**Table S2**. **Univariate analysis in the subgroup of residents of endemic areas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Cases** | **Controls** | **OR** | **95% CI** | **p-value** |
|   | **N (%)\*** | **N (%)\*** |  |  |  |
| Education: |  |  |  |  | **0.070** |
| (Child <16 years) | 8 (6.5) | 20 (9.1) | 0.26 | 0.03-2.56 |
| Primary | 40 (32.3) | 57 (25.9) | ref. |  |
| High school | 27 (21.8) | 59 (26.8) | 0.64 | 0.33-1.25 |
| Vocational | 40 (32.2) | 52 (23.6) | 1.05 | 0.54-2.05 |
| University | 9 (7.3) | 32 (14.6) | 0.42 | 0.17-1.04 |
|  |  |  |  |  |  |
| Income per family member, PLN (USD) |  |  |  |  | 0.456 |
| <500 (<160) | 46 (37.1) | 78 (35.1) | ref. |  |
| 500-1000 (160 - 320) | 51 (41.1) | 85 (38.3) | 0.96 | 0.57-1.61 |
| 1000-1500 (320 – 480) | 21 (17.0) | 39 (17.6 ) | 0.90 | 0.45-1.78 |
| >1500 (>480) | 6 (4.8) | 20 (9.0) | 0.47 | 0.17-1.27 |
|  |  |  |  |  |  |
| Occupation: |  |  |  |  | **0.009** |
| Child | 8 (6.8) | 20 (9.1) | 0.87 | 0.03-22.76 |
| Students | 6 (5.1) | 15 (6.8) | 0.82 | 0.09-7.26 |
| Managers | 0 (0) | 8 (3.6) | - | - |
| Professionals | 2 (1.7) | 6 (2.7) | 0.89 | 0.12-6.78 |
| Technicians and associate professionals | 10 (8.5) | 13 (5.9) | 2.87 | 0.67-12.34 |
| Clerical support workers | 2 (1.7) | 10 (4.5) | 0.56 | 0.07-4.27 |
| Service and sales workers | 4 (3.4) | 6 (2.7) | 1.80 | 0.33-9.66 |
| Agricultural workers | 21 (17.8) | 59 (26.7) | 0.94 | 0.31-2.85 |
| Forestry or fishery workers† | 7 (5.9) | 4 (1.8) | 4.29 | 0.83-22.23 |
| Craft and related trades workers | 10 (8.5) | 14 (6.3) | 2.61 | 0.66-10.35 |
| Plant and machine operators, and assemblers | 7 (5.9) | 15 (6.8) | 1.65 | 0.36-7.44 |
| Elementary occupations | 9 (7.6) | 8 (3.6) | 3.01 | 0.69-13.01 |
| Unemployed | 14 (11.9) | 8 (3.6) | 5.39 | 1.30-22.37 |
| Retired | 18 (15.2) | 35 (15.9) | ref. |  |
|  |  |  |  |  |  |
| Forest proximity (from place of residence) |  |  |  |  | **0.043** |
| <50 m | 22 (17.9) | 22 (9.9) | ref. |  |
| 50-100 m | 23 (18.7) | 27 (12.2) | 0.90 | 0.40-2.04 |
| 100-500 m | 25 (20.3) | 52 (23.4) | 0.51 | 0.24-1.09 |
| 500-1000 m | 23 (18.7) | 35 (15.8) | 0.75 | 0.35-1.63 |
| >1 km | 30 (24.4) | 86 (38.7) | 0.41 | 0.20-0.82 |
|  |  |  |  |  |  |
| Living on a farm |  |  |  |  | 0.541 |
| No | 74 (59.7) | 125 (56.3) | ref. |  |
| Yes | 50 (40.3) | 97 (43.7) | 0.86 | 0.54-1.38 |
|  |  |  |  |  |  |
| Goats on the farm |  |  |  |  |   |
| No | 12 (26.7) | 25 (28.7) | ref. |  | 0.909  |
| Yes | 33 (73.3) | 61 (71.3) | 0.92 | 0.24-3.55 |   |
|  |  |  |  |  |  |
| Sheep on the farm |  |  |  |  | -  |
| No | 41 (100) | 83 (98.8) | - | - |   |
| Yes | 0 (0) | 1 (1.2) | - | - |   |
|  |  |  |  |  |  |
| Cows on the farm |  |  |  |  |  - |
| No | 41 (100) | 81 (96.4) | - | - |   |
| Yes | 0 (0) | 3 (3.6) | - | - |   |
|  |  |  |  |  |  |
| Living in a house with a yard/garden |  |  |  |  | 0.289 |
| No | 20 (16.1) | 28 (12.6) | ref. |  |
| Yes | 104 (83.9) | 194 (87.4) | 0.70 | 0.36-1.36 |
|  |  |  |  |  |  |
| Yard/garden secured from wild animals |  |  |  |  | 0.250 |
| No | 29 (27.9) | 41 (21.2) | ref. |  |
| Yes | 75 (72.1) | 152 (78.8) | 0.72 | 0.41-1.26 |
|  |  |  |  |  |  |
| Wild animals ever seen in the yard/garden |  |  |  |  | **0.072** |
| No | 94 (90.4) | 159 (82.0) | ref. |  |
| Yes | 10 (9.6) | 35 (18.0) | 0.52 | 0.25-1.09 |
|  |  |  |  |  |  |
| Travel history |  |  |  |  |  |
| In-country travel to endemic region |  |  |  |  | 0.350 |
| No | 104 (83.9) | 175 (79.6) | ref. |  |
| Yes | 20 (16.1) | 45 (20.4) | 0.76 | 0.42-1.36 |
|  |  |  |  |  |  |
| In country travel to non-endemic region |  |  |  |  | **0.034** |
| No | 112 (90.3) | 181 (82.3) | ref. |  |
| Yes | 12 (9.7) | 39 (17.7) | 0.49 | 0.24-0.97 |
|  |  |  |  |  |  |
| Time spent travelling during the exposure period |  |  |  |  |  |
| no travel | 93 (75.0) | 149 (68.7) | ref. |  | **0.068** |
| < 5 days | 23 (18.6) | 42 (19.4) | 0.88 | 0.49-1.59 |  |
| 5 - 15 days | 3 (2.4) | 18 (8.3) | 0.19 | 0.04-0.84 |  |
| ≥15 days | 5 (4.0) | 8 (3.7) | 0.74 | 0.17-3.19 |  |
|  |  |  |  |  |  |
| Time spent travelling to endemic areas during the exposure period |  |  |  |  |  |
| no travel | 104 (83.9) | 176 (80.7) | ref. |  | 0.706 |
| <5 days | 16 (12.9) | 33 (15.2) | 0.78 | 0.41-1.50 |  |
| ≥5 days | 4 (3.2) | 9 (4.1) | 0.78 | 0.23-2.68 |  |
|  |  |  |  |  |  |
| Time spent travelling to non-endemic areas during the exposure period |  |  |  |  |  |
| no travel | 109 (87.9) | 174 (79.1) | ref. |  | **0.052** |
| <5 days | 11 (8.9) | 29 (13.2) | 0.58 | 0.27-1.24 |  |
| ≥5 days | 4 (3.2) | 17 (7.7) | 0.34 | 0.11-1.05 |  |
|  |  |  |  |  |  |
| Travel distance |  |  |  |  | 0.287 |
| Near residence <50 km or no travel | 97 (79.5) | 156 (72.2) | ref. |  |  |
| ≥50km travel to endemic region | 15 (12.3) | 34 (15.7) | 0.64 | 0.32-1.30 |  |
| ≥50km travel to non-endemic region only | 10 (8.2) | 26 (12.1) | 0.62 | 0.28-1.40 |  |
|  |  |  |  |  |  |
| Travel abroad |  |  |  |  | 0.841 |
| No | 119 (96.0) | 214 (96.4) | ref. |  |
| Yes | 5 (4.0) | 8 (3.6) | 1.13 | 0.35-3.65 |
|  |  |  |  |  |  |
| Time spent outdoors |  |  |  |  | 0.803 |
| <20 hours per week | 34 (27.4) | 59 (26.7) | ref. |  |
| 20-40 hours per week | 49 (39.5) | 78 (35.3) | 1.02 | 0.55-1.90 |
| 40-60 hours per week | 28 (22.6) | 60 (27.1) | 0.76 | 0.38-1.56 |
| >60 hours per week | 13 (10.5) | 24 (10.9) | 0.83 | 0.36-1.95 |
|  |  |  |  |  |  |
| Time spent outdoors in relation to work |  |  |  |  | 0.393 |
| 0h per week | 68 (54.8) | 109 (49.1) | ref. |  |
| 1-10h per week | 10 (8.1) | 14 (6.3) | 0.95 | 0.39-2.32 |
| 11-20h per week | 7 (5.7) | 13 (5.9) | 0.85 | 0.32-2.28 |
| 21-30h per week | 3 (2.4) | 12 (5.4) | 0.31 | 0.08-1.22 |
| 31-40h per week | 10 (8.0) | 14 (6.3) | 1.04 | 0.43-2.52 |
| >40h per week | 26 (21.0) | 60 (27.0) | 0.60 | 0.31-1.15 |
|  |  |  |  |  |  |
| Leisure time spent outdoors |  |  |  |  | 0.372 |
| 0h per week | 18 (14.5) | 49 (22.1) | ref. |  |
| 1-10h per week | 25 (20.2) | 45 (20.2) | 1.50 | 0.75-3.00 |
| 11-20h per week | 30 (24.2) | 43 (19.4) | 1.94 | 0.90-4.19 |
| 21-30h per week | 15 (12.1) | 33 (14.9) | 1.30 | 0.56-3.00 |
| 31-40h per week | 36 (29.0) | 52 (23.4) | 1.95 | 0.91-4.19 |
| >40h per week |  |  |  |  |
|  |  |  |  |  |  |
| Outdoor activities (activity vs no activity) |  |  |  |  |  |
| Hunting |  |  |  |  | 0.728 |
| No | 120 (96.8) | 216 (97.3) | ref. |  |
| Yes | 4 (3.2) | 6 (2.7) | 1.27 | 0.33-4.90 |
|  |  |  |  |  |  |
| Camping |  |  |  |  | **0.001** |
| No | 117 (94.3) | 185 (83.3) | ref. |  |
| Yes | 7 (5.7) | 37 (16.7) | 0.25 | 0.09-0.66 |
|  |  |  |  |  |  |
| Fishing |  |  |  |  | 0.918 |
| No | 102 (82.3) | 182 (82.0) | ref. |  |
| Yes | 22 (17.7) | 40 (18.0) | 1.03 | 0.56-1.89 |
|  |  |  |  |  |  |
| Swimming outdoors (natural waters) |  |  |  |  | **0.026** |
| No | 105 (84.7) | 169 (76.1) | ref. |  |
| Yes | 19 (15.3) | 53 (23.9) | 0.47 | 0.23-0.94 |
|  |  |  |  |  |  |
| Sailing |  |  |  |  | 0.162 |
| No | 118 (95.2) | 217 (97.8) | ref. |  |
| Yes | 6 (4.8) | 5 (2.2) | 2.35 | 0.71-7.75 |
|  |  |  |  |  |  |
| Hiking |  |  |  |  | 0.789 |
| No | 69 (55.6) | 121 (54.5) | ref. |  |
| Yes | 55 (44.4) | 101 (45.5) | 0.94 | 0.60-1.47 |
|  |  |  |  |  |  |
| Cycling |  |  |  |  | 0.609 |
| No | 72 (58.1) | 123 (55.4) | ref. |  |
| Yes | 52 (41.9) | 99 (44.6) | 0.88 | 0.54-1.43 |
|  |  |  |  |  |  |
| Mushroom/berries collecting |  |  |  |  | 0.100 |
| No | 53 (42.7) | 118 (53.2) | ref. |  |
| Yes | 71 (57.3) | 104 (46.9) | 1.50 | 0.92-2.44 |
|  |  |  |  |  |  |
| Gardening |  |  |  |  | 1.000 |
| No | 43 (34.7) | 77 (34.7) | ref. |  |
| Yes | 81 (65.3) | 145 (65.3) | 1.00 | 0.61-1.65 |
|  |  |  |  |  |  |
| Place of outdoor leisure (>10 h/week) |  |  |  |  |  |
| Deciduous forests |  |  |  |  |  |
| No | 124 (100) | 218 (98.2) | . |  |  |
| Yes | 0 (0) | 4 (1.8) | . |  |  |
|  |  |  |  |  |  |
| Coniferous forest |  |  |  |  |  |
| No | 124 (100) | 218 (98.2) | . |  |  |
| Yes | 0 (0) | 4 (1.8) | . |  |  |
|  |  |  |  |  |  |
| Mixed forests |  |  |  |  | **0.004** |
| No | 105 (84.7) | 209 (94.1) | ref. |  |
| Yes | 19 (15.3) | 13 (5.9) | 3.11 | 1.42-6.81 |
|  |  |  |  |  |  |
| Forest edges |  |  |  |  | 0.548 |
| No | 115 (92.7) | 209 (94.1) | ref. |  |
| Yes | 9 (7.3) | 13 (5.9) | 1.33 | 0.53-3.36 |
|  |  |  |  |  |  |
| Meadows/high grass |  |  |  |  | 0.624 |
| No | 119 (96.0) | 210 (94.6) | ref. |  |
| Yes | 5 (4.0) | 12 (5.4) | 0.77 | 0.26-2.26 |
|  |  |  |  |  |  |
| Town parks |  |  |  |  |  |
| Yes | 123 (99.2) | 218 (98.2) | ref. |  |  |
| No | 1 (0.8) | 4 (1.8) | 0.43 | 0.05-3.87 | 0.413 |
|  |  |  |  |  |  |
| City streets |  |  |  |  |  |
| No | 121 (97.6) | 213 (96.0) | ref. |  |  |
| Yes | 3 (2.4) | 9 (4.0) | 0.60 | 0.16-2.25 | 0.433 |
|  |  |  |  |  |  |
| Cottage gardens |  |  |  |  |  |
| No | 115 (92.7) | 201 (90.5) | ref. |  |  |
| Yes | 9 (7.3) | 21 (9.5) | 0.80 | 0.34-1.90 | 0.612 |
|  |  |  |  |  |  |
| Fields / farms |  |  |  |  |  |
| No | 120 (96.8) | 215 (96.8) | ref. |  |  |
| Yes | 4 (3.2) | 7 (3.2) | 0.85 | 0.22-3.31 | 0.818 |
|  |  |  |  |  |  |
| Place of work time spent outdoors (>10 h/week) |  |  |  |  |  |
| Deciduous forests |  |  |  |  |  |
| No | 120 (97.6) | 220 (99.1) | ref. |  |  |
| Yes | 3 (2.4) | 2 (0.9) | 2.30 | 0.38-14.12 | 0.361 |
|  |  |  |  |  |  |
| Coniferous forest |  |  |  |  |  |
| No | 119 (96.8) | 218 (98.2) | ref. |  |  |
| Yes | 4 (3.2) | 4 (1.8) | 1.69 | 0.42-6.85 | 0.467 |
|  |  |  |  |  |  |
| Mixed forests |  |  |  |  |  |
| No | 115 (93.5) | 215 (96.8) | ref. |  |  |
| Yes | 8 (6.5) | 7 (3.2) | 2.21 | 0.76-6.44 | 0.145 |
|  |  |  |  |  |  |
| Forest edges |  |  |  |  |  |
| No | 119 (96.7) | 206 (92.8) | ref. |  |  |
| Yes | 4 (3.3) | 16 (7.2) | 0.38 | 0.12-1.19 | **0.074** |
|  |  |  |  |  |  |
| Meadows/high grass |  |  |  |  |  |
| No | 117 (95.1) | 199 (89.6) | ref. |  |  |
| Yes | 6 (4.89) | 23 (10.4) | 0.42 | 0.15-1.18 | **0.078** |
|  |  |  |  |  |  |
| Town parks |  |  |  |  |  |
| No | 123 (100) | 221 (99.6) | . |  |  |
| Yes | 0 (0) | 1 (0.4) | . |  |  |
|  |  |  |  |  |  |
| City streets |  |  |  |  |  |
| No | 121 (98.4) | 215 (96.8) | ref. |  |  |
| Yes | 2 (1.6) | 7 (3.2) | 0.51 | 0.09-2.77 | 0.421 |
|  |  |  |  |  |  |
| Cottage gardens |  |  |  |  |  |
| No | 121 (98.4) | 220 (99.1) | ref. |  |  |
| Yes | 2 (1.6) | 2 (0.9) | 1.41 | 0.19-10.34 | 0.733 |
|  |  |  |  |  |  |
| Fields / farms |  |  |  |  |  |
| No | 114 (92.7) | 192 (86.5) | ref. |  |  |
| Yes | 9 (7.3) | 30 (13.5) | 0.49 | 0.22-1.10 | **0.072** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Place of total time spent outdoors (>10 h/week) |  |  |  |  |  |
| No | 121 (97.6) | 215 (97.3) | ref. |  |  |
| Yes | 3 (2.4) | 6 (2.7) | 0.78 | 0.19-3.18 | 0.726 |
|  |  |  |  |  |  |
| Coniferous forest |  |  |  |  |  |
| No | 120 (96.8) | 213 (96.4) | ref. |  |  |
| Yes | 4 (3.2) | 8 (3.6) | 0.87 | 0.25-3.08 | 0.832 |
|  |  |  |  |  |  |
| Mixed forests |  |  |  |  |  |
| No | 99 (79.8) | 203 (91.9) | ref. |  |  |
| Yes | 25 (20.2) | 18 (8.1) | 2.84 | 1.45-5.54 | **0.002** |
|  |  |  |  |  |  |
| Forest edges |  |  |  |  |  |
| No | 111 (89.5) | 195 (88.2) | ref. |  |  |
| Yes | 13 (10.5) | 26 (11.8) | 0.85 | 0.40-1.82 | 0.680 |
|  |  |  |  |  |  |
| Meadows/high grass |  |  |  |  |  |
| No | 113 (91.1) | 187 (84.6) | ref. |  |  |
| Yes | 11 (8.9) | 34 (15.4) | 0.56 | 0.26-1.18 | 0.115 |
|  |  |  |  |  |  |
| Town parks |  |  |  |  |  |
| No | 120 (96.8) | 208 (94.1) | ref. |  |  |
| Yes | 4 (3.2) | 13 (5.9) | 0.54 | 0.16-1.75 | 0.283 |
|  |  |  |  |  |  |
| City streets |  |  |  |  |  |
| No | 119 (96.0) | 207 (93.7) | ref. |  |  |
| Yes | 5 (4.0) | 14 (6.3) | 0.63 | 0.22-1.80 | 0.374 |
|  |  |  |  |  |  |
| Cottage gardens |  |  |  |  |  |
| No | 113 (91.1) | 199 (90.0) | ref. |  |  |
| Yes | 11 (8.9) | 22 (10.0) | 0.92 | 0.41-2.07 | 0.836 |
|  |  |  |  |  |  |
| Fields / farms |  |  |  |  |  |
| No | 112 (90.3) | 184 (83.3) | ref. |  |  |
| Yes | 12 (9.7) | 37 (16.7) | 0.45 | 0.21-0.98 | **0.037** |
|  |  |  |  |  |  |
| Place of outdoor exposure during leisure time |  |  |  |  | **0.002** |
| <10h/week outdoors | 18 (14.5) | 49 (22.1) | ref. |  |  |
| >10h/week outdoors but <10h/week in forest | 87 (70.2) | 154 (69.4) | 1.42 | 0.77-2.64 |  |
| >10h/week in forest but <10h/week in mixed forest | 0 (0) | 6 (2.7) | - | - |  |
| >10h/week in mixed forest | 19 (15.3) | 13 (5.8) | 3.87 | 1.58-9.51 |  |
|  |  |  |  |  |  |
| Place of outdoor exposure in relation to work |  |  |  |  | **0.040** |
| <10h/week outdoors | 78 (62.9) | 123 (55.4) | ref. |  |  |
| >10h/week outdoors but <10h/week in forest | 33 (26.6) | 89 (40.1) | 0.57 | 0.33-0.99 |  |
| >10h/week in forest but <10h/week in mixed forest | 5 (4.0) | 3 (1.3) | 2.21 | 0.49-9.97 |  |
| >10h/week in mixed forest | 8 (6.5) | 7 (3.2) | 1.55 | 0.53-4.49 |  |
|  |  |  |  |  |  |
| Place of outdoor exposure in total |  |  |  |  | **0.020** |
| <10h/week outdoors | 7 (5.7) | 17 (7.7) | ref. |  |  |
| >10h/week outdoors but <10h/week in forest | 87 (70.2) | 178 (80.2) | 1.11 | 0.40-3.08 |  |
| >10h/week in forest but <10h/week in mixed forest | 5 (4.0) | 9 (4.0) | 1.21 | 0.27-5.45 |  |
| >10h/week in mixed forest | 25 (20.1) | 18 (8.1) | 3.11 | 1.03-9.42 |  |
|  |  |  |  |  |  |
| Consumption of unpasteurized cow milk or cheese |  |  |  |  |  |
| No | 82 (66.1) | 137 (62.0) | ref. |  |  |
| Yes | 42 (33.9) | 84 (38.0) | 0.84 | 0.51-1.36 | 0.471 |
|  |  |  |  |  |  |
| Consumption of unpasteurized sheep milk or cheese |  |  |  |  |  |
| No | 124 (100) | 221 (100) | - | - |  |
| Yes | 0 (0) | 0 (0) | - | - |  |
|  |  |  |  |  |  |
| Consumption of unpasteurized goat milk or cheese |  |  |  |  |  |
| No | 121 (97.6) | 215 (97.3) | ref. |  |  |
| Yes | 3 (2.4) | 6 (2.7) | 0.83 | 0.19-3.63 | 0.805 |
|  |  |  |  |  |  |
| Exposure to animals and tick bites |  |  |  |  |  |
| Contact with dog |  |  |  |  |  |
| No | 10 (9.9) | 13 (6.8) | ref. |  |  |
| Yes | 91 (90.1) | 177 (93.2) | 0.49 | 0.18-1.35 | 0.167 |
|  |  |  |  |  |  |
| Contact with cat |  |  |  |  |  |
| No | 44 (44.4) | 81 (42.9) | ref. |  |  |
| Yes | 55 (55.6) | 108 (57.1) | 0.96 | 0.55-1.67 | 0.888 |
|  |  |  |  |  |  |
| Found ticks on domestic animal |  |  |  |  |  |
| No | 59 (58.4) | 99 (52.1) | ref. |  |  |
| Yes | 42 (41.6) | 91 (47.9) | 0.70 | 0.41-1.18 | 0.173 |
|  |  |  |  |  |  |
| Reported exposure to tick bite |  |  |  |  | **<0.001** |
| No | 46 (37.1) | 199 (90.0) | ref. |  |
| Yes | 78 (62.9) | 22 (10.0) | 28.00 | 10.20-76.87 |
|  |  |  |  |  |  |
| Known place of exposure to ticks: |  |  |  |  | **<0.001** |
| No exposure to ticks | 46 (37.1) | 199 (90.1) | ref. |  |
| Near residence  | 75 (60.5) | 20 (9.1) | 20.29 | 10.44-82.19 |
| During travel to endemic region | 3 (2.4) | 1 (0.4) | 12.34 | 0.67-226.43 |
| During travel to non endemic region | 0 (0) | 1 (0.45) | - | - |

\* column percentages calculated excluding missing observations; † there were only forestry workers in the studied population