|  |  |  |  |
| --- | --- | --- | --- |
| **Study sample strata** | **Number of subjects (% with respect to the overall sample)** | **Municipality** | **Number or subjects (%)** |
| Total Population | 4205 (100.0) | Laureana Cilento | 20 (0.5) |
| **Age** |  | Laviano | 36 (0.9) |
| 20-29 | 1394 (33.2) | Liveri | 2 (0) |
| 30-39 | 1296 (30.8) | Lusciano | 3 (0.1) |
| 40-49 | 1515 (36) | Macerata Campania | 10 (0.2) |
| **Gender** |  | Maddaloni | 29 (0.7) |
| Male | 2268 (53.9) | Manocalzati | 29 (0.7) |
| Female | 1937 (46.1) | Marano di Napoli | 37 (0.9) |
| **Area** |  | Marcianise | 27 (0.6) |
| High | 2404 (57.2) | Mariglianella | 17 (0.4) |
| Low | 600 (14.3) | Marigliano | 24 (0.6) |
| Medium | 1201 (28.6) | Massa di Somma | 7 (0.2) |
| **Cluster** |  | Melito di Napoli | 20 (0.5) |
| High impact nr. 1 | 204 (4.9) | Mercato San Severino | 52 (1.2) |
| High impact nr. 2 | 199 (4.7) | Mondragone | 38 (0.9) |
| High impact nr. 3 | 200 (4.8) | Montecorice | 36 (0.9) |
| High impact nr. 4 | 200 (4.8) | Montefredane | 31 (0.7) |
| High impact nr. 5 | 200 (4.8) | Montoro | 59 (1.4) |
| High impact nr. 6 | 200 (4.8) | Mugnano di Napoli | 18 (0.4) |
| High impact nr. 7 | 199 (4.7) | Napoli | 143 (3.4) |
| High impact nr. 8 | 201 (4.8) | Nocera Inferiore | 47 (1.1) |
| High impact nr. 9 | 200 (4.8) | Nocera Superiore | 21 (0.5) |
| High impact nr. 10 | 199 (4.7) | Nola | 25 (0.6) |
| High impact nr. 11 | 200 (4.8) | Oliveto Citra | 19 (0.5) |
| High impact nr. 12 | 202 (4.8) | Orta di Atella | 13 (0.3) |
| Medium impact nr. 1 | 179 (4.3) | Ottaviano | 14 (0.3) |
| Medium impact nr. 2 | 209 (5) | Pagani | 19 (0.5) |
| Medium impact nr. 3 | 212 (5) | Palma Campania | 42 (1) |
| Medium impact (Irno valley)  nr. 4 | 188 (4.5) | Palomonte | 12 (0.3) |
| Medium impact (Irno Valley)  nr. 5 | 212 (5) | Parete | 5 (0.1) |
| Medium impact (Sabato Valley) nr. 6 | 201 (4.8) | Pastorano | 1 (0) |
| Low impact nr. 1 | 200 (4.8) | Pellezzano | 110 (2.6) |
| Low impact nr. 2 | 205 (4.9) | Perdifumo | 26 (0.6) |
| Low impact nr. 3 | 195 (4.6) | Pignataro Maggiore | 7 (0.2) |
| **Province** |  | Pisciotta | 14 (0.3) |
| AVELLINO | 378 (9) | Poggiomarino | 6 (0.1) |
| CASERTA | 841 (20) | Pollena Trocchia | 14 (0.3) |
| NAPOLI | 1685 (40.1) | Pollica | 23 (0.5) |
| SALERNO | 1301 (30.9) | Pomigliano d'Arco | 30 (0.7) |
| **Municipality** |  | Pompei | 19 (0.5) |
| Acerra | 47 (1.1) | Portici | 38 (0.9) |
| Afragola | 41 (1) | Portico di Caserta | 17 (0.4) |
| Aiello del Sabato | 25 (0.6) | Pozzuoli | 40 (1) |
| Angri | 24 (0.6) | Prata di Principato Ultra | 29 (0.7) |
| Arzano | 26 (0.6) | Pratola Serra | 27 (0.6) |
| Ascea | 17 (0.4) | Qualiano | 16 (0.4) |
| Atripalda | 30 (0.7) | Quarto | 25 (0.6) |
| Avellino | 30 (0.7) | Recale | 18 (0.4) |
| Aversa | 21 (0.5) | Ricigliano | 10 (0.2) |
| Baronissi | 78 (1.9) | Roccapiemonte | 20 (0.5) |
| Boscoreale | 9 (0.2) | Roccarainola | 29 (0.7) |
| Boscotrecase | 4 (0.1) | Salerno | 212 (5) |
| Brusciano | 27 (0.6) | San Cipriano d'Aversa | 21 (0.5) |
| Buccino | 15 (0.4) | San Felice a Cancello | 22 (0.5) |
| Caivano | 55 (1.3) | San Gennaro Vesuviano | 6 (0.1) |
| Calabritto | 51 (1.2) | San Giorgio a Cremano | 24 (0.6) |
| Calvanico | 6 (0.1) | San Giuseppe Vesuviano | 14 (0.3) |
| Calvi Risorta | 21 (0.5) | San Gregorio Magno | 11 (0.3) |
| Calvizzano | 8 (0.2) | San Marcellino | 29 (0.7) |
| Camposano | 15 (0.4) | San Marco Evangelista | 4 (0.1) |
| Cancello ed Arnone | 37 (0.9) | San Marzano sul Sarno | 9 (0.2) |
| Capodrise | 5 (0.1) | San Mauro Cilento | 25 (0.6) |
| Caposele | 23 (0.5) | San Mauro la Bruca | 15 (0.4) |
| Capua | 13 (0.3) | San Nicola la Strada | 20 (0.5) |
| Carbonara di Nola | 3 (0.1) | San Paolo Bel Sito | 4 (0.1) |
| Cardito | 40 (1) | San Prisco | 48 (1.1) |
| Carinaro | 6 (0.1) | San Sebastiano al Vesuvio | 4 (0.1) |
| Carinola | 30 (0.7) | San Tammaro | 7 (0.2) |
| Casagiove | 20 (0.5) | San Valentino Torio | 9 (0.2) |
| Casal Velino | 35 (0.8) | San Vitaliano | 4 (0.1) |
| Casal di Principe | 26 (0.6) | Sant'Anastasia | 25 (0.6) |
| Casalnuovo di Napoli | 33 (0.8) | Sant'Antimo | 14 (0.3) |
| Casaluce | 6 (0.1) | Sant'Antonio Abate | 15 (0.4) |
| Casamarciano | 3 (0.1) | Sant'Arpino | 11 (0.3) |
| Casandrino | 22 (0.5) | Sant'Egidio del Monte Albino | 6 (0.1) |
| Casapesenna | 9 (0.2) | Santa Maria Capua Vetere | 15 (0.4) |
| Casapulla | 7 (0.2) | Santa Maria la Carità | 9 (0.2) |
| Casavatore | 32 (0.8) | Santa Maria la Fossa | 14 (0.3) |
| Caserta | 81 (1.9) | Santomenna | 1 (0) |
| Casoria | 84 (2) | Sarno | 30 (0.7) |
| Castel San Giorgio | 32 (0.8) | Saviano | 32 (0.8) |
| Castel Volturno | 44 (1) | Scafati | 39 (0.9) |
| Castellabate | 23 (0.5) | Scisciano | 5 (0.1) |
| Castellammare di Stabia | 48 (1.1) | Senerchia | 6 (0.1) |
| Castello di Cisterna | 5 (0.1) | Serramezzana | 18 (0.4) |
| Castelnuovo di Conza | 15 (0.4) | Siano | 24 (0.6) |
| Centola | 24 (0.6) | Sicignano degli Alburni | 69 (1.6) |
| Cercola | 9 (0.2) | Solofra | 38 (0.9) |
| Cesa | 4 (0.1) | Somma Vesuviana | 29 (0.7) |
| Cicciano | 37 (0.9) | Sparanise | 7 (0.2) |
| Cimitile | 6 (0.1) | Stella Cilento | 21 (0.5) |
| Colliano | 10 (0.2) | Striano | 8 (0.2) |
| Comiziano | 2 (0) | Succivo | 7 (0.2) |
| Contursi Terme | 24 (0.6) | Terzigno | 24 (0.6) |
| Crispano | 8 (0.2) | Teverola | 33 (0.8) |
| Curti | 6 (0.1) | Torre Annunziata | 31 (0.7) |
| Ercolano | 21 (0.5) | Torre del Greco | 52 (1.2) |
| Falciano del Massico | 14 (0.3) | Trecase | 2 (0) |
| Fisciano | 43 (1) | Trentola Ducenta | 16 (0.4) |
| Francolise | 11 (0.3) | Tufino | 5 (0.1) |
| Frattamaggiore | 24 (0.6) | Valva | 1 (0) |
| Frattaminore | 11 (0.3) | Villa Literno | 12 (0.3) |
| Frignano | 12 (0.3) | Villa di Briano | 12 (0.3) |
| Giugliano in Campania | 119 (2.8) | Villaricca | 16 (0.4) |
| Grazzanise | 13 (0.3) | Visciano | 7 (0.2) |
| Gricignano di Aversa | 6 (0.1) | Vitulazio | 3 (0.1) |
| Grumo Nevano | 30 (0.7) | Volla | 20 (0.5) |

Table 1. Number of participants according to age. sex. province. cluster. impact area and municipality.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Overall (n=4205; 100%) | High (n=2404; 57.2%) | Medium (n=1201; 28.6%) | Low (n=600; 14.3%) |
| Age; years | 34.9+-8.8 (20 to 50) | 34.6+-8.8 (20 to 50) | 35.5+-8.8 (20 to 50) | 35.1+-8.9 (20 to 50) |
| Gender; female | 2268 (53.9) | 1306 (54.3) | 639 (53.2) | 323 (53.8) |
| Occupational status |  |  |  |  |
| Full time | 1846 (51.4) | 1069 (51.4) | 522 (52.8) | 255 (48.6) |
| Partial | 957 (26.6) | 518 (24.9) | 272 (27.5) | 167 (31.8) |
| Unemployed | 789 (22) | 492 (23.7) | 194 (19.6) | 103 (19.6) |
| Actual Potential Occupational Exposure | 605 (14.4) | 330 (13.7) | 177 (14.7) | 98 (16.3) |
| Smoking habit |  |  |  |  |
| Actual smoker | 1282 (30.8) | 737 (30.7) | 359 (31) | 186 (31) |
| Ex-smoker | 767 (18.4) | 439 (18.3) | 214 (18.5) | 114 (19) |
| Never smoker | 2111 (50.7) | 1227 (51.1) | 584 (50.5) | 300 (50) |
| Pack years (Smokers and Ex smokers); mean ± std.dev (min to max) | 7.5+-7.8 (0 to 64.4) | 7.7+-8 (0.1 to 64.4) | 7+-7.5 (0.1 to 61) | 8+-7.7 (0.1 to 50.4) |
| Pack years (Smokers); mean ± std.dev (min to max) | 7.9+-8 (0.1 to 64.4) | 8.2+-8.1 (0.1 to 64.4) | 7.2+-7.9 (0.1 to 61) | 8.2+-7.8 (0.2 to 50.4) |
| Pack years (Ex-smokers); mean ± std.dev (min to max) | 6.9+-7.4 (0 to 44.6) | 6.8+-7.6 (0.1 to 44.6) | 6.7+-6.7 (0.1 to 42.1) | 7.7+-7.7 (0.1 to 39.2) |
| Prior history of: |  |  |  |  |
| mycardial infarction | 12 (0.3) | 5 (0.2) | 5 (0.4) | 2 (0.3) |
| angina pectoris | 11 (0.3) | 7 (0.3) | 2 (0.2) | 2 (0.3) |
| stroke | 4 (0.1) | 4 (0.2) | 0 (0) | 0 (0) |
| high blood pressure | 468 (11.3) | 266 (11.1) | 148 (12.8) | 54 (9) |
| hypercholestorelemia | 611 (14.7) | 365 (15.2) | 163 (14.1) | 83 (13.9) |
| diabetes | 36 (0.9) | 18 (0.7) | 10 (0.9) | 8 (1.3) |
| gallbladder stones | 35 (0.8) | 18 (0.7) | 7 (0.6) | 10 (1.7) |
| kidney stones | 257 (6.2) | 153 (6.4) | 71 (6.1) | 33 (5.5) |
| colon polyps | 35 (0.8) | 20 (0.8) | 8 (0.7) | 7 (1.2) |
| cancer | 86 (2.1) | 40 (1.7) | 31 (2.7) | 15 (2.5) |
| Gastro or duodenal ulcer | 152 (3.7) | 87 (3.6) | 39 (3.4) | 26 (4.3) |
| Prior medical therapy for: |  |  |  |  |
| Peptic ulcer | 116 (76.3) | 68 (78.2) | 29 (74.4) | 19 (73.1) |
| Diabetes | 23 (63.9) | 11 (61.1) | 5 (50) | 7 (87.5) |
| High blood pressure | 191 (40.8) | 113 (42.5) | 56 (37.8) | 22 (40.7) |
| Cholesterol | 73 (11.9) | 44 (12.1) | 19 (11.7) | 10 (12) |
| Prior surgical therapy for |  |  |  |  |
| Gastric or duodenal ulcer | 5 (3.3) | 2 (2.3) | 2 (5.1) | 1 (3.8) |
| Any breast disease | 138 (6.2) | 88 (6.8) | 35 (5.7) | 15 (4.6) |
| Any uterus disease | 32 (1.4) | 18 (1.4) | 10 (1.6) | 4 (1.2) |
| Any ovarian disease | 105 (4.7) | 66 (5.1) | 24 (3.9) | 15 (4.6) |
| Systolic pressure | 118.4+-13.3 (70 to 185) | 117.6+-13.3 (75 to 185) | 119.8+-12.6 (80 to 180) | 119.2+-14.8 (70 to 180) |
| Diastolic pressure | 75.9+-9.9 (45 to 135) | 76.3+-9.7 (45 to 135) | 76.5+-9.4 (50 to 110) | 73.3+-11.3 (50 to 130) |
| HR | 74.1+-10.3 (40 to 120) | 74+-10.1 (40 to 120) | 74.9+-10.6 (45 to 119) | 72.9+-10.2 (47 to 110) |
| So2 | 98 [98 ; 99] | 98 [98 ; 99] | 98 [98 ; 99] | 98 [98 ; 99] |
| Weight (kg) | 71 [61 ; 82] | 71 [60 ; 83] | 72 [62 ; 82] | 71 [61 ; 82] |
| Height (cm) | 170 [163 ; 175] | 170 [163 ; 176] | 170 [163 ; 175] | 168 [161.2 ; 175] |
| BMI; (kg/m2) | 24.6 [22.3 ; 27.7] | 24.6 [22.2 ; 27.5] | 24.6 [22.2 ; 27.8] | 25 [22.5 ; 28.2] |
| BSA | 1.8+-0.2 (1.3 to 2.9) | 1.8+-0.2 (1.3 to 2.9) | 1.8+-0.2 (1.3 to 2.5) | 1.8+-0.2 (1.3 to 2.6) |

Table 2. Characteristics of the enrolled population according to the impact area.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Overall  (n=4205; 100%) | High Impact  (n=2404; 57.2%) | Medium Impact  (n=1201; 28.6%) | Low Impact  (n=600; 14.3%) |
| A / G | 1.5 [1.4 ; 1.6] | 1.5 [1.4 ; 1.6] | 1.5 [1.4 ; 1.7] | 1.5 [1.4 ; 1.6] |
| Albumin (%) | 60.4 [58.4 ; 62.3] | 60.3 [58.3 ; 62.2] | 60.7 [58.6 ; 62.6] | 60.2 [58.1 ; 62.1] |
| ALBUMINA (g / dl) | 4.3 [4.1 ; 4.5] | 4.3 [4.1 ; 4.5] | 4.3 [4.1 ; 4.5] | 4.3 [4.1 ; 4.5] |
| Alpha 1 (g / dl) | 0.28 [0.25 ; 0.3] | 0.27 [0.25 ; 0.3] | 0.28 [0.26 ; 0.3] | 0.28 [0.26 ; 0.31] |
| Alpha 1 (%) | 3.9 [3.6 ; 4.2] | 3.9 [3.6 ; 4.2] | 3.9 [3.6 ; 4.3] | 3.9 [3.6 ; 4.3] |
| Alpha 2 (%) | 9.3 [8.5 ; 10.2] | 9.4 [8.6 ; 10.3] | 9.1 [8.3 ; 10] | 9.4 [8.6 ; 10.3] |
| Alpha 2 (g / dl) | 0.66 [0.6 ; 0.73] | 0.66 [0.6 ; 0.73] | 0.66 [0.6 ; 0.71] | 0.67 [0.62 ; 0.74] |
| AZOTEMIA (mg / dl) | 33 [28 ; 39] | 33 [28 ; 39] | 33 [28 ; 39] | 32 [27 ; 38] |
| BASOFILI (%) | 1.1 [0.8 ; 1.3] | 1.1 [0.8 ; 1.4] | 1.1 [0.8 ; 1.4] | 1.1 [0.9 ; 1.3] |
| BASOFILI ( 10e3 / uL ) | 0.07 [0.05 ; 0.09] | 0.07 [0.05 ; 0.09] | 0.07 [0.06 ; 0.1] | 0.07 [0.05 ; 0.09] |
| Beta 1 (%) | 6.6 [6.1 ; 7.1] | 6.6 [6.1 ; 7.1] | 6.6 [6.2 ; 7] | 6.7 [6.2 ; 7.1] |
| Beta 1 (g / dl) | 0.47 [0.43 ; 0.51] | 0.47 [0.43 ; 0.51] | 0.47 [0.43 ; 0.51] | 0.48 [0.44 ; 0.52] |
| Beta 2 (g / dl) | 0.28 [0.24 ; 0.32] | 0.28 [0.24 ; 0.32] | 0.28 [0.24 ; 0.32] | 0.28 [0.25 ; 0.32] |
| Beta 2 (%) | 3.9 [3.5 ; 4.4] | 3.9 [3.5 ; 4.4] | 3.9 [3.5 ; 4.4] | 3.9 [3.5 ; 4.5] |
| TOTAL BILIRUBIN (mg / dl) | 0.6 [0.5 ; 0.9] | 0.6 [0.5 ; 0.9] | 0.5 [0.4 ; 0.8] | 0.7 [0.5 ; 1] |
| CALCIUM (serum) (mg / dl) | 9.1 [8.8 ; 9.4] | 9.1 [8.9 ; 9.4] | 9.1 [8.8 ; 9.4] | 9.1 [8.9 ; 9.4] |
| CHLOREMIA ( mmol / L) | 104 [102 ; 106] | 104 [102 ; 106] | 104 [103 ; 106] | 104 [102 ; 105] |
| FREE CHOLESTEROL (mg / dl) | 34.6 [28.8 ; 41.5] | 34.5 [28.9 ; 41.2] | 33 [27.4 ; 40] | 38 [31.4 ; 45.4] |
| TOTAL CHOLESTEROL (mg / dl) | 187 [164 ; 212] | 185 [164 ; 211] | 187 [162 ; 210] | 197 [172 ; 220] |
| CORTISOL ( mcg / dl) | 8.2 [7.1 ; 9.9] | 8.1 [7.1 ; 9.4] | 8.6 [7.1 ; 11.9] | 8.2 [7.2 ; 9.6] |
| CREATININE (mg / dl) | 0.8 [0.7 ; 0.9] | 0.8 [0.7 ; 0.9] | 0.8 [0.7 ; 0.9] | 0.8 [0.7 ; 0.9] |
| Direct (mg / dl) | 0.3 [0.2 ; 0.3] | 0.2 [0.2 ; 0.3] | 0.3 [0.2 ; 0.3] | 0.3 [0.2 ; 0.4] |
| HEMATOCRIT (%) | 40.8 [37.8 ; 43.9] | 40.1 [37.3 ; 43.2] | 42 [38.7 ; 45.3] | 41.1 [38.3 ; 44.6] |
| HEMOGLOBIN (g / dL ) | 13.9 [12.9 ; 15.1] | 13.8 [12.8 ; 15] | 14.1 [13 ; 15.2] | 14.1 [13.1 ; 15.3] |
| EOSINOFILI ( 10e3 / uL ) | 0.14 [0.09 ; 0.23] | 0.14 [0.09 ; 0.23] | 0.15 [0.09 ; 0.23] | 0.15 [0.09 ; 0.23] |
| EOSINOFILI (%) | 2.2 [1.4 ; 3.4] | 2.2 [1.4 ; 3.4] | 2.2 [1.4 ; 3.4] | 2.2 [1.5 ; 3.4] |
| ESTRADIOL 17-Beta ( pg / ml) | 20 [17.4 ; 22.4] | 19.8 [17.4 ; 22] | 21 [17.1 ; 26.9] | 19.8 [17.4 ; 22] |
| FERRITINA ( ng / ml) | 56.4 [22.7 ; 134.9] | 56.8 [22.2 ; 134.7] | 55.8 [23.2 ; 139.2] | 54.8 [22.9 ; 128.8] |
| ALKALINE PHOSPHATASE (IU / l) | 60 [50 ; 72] | 61 [50 ; 74] | 57 [46 ; 68] | 64 [54 ; 76] |
| PHOSPHOLIPIDS (mg / dl) | 256 [229 ; 286] | 256 [229.5 ; 286] | 250 [221 ; 277] | 270 [241 ; 300] |
| PHOSPHORUS (serum) (mg / dl) | 3.9 [3.5 ; 4.3] | 4 [3.6 ; 4.4] | 3.8 [3.4 ; 4.3] | 3.9 [3.5 ; 4.4] |
| FSH ( mUI / ml) | 4.6 [3 ; 6.7] | 4.5 [2.9 ; 6.8] | 4.6 [3.1 ; 6.6] | 4.6 [2.8 ; 6.8] |
| FT3 ( pg / ml) | 3.4 [3.1 ; 3.6] | 3.4 [3.2 ; 3.6] | 3.3 [3 ; 3.6] | 3.5 [3.2 ; 3.7] |
| FT4 ( ng / dl) | 1.1 [1 ; 1.1] | 1.1 [1 ; 1.1] | 1 [1 ; 1.1] | 1.1 [1 ; 1.2] |
| Gamma (%) | 15.5 [13.9 ; 17.2] | 15.5 [14 ; 17.2] | 15.5 [13.8 ; 17.2] | 15.7 [13.9 ; 17.4] |
| Gamma (g / dl) | 1.1 [1 ; 1.2] | 1.1 [1 ; 1.2] | 1.1 [1 ; 1.2] | 1.1 [1 ; 1.3] |
| GT RANGE . (U / l) | 19 [14 ; 28] | 19 [14 ; 29] | 19 [14 ; 27] | 21 [15 ; 31] |
| GLYCEMIA (mg / dl) | 77 [72 ; 83] | 78 [73 ; 84] | 75 [71 ; 82] | 74 [70 ; 81] |
| WHITE GLOBULES (/ uL ) | 6512 [5509 ; 7729] | 6420.5 [5458.8 ; 7629.2] | 6596 [5640 ; 7775] | 6650 [5533 ; 7932] |
| RED GLOBULES (/ uL ) | 4789000 [4448000 ; 5187000] | 4759500 [4412000 ; 5154250] | 4804000 [4489000 ; 5197000] | 4841000 [4522000 ; 5251000] |
| GOT ( AST ) ( mU / ml) | 22 [19 ; 27] | 22 [19 ; 27] | 22 [18 ; 26] | 24 [20 ; 29] |
| GPT (ALT) ( mU / ml) | 35 [30 ; 40] | 35 [31 ; 40] | 33 [27 ; 39] | 35 [30 ; 40] |
| HDL CHOLESTEROL (mg / dl) | 55 [46 ; 65] | 54 [45 ; 63] | 59 [48.5 ; 70] | 56 [48 ; 64] |
| Indirect (mg / dl) | 0.4 [0.3 ; 0.5] | 0.3 [0.2 ; 0.5] | 0.4 [0.3 ; 0.5] | 0.3 [0.2 ; 0.5] |
| LACTICODEHYDROGENASE (U / l) | 154 [140 ; 172] | 150 [138 ; 167] | 160 [144.5 ; 179] | 158 [143.2 ; 176] |
| LDL CHOLESTEROL (mg / dl) | 116 [95 ; 140] | 117 [96 ; 141] | 110 [88 ; 135] | 124 [101 ; 147] |
| LH ( mUI / ml) | 4.4 [3 ; 6.8] | 4.5 [3 ; 6.8] | 4.2 [3 ; 6.5] | 4.3 [2.9 ; 6.8] |
| LYMPHOCYTES ( 10e3 / uL ) | 2.2 [1.8 ; 2.7] | 2.2 [1.8 ; 2.6] | 2.2 [1.9 ; 2.7] | 2.2 [1.8 ; 2.7] |
| LYMPHOCYTES (%) | 34.1 [29.2 ; 39.3] | 33.9 [29 ; 39.2] | 34.4 [29.8 ; 39.3] | 34.2 [29.1 ; 39.7] |
| MCH ( pg ) | 29.4 [28.3 ; 30.3] | 29.4 [28.3 ; 30.3] | 29.4 [28.4 ; 30.4] | 29.3 [28.2 ; 30.2] |
| MCHC (g / dL ) | 34.3 [33.5 ; 35] | 34.5 [33.8 ; 35.2] | 33.8 [32.6 ; 34.6] | 34.1 [33.5 ; 34.7] |
| MCV ( fL ) | 85.2 [82.5 ; 88.1] | 84.7 [82 ; 87.3] | 86.7 [83.6 ; 90.4] | 85.4 [82.8 ; 88] |
| MONOCYTES (%) | 7.2 [6.2 ; 8.4] | 7.2 [6.1 ; 8.4] | 7.3 [6.3 ; 8.4] | 7.2 [6.1 ; 8.5] |
| MONOCYTES ( 10e3 / uL ) | 0.47 [0.38 ; 0.58] | 0.46 [0.38 ; 0.57] | 0.49 [0.4 ; 0.59] | 0.48 [0.39 ; 0.59] |
| MPV ( fL ) | 7.4 [6.6 ; 8.4] | 7.4 [6.6 ; 8.3] | 7.5 [6.7 ; 8.4] | 7.4 [6.6 ; 8.4] |
| NEUTROPHILES ( 10e3 / uL ) | 3.5 [2.8 ; 4.4] | 3.5 [2.8 ; 4.3] | 3.5 [2.9 ; 4.4] | 3.6 [2.9 ; 4.5] |
| NEUTROPHILES (%) | 54.6 [48.8 ; 60.1] | 54.7 [48.8 ; 60.2] | 54.2 [49 ; 59.6] | 54.5 [48.4 ; 60.6] |
| HOMOCYSTEIN ( micromol / L) | 8.1 [7.2 ; 9.4] | 8.1 [7.2 ; 9.2] | 8.4 [7.3 ; 10.3] | 8 [7.2 ; 9.1] |
| PLATELETS (/ uL ) | 228400 [197400 ; 263800] | 228700 [197400 ; 264700] | 228300 [198100 ; 260300] | 227000 [196100 ; 267900] |
| POTASSIUM ( mmol / L) | 4.6 [4.4 ; 4.8] | 4.7 [4.5 ; 4.8] | 4.4 [3.9 ; 4.7] | 4.7 [4.5 ; 4.8] |
| PROGESTERONE ( ng / ml) | 0.36 [0.25 ; 0.52] | 0.36 [0.25 ; 0.51] | 0.39 [0.25 ; 0.65] | 0.32 [0.23 ; 0.45] |
| PROLACTIN ( ng / ml) | 13.1 [9 ; 19.4] | 13 [8.9 ; 19.4] | 13.1 [9.4 ; 19.4] | 13.7 [9 ; 20] |
| Total Protein (g / dl) | 7.1 [6.9 ; 7.5] | 7.1 [6.8 ; 7.5] | 7.2 [6.9 ; 7.5] | 7.2 [6.9 ; 7.5] |
| PSEUDOCOLINESTERASI (U / l) | 10155 [8789 ; 10950] | 10183 [8878 ; 10925] | 10011 [8636.5 ; 10988] | 10233.5 [8847.5 ; 10978.8] |
| RDW (%) | 12 [11.6 ; 12.6] | 11.9 [11.5 ; 12.5] | 12.3 [11.8 ; 12.9] | 12.1 [11.7 ; 12.6] |
| SIDEREMIA ( mcg / dl) | 87 [66 ; 111] | 86 [66 ; 110] | 86 [66 ; 111] | 89 [67 ; 114] |
| SODIEMIA ( mmol ./ L) | 140 [139 ; 141] | 140 [139 ; 142] | 139 [138 ; 141] | 140 [138 ; 141] |
| TESTOSTERONE ( nmol / L) | 1.9 [0.9 ; 16.7] | 1.8 [0.9 ; 16.2] | 2.1 [1 ; 18.3] | 2 [0.9 ; 16.4] |
| FREE TESTOSTERONE ( pg / ml) | 0.9 [0.4 ; 11.8] | 0.8 [0.36 ; 11.6] | 5 [0.46 ; 13] | 0.8 [0.32 ; 11.6] |
| Total (mg / dl) | 0.6 [0.5 ; 0.8] | 0.6 [0.4 ; 0.8] | 0.6 [0.5 ; 0.9] | 0.6 [0.4 ; 0.8] |
| TRANSFERRINE (mg / dl) | 264 [237 ; 294] | 268 [244 ; 297] | 247 [215 ; 278] | 272 [246 ; 303.8] |
| TRIGLYCERIDES (mg / dl) | 91 [71 ; 125] | 91 [71 ; 123] | 89 [68 ; 125] | 95 [75 ; 134] |
| TSH ( mUI / ml) | 1.8 [1.3 ; 2.5] | 1.7 [1.2 ; 2.4] | 1.8 [1.3 ; 2.6] | 1.8 [1.3 ; 2.5] |
| URICEMIA (mg / dl) | 4.7 [3.9 ; 5.7] | 4.7 [3.8 ; 5.7] | 4.8 [3.9 ; 5.7] | 4.8 [3.9 ; 5.8] |

Table 3. Blood count and serum biochemistry according to the impact area

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Li7 | Be9 | Cd111 | As75 | Cr52 | Co59 | Cu63 | Fe |
| **High Impact Area** | **1.008** | **0.004** | **0.007** | **0.940** | **0.049** | **0.852** | **981.5** | **2311** |
| High impact nr. 1 | 1.102 | 0.004 | 0.006 | 1.033 | 0.045 | 0.948 | 1106 | 2363 |
| High impact nr. 2 | 0.948 | 0.004 | 0.007 | 0.735 | 0.046 | 0.806 | 966.1 | 2215 |
| High impact nr. 3 | 0.979 | 0.004 | 0.007 | 1.106 | 0.058 | 0.842 | 978.5 | 2153 |
| High impact nr. 4 | 1.002 | 0.004 | 0.009 | 1.082 | 0.037 | 0.814 | 1007 | 2258 |
| High impact nr. 5 | 1.151 | 0.003 | 0.007 | 0.744 | 0.036 | 0.966 | 992.4 | 2378 |
| High impact nr. 6 | 1.046 | 0.004 | 0.008 | 1.236 | 0.063 | 0.856 | 967.9 | 2399 |
| High impact nr. 7 | 0.809 | 0.005 | 0.007 | 0.457 | 0.048 | 0.786 | 942.9 | 2189 |
| High impact nr. 8 | 1.021 | 0.005 | 0.008 | 1.17 | 0.051 | 0.854 | 975.9 | 2433 |
| High impact nr. 9 | 1.104 | 0.004 | 0.007 | 1.096 | 0.044 | 0.905 | 973.7 | 2399 |
| High impact nr. 10 | 0.98 | 0.003 | 0.008 | 1.09 | 0.078 | 0.888 | 916.6 | 2364 |
| High impact nr. 11 | 0.96 | 0.003 | 0.008 | 0.911 | 0.063 | 0.777 | 984.2 | 2256 |
| High impact nr. 12 | 1.031 | 0.006 | 0.009 | 0.967 | 0.039 | 0.799 | 975.7 | 2341 |
| **Medium Impact Area** | **1.093** | **0.005** | **0.011** | **1.084** | **0.065** | **0.812** | **966.3** | **2154** |
| Medium impact nr. 1 | 0.958 | 0.004 | 0.007 | 0.765 | 0.056 | 0.975 | 1025 | 2592 |
| Medium impact nr. 2 | 0.949 | 0.004 | 0.008 | 0.779 | 0.063 | 0.855 | 1000 | 2475 |
| Medium impact nr. 3 | 0.912 | 0.004 | 0.005 | 0.799 | 0.028 | 0.833 | 995 | 2372 |
| Medium impact (Irno valley) nr. 4 | 1.287 | 0.004 | 0.012 | 1.566 | 0.07 | 0.582 | 868.1 | 1656 |
| Medium impact (Irno Valley) nr. 5 | 1.245 | 0.005 | 0.011 | 1.221 | 0.078 | 0.697 | 881 | 1641 |
| Medium impact (Sabato Valley) nr. 6 | 1.292 | 0.007 | 0.053 | 1.794 | 0.151 | 1.021 | 1044 | 2425 |
| **Low Impact Area** | **1.037** | **0.004** | **0.009** | **1.182** | **0.061** | **0.904** | **1034.0** | **2379** |
| Low impact nr. 1 | 1.044 | 0.005 | 0.009 | 1.226 | 0.036 | 0.878 | 1006 | 2316 |
| Low impact nr. 2 | 1.021 | 0.003 | 0.008 | 1.327 | 0.076 | 0.941 | 1049 | 2487 |
| Low impact nr. 3 | 1.047 | 0.003 | 0.011 | 1.007 | 0.086 | 0.894 | 1048 | 2334 |
| **Overall** | **1.036** | **0.004** | **0.009** | **1.011** | **0.055** | **0.847** | **984.4** | **2274** |

Table 4A. Geometric mean of the heavy metals assessed in the serum (µg/L) by cluster and area.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Hg202 | Mn55 | Mo98 | Ni60 | Pb208 | Sb121 | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| **High Impact Area** | **0.573** | **0.612** | **0.405** | **0.457** | **0.038** | **0.023** | **187** | **28.3** | **0.014** | **0.287** | **1342** |
| High impact nr. 1 | 0.631 | 0.831 | 0.408 | 0.321 | 0.036 | 0.02 | 191 | 29.8 | 0.017 | 0.374 | 1434 |
| High impact nr. 2 | 0.587 | 0.518 | 0.308 | 0.315 | 0.04 | 0.02 | 188 | 27.7 | 0.015 | 0.299 | 1311 |
| High impact nr. 3 | 0.686 | 0.562 | 0.466 | 0.526 | 0.036 | 0.02 | 189 | 28.5 | 0.013 | 0.344 | 1388 |
| High impact nr. 4 | 0.55 | 0.56 | 0.379 | 0.471 | 0.043 | 0.03 | 183 | 27.7 | 0.016 | 0.275 | 1270 |
| High impact nr. 5 | 0.486 | 0.618 | 0.275 | 0.586 | 0.032 | 0.02 | 207 | 30.9 | 0.014 | 0.27 | 1502 |
| High impact nr. 6 | 0.518 | 0.685 | 0.611 | 0.31 | 0.048 | 0.03 | 186 | 28.4 | 0.012 | 0.25 | 1287 |
| High impact nr. 7 | 0.473 | 0.323 | 0.445 | 0.306 | 0.03 | 0.02 | 165 | 26.1 | 0.011 | 0.213 | 1246 |
| High impact nr. 8 | 0.622 | 0.688 | 0.429 | 0.648 | 0.048 | 0.03 | 188 | 28.8 | 0.014 | 0.309 | 1367 |
| High impact nr. 9 | 0.575 | 0.422 | 0.53 | 0.829 | 0.037 | 0.04 | 192 | 28.5 | 0.015 | 0.234 | 1390 |
| High impact nr. 10 | 0.628 | 0.845 | 0.429 | 0.412 | 0.039 | 0.03 | 184 | 27.5 | 0.015 | 0.37 | 1287 |
| High impact nr. 11 | 0.521 | 0.893 | 0.399 | 0.36 | 0.037 | 0.03 | 190 | 28.5 | 0.019 | 0.343 | 1321 |
| High impact nr. 12 | 0.658 | 0.666 | 0.299 | 0.887 | 0.035 | 0.02 | 183 | 27.4 | 0.016 | 0.225 | 1314 |
| **Medium Impact Area** | **1.505** | **0.689** | **0.378** | **0.515** | **0.041** | **0.057** | **193** | **29.1** | **0.014** | **0.246** | **1507** |
| Medium impact nr. 1 | 0.648 | 1.12 | 0.391 | 0.309 | 0.044 | 0.04 | 193 | 28.7 | 0.018 | 0.32 | 1460 |
| Medium impact nr. 2 | 0.564 | 0.592 | 0.374 | 0.381 | 0.04 | 0.02 | 190 | 28.0 | 0.013 | 0.361 | 1385 |
| Medium impact nr. 3 | 0.463 | 0.441 | 0.423 | 0.724 | 0.031 | 0.02 | 199 | 29.2 | 0.007 | 0.245 | 1472 |
| Medium impact (Irno valley) nr. 4 | 4.517 | 0.499 | 0.276 | 0.23 | 0.043 | 0.09 | 184 | 27.4 | 0.015 | 0.171 | 1580 |
| Medium impact (Irno Valley) nr. 5 | 4.971 | 0.459 | 0.229 | 0.226 | 0.034 | 0.08 | 181 | 27.3 | 0.009 | 0.176 | 1697 |
| Medium impact (Sabato Valley) nr. 6 | 1.678 | 1.74 | 0.752 | 3.198 | 0.06 | 0.23 | 209 | 34.3 | 0.033 | 0.26 | 1451 |
| **Low Impact Area** | **0.756** | **0.922** | **0.598** | **0.404** | **0.047** | **0.038** | **196** | **29.0** | **0.011** | **0.321** | **1331** |
| Low impact nr. 1 | 0.865 | 0.658 | 0.464 | 0.33 | 0.034 | 0.03 | 177 | 29.0 | 0.009 | 0.34 | 1294 |
| Low impact nr. 2 | 0.899 | 1.058 | 0.663 | 0.632 | 0.043 | 0.05 | 212 | 29.6 | 0.015 | 0.29 | 1377 |
| Low impact nr. 3 | 0.561 | 1.129 | 0.698 | 0.406 | 0.07 | 0.03 | 201 | 28.4 | 0.01 | 0.336 | 1321 |
| **Overall** | **0.804** | **0.671** | **0.42** | **0.472** | **0.04** | **0.03** | **190** | **28.6** | **0.014** | **0.279** | **1386** |

Table 4B Geometric mean of the heavy metals assessed in the serum (µg/L) by cluster and area

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Li7 | Be9 | Cd111 | As75 | Cr52 | Co59 | Cu63 | Fe | Hg202 | Mn55 | Mo98 | Ni60 | Pb208 | Sb121 | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| **Reference Threshold** | 2.2 | 0.43 | 0.2 | 3.12 | 0.28 | 0.42 | 1301 | 4910 | 3.8 | 1.02 | 1.69 | 0.75 | 0.98 | 0.22 | 105 | 61.5 | 0.09 | 0.11 | 1028 |
| **High Impact Area** | **10.7** | **0.29** | **7.7** | **26.2** | **46.2** | **93.7** | **14.2** | **2.4** | **9.58** | **50.9** | **11.1** | **57.6** | **4.9** | **15.4** | **94.3** | **2.5** | **11.5** | **84.8** | **85.9** |
| High impact nr. 1 | 11.8 | 0.0 | 8.9 | 26.1 | 44.3 | 95.6 | 25.6 | 4.4 | 7.0 | 60.6 | 10.3 | 52.3 | 3.5 | 18.7 | 95.6 | 2.5 | 14.3 | 91.6 | 93.2 |
| High impact nr. 2 | 8.1 | 0.0 | 6.1 | 25.8 | 46.0 | 92.9 | 17.2 | 2.5 | 8.8 | 44.4 | 9.6 | 50.4 | 1.5 | 11.1 | 95.5 | 3.0 | 14.7 | 82.8 | 85.7 |
| High impact nr. 3 | 8.5 | 0.0 | 3.5 | 23.5 | 48.5 | 94.0 | 12.5 | 0.5 | 13.0 | 49.0 | 10.0 | 64.4 | 4.0 | 15.0 | 92.5 | 3.5 | 5.5 | 89.0 | 88.1 |
| High impact nr. 4 | 11.6 | 0.0 | 11.1 | 28.6 | 42.2 | 92.0 | 16.6 | 2.5 | 11.8 | 47.7 | 9.6 | 56.7 | 5.5 | 15.1 | 95.0 | 2.0 | 15.6 | 79.4 | 84.4 |
| High impact nr. 5 | 16.1 | 0.5 | 6.0 | 25.6 | 43.2 | 96.5 | 16.1 | 1.5 | 10.7 | 47.7 | 12.6 | 63.5 | 3.0 | 12.6 | 99.5 | 3.5 | 6.0 | 85.4 | 96.3 |
| High impact nr. 6 | 15.5 | 0.5 | 9.5 | 26.5 | 51.0 | 93.5 | 14.5 | 2.5 | 6.8 | 57.0 | 13.5 | 51.4 | 9.0 | 16.0 | 93.5 | 3.0 | 7.0 | 80.0 | 78.3 |
| High impact nr. 7 | 8.6 | 0.5 | 6.1 | 21.2 | 46.0 | 90.4 | 12.6 | 2.0 | 9.2 | 37.4 | 12.6 | 47.3 | 2.5 | 15.2 | 85.9 | 2.0 | 17.2 | 78.3 | 75.7 |
| High impact nr. 8 | 8.5 | 0.0 | 12.0 | 32.5 | 45.5 | 92.5 | 11.5 | 3.0 | 9.3 | 50.0 | 10.0 | 63.0 | 9.0 | 20.0 | 95.5 | 4.0 | 10.5 | 84.0 | 87.6 |
| High impact nr. 9 | 13.0 | 0.5 | 6.0 | 27.0 | 44.0 | 96.5 | 11.5 | 2.0 | 10.6 | 43.0 | 11.0 | 71.4 | 4.5 | 13.0 | 96.5 | 2.0 | 9.5 | 81.5 | 88.3 |
| High impact nr. 10 | 7.5 | 0.5 | 6.0 | 26.8 | 53.8 | 95.0 | 6.0 | 3.5 | 8.8 | 60.1 | 12.1 | 51.2 | 6.0 | 16.1 | 95.5 | 3.0 | 10.1 | 94.5 | 81.2 |
| High impact nr. 11 | 9.0 | 0.0 | 8.0 | 23.0 | 48.0 | 95.0 | 15.0 | 1.5 | 7.0 | 61.0 | 14.5 | 50.6 | 5.0 | 17.0 | 93.0 | 1.0 | 13.5 | 91.0 | 86.5 |
| High impact nr. 12 | 10.0 | 1.0 | 9.0 | 27.5 | 42.5 | 90.5 | 11.5 | 2.5 | 11.9 | 52.5 | 7.0 | 73.1 | 5.0 | 15.0 | 93.5 | 0.5 | 14.0 | 80.0 | 84.6 |
| **Medium Impact Area** | **13.1** | **0.34** | **11** | **32.5** | **50.8** | **90.9** | **12.6** | **5.29** | **28.7** | **64.9** | **9.37** | **53.2** | **5.86** | **27.7** | **97.1** | **2.85** | **8.12** | **79.6** | **94.4** |
| Medium impact nr. 1 | 7.3 | 1.1 | 5.7 | 20.9 | 47.5 | 96.6 | 16.4 | 6.2 | 5.0 | 66.1 | 7.3 | 45.8 | 6.8 | 27.1 | 97.2 | 1.1 | 6.2 | 88.1 | 93.3 |
| Medium impact nr. 2 | 9.1 | 0.0 | 8.2 | 29.8 | 51.0 | 93.8 | 16.8 | 5.8 | 10.9 | 54.8 | 18.3 | 56.4 | 4.8 | 15.9 | 94.2 | 3.4 | 8.2 | 86.5 | 89.1 |
| Medium impact nr. 3 | 7.1 | 0.9 | 8.0 | 22.6 | 39.2 | 92.5 | 13.7 | 2.4 | 6.8 | 47.6 | 12.7 | 59.0 | 5.7 | 16.0 | 98.6 | 2.8 | 4.3 | 82.1 | 93.1 |
| Medium impact nr 4 | 21.4 | 0.0 | 10.7 | 47.6 | 50.5 | 81.7 | 6.5 | 9.1 | 59.9 | 68.5 | 4.8 | 36.0 | 9.1 | 24.1 | 95.7 | 2.7 | 4.3 | 71.0 | 95.7 |
| Medium impact (Irno Valley) nr. 5 | 20.4 | 0.0 | 8.5 | 39.3 | 53.6 | 85.2 | 8.1 | 4.3 | 61.1 | 64.0 | 5.2 | 30.1 | 4.7 | 23.7 | 96.7 | 1.9 | 1.9 | 70.8 | 97.6 |
| Medium impact (Sabato Valley) nr. 6 | 13.5 | 0.0 | 24.5 | 34.5 | 63.0 | 95.5 | 14.0 | 4.5 | 14.0 | 90.5 | 7.0 | 91.5 | 4.5 | 60.5 | 100.0 | 5.0 | 24.0 | 79.5 | 97.0 |
| **Low Impact Area** | **14.6** | **0.50** | **7.2** | **25.6** | **49.6** | **97.2** | **19.3** | **3.2** | **8.94** | **58** | **13.7** | **52** | **5.7** | **17.4** | **94** | **4.52** | **4.69** | **88.3** | **84.4** |
| Low impact nr. 1 | 12.0 | 0.5 | 8.5 | 29.0 | 40.0 | 96.5 | 16.5 | 4.0 | 10.5 | 48.0 | 16.0 | 49.5 | 4.0 | 16.5 | 88.5 | 4.0 | 6.0 | 89.0 | 85.5 |
| Low impact nr. 2 | 12.8 | 0.0 | 5.4 | 28.1 | 54.2 | 97.5 | 21.7 | 2.0 | 10.2 | 62.6 | 10.3 | 58.3 | 5.9 | 19.7 | 97.0 | 5.9 | 4.4 | 87.7 | 86.7 |
| Low impact nr. 3 | 19.1 | 1.0 | 7.7 | 19.6 | 54.6 | 97.4 | 19.6 | 3.6 | 6.1 | 63.4 | 15.0 | 51.7 | 7.2 | 16.0 | 96.4 | 3.6 | 3.6 | 88.1 | 80.8 |

Table 5. Percentage of measurements above the upper reference limit for the Italian population stratified by cluster and area (ISS 2005).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Li7 | Be9 | Cd111 | As75 | Cr52 | Co59 | Cu63 | Fe |
| **High Impact Area** | -2.7 | -3.3 | -19.1 | -7 | -11.2 | 0.5 | -0.3 | 1.6 |
| High impact nr. 1 | 6.4 | 6.8 | -29.4 | 2.2 | -18 | 11.9 | 12.4 | 3.9 |
| High impact nr. 2 | -8.5 | 2.1 | -15.9 | -27.3 | -17.4 | -4.9 | -1.9 | -2.6 |
| High impact nr. 3 | -5.4 | 0.3 | -24.3 | 9.4 | 4.6 | -0.7 | -0.6 | -5.3 |
| High impact nr. 4 | -3.3 | -12.6 | -0.4 | 7 | -32.5 | -3.9 | 2.2 | -0.7 |
| High impact nr. 5 | 11.1 | -18.4 | -21.7 | -26.4 | -34.6 | 14 | 0.8 | 4.6 |
| High impact nr. 6 | 1 | 6.3 | -10.6 | 22.2 | 14.9 | 1 | -1.7 | 5.5 |
| High impact nr. 7 | -21.8 | 8.8 | -14.4 | -54.8 | -13.7 | -7.2 | -4.2 | -3.8 |
| High impact nr. 8 | -1.4 | 11.9 | -9.9 | 15.7 | -7.7 | 0.8 | -0.9 | 7 |
| High impact nr. 9 | 6.6 | -7.3 | -14.7 | 8.4 | -19.9 | 6.8 | -1.1 | 5.5 |
| High impact nr. 10 | -5.3 | -20 | -6.8 | 7.8 | 41.6 | 4.8 | -6.9 | 3.9 |
| High impact nr. 11 | -7.3 | -16.5 | -13.1 | -9.9 | 13.8 | -8.3 | 0 | -0.8 |
| High impact nr. 12 | -0.5 | 34.4 | 5.5 | -4.4 | -28.9 | -5.7 | -0.9 | 2.9 |
| **Medium Impact Area** | 0.1 | -3.3 | 4 | 16.9 | 10.6 | 6.7 | 5 | 4.6 |
| Medium impact nr. 1 | -7.5 | 4.1 | -22.4 | -24.3 | 0.8 | 15.1 | 4.1 | 14 |
| Medium impact nr. 2 | -8.4 | -6.8 | -3.8 | -23 | 14.1 | 0.8 | 1.6 | 8.8 |
| Medium impact nr. 3 | -11.9 | -11.2 | -45.4 | -21 | -49.3 | -1.7 | 1.1 | 4.3 |
| Medium impact (Irno valley) nr. 4 | 24.2 | 8.4 | 40.7 | 54.8 | 26.6 | -31.3 | -11.8 | -27.2 |
| Medium impact (Irno Valley) nr. 5 | 20.2 | 21.9 | 30.9 | 20.8 | 40.9 | -17.7 | -10.5 | -27.8 |
| Medium impact (Sabato Valley) nr. 6 | 24.7 | 57.8 | 517.5 | 77.4 | 174 | 20.5 | 6 | 6.6 |
| **Low Impact Area** | 5.5 | 20.9 | 27.1 | 7.2 | 17.8 | -4.2 | -1.8 | -5.3 |
| Low impact nr. 1 | 0.8 | 11.7 | 9.3 | 21.2 | -35.3 | 3.7 | 2.2 | 1.8 |
| Low impact nr. 2 | -1.4 | -21.7 | -6.2 | 31.2 | 37.9 | 11 | 6.5 | 9.4 |
| Low impact nr. 3 | 1.1 | -24.1 | 22.2 | -0.4 | 55.8 | 5.5 | 6.5 | 2.6 |

Table 6A. Percentage fold-increase/decrease of the geometric mean of heavy metals assessed in the population indwelling in each cluster/area vs. the entire population

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Hg202 | Mn55 | Mo98 | Ni60 | Pb208 | Sb121 | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| **High Impact Area** | -28.7 | -8.8 | -3.5 | -3.2 | -5.1 | -28.7 | -1.5 | -1.1 | 2.8 | 2.8 | -3.2 |
| High impact nr. 1 | -21.6 | 23.9 | -2.8 | -32 | -9.6 | -36 | 0.7 | 4.2 | 24.3 | 34.1 | 3.4 |
| High impact nr. 2 | -27 | -22.7 | -26.7 | -33.3 | 0.2 | -50 | -0.9 | -3.3 | 8.6 | 7 | -5.4 |
| High impact nr. 3 | -14.7 | -16.2 | 11 | 11.4 | -9.4 | -37.5 | -0.3 | -0.6 | -4.9 | 23.3 | 0.1 |
| High impact nr. 4 | -31.6 | -16.5 | -9.8 | -0.2 | 6.3 | -14.7 | -3.6 | -3.1 | 18.3 | -1.5 | -8.4 |
| High impact nr. 5 | -39.5 | -7.8 | -34.6 | 24.2 | -19.3 | -48.5 | 8.9 | 7.9 | -0.2 | -3.3 | 8.4 |
| High impact nr. 6 | -35.6 | 2.1 | 45.6 | -34.3 | 20.9 | -16.3 | -2.2 | -0.6 | -15.1 | -10.6 | -7.2 |
| High impact nr. 7 | -41.1 | -51.8 | 6 | -35.2 | -25.7 | -50.1 | -13 | -9 | -22.2 | -23.6 | -10.1 |
| High impact nr. 8 | -22.6 | 2.5 | 2.2 | 37.3 | 20.4 | -14.7 | -1.1 | 0.8 | 3.8 | 10.7 | -1.4 |
| High impact nr. 9 | -28.5 | -37 | 26.3 | 75.8 | -7.7 | 23 | 1 | -0.5 | 8.1 | -16.3 | 0.3 |
| High impact nr. 10 | -21.9 | 26 | 2.2 | -12.7 | -2.6 | -3.5 | -2.9 | -3.9 | 8 | 32.5 | -7.1 |
| High impact nr. 11 | -35.2 | 33.1 | -4.9 | -23.6 | -7.8 | -9.6 | -0.2 | -0.6 | 38.7 | 23 | -4.7 |
| High impact nr. 12 | -18.2 | -0.7 | -28.7 | 88.1 | -12.2 | -38.2 | -3.4 | -4.3 | 16.6 | -19.3 | -5.2 |
| **Medium Impact Area** | -5.9 | 37.5 | 42.5 | -14.4 | 17.4 | 17.7 | 3.2 | 1.3 | -19.2 | 15 | -4 |
| Medium impact nr. 1 | -19.3 | 66.9 | -6.8 | -34.5 | 10.9 | 22.6 | 1.7 | 0.2 | 34.9 | 14.7 | 5.4 |
| Medium impact nr. 2 | -29.8 | -11.7 | -10.9 | -19.3 | -0.2 | -24.3 | 0.3 | -2 | -7.5 | 29.3 | -0.1 |
| Medium impact nr. 3 | -42.4 | -34.2 | 0.7 | 53.4 | -22.5 | -32.8 | 5 | 2.1 | -51.5 | -12.4 | 6.2 |
| Medium impact (Irno valley) nr. 4 | 461.9 | -25.7 | -34.3 | -51.2 | 8.2 | 180.9 | -3.2 | -4.1 | 12.4 | -38.6 | 14 |
| Medium impact (Irno Valley) nr. 5 | 518.4 | -31.5 | -45.4 | -52 | -14.6 | 146 | -4.4 | -4.6 | -33.8 | -37.1 | 22.4 |
| Medium impact (Sabato Valley) nr. 6 | 108.7 | 159.5 | 79.2 | 577.6 | 49.5 | 626.6 | 10.3 | 19.8 | 142.2 | -6.8 | 4.7 |
| **Low Impact Area** | 87.2 | 2.7 | -9.9 | 9.1 | 2.4 | 76.6 | 1.7 | 1.7 | 2.8 | -11.9 | 8.7 |
| Low impact nr. 1 | 7.6 | -1.9 | 10.6 | -30 | -14.3 | 3.8 | -6.8 | 1.4 | -34.4 | 21.9 | -6.6 |
| Low impact nr. 2 | 11.8 | 57.8 | 58 | 33.9 | 7.2 | 48.3 | 11.6 | 3.5 | 8.6 | 3.7 | -0.7 |
| Low impact nr. 3 | -30.3 | 68.3 | 66.3 | -13.9 | 75.1 | 6.4 | 5.7 | -0.6 | -27.9 | 20.4 | -4.7 |

Table 6B. Percentage fold-increase/decrease of the geometric mean of heavy metals assessed in the population indwelling in each cluster/area vs. the entire population

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Municipality | Li7 | Be9 | Cd111 | As75 | Cr52 | Co59 | Cu63 | Fe56+Fe67 |
| high\_1 | Cancello ed Arnone | 4.0 | -4.3 | -30.3 | -29.7 | -62.1 | 4.6 | 6.9 | -8.5 |
| high\_1 | Carinola | -0.7 | 39.9 | -42.7 | -12.0 | -3.6 | 15.7 | 18.0 | -1.2 |
| high\_1 | Roccarainola | 35.1 | 104.8 | 437.6 | 165.4 | 498.1 | 50.4 | 18.5 | 11.8 |
| high\_1 | San Prisco | 11.5 | -15.7 | -53.0 | 19.6 | -81.8 | 2.1 | 13.4 | 13.8 |
| high\_2 | Mondragone | -10.4 | 45.6 | -36.4 | 54.4 | -62.8 | 1.3 | 0.5 | -1.5 |
| high\_2 | San Felice a Cancello | -13.2 | -49.3 | -31.9 | -37.9 | -8.5 | 5.6 | -10.0 | 31.0 |
| high\_2 | Sant'Anastasia | 3.5 | 69.8 | 45.0 | -50.5 | -6.5 | -2.3 | -7.9 | -6.6 |
| high\_3 | Casal di Principe | -7.1 | -24.3 | -16.5 | 63.5 | 86.7 | -15.2 | 2.6 | 2.7 |
| high\_3 | Marano di Napoli | -9.8 | 19.4 | 50.9 | 33.3 | 81.7 | 18.1 | 11.0 | -6.5 |
| high\_3 | Quarto | 14.9 | 9.6 | -7.8 | 47.4 | 199.4 | 23.5 | 0.4 | 6.2 |
| high\_3 | Somma Vesuviana | -13.9 | -5.8 | -31.8 | -4.0 | -57.1 | 23.7 | -7.3 | 6.9 |
| high\_4 | Caserta | -21.0 | -5.8 | -2.8 | 76.7 | -11.7 | -14.8 | -9.6 | 1.7 |
| high\_4 | Saviano | 19.3 | -36.0 | -40.9 | -57.6 | -74.8 | 19.8 | 10.1 | 2.9 |
| high\_5 | Brusciano | 11.0 | -11.8 | -57.1 | -1.0 | -58.8 | 16.1 | -3.7 | 2.3 |
| high\_5 | Cicciano | 28.0 | -13.4 | -11.5 | -45.3 | 26.1 | 38.2 | 4.2 | 7.7 |
| high\_5 | Palma Campania | 27.9 | -23.6 | -30.5 | -24.8 | -83.5 | 18.9 | -4.4 | -5.3 |
| high\_5 | San Marcellino | 0.3 | 32.9 | 39.3 | -36.1 | 33.4 | -18.6 | -2.4 | 10.0 |
| high\_6 | Ercolano | -23.1 | 141.2 | -23.2 | 7.8 | 140.2 | -5.5 | -13.5 | -7.9 |
| high\_6 | Terzigno | -43.6 | -43.4 | -5.6 | 4.7 | 0.7 | 7.4 | -2.0 | 9.7 |
| high\_7 | Aversa | -30.6 | -30.6 | 11.1 | 13.1 | -81.8 | 5.2 | -10.5 | 23.9 |
| high\_7 | Maddaloni | 5.8 | 15.1 | 11.5 | -86.8 | 45.6 | -9.8 | -4.6 | -4.7 |
| high\_7 | Marigliano | -56.5 | -13.1 | -43.5 | -31.7 | -49.2 | -13.8 | -3.3 | -1.3 |
| high\_7 | Pozzuoli | -6.3 | 0.4 | 58.6 | -13.0 | -17.5 | -13.8 | -0.2 | -15.4 |
| high\_7 | Torre del Greco | -21.2 | 39.9 | -35.1 | -80.5 | 27.1 | 1.6 | -2.8 | -0.9 |
| high\_8 | Cardito | 2.5 | -21.7 | -20.6 | 94.1 | 64.9 | -3.7 | -6.8 | 3.6 |
| high\_8 | Casandrino | 37.1 | 108.8 | 223.0 | -10.5 | 172.7 | 0.2 | 9.8 | 22.7 |
| high\_8 | Casavatore | -13.6 | 28.2 | -23.5 | -10.5 | -61.5 | -9.2 | -2.8 | -0.8 |
| high\_8 | Castel Volturno | -0.9 | 1.0 | 10.0 | 3.4 | -34.6 | 27.1 | 8.3 | 8.0 |
| high\_8 | Grumo Nevano | 2.5 | -3.4 | 19.8 | 36.5 | 8.5 | -22.9 | -3.1 | 3.4 |
| high\_8 | Teverola | -18.1 | 31.2 | -69.2 | -6.6 | -30.9 | 10.7 | -7.7 | 10.8 |
| high\_9 | Casalnuovo di Napoli | 8.2 | -6.5 | 39.1 | 41.7 | -21.8 | 22.0 | 0.3 | -2.9 |
| high\_9 | Marcianise | -38.7 | -5.8 | 16.9 | -16.2 | -65.2 | -6.3 | 4.0 | 1.7 |
| high\_9 | Nola | 64.6 | -0.1 | -64.8 | -7.5 | 77.7 | 32.5 | 5.6 | 4.4 |
| high\_9 | Portici | 44.7 | -30.0 | -15.1 | 14.2 | 68.1 | 0.8 | -7.4 | 19.4 |
| high\_9 | San Giorgio a Cremano | 0.1 | -39.6 | 5.6 | -66.8 | -70.7 | 7.1 | 3.6 | 4.8 |
| high\_10 | Afragola | 7.3 | -4.9 | -12.2 | -9.0 | 279.0 | 24.9 | -5.1 | 18.9 |
| high\_10 | Casoria | -13.8 | -26.3 | -14.1 | -10.8 | -48.6 | 11.7 | -4.0 | 7.4 |
| high\_10 | Frattamaggiore | -9.5 | -0.2 | 83.8 | 70.9 | 87.2 | -15.2 | -15.0 | -6.6 |
| high\_10 | Pomigliano d'Arco | -25.0 | -48.2 | -33.1 | 13.3 | 63.9 | 1.7 | -7.5 | -9.9 |
| high\_11 | Arzano | -16.8 | -43.0 | -56.1 | -68.3 | -37.4 | -6.9 | -3.2 | -4.5 |
| high\_11 | Caivano | -22.5 | 2.8 | -20.9 | -36.5 | -42.9 | -13.3 | -2.4 | -0.5 |
| high\_11 | Giugliano in Campania | 3.1 | -17.5 | 5.4 | 33.1 | 78.4 | -6.1 | 1.8 | -0.1 |
| high\_12 | Acerra | -13.7 | 9.1 | -12.7 | 24.7 | -19.9 | 10.2 | -2.2 | 24.5 |
| high\_12 | Napoli | 3.7 | 57.8 | 21.8 | -7.1 | -22.0 | -10.1 | -0.6 | -1.6 |
| medium\_1 | Castel San Giorgio | -6.4 | 7.6 | -40.8 | -18.8 | -41.9 | 32.6 | 9.0 | 7.7 |
| medium\_1 | Montoro | -6.9 | 35.0 | -35.5 | -25.0 | -32.1 | -1.0 | -3.3 | 16.6 |
| medium\_1 | Siano | -13.9 | -25.8 | -7.2 | -72.6 | -71.7 | 25.2 | 13.4 | -4.4 |
| medium\_1 | Solofra | 9.2 | 30.9 | 58.3 | -13.2 | 520.9 | 20.6 | 4.7 | 28.8 |
| medium\_2 | Fisciano | 6.4 | 24.6 | 35.1 | -1.7 | 125.9 | 4.6 | -2.9 | 24.3 |
| medium\_2 | Mercato San Severino | 2.0 | 2.4 | 27.9 | -50.7 | -48.8 | 32.1 | 15.6 | 9.3 |
| medium\_2 | Nocera Inferiore | -9.3 | -44.3 | 7.3 | 0.5 | 213.1 | -21.3 | -5.4 | -4.5 |
| medium\_2 | Nocera Superiore | -4.1 | -13.6 | -36.0 | 24.1 | -68.5 | -38.0 | -5.0 | 3.0 |
| medium\_3 | Angri | -16.9 | -20.0 | -55.1 | -33.4 | -63.5 | -12.2 | 8.7 | -3.0 |
| medium\_3 | Castellammare di Stabia | -29.1 | -12.1 | -52.4 | -25.2 | -2.3 | -4.5 | 4.8 | 5.0 |
| medium\_3 | Sarno | -15.1 | 14.5 | -34.9 | -36.3 | 73.2 | -13.6 | 4.4 | 20.3 |
| medium\_3 | Scafati | 5.7 | -35.5 | -52.2 | -40.7 | -76.1 | 7.8 | 3.9 | 0.2 |
| medium\_3 | Torre Annunziata | 5.9 | -36.3 | -69.2 | 72.1 | -86.5 | 10.9 | -7.2 | 5.7 |
| irno\_1 | Baronissi | 15.7 | 46.6 | 49.1 | -3.5 | 29.1 | -33.4 | -17.4 | -27.1 |
| irno\_1 | Pellezzano | 30.7 | -12.7 | 34.9 | 117.2 | 24.9 | -29.8 | -7.6 | -27.3 |
| irno\_2 | Salerno | 20.2 | 21.9 | 30.9 | 20.8 | 40.9 | -17.7 | -10.5 | -27.8 |
| sabato | Aiello del Sabato | 30.1 | -44.9 | 847.3 | 53.4 | 1317.1 | 11.7 | 2.1 | -3.3 |
| sabato | Atripalda | 42.2 | 74.8 | 522.6 | 160.8 | 178.6 | 49.9 | 0.9 | 15.6 |
| sabato | Avellino | 42.7 | 36.7 | 493.0 | 18.5 | 71.1 | 16.7 | 8.1 | -2.6 |
| sabato | Manocalzati | 17.5 | 20.9 | 648.6 | 73.1 | 216.1 | 28.7 | 11.5 | 3.4 |
| sabato | Montefredane | 14.2 | 375.2 | 381.1 | 280.3 | -60.6 | 31.1 | 9.1 | 19.6 |
| sabato | Prata di Principato Ultra | 10.0 | -9.1 | 390.2 | -19.5 | 1100.9 | 2.5 | -2.8 | 7.0 |
| sabato | Pratola Serra | 21.3 | 198.6 | 497.9 | 109.8 | 60.9 | 6.2 | 14.3 | 6.7 |
| low\_1 | Laviano | -0.5 | -39.9 | 35.0 | -32.8 | -89.6 | 11.3 | 11.6 | 5.0 |
| low\_1 | Perdifumo | 32.8 | 143.4 | -28.1 | -27.7 | 36.4 | 11.6 | 5.7 | 1.9 |
| low\_1 | Pollica | -3.7 | -17.1 | -54.1 | 94.6 | -85.5 | 10.6 | -6.6 | -4.3 |
| low\_1 | San Mauro Cilento | -25.2 | -19.8 | -39.5 | 158.0 | 202.9 | -9.2 | -5.4 | -6.8 |
| low\_1 | Stella Cilento | 2.7 | 50.4 | 538.5 | 28.6 | -12.1 | 11.1 | -5.0 | 7.9 |
| low\_2 | Calabritto | -4.6 | 13.0 | -60.7 | -6.0 | 55.6 | 7.5 | 2.2 | 3.9 |
| low\_2 | Caposele | 47.6 | 28.3 | 20.6 | -27.6 | 1035.2 | 6.1 | -4.6 | 1.9 |
| low\_2 | Casal Velino | -1.3 | -58.0 | 120.8 | 42.5 | 585.9 | 15.2 | 8.6 | 0.2 |
| low\_2 | Centola | -14.8 | -32.2 | -17.5 | 151.6 | 17.6 | 13.7 | 13.1 | 11.2 |
| low\_2 | Montecorice | -9.4 | -12.9 | -12.7 | 264.4 | -82.5 | 8.5 | 4.8 | 25.4 |
| low\_3 | Castellabate | 8.8 | -44.3 | 9.1 | 250.5 | 275.8 | -0.4 | 2.1 | -0.2 |
| low\_3 | Contursi Terme | 72.3 | -50.8 | 105.9 | 3.4 | 823.7 | 13.0 | 11.5 | 15.3 |
| low\_3 | Sicignano degli Alburni | 15.3 | -13.7 | 60.8 | -17.6 | 50.3 | 7.0 | 7.2 | 8.8 |

Table 7A. Percentage fold-increase/decrease in the population indwelling in each municipality vs. the entire territory (only municipalities with >20 participants are reported)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cluster | Municipality | Hg202 | Mn55 | Mo98 | Ni60 | Pb208 | Sb121 | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| high\_1 | Cancello ed Arnone | -55.3 | -28.6 | 13.7 | -66.5 | 53.4 | -66.8 | 4.5 | 6.5 | -27.9 | 81.7 | -3.0 |
| high\_1 | Carinola | 36.2 | -4.6 | -38.3 | 7.5 | -43.7 | -80.8 | -11.9 | 5.9 | 181.1 | -12.4 | 1.0 |
| high\_1 | Roccarainola | 48.3 | 164.3 | 178.4 | 98.3 | 73.7 | 429.2 | 6.3 | 15.7 | -11.2 | 155.6 | 12.4 |
| high\_1 | San Prisco | -62.6 | 24.0 | 96.7 | 6.9 | -31.4 | -37.2 | 2.7 | -3.4 | 21.7 | -2.5 | 0.5 |
| high\_2 | Mondragone | -57.0 | -35.2 | -18.8 | -76.6 | 35.8 | -65.8 | -2.5 | -9.8 | -26.8 | -24.0 | -5.8 |
| high\_2 | San Felice a Cancello | -23.7 | 28.7 | -42.5 | -73.1 | 0.6 | -54.6 | 14.6 | 12.1 | 9.8 | 23.5 | 7.3 |
| high\_2 | Sant'Anastasia | -37.8 | -67.2 | -80.9 | -43.1 | 0.9 | -68.1 | 0.1 | -12.5 | -20.9 | 9.3 | -15.6 |
| high\_3 | Casal di Principe | -34.6 | 13.3 | 62.6 | -45.2 | 16.8 | 45.6 | 2.8 | 5.2 | -15.9 | 17.1 | -13.8 |
| high\_3 | Marano di Napoli | -3.0 | -6.7 | 29.7 | 54.6 | -3.3 | 21.9 | 9.9 | 16.4 | 63.3 | 62.4 | 12.3 |
| high\_3 | Quarto | -9.4 | -9.9 | 33.5 | 93.4 | 12.1 | 51.7 | 5.3 | 3.3 | -0.2 | -7.5 | 14.6 |
| high\_3 | Somma Vesuviana | 30.7 | -17.3 | -25.9 | 36.7 | -19.5 | -81.5 | -10.2 | -9.8 | -5.3 | 95.6 | 8.5 |
| high\_4 | Caserta | -38.3 | -46.1 | -25.6 | -49.7 | 0.8 | -36.5 | -7.5 | -14.0 | -6.1 | -4.1 | -18.6 |
| high\_4 | Saviano | -51.7 | -20.3 | -7.8 | 165.1 | 12.7 | -70.4 | -1.4 | 7.8 | -45.7 | 9.7 | 5.2 |
| high\_5 | Brusciano | -64.4 | -38.7 | -69.4 | -95.5 | -48.8 | -46.4 | 27.8 | 12.4 | 23.0 | -51.6 | 1.1 |
| high\_5 | Cicciano | 14.4 | 77.9 | -24.1 | 228.9 | -2.0 | 34.1 | 10.7 | 2.4 | 2.4 | 82.7 | 9.4 |
| high\_5 | Palma Campania | -54.8 | -59.9 | -39.4 | -13.4 | -30.7 | -55.1 | -2.5 | 16.1 | -41.0 | -10.5 | 11.2 |
| high\_5 | San Marcellino | 5.8 | 15.2 | 34.9 | -47.2 | 4.2 | -59.4 | -5.5 | 3.0 | 8.1 | 0.7 | 2.3 |
| high\_6 | Ercolano | -57.0 | 56.4 | 63.6 | 800.8 | -27.4 | 199.0 | -18.7 | -11.8 | 86.7 | -60.0 | -29.1 |
| high\_6 | Terzigno | -45.3 | -4.9 | 235.7 | -70.1 | 52.0 | -5.2 | -8.7 | -6.4 | -60.9 | -54.0 | -0.2 |
| high\_7 | Aversa | 36.1 | 1.3 | 66.2 | 257.7 | -48.0 | -39.1 | -21.7 | -14.2 | 56.7 | 31.1 | -17.8 |
| high\_7 | Maddaloni | -58.3 | -1.8 | 24.5 | -57.2 | -9.7 | -60.4 | -18.1 | -15.5 | -33.0 | 50.5 | -6.6 |
| high\_7 | Marigliano | -56.1 | -79.9 | -27.2 | -61.7 | -40.3 | -69.8 | 4.4 | -14.8 | -9.1 | -89.8 | -3.6 |
| high\_7 | Pozzuoli | -35.0 | -19.5 | 45.3 | 175.9 | 8.7 | -20.7 | -7.6 | -9.4 | 48.0 | -40.3 | -6.7 |
| high\_7 | Torre del Greco | -66.0 | -79.0 | 0.9 | -65.3 | -29.3 | -49.4 | -14.6 | 3.9 | -69.0 | 3.4 | -12.4 |
| high\_8 | Cardito | -25.2 | 7.1 | -56.6 | -8.8 | 33.4 | -67.9 | -4.7 | -6.3 | 7.0 | 26.4 | -2.4 |
| high\_8 | Casandrino | -24.3 | 13.7 | -22.5 | 110.3 | 13.3 | 81.3 | 6.9 | 19.3 | 39.0 | 73.1 | 5.7 |
| high\_8 | Casavatore | -25.9 | 4.7 | 70.7 | 2.2 | 34.8 | 196.2 | -8.3 | 4.0 | 83.8 | -5.5 | -7.5 |
| high\_8 | Castel Volturno | -7.4 | 12.1 | 101.5 | 207.6 | 51.4 | -24.4 | 15.9 | 10.5 | 29.8 | -19.0 | 7.0 |
| high\_8 | Grumo Nevano | -9.5 | 27.9 | -23.1 | 137.3 | -25.2 | 48.5 | -6.5 | -14.2 | -59.3 | 28.1 | -2.2 |
| high\_8 | Teverola | -39.2 | -35.4 | 12.6 | -55.7 | 13.0 | -62.8 | -9.9 | -2.2 | -16.2 | 7.9 | -9.4 |
| high\_9 | Casalnuovo di Napoli | 22.5 | 55.8 | 140.9 | 218.1 | -30.7 | 74.9 | -0.7 | -9.1 | 40.8 | 29.9 | -15.4 |
| high\_9 | Marcianise | 49.5 | 10.8 | 87.7 | 111.2 | -28.2 | 223.2 | 1.8 | -7.5 | 117.7 | -23.8 | -3.9 |
| high\_9 | Nola | 34.6 | -0.5 | 83.0 | 212.8 | 20.8 | -11.0 | 7.6 | 14.3 | -42.4 | 28.7 | 12.0 |
| high\_9 | Portici | -51.2 | -32.0 | 25.6 | 318.2 | -25.2 | 146.9 | 0.1 | 6.5 | 20.5 | 4.3 | -0.3 |
| high\_9 | San Giorgio a Cremano | -54.7 | -80.0 | -18.4 | 299.2 | -15.8 | 14.8 | 5.4 | 13.2 | -49.2 | -63.9 | 13.0 |
| high\_10 | Afragola | -29.7 | 32.3 | 85.3 | -10.7 | -9.8 | 116.7 | -2.3 | -0.4 | 16.1 | 26.0 | -6.9 |
| high\_10 | Casoria | -35.3 | 26.4 | -42.3 | -36.2 | 1.8 | -59.5 | 1.6 | -1.5 | -16.0 | 51.7 | -0.2 |
| high\_10 | Frattamaggiore | 121.7 | -1.6 | -35.6 | 18.1 | 1.0 | 73.7 | -11.2 | -2.8 | 149.5 | 87.2 | -9.9 |
| high\_10 | Pomigliano d'Arco | -51.9 | 34.8 | 118.3 | 126.0 | 19.7 | 45.7 | -3.1 | -16.5 | -31.5 | -21.5 | -17.1 |
| high\_11 | Arzano | -61.0 | -28.6 | -15.6 | -41.7 | 0.5 | -18.1 | -3.7 | -12.9 | -13.9 | -43.5 | -21.8 |
| high\_11 | Caivano | -39.9 | 56.1 | -56.0 | -64.2 | -24.0 | -67.4 | -2.3 | 7.9 | -10.9 | 73.4 | -6.2 |
| high\_11 | Giugliano in Campania | -24.9 | 41.7 | 39.3 | 50.2 | -1.0 | 48.0 | 1.6 | -1.5 | 88.9 | 24.4 | -0.2 |
| high\_12 | Acerra | -23.9 | 76.2 | 106.1 | -13.0 | 21.4 | 55.0 | -1.0 | -9.3 | -45.3 | -27.5 | -14.7 |
| high\_12 | Napoli | -13.3 | -19.2 | -44.9 | 115.5 | -21.8 | -47.2 | -5.9 | -4.5 | 44.8 | -20.0 | -3.2 |
| medium\_1 | Castel San Giorgio | -25.1 | 46.8 | -10.9 | -73.2 | 28.0 | -71.7 | 8.2 | -4.2 | 6.5 | 2.0 | 6.1 |
| medium\_1 | Montoro | -5.1 | 42.2 | -55.3 | 51.8 | 8.3 | 85.7 | -4.4 | 3.5 | 44.3 | -8.6 | 3.6 |
| medium\_1 | Siano | -35.3 | 50.6 | -7.7 | -37.3 | 4.2 | -57.6 | 3.2 | 4.6 | 30.6 | 35.9 | 12.7 |
| medium\_1 | Solofra | -12.7 | 155.7 | 158.3 | 145.9 | 15.1 | 437.0 | 0.4 | -7.2 | 94.5 | 13.5 | 4.7 |
| medium\_2 | Fisciano | -53.8 | -43.6 | -15.2 | -72.9 | 7.5 | 52.3 | 6.5 | -5.6 | 16.7 | 65.6 | -4.8 |
| medium\_2 | Mercato San Severino | -47.3 | 27.3 | -10.5 | -25.9 | 46.7 | -56.2 | 11.0 | 10.3 | 6.4 | 59.4 | 4.8 |
| medium\_2 | Nocera Inferiore | 0.0 | -11.6 | -41.3 | 54.2 | -38.7 | -50.5 | -2.6 | -11.4 | -9.5 | 33.6 | -1.9 |
| medium\_2 | Nocera Superiore | -40.5 | 36.5 | -12.6 | -80.5 | 40.2 | -48.4 | -13.4 | 2.5 | -30.4 | 1.8 | -7.0 |
| medium\_3 | Angri | -68.6 | -10.7 | 116.2 | 249.1 | -36.7 | 39.0 | 1.0 | -5.3 | -46.6 | -12.1 | -2.2 |
| medium\_3 | Castellammare di Stabia | -14.4 | -44.8 | -1.6 | 334.4 | -14.1 | -52.6 | 1.8 | -1.1 | -65.4 | -26.7 | 10.7 |
| medium\_3 | Sarno | 13.9 | 53.7 | -0.1 | -62.1 | -12.7 | -23.2 | 7.7 | 10.9 | -54.4 | 12.8 | 4.9 |
| medium\_3 | Scafati | -57.7 | -37.7 | 63.6 | 738.3 | -34.1 | -60.0 | 21.1 | 14.3 | -38.6 | 32.4 | 10.9 |
| medium\_3 | Torre Annunziata | -71.7 | -81.7 | -37.9 | -1.2 | -41.6 | -64.6 | 1.7 | 7.2 | -54.4 | -63.8 | 16.2 |
| irno\_1 | Baronissi | 423.3 | -44.0 | -48.7 | -45.5 | 0.6 | 210.0 | 2.6 | -10.3 | -5.4 | -39.6 | 13.1 |
| irno\_1 | Pellezzano | 491.3 | -9.0 | -21.6 | -54.9 | 13.9 | 161.7 | -7.2 | 0.6 | 27.2 | -38.0 | 14.6 |
| irno\_2 | Salerno | 518.4 | -31.5 | -45.4 | -52.0 | -14.6 | 146.0 | -4.4 | -4.6 | -33.8 | -37.1 | 22.4 |
| sabato | Aiello del Sabato | 58.2 | 106.1 | 47.9 | 266.2 | -40.3 | 656.2 | 19.2 | 19.2 | 111.4 | -12.0 | 0.3 |
| sabato | Atripalda | 115.6 | 205.4 | 67.7 | 586.0 | 40.1 | 790.0 | 6.8 | 22.0 | 48.0 | -27.0 | 4.8 |
| sabato | Avellino | 104.2 | 147.9 | 69.8 | 530.9 | 47.4 | 680.5 | 9.9 | 14.2 | 162.1 | -26.5 | 3.6 |
| sabato | Manocalzati | 85.9 | 184.6 | 74.6 | 475.2 | 179.9 | 778.7 | 7.5 | 37.9 | 194.3 | 18.6 | 10.0 |
| sabato | Montefredane | 202.1 | 210.1 | 85.2 | 575.7 | 251.8 | 513.0 | 15.9 | 28.1 | 196.1 | -17.8 | 12.6 |
| sabato | Prata di Principato Ultra | 53.4 | 101.4 | 151.2 | 438.5 | -38.4 | 549.5 | 12.2 | 15.9 | 155.5 | -48.5 | 3.3 |
| sabato | Pratola Serra | 175.3 | 174.6 | 68.4 | 1859.5 | 88.8 | 481.8 | 1.5 | 2.8 | 159.7 | 180.7 | -2.6 |
| low\_1 | Laviano | -31.6 | 5.2 | 103.4 | 493.7 | -44.3 | 154.4 | -1.5 | 14.4 | -45.5 | 52.2 | -5.4 |
| low\_1 | Perdifumo | 50.8 | 70.5 | 144.3 | 248.3 | -31.6 | 421.6 | -8.9 | -1.1 | 5.0 | -10.8 | -36.3 |
| low\_1 | Pollica | 2.3 | -73.3 | 9.3 | 184.7 | -20.3 | -88.3 | -41.9 | -10.3 | -85.2 | -54.1 | -10.4 |
| low\_1 | San Mauro Cilento | 25.2 | -17.3 | -82.0 | -69.7 | -50.0 | -86.9 | -10.0 | -22.1 | 28.2 | 62.4 | -4.3 |
| low\_1 | Stella Cilento | 62.9 | 88.0 | 249.4 | 73.8 | 72.4 | 56.2 | 0.6 | -6.7 | 5.2 | 112.3 | -2.0 |
| low\_2 | Calabritto | 160.9 | 19.6 | -24.9 | -40.0 | -41.3 | -81.7 | 1.9 | -6.1 | -20.0 | 104.3 | 4.1 |
| low\_2 | Caposele | -15.5 | 141.9 | 162.1 | -52.0 | -28.1 | 230.8 | 1.4 | 13.3 | 5.4 | 14.6 | 3.5 |
| low\_2 | Casal Velino | 52.1 | 122.3 | 129.3 | 87.5 | 99.9 | 463.2 | 12.2 | -8.7 | 82.9 | 41.7 | -1.9 |
| low\_2 | Centola | -56.2 | 92.6 | 215.9 | 1731.9 | 4.0 | 158.2 | 13.6 | 1.9 | 37.8 | -60.0 | -14.3 |
| low\_2 | Montecorice | 54.5 | 19.8 | 36.6 | 195.1 | 67.2 | 427.5 | 23.0 | 20.6 | 1.0 | -31.7 | 4.6 |
| low\_3 | Castellabate | 59.8 | 51.5 | 246.9 | 355.8 | -18.0 | 302.3 | 10.1 | 12.2 | 26.7 | -34.0 | -5.4 |
| low\_3 | Contursi Terme | 58.0 | 115.4 | 138.5 | 331.8 | 168.3 | 467.4 | 18.9 | -1.0 | 12.5 | 49.0 | 3.7 |
| low\_3 | Sicignano degli Alburni | -14.9 | 113.2 | 141.3 | 199.4 | 59.7 | 4.2 | 2.4 | -0.8 | -12.0 | 73.5 | 0.6 |

Table 7B. Percentage fold-increase/decrease in the population indwelling in each municipality vs. the entire territory (only municipalities with >20 participants are reported)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Hg202 | Li7 | Cd111 | As75 | Cr52 | Co59 |
| *Area; Low impact ref.* |  |  |  |  |  |  |
| Medium impact | **0.87 (0.62 to 1.13)** | **0.09 (0.03 to 0.16)** | 0.003 (-0.003 to 0.009) | 0.14 (-0.1 to 0.37) | 0.05 (-0.05 to 0.15) | **0.13 (0.09 to 0.17)** |
| High Impact | **-0.3 (-0.45 to -0.15)** | 0.01 (-0.05 to 0.07) | **-0.007 (-0.011 to -0.003)** | -0.06 (-0.26 to 0.15) | -0.06 (-0.16 to 0.03) | -0.01 (-0.04 to 0.03) |
| *Gender; Male* | 0.16 (0 to 0.32) | **0.12 (0.08 to 0.17)** | -0.004 (-0.007 to 0) | 0.17 (-0.04 to 0.39) | 0.03 (-0.03 to 0.1) | 0.01 (-0.03 to 0.04) |
| *BSA; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | -0.13 (-0.32 to 0.06) | -0.02 (-0.09 to 0.05) | 0.002 (-0.002 to 0.006) | -0.03 (-0.28 to 0.21) | 0.07 (-0.01 to 0.15) | -0.03 (-0.07 to 0.01) |
| Below 3rd quartile | -0.18 (-0.38 to 0.02) | -0.03 (-0.1 to 0.05) | 0.002 (-0.002 to 0.006) | 0.05 (-0.23 to 0.34) | -0.04 (-0.1 to 0.03) | **-0.05 (-0.1 to 0)** |
| Above 3rd quartile | 0.01 (-0.24 to 0.25) | 0 (-0.08 to 0.07) | 0.002 (-0.002 to 0.006) | -0.09 (-0.39 to 0.2) | 0.04 (-0.05 to 0.14) | -0.04 (-0.09 to 0.01) |
| *Age; 20-30 ref* |  |  |  |  |  |  |
| 30-40 | 0.15 (-0.02 to 0.33) | -0.03 (-0.08 to 0.02) | 0 (-0.002 to 0.002) | **0.25 (0.04 to 0.45)** | 0.05 (-0.02 to 0.12) | **0.04 (0.01 to 0.08)** |
| 40-50 | 0.15 (-0.03 to 0.33) | 0.02 (-0.04 to 0.07) | 0.002 (-0.001 to 0.005) | **0.26 (0.05 to 0.46)** | 0.03 (-0.04 to 0.09) | **0.07 (0.03 to 0.1)** |
| *Smoking habit; No smoker ref* |  |  |  |  |  |  |
| Ex smoker | 0.06 (-0.19 to 0.3) | 0.04 (-0.02 to 0.09) | 0 (-0.002 to 0.002) | -0.05 (-0.24 to 0.15) | **-0.1 (-0.18 to -0.02)** | **-0.05 (-0.09 to -0.01)** |
| 1-3 sigarettes per day | -0.2 (-0.44 to 0.05) | 0.01 (-0.09 to 0.11) | -0.002 (-0.004 to 0.001) | 0.21 (-0.26 to 0.69) | **-0.11 (-0.21 to -0.01)** | 0.01 (-0.06 to 0.08) |
| 4-13 sigarettes per day | -0.15 (-0.33 to 0.04) | 0.04 (-0.01 to 0.1) | 0.001 (-0.004 to 0.005) | 0.13 (-0.1 to 0.36) | -0.09 (-0.18 to 0) | -0.01 (-0.05 to 0.03) |
| More than 13 sigarettes per day | -0.16 (-0.38 to 0.06) | 0.05 (-0.01 to 0.11) | **0.008 (0 to 0.015)** | 0.07 (-0.18 to 0.33) | -0.02 (-0.15 to 0.1) | -0.02 (-0.07 to 0.03) |
| *Physical activity Index; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | -0.03 (-0.21 to 0.15) | 0.04 (-0.02 to 0.1) | -0.002 (-0.005 to 0.002) | 0.09 (-0.15 to 0.32) | 0.01 (-0.07 to 0.09) | 0.02 (-0.02 to 0.06) |
| Below 3rd quartile | 0.03 (-0.19 to 0.24) | 0 (-0.06 to 0.06) | 0 (-0.003 to 0.004) | 0 (-0.23 to 0.23) | -0.02 (-0.11 to 0.08) | 0.01 (-0.03 to 0.05) |
| Above 3rd quartile | -0.02 (-0.23 to 0.18) | 0.02 (-0.04 to 0.09) | -0.002 (-0.005 to 0.002) | -0.04 (-0.3 to 0.21) | -0.02 (-0.1 to 0.07) | 0.02 (-0.02 to 0.07) |
| *Deprivational Index; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | -0.06 (-0.28 to 0.16) | 0.02 (-0.04 to 0.08) | -0.001 (-0.003 to 0.001) | -0.05 (-0.28 to 0.18) | -0.01 (-0.09 to 0.06) | 0.02 (-0.02 to 0.06) |
| Below 3rd quartile | **-0.26 (-0.47 to -0.06)** | 0.01 (-0.04 to 0.07) | 0.001 (-0.003 to 0.004) | -0.06 (-0.28 to 0.15) | **0.11 (0.02 to 0.2)** | 0.02 (-0.02 to 0.06) |
| Above 3rd quartile | **-0.36 (-0.56 to -0.15)** | 0 (-0.07 to 0.06) | -0.001 (-0.005 to 0.002) | **-0.3 (-0.53 to -0.07)** | 0.04 (-0.04 to 0.12) | 0.02 (-0.02 to 0.06) |
| *Actual Potential Occupational Exposure* | 0.1 (-0.16 to 0.36) | 0 (-0.06 to 0.06) | **0.005 (0 to 0.01)** | -0.07 (-0.28 to 0.15) | 0.05 (-0.04 to 0.14) | -0.02 (-0.06 to 0.03) |

Table 8A. Results of median regression models for the heavy metals assessed in the population, using impact area as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.05.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Cu63 | Fe | Mn55 | Mo98 | Ni60 | Sb121 |
| *Area; Low impact ref.* |  |  |  |  |  |  |
| Medium impact | **-43.8 (-67.4 to -20.2)** | 6 (-104 to 117) | **0.15 (0.06 to 0.23)** | **-0.09 (-0.16 to -0.02)** | 0.12 (-0.31 to 0.55) | **0.03 (0.01 to 0.04)** |
| High Impact | **-42.2 (-63.8 to -20.7)** | -94 (-200 to 13) | **-0.12 (-0.2 to -0.04)** | **-0.14 (-0.2 to -0.08)** | 0.21 (-0.2 to 0.62) | **-0.06 (-0.08 to -0.04)** |
| *Gender; Male* | **-159 (-183.5 to -135.1)** | **544 (440 to 649)** | **0.11 (0.02 to 0.19)** | 0 (-0.06 to 0.06) | -0.02 (-0.31 to 0.28) | 0 (-0.02 to 0.02) |
| *BSA; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | **31.1 (6.4 to 55.9)** | **-170 (-266 to -73)** | -0.02 (-0.09 to 0.06) | 0 (-0.06 to 0.07) | -0.1 (-0.42 to 0.21) | 0 (-0.02 to 0.02) |
| Below 3rd quartile | **62.1 (33.3 to 90.9)** | **-240 (-355 to -126)** | -0.03 (-0.13 to 0.06) | -0.05 (-0.14 to 0.04) | -0.11 (-0.47 to 0.24) | 0 (-0.02 to 0.03) |
| Above 3rd quartile | **89.1 (56.4 to 121.9)** | **-229 (-352 to -105)** | 0.02 (-0.08 to 0.13) | -0.07 (-0.15 to 0.02) | -0.1 (-0.47 to 0.27) | 0.01 (-0.01 to 0.03) |
| *Age; 20-30 ref* |  |  |  |  |  |  |
| 30-40 | **52.4 (33 to 71.7)** | 34 (-77 to 144) | 0.01 (-0.06 to 0.08) | 0.05 (-0.01 to 0.11) | -0.02 (-0.31 to 0.28) | 0.01 (-0.01 to 0.03) |
| 40-50 | **80 (59.8 to 100.2)** | -93 (-198 to 11) | 0.03 (-0.03 to 0.1) | 0.04 (-0.02 to 0.11) | 0.02 (-0.21 to 0.26) | 0.01 (-0.01 to 0.03) |
| *Smoking habit; No smoker ref* |  |  |  |  |  |  |
| Ex smoker | **-23.7 (-44.6 to -2.8)** | -12 (-116 to 91) | -0.04 (-0.12 to 0.03) | -0.07 (-0.14 to 0.01) | -0.14 (-0.42 to 0.13) | -0.01 (-0.02 to 0.01) |
| 1-3 sigarettes per day | -15.5 (-62 to 31.1) | -137 (-299 to 26) | -0.11 (-0.23 to 0) | -0.04 (-0.16 to 0.09) | -0.17 (-0.72 to 0.38) | **-0.04 (-0.06 to -0.02)** |
| 4-13 sigarettes per day | -23.4 (-49.6 to 2.9) | 37 (-78 to 152) | -0.01 (-0.09 to 0.07) | -0.07 (-0.14 to 0) | 0.09 (-0.26 to 0.44) | 0 (-0.02 to 0.02) |
| More than 13 sigarettes per day | -11.7 (-42.5 to 19.2) | 126 (-46 to 299) | 0.01 (-0.08 to 0.09) | -0.01 (-0.1 to 0.07) | 0.31 (-0.11 to 0.72) | **0.02 (0 to 0.05)** |
| *Physical activity Index; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | **-28.8 (-53.2 to -4.5)** | -16 (-126 to 94) | -0.05 (-0.12 to 0.02) | -0.01 (-0.08 to 0.05) | -0.18 (-0.46 to 0.11) | -0.01 (-0.03 to 0.01) |
| Below 3rd quartile | -9.1 (-36 to 17.9) | 10 (-123 to 142) | -0.04 (-0.12 to 0.04) | 0 (-0.06 to 0.07) | 0.08 (-0.2 to 0.36) | 0 (-0.02 to 0.02) |
| Above 3rd quartile | -3.3 (-30.5 to 23.8) | -58 (-173 to 57) | -0.02 (-0.1 to 0.06) | -0.02 (-0.08 to 0.04) | 0.01 (-0.31 to 0.32) | -0.01 (-0.03 to 0.01) |
| *Deprivation Index; Below 1st quartile ref* |  |  |  |  |  |  |
| Below 2nd quartile | 21.4 (-2.1 to 44.9) | 39 (-70 to 149) | -0.06 (-0.13 to 0.02) | 0 (-0.07 to 0.07) | -0.12 (-0.47 to 0.22) | -0.01 (-0.03 to 0.01) |
| Below 3rd quartile | 22.1 (-1.9 to 46.1) | 65.9 (-39.3 to 171) | 0.07 (0 to 0.14) | 0.07 (0 to 0.14) | 0.01 (-0.32 to 0.33) | 0 (-0.02 to 0.02) |
| Above 3rd quartile | **31.2 (7.4 to 55.1)** | 52.4 (-57.2 to 162) | -0.03 (-0.1 to 0.04) | 0.03 (-0.04 to 0.1) | 0.25 (-0.08 to 0.59) | -0.02 (-0.04 to 0.01) |
| *Actual Potential Occupational Exposure* | -7.4 (-33.7 to 18.9) | -15 (-116.5 to 86.5) | 0 (-0.08 to 0.07) | -0.01 (-0.07 to 0.05) | **-0.32 (-0.58 to -0.06)** | 0.01 (0 to 0.03) |

Table 8B. Results of median regression models for the heavy metals assessed in the population, using impact area as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.05.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| *Area; Low impact ref.* |  |  |  |  |  |
| Medium impact | **-8.7 (-15 to -2.4)** | -0.05 (-1.22 to 1.11) | **0.004 (0.002 to 0.007)** | 0.02 (-0.03 to 0.07) | **138.1 (100.1 to 176)** |
| High Impact | **-11.7 (-17.8 to -5.6)** | -0.21 (-1.28 to 0.87) | **0.009 (0.006 to 0.011)** | -0.01 (-0.05 to 0.03) | -5.9 (-43.3 to 31.5) |
| *Gender; Male* | **21.2 (15.8 to 26.5)** | -0.26 (-1.12 to 0.61) | -0.002 (-0.005 to 0.001) | 0 (-0.04 to 0.04) | **132.8 (99.3 to 166.2)** |
| *BSA; Below 1st quartile ref* |  |  |  |  |  |
| Below 2nd quartile | **-7.1 (-12.5 to -1.8)** | 0.18 (-0.8 to 1.16) | **0.003 (0.001 to 0.006)** | -0.01 (-0.06 to 0.03) | -7.5 (-44.6 to 29.7) |
| Below 3rd quartile | **-9 (-14.8 to -3.1)** | 0.96 (-0.23 to 2.15) | **0.005 (0.002 to 0.009)** | -0.02 (-0.07 to 0.03) | -14.2 (-61.6 to 33.2) |
| Above 3rd quartile | **-8.5 (-15.4 to -1.5)** | **1.99 (0.81 to 3.16)** | **0.006 (0.003 to 0.01)** | -0.02 (-0.07 to 0.03) | -0.5 (-49.7 to 48.8) |
| *Age; 20-30 ref* |  |  |  |  |  |
| 30-40 | -0.1 (-5.2 to 5) | **1.23 (0.37 to 2.09)** | 0.001 (-0.002 to 0.004) | -0.01 (-0.04 to 0.02) | -18.8 (-52.8 to 15.2) |
| 40-50 | 1.1 (-4.3 to 6.5) | **1.78 (0.92 to 2.64)** | 0.002 (-0.001 to 0.004) | -0.02 (-0.06 to 0.01) | -0.6 (-32.3 to 31.2) |
| *Smoking habit; No smoker ref* |  |  |  |  |  |
| Ex smoker | -2.7 (-8 to 2.5) | 0.19 (-0.84 to 1.21) | -0.002 (-0.005 to 0.001) | -0.01 (-0.04 to 0.03) | -11 (-39.9 to 17.9) |
| 1-3 sigarettes per day | -4.2 (-11.8 to 3.5) | 1.79 (-0.12 to 3.71) | -0.004 (-0.01 to 0.001) | -0.01 (-0.07 to 0.06) | -20.1 (-96.7 to 56.6) |
| 4-13 sigarettes per day | -0.5 (-7 to 6) | **1.02 (0.07 to 1.97)** | 0.001 (-0.002 to 0.004) | 0.01 (-0.03 to 0.05) | 8.7 (-31.1 to 48.5) |
| More than 13 sigarettes per day | **-9.2 (-15.2 to -3.2)** | 1.53 (0.32 to 2.74) | -0.002 (-0.006 to 0.002) | 0 (-0.06 to 0.05) | 0.3 (-50.7 to 51.4) |
| *Physical activity Index; Below 1st quartile ref* |  |  |  |  |  |
| Below 2nd quartile | 0.4 (-4.5 to 5.4) | **1.08 (0.14 to 2.02)** | -0.001 (-0.004 to 0.002) | -0.02 (-0.05 to 0.02) | 30.9 (-5.5 to 67.3) |
| Below 3rd quartile | 1.4 (-4 to 6.8) | 0.04 (-1.03 to 1.1) | 0 (-0.003 to 0.003) | -0.01 (-0.05 to 0.03) | 28.1 (-13.6 to 69.8) |
| Above 3rd quartile | -0.4 (-5.9 to 5.1) | 0.75 (-0.38 to 1.87) | 0 (-0.004 to 0.004) | 0.02 (-0.02 to 0.06) | 6.1 (-35.4 to 47.6) |
| *Deprivational Index; Below 1st quartile ref* |  |  |  |  |  |
| Below 2nd quartile | 5.5 (-0.1 to 11) | 0.53 (-0.44 to 1.51) | -0.001 (-0.004 to 0.002) | 0.02 (-0.01 to 0.05) | 33.1 (-8.2 to 74.3) |
| Below 3rd quartile | **5.7 (0.1 to 11.4)** | 0.38 (-0.54 to 1.3) | -0.002 (-0.005 to 0.001) | 0.02 (-0.03 to 0.06) | 4 (-35.9 to 43.9) |
| Above 3rd quartile | **8.8 (3.6 to 14)** | -0.17 (-1.12 to 0.79) | **-0.004 (-0.007 to -0.002)** | 0.03 (-0.01 to 0.07) | 9.8 (-25.7 to 45.4) |
| *Actual Potential Occupational Exposure* | 2.1 (-3.4 to 7.6) | **-1.06 (-2.11 to -0.01)** | 0.002 (-0.002 to 0.005) | 0.01 (-0.02 to 0.05) | -29.9 (-65.5 to 5.8) |

Table 8C. Results of median regression models for the heavy metals assessed in the population, using impact area as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.05.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Cluster | Hg202 | Li7 | Cd111 | As75 | Cr52 | Co59 |
| Low impact nr. 1 | 0.34 (-0.06 to 0.74) | ref | 0.004 (-0.005 to 0.012) | 0.31 (-0.26 to 0.88) | -0.12 (-0.3 to 0.06) | -0.02 (-0.11 to 0.06) |
| Low impact nr. 2 | 0.34 (-0.13 to 0.8) | -0.05 (-0.18 to 0.08) | 0.003 (-0.005 to 0.012) | 0.22 (-0.34 to 0.78) | 0.09 (-0.12 to 0.3) | 0 (-0.08 to 0.08) |
| Low impact nr. 3 | -0.03 (-0.4 to 0.34) | -0.05 (-0.19 to 0.09) | 0.009 (0 to 0.018) | -0.02 (-0.5 to 0.45) | 0.12 (-0.08 to 0.32) | 0 (-0.09 to 0.08) |
| Medium impact nr. 1 | 0.16 (-0.28 to 0.61) | -0.06 (-0.2 to 0.09) | -0.002 (-0.01 to 0.007) | -0.33 (-0.79 to 0.14) | ref | 0.07 (-0.02 to 0.17) |
| Medium impact nr. 2 | -0.07 (-0.58 to 0.44) | -0.03 (-0.16 to 0.1) | -0.002 (-0.011 to 0.008) | -0.14 (-0.65 to 0.36) | 0.09 (-0.12 to 0.29) | 0.03 (-0.06 to 0.13) |
| Medium impact nr. 3 | -0.3 (-0.66 to 0.06) | -0.02 (-0.15 to 0.1) | -0.005 (-0.012 to 0.001) | -0.4 (-0.88 to 0.07) | -0.16 (-0.32 to 0.01) | -0.03 (-0.14 to 0.07) |
| Medium impact (Irno valley) nr. 4 | **4.17 (3.28 to 5.05)** | **0.26 (0.1 to 0.42)** | **0.012 (0.003 to 0.021)** | **1.47 (0.68 to 2.26)** | 0.08 (-0.14 to 0.3) | **0.29 (0.16 to 0.42)** |
| Medium impact (Irno Valley) nr. 5 | **4.17 (3.22 to 5.13)** | **0.22 (0.05 to 0.38)** | **0.013 (0.002 to 0.023)** | **0.8 (0.17 to 1.42)** | 0.08 (-0.11 to 0.27) | **0.33 (0.22 to 0.45)** |
| Medium impact (Sabato Valley) nr. 6 | **1.03 (0.54 to 1.51)** | **0.17 (0.03 to 0.32)** | **0.092 (0.065 to 0.119)** | **0.82 (0.26 to 1.37)** | **0.45 (0.18 to 0.72)** | 0.09 (-0.03 to 0.2) |
| High impact nr. 1 | ref | 0 (-0.16 to 0.16) | -0.004 (-0.012 to 0.003) | 0.12 (-0.4 to 0.64) | -0.07 (-0.27 to 0.13) | 0.04 (-0.06 to 0.13) |
| High impact nr. 2 | -0.02 (-0.45 to 0.4) | -0.1 (-0.25 to 0.05) | -0.003 (-0.012 to 0.005) | -0.01 (-0.55 to 0.54) | -0.08 (-0.29 to 0.12) | -0.07 (-0.15 to 0.01) |
| High impact nr. 3 | 0.14 (-0.42 to 0.7) | -0.1 (-0.24 to 0.05) | -0.004 (-0.011 to 0.004) | 0.22 (-0.31 to 0.75) | -0.01 (-0.21 to 0.18) | -0.01 (-0.1 to 0.09) |
| High impact nr. 4 | 0.02 (-0.46 to 0.5) | -0.03 (-0.18 to 0.12) | -0.002 (-0.013 to 0.009) | 0.39 (-0.19 to 0.96) | -0.14 (-0.33 to 0.05) | 0.01 (-0.07 to 0.09) |
| High impact nr. 5 | -0.33 (-0.69 to 0.03) | 0.11 (-0.04 to 0.26) | -0.003 (-0.01 to 0.005) | -0.11 (-0.59 to 0.36) | -0.09 (-0.28 to 0.1) | 0.08 (-0.02 to 0.18) |
| High impact nr. 6 | -0.22 (-0.62 to 0.18) | 0.06 (-0.1 to 0.22) | -0.003 (-0.011 to 0.005) | 0.26 (-0.3 to 0.82) | 0.06 (-0.14 to 0.26) | 0.01 (-0.1 to 0.11) |
| High impact nr. 7 | -0.28 (-0.7 to 0.14) | -0.07 (-0.23 to 0.08) | -0.002 (-0.011 to 0.007) | -0.26 (-0.73 to 0.22) | -0.08 (-0.29 to 0.13) | **-0.13 (-0.23 to -0.04)** |
| High impact nr. 8 | 0.03 (-0.37 to 0.43) | 0 (-0.13 to 0.13) | -0.004 (-0.012 to 0.005) | 0.23 (-0.31 to 0.77) | -0.02 (-0.23 to 0.19) | -0.05 (-0.13 to 0.04) |
| High impact nr. 9 | -0.1 (-0.48 to 0.29) | 0.07 (-0.08 to 0.22) | 0.001 (-0.008 to 0.009) | ref | -0.08 (-0.27 to 0.1) | ref |
| High impact nr. 10 | 0.05 (-0.35 to 0.44) | -0.02 (-0.16 to 0.11) | 0.001 (-0.009 to 0.01) | 0.15 (-0.37 to 0.66) | 0.16 (-0.06 to 0.37) | 0.05 (-0.04 to 0.14) |
| High impact nr. 11 | -0.15 (-0.54 to 0.25) | -0.08 (-0.22 to 0.06) | 0 (-0.008 to 0.008) | -0.07 (-0.54 to 0.41) | 0.01 (-0.21 to 0.23) | **-0.11 (-0.18 to -0.03)** |
| High impact nr. 12 | 0.09 (-0.33 to 0.51) | -0.02 (-0.15 to 0.12) | ref | -0.1 (-0.59 to 0.39) | -0.12 (-0.31 to 0.07) | -0.05 (-0.15 to 0.04) |

Table 9A. Results of median regression models for the heavy metals assessed in the population, using cluster as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.05. Coefficients for the socio/demographical variables are not reported due to their overlapping with those obtained in models estimated at impact area levels.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Cluster | Cu63 | Fe | Mn55 | Mo98 | Ni60 | Sb121 |
| Low impact nr. 1 | -7.4 (-64.9 to 50.1) | 31.1 (-196.7 to 259) | -0.12 (-0.27 to 0.03) | 0.07 (-0.09 to 0.23) | -0.33 (-1.19 to 0.54) | ref |
| Low impact nr. 2 | 37 (-13.7 to 87.6) | 132.8 (-111.6 to 377.2) | 0.09 (-0.07 to 0.25) | 0.14 (0 to 0.28) | 0.6 (-0.54 to 1.73) | **0.06 (0.03 to 0.08)** |
| Low impact nr. 3 | 40.5 (-16.1 to 97.1) | -3.2 (-251.9 to 245.5) | **0.21 (0.04 to 0.38)** | **0.14 (0.01 to 0.28)** | -0.13 (-0.94 to 0.67) | 0.01 (-0.02 to 0.05) |
| Medium impact nr. 1 | -10.3 (-70 to 49.3) | 201.5 (-76.4 to 479.4) | **0.26 (0.07 to 0.45)** | ref | -0.35 (-1.09 to 0.4) | 0.05 (0.01 to 0.08) |
| Medium impact nr. 2 | 15.8 (-43 to 74.7) | 161.6 (-79.9 to 403.2) | ref | 0.01 (-0.19 to 0.22) | 0 (-0.72 to 0.72) | -0.01 (-0.06 to 0.03) |
| Medium impact nr. 3 | -36.5 (-89.7 to 16.7) | 56.9 (-199.4 to 313.2) | -0.13 (-0.32 to 0.07) | 0.04 (-0.14 to 0.21) | 0.95 (-0.05 to 1.95) | **-0.06 (-0.1 to -0.03)** |
| Medium impact (Irno valley) nr. 4 | **-72.5 (-122 to -23)** | 11.6 (-294.5 to 317.7) | **0.34 (0.17 to 0.51)** | -0.01 (-0.19 to 0.18) | -0.53 (-1.12 to 0.06) | **0.05 (0.03 to 0.08)** |
| Medium impact (Irno Valley) nr. 5 | **-58.3 (-109.5 to -7.1)** | -33.3 (-296.1 to 229.5) | **0.24 (0.08 to 0.41)** | 0.02 (-0.15 to 0.18) | -0.51 (-1.09 to 0.07) | **0.07 (0.04 to 0.09)** |
| Medium impact (Sabato Valley) nr. 6 | 23.5 (-34.1 to 81) | 17.3 (-206.9 to 241.6) | **0.69 (0.54 to 0.85)** | 0.1 (-0.06 to 0.25) | **2.26 (1.58 to 2.95)** | **0.15 (0.12 to 0.18)** |
| High impact nr. 1 | **79.5 (13.1 to 145.9)** | -4.6 (-287 to 277.8) | 0.1 (-0.07 to 0.26) | -0.02 (-0.17 to 0.12) | ref | **-0.05 (-0.1 to -0.01)** |
| High impact nr. 2 | -36.2 (-97.2 to 24.9) | -58.9 (-343.4 to 225.5) | **-0.18 (-0.36 to 0)** | -0.13 (-0.3 to 0.04) | -0.37 (-1.13 to 0.38) | **-0.07 (-0.1 to -0.05)** |
| High impact nr. 3 | -46 (-105.3 to 13.4) | -175.1 (-426.5 to 76.3) | -0.08 (-0.24 to 0.08) | 0 (-0.15 to 0.16) | 0.39 (-0.38 to 1.15) | **-0.06 (-0.1 to -0.02)** |
| High impact nr. 4 | -2.8 (-57.2 to 51.6) | -99.9 (-351.6 to 151.9) | -0.08 (-0.25 to 0.08) | -0.04 (-0.21 to 0.12) | 0.22 (-0.54 to 0.99) | 0.01 (-0.03 to 0.05) |
| High impact nr. 5 | -18.5 (-75 to 38) | -1.4 (-300.6 to 297.7) | -0.12 (-0.3 to 0.05) | -0.17 (-0.37 to 0.02) | 0.58 (-0.21 to 1.36) | **-0.08 (-0.1 to -0.05)** |
| High impact nr. 6 | -0.5 (-59.9 to 59) | 67.3 (-210 to 344.5) | 0.08 (-0.1 to 0.26) | 0.16 (-0.02 to 0.33) | -0.38 (-1.03 to 0.27) | -0.02 (-0.07 to 0.02) |
| High impact nr. 7 | -38.8 (-94.1 to 16.5) | -121.7 (-413.8 to 170.5) | **-0.29 (-0.46 to -0.12)** | -0.02 (-0.19 to 0.15) | 0.04 (-0.74 to 0.83) | **-0.07 (-0.1 to -0.04)** |
| High impact nr. 8 | ref | 53.7 (-221.8 to 329.3) | -0.07 (-0.23 to 0.09) | 0.07 (-0.08 to 0.23) | 0.17 (-0.54 to 0.89) | -0.01 (-0.06 to 0.04) |
| High impact nr. 9 | -38.6 (-89.4 to 12.3) | ref | -0.19 (-0.39 to 0.01) | 0.03 (-0.13 to 0.19) | 0.8 (0.07 to 1.52) | 0.01 (-0.02 to 0.04) |
| High impact nr. 10 | **-62.5 (-115.7 to -9.4)** | -76.7 (-313.8 to 160.5) | 0.05 (-0.09 to 0.19) | 0.03 (-0.16 to 0.21) | -0.2 (-0.95 to 0.55) | 0.01 (-0.03 to 0.04) |
| High impact nr. 11 | -33.6 (-96.3 to 29.1) | -29.3 (-287.7 to 229.1) | 0.08 (-0.07 to 0.22) | -0.06 (-0.22 to 0.11) | -0.17 (-0.85 to 0.51) | 0.01 (-0.04 to 0.05) |
| High impact nr. 12 | -9.5 (-67.5 to 48.4) | -47.4 (-300 to 205.2) | 0 (-0.18 to 0.17) | -0.1 (-0.24 to 0.04) | 0.54 (-0.18 to 1.25) | -0.06 (-0.09 to -0.02) |

Table 9B. Results of median regression models for the heavy metals assessed in the population, using cluster as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.005. Coefficients for the socio/demographical variables are not reported due to their overlapping with those obtained in models estimated at impact area levels.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cluster | Se78 | Sr88 | Tl205 | V51 | Zn66 |
| Low impact nr. 1 | -6.5 (-21.9 to 8.9) | 0.11 (-2.35 to 2.56) | -0.008 (-0.016 to 0) | ref | -42.3 (-125.7 to 41.2) |
| Low impact nr. 2 | **23.4 (8 to 38.8)** | ref | -0.002 (-0.01 to 0.006) | -0.054 (-0.138 to 0.029) | ref |
| Low impact nr. 3 | 14.4 (-1.4 to 30.1) | -0.31 (-2.71 to 2.1) | -0.008 (-0.016 to 0.001) | -0.019 (-0.107 to 0.07) | -9.4 (-100.7 to 81.9) |
| Medium impact nr. 1 | 1.3 (-14.5 to 17.2) | -0.51 (-2.88 to 1.86) | 0.002 (-0.006 to 0.011) | 0.011 (-0.076 to 0.099) | 74.1 (-15 to 163.2) |
| Medium impact nr. 2 | 8.2 (-6.6 to 22.9) | -1.08 (-3.14 to 0.99) | -0.001 (-0.009 to 0.008) | 0.084 (-0.02 to 0.188) | -6.2 (-99.4 to 87) |
| Medium impact nr. 3 | 4.5 (-10.4 to 19.5) | 0 (-1.94 to 1.93) | **-0.013 (-0.021 to -0.005)** | **-0.096 (-0.178 to -0.014)** | 48.2 (-38.8 to 135.2) |
| Medium impact (Irno valley) nr. 4 | -13.7 (-31.6 to 4.2) | -0.56 (-2.63 to 1.52) | -0.001 (-0.009 to 0.008) | -0.038 (-0.134 to 0.059) | **235.8 (136.4 to 335.3)** |
| Medium impact (Irno Valley) nr. 5 | -11.9 (-27.2 to 3.4) | -1.72 (-3.79 to 0.35) | -0.004 (-0.012 to 0.004) | 0.029 (-0.061 to 0.118) | **287.5 (202.1 to 373)** |
| Medium impact (Sabato Valley) nr. 6 | 14.7 (-1.9 to 31.2) | 4.79 (2.25 to 7.33) | **0.016 (0.006 to 0.026)** | -0.019 (-0.153 to 0.115) | 51.2 (-33.7 to 136.2) |
| High impact nr. 1 | 4.7 (-11.4 to 20.8) | 0.45 (-1.59 to 2.49) | 0.008 (-0.001 to 0.017) | 0.023 (-0.068 to 0.115) | 58.8 (-37.5 to 155.2) |
| High impact nr. 2 | 2 (-14.2 to 18.1) | -1.17 (-3.68 to 1.33) | 0.007 (-0.004 to 0.017) | 0.04 (-0.06 to 0.139) | -37.4 (-129.2 to 54.3) |
| High impact nr. 3 | ref | -1.32 (-4.17 to 1.52) | 0 (-0.01 to 0.011) | -0.016 (-0.106 to 0.073) | -14.3 (-106.8 to 78.1) |
| High impact nr. 4 | -3.8 (-20.4 to 12.8) | -0.78 (-3.3 to 1.74) | 0.007 (-0.005 to 0.018) | -0.002 (-0.105 to 0.101) | -53.6 (-151.8 to 44.6) |
| High impact nr. 5 | 13.7 (-1.8 to 29.2) | 1.22 (-0.94 to 3.38) | 0 (-0.01 to 0.01) | -0.028 (-0.118 to 0.062) | **103.7 (16.6 to 190.8)** |
| High impact nr. 6 | -0.4 (-15.5 to 14.8) | 0.03 (-2.4 to 2.45) | ref | -0.063 (-0.144 to 0.018) | -23.8 (-107.4 to 59.8) |
| High impact nr. 7 | **-19.3 (-37 to -1.7)** | -2.42 (-4.87 to 0.03) | -0.004 (-0.017 to 0.008) | -0.056 (-0.131 to 0.02) | -80.6 (-162.9 to 1.7) |
| High impact nr. 8 | -3.3 (-17.8 to 11.2) | -0.05 (-2.06 to 1.97) | 0.005 (-0.004 to 0.015) | -0.003 (-0.109 to 0.103) | -18.1 (-110.6 to 74.4) |
| High impact nr. 9 | 0.4 (-15.7 to 16.6) | -0.14 (-2.2 to 1.92) | -0.001 (-0.009 to 0.008) | **-0.089 (-0.166 to -0.011)** | -22.9 (-114 to 68.1) |
| High impact nr. 10 | -4.6 (-20.6 to 11.5) | -1.09 (-3.32 to 1.15) | 0.001 (-0.008 to 0.01) | -0.04 (-0.116 to 0.036) | **-97.6 (-179.8 to -15.5)** |
| High impact nr. 11 | 4.1 (-12.5 to 20.8) | 0.91 (-1.52 to 3.33) | 0.007 (-0.001 to 0.016) | -0.023 (-0.099 to 0.054) | -26.3 (-112.7 to 60.1) |
| High impact nr. 12 | -2.4 (-18.5 to 13.6) | -0.55 (-2.73 to 1.64) | 0.004 (-0.005 to 0.013) | **-0.112 (-0.203 to -0.021)** | -54.1 (-144.7 to 36.5) |

Table 9C. Results of median regression models for the heavy metals assessed in the population, using cluster as geographical reference unit. Data are reported as adjusted difference between medians with the corresponding 95% CIs. Bold results indicate differences with p<0.005. Coefficients for the socio/demographical variables are not reported due to their overlapping with those obtained in models estimated at impact area levels.