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Do young adults with childhood asthma avoid occupational exposures at hire?


Introduction: Association between occupational exposure and asthma may be underestimated as a result of the healthy worker hire effect through self-selection.

Aim: To estimate to what extent subjects with pre-hire onset asthma will avoid occupational exposures at first hire.

Methods: Analyses were conducted in 309 subjects aged less than 16 years at the first survey of the Epidemiological study on the Genetics and Environment of Asthma (1991-95), who had ever worked (training period or job) at follow-up in 2003-07 (aged 17-29 years, 53% men). Exposure to vapors, gases, dust and/or fumes at the first occupation was assessed by the ALOHA job-exposure matrix. Asthma before the first occupation and two asthma scores in childhood for severity (GINA2002 guidelines) and symptoms were defined by questionnaire.

Results: At the first occupation, 49% of subjects were exposed. After adjusting for age, gender and diploma level, pre-hire-onset asthmatics (59%) tended to be less frequently exposed (Odds Ratio [95% confidence interval]: 0.7[0.4–1.1], p=0.11). Asthmatics with a more severe asthma (15%) or a higher symptom score at baseline (20%) were less frequently exposed than non asthmatics (0.2[0.1–0.6] and 0.5[0.2–0.9]). Pre-hire-onset asthma combined with parental asthma was associated with a lower risk of exposure compared to subjects without asthma and parental asthma (0.5[0.3–0.9]). Among subjects with a university degree level, asthmatics were less often exposed (0.5[0.3–1.0]). This association was not found for a lower degree level.

Conclusion: Our results suggested a healthy hire effect in subjects with more severe or more symptomatic asthma in childhood. Diploma level may modulate asthma-based self-selection.