *Institut d'Investigació Biomèdica de Sant Pau (IIB Sant Pau) (Institute of Biomedical Research, Barcelona), Sant Antoni Maria Claret, 167, PC 08025 Barcelona, Spain*

[d] *Departament de Ciències Experimentals i de la Salut, Universitat Pompeu Fabra (UPF) (Experimental and Health Sciences Department, Pompeu Fabra University), Dr. Aiguader, 88, PC 08003 Barcelona, Spain*

[e] *Tobacco Control Unit, Cancer Control and Prevention Program, Institut Català d'Oncologia (ICO), Gran via de L'Hospitalet, 199-203, PC 08908 L'Hospitalet de Llobregat, Spain*

[f] *Cancer Prevention and Control Group, Institut d'Investigació Biomèdica de Bellvitge (IDIBELL), Granvia de L'Hospitalet, 199, PC 08908 L'Hospitalet de Llobregat, Spain*

[g] *Department of Clinical Sciences, Campus de Bellvitge, School of Medicine and Health Sciences, Universitat de Barcelona, Feixa Llarga, s/n, PC 08907 L'Hospitalet de Llobregat, Spain*

[h] *Epidemiology Unit, Galician Directorate for Public Health, Galician Health Authority, Xunta de Galicia, San Caetano, s/n, PC 15704 Santiago de Compostela, Spain*

[i] *Department of Preventive Medicine and Public Health, School of Medicine, University of Santiago de Compostela, Praza do Obradoiro, s/n, PC 15782 Santiago de Compostela, Spain*

[j] *Direcció General de Planificació en Salut, Departament de Salut, Generalitat de Catalunya, Travessera de les Corts, 131-159 (Pavelló Ave Maria), PC 08028 Barcelona, Spain*

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[k] Fundación para la Investigación Biomédica del Hospital Universitario La Princesa (IISP) (The Biomedical Research Foundation of University Hospital La Princesa), Diego de León, 62 1st floor, PC 28006 Madrid, Spain
[l] Istituto per lo Studio, la Prevenzione e la Rete Oncologica (ISPRO) (Oncological Network, Prevention & Research Institute), Via Cosimo Il Vecchio, 2, PC 50139 Firenze, Italy
[m] Universidad Politécnica de Cartagena (UPCT) (Polytechnic University of Cartagena), Plaza Cronista Isidoro Valverde, s/n, PC 30202 Cartagena, Spain
E-mail address: mjlopez@aspb.cat (M.J. López).

* Corresponding author at: Agència de Salut Pública de Barcelona (Public Health Agency, Barcelona), Pl. Lesseps, 1, PC 08023 Barcelona, Spain.