



Revista Portuguesa de Pneumologia

ISSN: 0873-2159

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Sociedade Portuguesa de Pneumologia  
Portugal

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Revista Portuguesa de Pneumologia, vol. 23, núm. 4, julio-agosto, 2017, pp. 175-176

Sociedade Portuguesa de Pneumologia

Lisboa, Portugal

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## EDITORIAL

## Children's second-hand tobacco smoke exposure: the silent killer



Second-hand tobacco smoke (SHS) exposure is a major risk for children's health. Some harmful effects of SHS exposure include respiratory symptoms, such as increasing the incidence of coughing, asthma, and both upper and lower respiratory tract infections<sup>1</sup>, as well as increasing the severity of childhood pneumonia<sup>1,2</sup>. Furthermore, SHS exposure can lead to various disorders of the ear, nose, and throat such as otitis media<sup>1,3</sup>, sensorineural hearing loss<sup>1,4</sup>, and tonsillitis<sup>1,5</sup>. Some studies have found that SHS exposure can increase the incidence of childhood obesity<sup>6</sup>, and, even, it can increase the incidence of sleep-disordered breathing<sup>7</sup>. WHO reports that about 600 000 premature deaths per year are attributable to SHS exposure all around the world. 28% of these deaths are children.<sup>8</sup> All this data point out that SHS is a important concern for children's health.

Children's SHS exposure at home is associated with different factors: Parental smoking, low socioeconomic status and being less educated. In a recent issue of the Portuguese Journal of Pulmonology there is an interesting paper by Vitória PD et al<sup>9</sup> showing that children of parents with low educational level were more likely to suffer SHS exposure at home. Authors analyzed a randomly selected sample of 949 students in 4th grade from all schools located at Lisbon District, Portugal. Authors found that children of fathers and mothers with low educational level were, respectively, 1.57 and 1.80 times more likely to be exposed to SHS at home than children of fathers and mothers with higher educational level. Other relevant findings from this study were as follows: 1) 64.8% of fathers and 67.6% of mothers who are smokers smoked at home and 2) prevalence of smokers is higher amongst parents with low educational levels.

Taking together all this data it can be concluded that smoking is associated with social and economic inequalities.

In a recent Spanish study, we assessed the impact of two National Tobacco Control Laws that were implemented in Spain in 2005 and 2010<sup>10</sup>. The first law had a lot of restrictions

and permitted smoking in different public places. In contrast the second law was more strict and it did not allow smoking in any public place. The study showed that 2005 law only resulted in a 27% reduction in SHS exposure at homes, while the law in 2010 led to a reduction of 62%.<sup>10</sup> This demonstrated that the introduction of laws that fully restrict the consumption of tobacco in public places also help to control smoking in homes. It would appear that smokers whose awareness has been raised by the legislation that prohibits them from smoking in public places are more inclined not to smoke in their own homes.<sup>10</sup> Portuguese National Legislation to regulate tobacco consumption has several flaws and it is not very strict. This could be a reason to explain the high rate of SHS exposure at home found by the Portuguese study.<sup>9</sup>

Other studies have been performed in order to assess the efficacy of interventions to reduce exposure of SHS at home. A study by Baxi et al analyzed the effectiveness of interventions aiming to reduce exposure of children to SHS<sup>11</sup>. Authors reviewed 57 studies and found that parental education and counselling programmes had not been effective. Nevertheless, seven studies were identified that reported motivational interviewing or intensive counselling provided in clinical settings were effective.

In conclusion, SHS exposure at home is a major health risk especially for children. National Tobacco Control legislations with fully restrictions on tobacco consumption on public places and providing motivational interviewing or intensive counselling to parents can avoid the high rate of children's SHS exposure at homes.

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DOI of original article: <http://dx.doi.org/10.1016/j.rppnen.2017.02.005>

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