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**Title:** Second hand smoke (SHS) exposure in asthmatic children is associated with social disadvantage and atopy

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**Body:** The evidence of a relationship between second hand smoke (SHS) exposure and atopy is inadequate. Smoke habit prevalence is higher in lower parental educational levels. The aim of this study was to investigate the relationship between SHS and atopy in asthmatic children focusing on socioeconomic status (SES). We studied 62 consecutive outpatient asthmatic children with different levels of asthma (GINA guidelines). Medical history was taken in standardized way to determine prevalence of SHS exposure and maternal smoking during pregnancy. Information about the highest level of parental education was collected as a proxy of SES level. All patients underwent skin prick test (SPT) and spirometry according to international guidelines. Statistical analyses through SPSS 19.0 were performed. 26 (41,9%) SHS exposed (SHSe) and 36 (58,1%) SHS non exposed (SHSne) asthmatic children were analyzed, aged 10.46±2.6 and 10.63±2.2 years, respectively. Exposure to maternal smoke in pregnancy was found only in SHSe (p 0.006). With regard to SHSne, SHSe showed lower percentage of exclusive breastfeeding (4 months) (34.6% vs 63.9%, p 0.02) and frequency of regular sport (46.2% vs 63.9%, p 0.17), as well as higher Body Mass Index (BMI) (21.9±5.70 vs 18.85±3.76, p 0.01), percentage of the lowest level of parental education (34.6% vs 13.9%, p 0.17) and percentage of at least one positive SPT, mainly indoor allergens (92.9% vs 73.7%, p 0.05). No differences were found in pulmonary function tests (PFTs) and level of asthma severity. In conclusion, exposure to SHS in asthmatic children is associated with disadvantaged SES level and atopy.