*Supplemental table 2. Mean concentrations (SD) of Cd, Pb and As in blood (µg/L) and 1-OHPy in urine (ng/g crea) in smokers, non-smokers, glass/metal work and non-glass/metalwork. Significant p-value in bold.*

|  |  |  |
| --- | --- | --- |
|  | **Smoking** | **Work** |
| N=656 | Non-smoker (n=292) | Former smoker (n=244) | Active smoker (n=25) | Non Glass/metal work (n=496) | Glasswork (n=65) | Glass blower (n=10)  | Glass grinder (n=14) | Other metalwork (n=94) |
| **B-Cd** | 0.31 (0.20) | 0.45 (0.41) | 1.4 (0.69) | 0.40 (0.36) | 0.57 (0.65) | 0.79 (0.99) | 0.59 (0.66) | 0.34 (0.20) |
| p-value | Ref  | **<0.0001a** | **<0.0001a** | Ref | **0.0001b** | **0.0002b** | **0.02b** | **0.05b** |
| **B-Pb** | 15 (9.9) | 18 (12) | 27 (17) | 16 (10) | 25 (16) | 38 (17) | 25 (18) | 18 (9.3) |
| p-value | Ref | **0.03a** | **<0.0001a** | Ref | **<0.0001 b** | **<0.0001b** | **0.001b** | **0.04b** |
| **B-As** | 8.1 (4.5) | 8.5 (5.7) | 10 (6.4) | 8.4 (5.3) | 8.1 (4.4) | 8.4 (3.4) | 7.8 (2.8) | 8.0 (5.3) |
| p-value | Ref | 0.98a | 0.18a | Ref | 0.68b | 0.78b | 0.66b | 0.48b |
| N=400 | Non-smoker (n=198) | Former smoker (n=171) | Active smoker (n=16) | Non glass/metal work (n=293) | Glasswork (n=49) | Glass blower (n=4) | Glass grinder (n=9) | Other metalwork (n=43) |
| **1-OHPy** | 62 (73) | 71 (84) | 246 (209) | 66 (73) | 68 (123) | 79 (41) | 123 (117) | 129 (153) |
| p-value | Ref | 0.89c | **<0.0001c** | Ref | 1c | 0.70 c | **0.02c** | **<0.0001c** |

a Adjusted for age, gender, and glass/metalwork
b Adjusted for age, gender and smoking
c Adjusted for age, smoking and consumption of barbeque

*Supplemental table 3. Measured concentration of metals in blood (µg/L) and 1-OHPy in urine (ng/g crea) in different groups of the study population in the Glasswork area (this study).*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Men N=306** | **Women N=350** | **Non-smoker N=335** | **Former smoker N=293** | **Active smoker N=27** | **Glass work N=65** | **Glass blower N=10**  | **Glass grinderN=14** | **Other metal work N=94** |
| B-As | Mean  | 8.2 | 8.4 | 8.1 | 8.5 | 9.9 | 8.1 | 8.9 | 7.8 | 8.0 |
|  | Range | 0.55-41 | 1.2-48 | 0.55-41 | 3.5-48 | 4.9-31 | 4.04-30 | 5.3-16 | 5.2-16 | 3.5-29 |
| B-Pb | Mean  | 19 | 16 | 16 | 18 | 27 | 25 | 38 | 25 | 18 |
|  | Range | 0.70-85 | 0.27-85 | 0.27-85 | 3.0-85 | 9.2-76 | 6.3-76 | 15-71 | 8.4-71 | 4.2-67 |
| B-Cd | Mean  | 0.37 | 0.45 | 0.31 | 0.44 | 1.4 | 0.57 | 0.79 | 0.59 | 0.34 |
|  | Range | <LOD-3.9 | <LOD-2.9 | <LOD-2.1 | <LOD-3.9 | 0.27-2.9 | <LOD-3.3 | 0.20-3.3 | <LOD-2.1 | <LOD-0.98 |
|  |  | Men N=184 | Women N=213 | Non-smoker N=200 | Former smoker N=182 | Active smoker N=18 | Glass work N=51 | Glass blower N=5 | Glass grinderN=9 | Other metal work N=40 |
| 1-OHPy | Mean  | 68 | 77 | 61 | 70 | 246 | 67 | 79 | 123 | 129 |
|  | Range | 5.4-873 | 3.9-925 | 3.9-873 | 5.1-925 | 13-791 | 7.9-873 | 43-133 | 30-368 | 18-791 |

*Supplemental table 4a. Measured concentration of Cd and Pb in blood (µg/L) compared to a population in the contaminated area, Gusum in south east Sweden, and compared to other population groups in non-contaminated areas in Sweden.*

|  |  |  |
| --- | --- | --- |
| **Glasswork area (this study)** | **B-Cd (µg/L)** | **B-Pb (µg/L)** |
|  | **Median** | **95-perc** | **Max** | **Median** | **95-perc** | **Max** |
| All (n=656) | 0.41 | 1.0 | 3.9 | 15 | 36 | 85 |
| Women (n=350) | 0.37 | 1.2 | 2.9 | 13 | 33 | 85 |
| Men (n=306) | 0.28 | 0.80 | 3.9 | 15 | 41 | 85 |
| Non-smoker (n=335) | 0.29 | 0.64 | 2.1 | 13 | 32 | 85 |
| Former smoker (n=293) | 0.36 | 0.90 | 2.9 | 16 | 39 | 85 |
| Active smoker (n=27) | 1.4 | 2.7 | 3.9 | 21 | 55 | 76 |
| **Gusum, women and men 23-90 years (Helmfrid et al., 2015)** |
| All (n=95) | 0.55 | 1.5 | 3.3 | 20 | 49 | 70 |
| Women (n=57) | 0.55 | 1.6 | 3.3 | 19 | 42 | 59 |
| Men (n=38) | 0.55 | 1.6 | 1.7 | 23 | 69 | 70 |
| Non-smoker (n=61) | 0.49 | 0.83 | 1.2 | 18 | 41 | 70 |
| Former smoker (n=21) | 0.66 | 0.93 | 1.3 | 23 | 42 | 59 |
| Active smoker (n=13) | 1.1 | 3.2 | 3.3 | 18 | 49 | 49 |
| **Swedish National food, women and men 18-80 years (Bjermo et al., 2013b)** |
| All (n=273) | 0.20 | 1.1 | 2.9 | 13 | 29 | 102 |
| Women (n=145) | 0.22 | 1.2 |  | 12 | 25 |  |
| Men (n=128) | 0.17 | 0.85 |  | 15 | 29 |  |
| **Western Sweden, Women 50-59 years (Wilde et al., 2016)** |
| Women (n=45) | 0.25 |  | 1.8 |  |  |  |
| Non-smoker (n=21) | 0.22 |  | 0.63 |  |  |  |
| Former smoker (n=20) | 0.29 |  | 0.86 |  |  |  |
| Active smoker (n=4) | 0.59 |  | 1.8 |  |  |  |
| **West North Sweden, Women and men 50-60 years (Wennberg et al., 2015)** |
|  | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** |
| Women (n=93) | 0.26 | 0.43 |  | 13 | 17 |  |
| Non-smoker (n=47) | 0.21 | 0.27 |  | 12 | 16 |  |
| Men (n=86) | 0.16 | 0.25 |  | 15 | 21 |  |
| Non-smoker (n=42) | 0.14 | 0.17 |  | 13 | 21 |  |
| **Lund, Women 50-59 years (Skerfving et al., 2012)** |
| Women (n=125) | 0.28 |  | 2.6 | 15 |  | 42 |
| Non-smokers (n=64) | 0.24 |  | 2.6 | 15 |  | 42 |
| Ever smokers (n=61) | 0.36 |  | 2.6 | 15 |  | 38 |

*Supplemental table 4b. Measured concentration of 1-OHPy in urine (ng/g crea) and compared to other population groups in non-contaminated areas.*

|  |  |
| --- | --- |
| **Glasswork area (this study)** | **1-OHPy (ng/g crea)**  |
|  | **Median** | **75-perc** | **Max** |
| All (n=397) | 52 | 83 | 925 |
| Women (n=213) | 63 | 86 | 925 |
| Men (n=184) | 49 | 75 | 873 |
| Non-smoker (n=200) | 49 | 77 | 873 |
| Former smoker (n=182) | 53 | 84 | 925 |
| Active smoker (n=18) | 247 | 317 | 791 |
| Consumption of barbeque (n=370) | 53 | 84 | 925 |
| Never consumption of barbeque (n=15) | 36 | 62 | 249 |
|  |  |  |  |
| **Central Italy, (Tombolini et al., 2018)** | **Median** | **95-perc** | **Max** |
| All (n=1016) | 26 | 220 |  |
| Smokers (n=269) | 60 | 380 |  |
| Non-smokers (n=747) | 21 | 150 |  |
| Women (n=754) | 33 | 230 |  |
| Men (n=452) | 19 | 210 |  |
| **Controls, Sweden (Alhamdow et al., 2018)** | **Median** |  | **Max** |
| All (n=151) | 60 |  | 730 |
| Non-smokers (n=83) | 50 |  | 440 |
| **Adults, USA (Li et al., 2008)** |  |  |  |
| All (n=1625) | 42 | 233 |  |

*Supplemental table 5. Measured concentration of PCB118 and PCB153 in plasma (pg/mL) and 1-OHPy in urine (ng/g crea) compared to a population in the contaminated area, Gusum in south east Sweden, and compared to other population groups in non-contaminated areas in Sweden.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Glasswork area (this study)** | **PCB118 (pg/mL)** **Wet-weight** | **PCB153 (pg/mL)** **Wet-weight** | **PCB118 (ng/g lipid) Lipid-normalized** | **PCB153 (ng/g lipid) Lipid-normalized** |
|  | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** |
| All (n=398) | 58 | 91 | 518 | 514 | 811 | 3609 | 12 | 23 | 102 | 99 | 140 | 774 |
| Women (n=214) | 63 | 97 | 518 | 491 | 815 | 1542 | 13 | 23 | 102 | 95 | 132 | 339 |
| Men (n=184) | 53 | 77 | 233 | 549 | 810 | 3609 | 11 | 21 | 102 | 101 | 146 | 774 |
| Non-smoker (n=198) | 55 | 84 | 218 | 503 | 757 | 2003 | 12 | 29 | 102 | 96 | 136 | 389 |
| Former smoker (n=182) | 61 | 93 | 233 | 514 | 866 | 3609 | 13 | 21 | 102 | 141 | 219 | 774 |
| Active smoker (n=18) | 54 | 113 | 518 | 615 | 1165 | 1543 | 10 | 21 | 101 | 111 | 219 | 318 |
| **Gusum, women and men 23-90 years (Helmfrid et al., 2015)** |
|  | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** |
| All (n=95) | 118 | 196 | 993 | 1118 | 1628 | 3055 | 18 | 29 | 165 | 184 | 252 | 653 |
| Women (n=57) | 128 | 203 | 993 | 1044 | 1473 | 3033 | 18 | 32 | 165 | 166 | 227 | 577 |
| Men (n=38) | 110 | 188 | 423 | 1275 | 1872 | 3055 | 18 | 27 | 68 | 206 | 276 | 653 |
| Non-smoker (n=61) | 133 | 238 | 993 | 1195 | 1543 | 3055 | 20 | 33 | 165 | 191 | 256 | 653 |
| Former smoker (n=21) | 108 | 196 | 606 | 1038 | 1872 | 3033 | 16 | 24 | 108 | 183 | 248 | 577 |
| Active smoker (n=13) | 67 | 98 | 157 | 811 | 1502 | 2190 | 9.8 | 15 | 27 | 99 | 224 | 454 |
| **PIVUS, women and men 75 year (Penell et al., 2014)** |
|  | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** |
| All (n=598) | 197 | 275 | 1637 | 1404 | 1819 | 4672 | 32 | 44 | 249 | 229 | 290 | 661 |
| **Swedish National food, women and men 18-80 years (Bjermo et al., 2013a)** |
|  | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** | **Median** | **75-perc** | **Max** |
| All (n=246) | 38 | 149 | 974 | 469 | 1581 | 2789 |  |  |  |  |  |  |
| Women (n=133) | 33 | 190 |  | 349 | 1617 |  |  |  |  |  |  |  |
| Men (n=113) | 44 | 134 |  | 611 | 1716 |  |  |  |  |  |  |  |