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**Title:** Indoor pollution, demographic characteristics and bronchiolitis. A pilot study

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**Body:** Background: Indoor and outdoor pollutants can cause or exacerbate asthma and other paediatric respiratory diseases. Aim: Identify indoor pollutants and demographic characteristics, that can cause bronchiolitis. Methods: We enrolled 72 infants (median age 1.9, range 0.7-18 m;41 males) admitted to Pediatric Emergency Department with bronchiolitis during the period December 2012-February 2013, and 28 control infants (median age 6, range 0.5-21.6 m,16 males), hospitalized in the same period with non respiratory diseases. Parents answered to a structured questionnaire seeking information on the presence of indoor pollutants and on demographic characteristics. Results: A significantly higher percentage of infants with bronchiolitis have siblings and an older sibling comparing to infants in the control group (73.6% vs 50.0%,p=0.02 and 66.7% vs 42.9%,p=0.03). Infants with bronchiolitis were more exposed to maternal smoke comparing to infants in the control group (16.9% vs 3.8%,p=0.09). The cooking habit was different between bronchiolitis and control. The use of butter and margarine was higher in the families of infants with bronchiolitis comparing to controls (40.3% vs 21.4%,p=0.08 and 15.3% vs 3.6 %,p=0.09). Finally, in the house of infants with bronchiolitis there were more frequently loss of water, yellowing or discoloration of rubber and plastics forming the floors, visible mold growth and musty smell in the rooms (37.5% vs 10.7%,p=0.009). Conclusions: Indoor pollutants and cooking habit may influence the occurrence of bronchiolitis.