

Supplementary Materials:

Association between the Concentration and the Elemental Composition of Outdoor PM_{2.5} and Respiratory Diseases in Schoolchildren: A Multicenter Study in the Mediterranean Area

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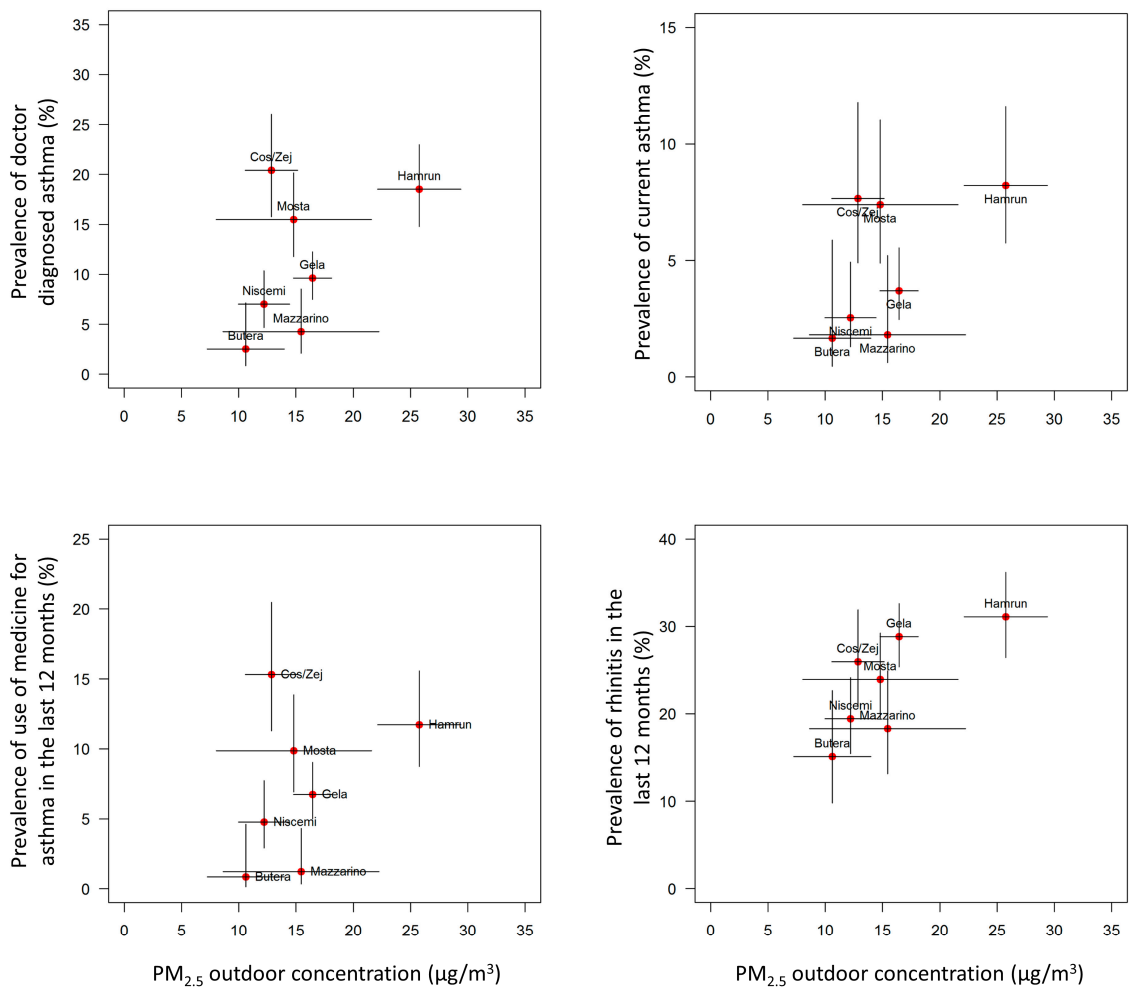


Figure S1. Schematic representation of the relationships between prevalence (and 95% confidence interval) of doctor diagnosis of asthma, current asthma, use of medicine for asthma in the last 12 months, and rhinitis in the last 12 months, and outdoor PM_{2.5} concentration (mean and 95% confidence interval) per each community (Cos/Zej: Cospicua/Zejtun).

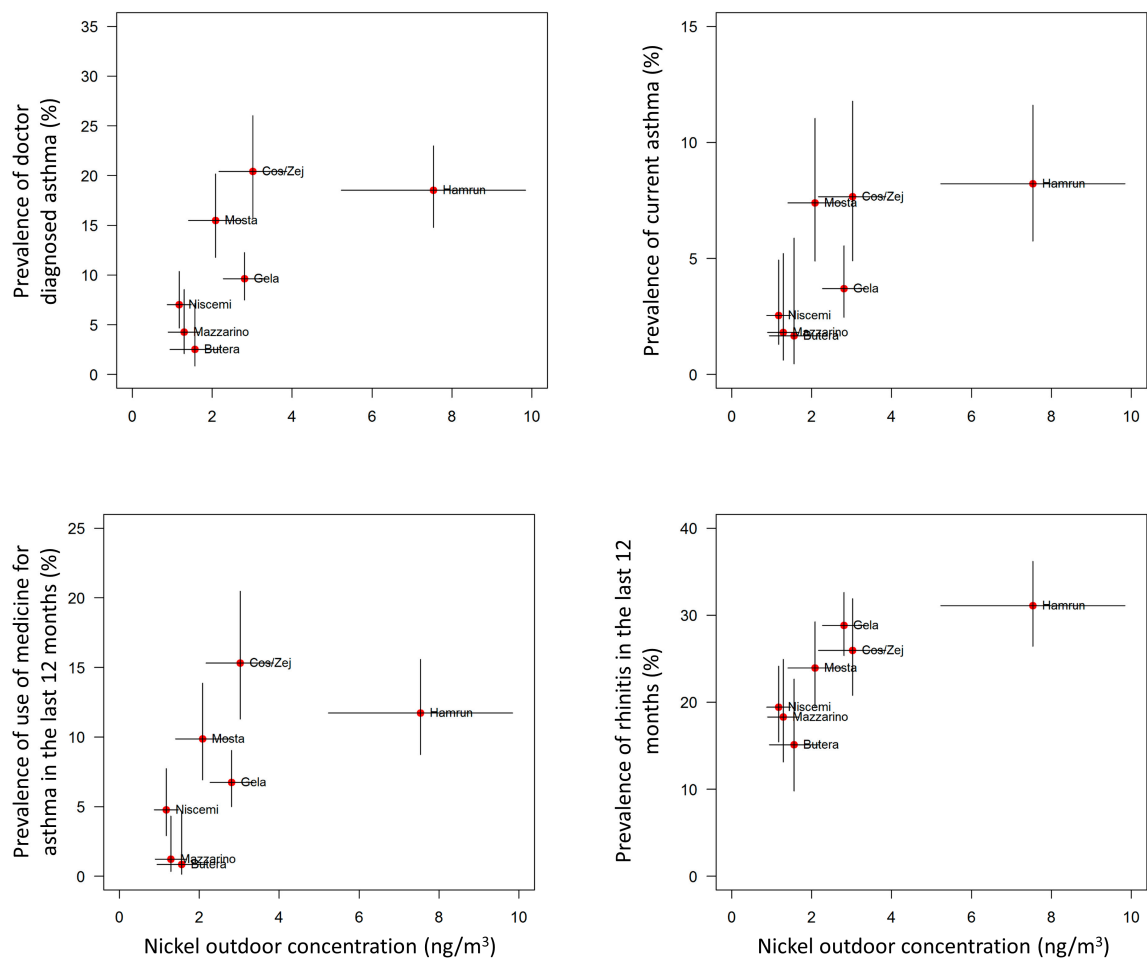


Figure S2. Schematic representation of the relationships between prevalence (and 95% confidence interval) of doctor diagnosis of asthma, current asthma, use of medicine for asthma in the last 12 months, and rhinitis in the last 12 months, and outdoor nickel concentration (mean and 95% confidence interval) per each community (Cos/Zeje: Cospicua/Zejtun).

Table S1. Limits of detection (LODs) of elements, calculated as the mean value plus three standard deviations of the blank (six replicates). Air concentrations refer to a sampling volume of 30 m³.

Elements	LOD (ng/m ³)
V	0.004
Ni	0.1
Cd	0.05
Pb	0.07
Mn	0.2
Sb	0.005
Zn	0.5

Table S2. Median (interquartile range) of PM_{2.5}, vanadium (V), nickel (Ni), cadmium (Cd), lead (Pb), manganese (Mn), antimony (Sb), and zinc (Zn) outdoor values for Malta, Italy, and separately for Italian Gela and Rural areas. Total outdoor measurements = 138. The *p*-values were computed by means of the Kruskal-Wallis test, and pairwise comparisons were evaluated.

	Malta (<i>n</i> = 51)	Gela (<i>n</i> = 41)	Rural Area (<i>n</i> = 44)	Overall <i>p</i> -value	<i>p</i> -Value Malta–Gela	<i>p</i> -Value Malta–rural area	<i>p</i> -Value Gela–rural area
PM_{2.5} (µg/m³)	15.5 (10.1–23.5)	15.2 (12.3–18.9)	11.3 (9.4–14.4)	<0.0001	0.832	0.005	0.003
V (ng/m³)	4.8 (1.9–8.7)	3.2 (2.0–5.8)	1.3 (0.8–1.8)	<0.0001	0.523	<0.0001	<0.0001
Ni (ng/m³)	3.6 (1.7–5.0)	2.4 (1.6–3.7)	1.0 (0.9–1.3)	<0.0001	0.056	<0.0001	<0.0001
Cd (ng/m³)	0.07 (0.06–0.11)	0.12 (0.07–0.32)	0.06 (0.05–0.09)	<0.0001	<0.0001	<0.0001	<0.0001
Pb (ng/m³)	3.2 (1.7–5.2)	4.4 (2.9–6.3)	1.7 (1.0–2.7)	<0.0001	0.056	0.005	<0.0001
Mn (ng/m³)	2.1 (1.4–3.2)	3.1 (1.8–4.3)	1.2 (0.5–1.8)	<0.0001	0.136	0.001	<0.0001
Sb (ng/m³)	0.4 (0.2–1.0)	0.8 (0.6–1.7)	0.3 (0.2–0.5)	<0.0001	<0.0001	0.018	<0.0001
Zn (ng/m³)	14.4 (8.9–24.4)	7.0 (6.7–7.4)	6.9 (6.7–7.3)	<0.0001	<0.0001	<0.0001	0.445