**Supplementary material**

Table S1 | Distribution of case and control years in categories of cumulative weekly rainfall prior to the outbreak onset with odds ratios (ORs) obtained from conditional logistic regression with 1:4 matching. Reference category, >10 to ≤20 mm. Only outbreaks with known dates included (*n* = 89)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cases** | | | **Controls** | | | | **Week 1 prior to outbreak (1–7 days)** | | | | | | | |
|  | **N (cum. precipitation mm)** | | | | | | | **≤10 mm** | | | | | **>20 mm** | | |
|  | **≤10** | **>10–≤20** | **>20** | **≤10** | **>10–≤20** | **>20** | | **OR (95% CI)** | | **p** |  | **OR (95% CI)** | | | **p** |
| All | 34 | 19 | 36 | 189 | 77 | 90 | | 0.69 (0.36–1.32) | | 0,265 |  | 1.61 (0.85–3.07) | | | 0.143 |
| Spring–summer | 23 | 12 | 28 | 137 | 55 | 60 | | 0.72 (0.33–1.60) | | 0,426 |  | 2.11 (0.97–4.59) | | | 0.061 |
| Autumn–winter | 12 | 7 | 7 | 50 | 20 | 32 | | 0.71 (0.24–2.12) | | 0,541 |  | 0.63 (0.20–2.02) | | | 0.434 |
| Groundwater | 28 | 13 | 25 | 146 | 51 | 65 | | 0.73 (0.35–1.54) | | 0,413 |  | 1.48 (0.70–3.16) | | | 0.306 |
| Surface water | 5 | 5 | 7 | 30 | 18 | 20 | | 0.58 (0.14–2.48) | | 0,464 |  | 1.24 (0.31–4.99) | | | 0.766 |
| Single household | 8 | 2 | 10 | 45 | 15 | 20 | | 1.07 (0.20–5.79) | | 0,937 |  | 3.05 (0.63–14.61) | | | 0.164 |
| Municipal/private | 25 | 16 | 23 | 132 | 55 | 67 | | 0.64 (0,31–1.31) | | 0,221 |  | 1.19 (0.57–2.49) | | | 0.644 |
|  |  | | |  | | | | **Week 2 prior to outbreak (8–14 days)** | | | | | | | |
| All | 48 | 19 | 22 | 186 | 90 | | 80 | 1.22 (0.67–2.21) | 0.511 | |  | 1.31 (0.65–2.62) | | 0.449 | |
| Spring–summer | 36 | 11 | 16 | 135 | 58 | | 59 | 1.41 (0.66–2.98) | 0.375 | |  | 1.41 (0.61–3.29) | | 0.424 | |
| Autumn–winter | 14 | 7 | 5 | 54 | 27 | | 21 | 0.98 (0.36–2,71) | 0.974 | |  | 0.84 (0.21–3.33) | | 0.800 | |
| Groundwater | 43 | 10 | 13 | 150 | 60 | | 52 | 1.73 (0.81–3.69) | 0.156 | |  | 1.44 (0.57–3.68) | | 0.443 | |
| Surface water | 7 | 4 | 6 | 28 | 17 | | 23 | 1.06 (0.27–4.13) | 0.931 | |  | 1.11 (0.27–4.49) | | 0.887 | |
| Single household | 9 | 7 | 4 | 37 | 23 | | 20 | 0.81 (0.26–2.51) | 0.714 | |  | 0.63 (0.14–2.72) | | 0.534 | |
| Municipal/private | 38 | 11 | 15 | 144 | 56 | | 54 | 1.34 (0.64–2.82) | 0.442 | |  | 1.39 (0.58–3.33) | | 0.467 | |
|  |  | | |  | | | | **Week 3 prior to outbreak (15–21 days)** | | | | | | | |
| All | 36 | 28 | 25 | 175 | 81 | | 100 | 0.60 (0.34–1.05) | 0.072 | |  | 0.74 (0.40–1.36) | | 0.331 | |
| Spring–summer | 29 | 20 | 14 | 137 | 52 | | 63 | 0.57 (0.30–1.08) | 0.084 | |  | 0.61 (0.29–1.29) | | 0.194 | |
| Autumn–winter | 9 | 7 | 10 | 43 | 26 | | 33 | 0.76 (0.26–2.26) | 0.624 | |  | 1.12 (0.37–3.44) | | 0.841 | |
| Groundwater | 31 | 17 | 18 | 138 | 58 | | 66 | 0.76 (0.39–1.47) | 0.416 | |  | 0.94 (0.44–1.97) | | 0.862 | |
| Surface water | 5 | 8 | 4 | 34 | 14 | | 20 | 0.28 (0.08–1.00) | 0.050 | |  | 0.39 (0.10–1.47) | | 0.163 | |
| Single household | 7 | 5 | 8 | 36 | 18 | | 26 | 0.71 (0.21–2.43) | 0.581 | |  | 1.16 (0.33–4.08) | | 0.815 | |
| Municipal/private | 29 | 20 | 15 | 133 | 55 | | 66 | 0.59 (0.31–1.14) | 0.119 | |  | 0.63 (0.30–1.33) | | 0.226 | |

Table S2 | Distribution of case and control years in categories of cumulative weekly rainfall prior to the outbreak onset with odds ratios (ORs) obtained from conditional logistic regression with 1:4 matching. Reference category, >40 to ≤80. All outbreaks included (*n* = 186)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cases** | | | **Controls** | | | **Week 1-4 prior to outbreak (1-28 days)** | | | | |
|  | **N (cum. precipitation mm)** | | | | | | **≤40 mm** | | | **>80 mm** | |
|  | **≤40** | **>40-≤80** | **>80** | **≤40** | **>40-≤80** | **>80** | **OR (95% CI)** | **p** | **OR (95% CI)** | | **p** |
| All | 63 | 62 | 61 | 295 | 242 | 202 | 0.81 (0.54–1.20) | 0.294 | 1.22 (0.80–1.86) | | 0.355 |
| Spring–summer | 41 | 37 | 42 | 194 | 153 | 132 | 0.83 (0.50–1.38) | 0.479 | 1.35 (0.81–2.25) | | 0.244 |
| Autumn–winter | 22 | 25 | 19 | 101 | 89 | 70 | 0.77 (0.41–1.45) | 0.416 | 0.96 (0.45–2.07) | | 0.917 |
| Groundwater | 46 | 43 | 39 | 217 | 168 | 125 | 0.80 (0.51–1.28) | 0.356 | 1.26 (0.76–2.09) | | 0.364 |
| Surface water | 16 | 14 | 15 | 63 | 55 | 60 | 0.99 (0.42–2.31) | 0.978 | 0.95 (0.39–2.31) | | 0.915 |
| Single household | 15 | 18 | 25 | 76 | 76 | 79 | 0.79 (0.36–1.71) | 0.546 | 1.42 (0.69–2.90) | | 0.336 |
| Municipal/private | 43 | 42 | 32 | 201 | 152 | 111 | 0.76 (0.47–1.22) | 0.257 | 1.06 (0.61–1.83) | | 0.840 |