Prevalence of Allergic Respiratory Diseases in School children (age 11-14) in Malta and Sicily


* Mater Dei Hospital – Dept. of Medicine, Malta; ** National Research Council of Italy, Institute of Biomedicine and Molecular Immunology, Palermo; *** ASP Caltanissetta – Health District of Gela, Italy

Introduction: Malta has a very high population density while the petrochemical industry located close to Gela is one of the main sources of industrial air pollution in the Southern Sicily area.

Aim: The RESPIRA study was to evaluate the influence of living in highly polluted areas in Malta and in Sicily (Mediterranean area of Southern Italy) on questionnaire-reported allergic respiratory diseases in children.

Method: Between March and December 2012 we evaluated 1953 schoolchildren (922 M), aged 11-14 years, selected for 12 junior high schools of Southern Sicily (n=1,009, Male=549, Gela n=548, 275 M, Gela children).

Results: Wheeze ever Malta 32.4%(CI 29.2-35.5), Gela 20.8%(17.4-24.2), rural 25.0%(21.4-28.7). Wheeze in the last 12 months Malta 13.1%(10.8-15.3), Gela 6.8%(6.7-8.9), Rural 8.2%(5.9-10.5). Physically diagnosed Asthma Malta 18.5%(15.9-21.1), Gela 9.7%(7.2-12.1), Rural 5.4%(3.6-7.3). Asthma Medicines diagnosed Asthma Malta 18.5%(15.9-21.1), Gela 9.7%(7.2-12.1), Rural 5.4%(3.6-7.3). Asthma Medicines diagnosed Rhinitis (12 month) Malta 15.3%(12.3-18.3), Gela 9.8%(7.3-12.3),Physician confirmed Rhinitis Malta 21.1%(18.4-23.9), Gela 21%(17.6-24.4), Rural 11%(6.4-17.1).

Logistic Regression analysis including results from 1281 age 11-14 from Palermo study. Showed odds ratio of 2.49 (1.89-3.28, p<0.001). For rhinitis last 12 months odd ratio 0.55(0.41-0.72, p<0.001), Palermo 0.79 (0.63-0.98, p=0.031). With only Malta and Rural in the logistic model diagnosed asthma, Malta odd ratio 5.760(4.80-6.52), rhinitis 12 months OR=1.01(1.03-1.91), p=0.03).

Conclusion: The Respira study shows that living in Malta has a very high population density while the petrochemical industry located close to Gela is one of the main sources of industrial air pollution in the Southern Sicily area.

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