**Supplementary table 1. Risk factors for malaria based on univariate conditional logistic regression of data from case-control pairs**

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| --- | --- | --- | --- | --- |
| **Diagnostic method****Number of case/control pairs** | **Microscopy****N=718**  | **RDT** **N=528** | **PCR****N=188** | **Positive by any method****N=858** |
| **Variable** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** |
| **Age group in yrs (compared to <5)** |  |
| <5 |  117 (32.6) | 75 (28.4) | 37 (39.4) | 143 (33.3) |
| 5-20 | 142 (39.5)1 (0.70-1.41) | 99 (37.5)0.99 (0.64-1.51) | 41 (43.6)1 (0.53-1.87) | 170 (39.6)1 (0.73-1.37) |
| >20 | 100 (27.8)1 (0.68-1.46) | 90 (34.10.97 (0.63-1.50) | 16 (17.0)1 (0.44-2.29) | 116 (27.0)1 (0.71-1.41) |
| **Gender (compared to male)**  |  |
| Male | 238 (66.3) | 192 (72.7) | 48 (51.1) | 276 (64.3) |
| Female | 121 (33.7)1 (0.73-1.36) | 72 (27.3)1 (0.68-1.47) | 46 (48.9)1 (0.56-1.77) | 153 (35.7)1 (0.76-1.41) |
| **Literacy (compared to illiterate)** |  |
| Illiterate |  235 (65.5) | 176 (66.7) | 56 (59.6) | 276 (64.3) |
| Primary | 31 (8.6)1.33 (0.75-2.35) | 14 (5.3)1.29 (0.57-2.93) | 19 (20.2)1.89 (0.85-4.2) | 46 (10.7)1.97\* (1.18-3.30) |
| Secondary & above | 93 (25.9)0.88 (0.63-1.23) | 74 (28.0)1.02 (0.69-1.49) | 19 (20.2)1.52 (0.71-3.25) | 107 (25.4)1.06 (0.78-1.45) |
| **Duration of previous malaria illness (compared to no illness)** |  |
| No illness |  159 (44.3) |  113 (42.8) | 50 (53.2) | 197 (45.9) |
| <15 Months | 189 (52.6)0.97 (0.72-1.32) | 144 (54.5)0.90 (0.63-1.28) | 42 (44.7)1.24 (0.73-2.38) | 221 (51.5)1.04 (0.79-1.37) |
| >15 Months | 11 (3.1)0.83 (0.36-1.91) | 7 (2.6)0.42 (0.17-1.08) | 2 (2.1)1.32 (0.10-3.13) | 11 (2.6)0.50(0.23-1.05) |
| **Presence of previous illness (compared to no illness)** |  |
| Absence | 159 (44.3) | 113 (42.8) | 50 (53.2) | 197 (45.9) |
| Presence | 200 (55.7)0.96 (0.72-1.30) | 151 (57.2)0.85 (0.60-1.21) | 44 (46.8)0.55 (0.70-2.21) | 232 (54.1)0.99 (0.76-1.29) |
| **Recurrent malaria (compared to no recurrence)** |  |
| No recurrence | 344 (95.8) | 253 (95.8) | 90 (95.7) | 411 (95.8) |
| Recurrence | 15 (4.2)1.91 (0.80-4.57) | 11 (4.2)1.39 (0.55-3.52) | 4 (4.3)1.35 (0.29-6.19) | 18 (4.2)1.40 (0.68-2.90) |
| **Presence of fever history (compared to no history)** |  |
| Absence | 358 (99.7) | 264 (100) | 94 (100) | 428 (99.8) |
| Presence | 1 (0.3)- | 0- | 0- | 1 (0.2)1 (0.62-16.04) |
| **General health (compared with poor health)** |  |
| Poor health |   115 (32.0) | 75 (28.4)   | 45 (47.9) | 144 (33.6)   |
| Weak | 145 (40.4)0.82 (0.54-1.24) | 105 (39.8)0.58 (0.34-0.99) | 35 (37.2)0.5 (0.26-0.96) | 170 (39.6)0.51\* (0.34-0.76) |
| Satisfactory  | 99 (27.6)0.24\* (0.16-0.35) | 84 (31.8)0.17\* (0.11-0.29) | 14 (14.9)0.336\* (0.15-0.75) | 115 (26.8)0.16\* (0.11-0.23) |
| **Presence of domestic animals (compared to absence of animals)** |  |
| Absence | 146 (40.7) | 115 (43.6) | 29 (30.8) | 168 (39.2) |
| Presence | 213 (59.3)1.31 (0.98-1.76) | 149 (56.4)1.28 (0.91-1.80) | 65 (69.2)1.10 (0.60-2.04) | 261 (60.8)1.36\* (1.03-1.78) |
| **Previously screened for malaria (compared to no screening)** |  |
| Not screened | 270 (75.2) | 202 (76.5) | 70 (74.5) | 319 (74.4) |
| Screened  | 89 (24.8)1.17 (0.83-1.65) | 62 (23.5)1.04 (0.70-1.56) | 24 (25.5)1.45 (0.72-2.89) | 110 (25.6)1.21 (0.88-1.66) |
| **House type (compared with Mud houses)** |  |
| Mud | 192 (53.5)  | 144 (54.5) | 54 (57.4)  | 232 (54.1)   |
| Concrete | 156 (43.5)0.80 (0.59-1.07) | 120 (45.5)0.97 (0.69-1.36) | 30 (31.9)0.54\* (0.29-1.01) | 181 (42.2)0.86 (0.65-1.13) |
| Tent/other | 11 (3.1)1.67 (0.61-4.61) | 0- | 10 (10.6)0.57 (0.23-1.43) | 16 (3.7)2.17 (0.88-5.39) |

**CI=confidence interval**

**\* Factors with p-value <0.05**

 **Supplementary table 1. *continued***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Diagnostic method****Number of case/control pairs** | **Microscopy****N=718**  | **RDT** **N=528** | **PCR****N=188** | **Positive by any method****N=858** |
| **Variable** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** |
| **Presence of water reservoir in vicinity (compared to absence of reservoir)** |  |
| Absence | 25 (7.0) | 12 (4.5) | 15 (16.0) | 36 (8.4) |
| Presence | 334 (93.0)1.44 (0.84-2.46) | 252 (95.5)1.18 (0.53-2.59) | 79 (84.0)0.49 (0.20-1.22) | 393 (91.6)1.09 (0.68-1.75) |
| **Indoor sleeping habit (compared to outdoors)** |  |
| Outdoors | 226 (62.9) | 159 (60.2) | 62 (66.0)  | 275 (64.1) |
| Indoors | 133 (37.1)0.62\* (0.46-0.84) | 105 (39.8)0.71\* (0.50-1.01) | 32 (34.0)1.10 (0.60-2.03) | 154 (35.9)0.66\* (0.50-0.87) |
| **Blood group (compared to A blood group) a** |  |
| A | 8 (38.1) | 9 (45) | - | 10 (43.5) |
| B | 7 (33.3)0.88 (0.20-3.76) | 6 (30)0.42 (0.10-1.72) | - | 7 (30.4)0.47 (0.12-1.76) |
| AB | 0- | 01  |  - | 01 |
| O | 6 (28.6)0.66 (0.15-2.84) | 5 (25)3.89 (0.36-41.32) |  - | 6 (26.1)1.66 (0.30-9.16) |
| **Presence of health care facility in living area (compared to absence of facility)** |  |
| Absence | 254 (70.7) | 188 (71.2) | 57 (60.6) | 293 (68.3) |
| Presence | 105 (29.2)0.65\* (0.47-0.88) | 76 (28.8)0.95 (0.65-1.38) | 37 (39.4)0.65 (0.36-0.16) | 136 (31.7)1.02 (0.77-1.36) |
| **Prior intake of anti-malarial drugs intake (compared to no prior intake of antimalarials)** |  |
| No intake | 188 (52.4) | 118 (44.7) | 71 (75.5) | 242 (56.4) |
| Intake | 171 (47.6)1.06 (0.79-1.42) | 146 (55.3)1.2 (0.85-1.69) | 23 (24.5)0.89 (0.46-1.72) | 187 (43.6)0.88 (0.68-1.16) |
| **Socio economic status****(compared with lower class)** |  |
| Lower (<10,000Rs) |  117 (32.6) | 88 (33.3) | 23 (24.5) | 131 (30.5) |
| Lower middle (10,000-20,000Rs) | 128 (35.6)0.84 (0.58-1.22) | 85 (32.2)0.75 (0.49-1.15) | 46 (48.9)1.24 (0.63-2.47) | 163 (38.0)1.03 (0.74-1.43) |
| Upper middle (20,000-40,000Rs) | 95 (26.5)0.68 (0.46-0.99) | 70 (26.5)0.72 (0.46-1.12) | 24 (25.5)1.46 (0.65-3.28) | 113 (26.3)0.76 (0.5401.08) |
| Upper (>40,000Rs) | 19 (5.3)0.57 (0.29-1.09) | 21 (7.9)1.09 (0.53-2.24) | 1 (1.1)1.22 (0.07-20.55) | 22 (5.1)0.97 (0.51-1.86) |
| **Presence of symptomatic fever (compared to absence of fever)** |  |
| Absence | 180 (50.1) | 133 (50.4) | 62 (66.0) | 232 (54.1) |
| Presence | 179 (49.9)0.89 (0.67-1.20) | 131 (49.6)- | 32 (34.0)1.35 (0.73-2.51) | 197 (45.9)0.93 (0.71-1.21) |
| **Presence of chills (compared to absence of chills)** |  |
| Absence | 304 (84.7) | 213 (80.7) | 91 (96.8) | 372 (86.7) |
| Presence | 55 (15.3)1.48 (0.95-2.30) | 51 (19.3)1.20 (0.77-1.87) | 3 (3.2)1.52 (0.25-9.29) | 57 (13.3)1.04 (0.70-1.55) |
| **Having headache (compared to absence of headache)** |  |
| Absence | 328 (94.2) | 243 (92.1) | 94 (100) | 407 (94.9) |
| Presence | 21 (5.8)1.05 (0.56-1.98) | 21 (7.9)1.18 (0.61-2.27) | 0- | 22 (5.1)0.87 (0.48-1.57) |

**CI=confidence interval**

**\* Factors with p-value <0.05**

**a All patients did not provide blood group information. Therefore, the denominator here is different i.e. for microscopy, RDT and any positive its 21, 20 and 23 respectively.**

**Supplementary table 1. *continued***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Diagnostic method****Number of case/control pairs** | **Microscopy****N=718**  | **RDT** **N=528** | **PCR****N=188** | **Positive by any method****N=858** |
| **Variable** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** | **No. positives (%)****Odds ratio (95%CI)** |
| **Having body ache (compared to absence of body aches)** |  |
| Absence | 277 (77.2) | 186 (70.5) | 91 (96.8) | 345 (80.4) |
| Presence | 82 (22.8)0.77 (0.54-1.07) | 78 (29.5)0.76 (0.53-1.09) | 3 (3.2)0.59 (0.13-2.53) | 84 (19.6)0.54\* (039-0.74) |
| **Having diarrhea (compared to absence of diarrhea)** |  |  |  |  |
| Absence | 355 (98.9) | 260 (98.5) | 94 (100) | 425 (99.1) |
| Presence | 4 (1.1)0.66 (0.18-2.37) | 4 (1.5)4.40 (0.45-36.4) | 0- | 4 (0.9)1.34 (0.30-6.01) |
| **Vomiting (compared to absence of vomiting)** |  |
| Absence | 342 (95.3) | 247 (93.6) | 93 (98.9) | 410 (95.6) |
| Presence | 17 (4.7)0.84 (0.43-1.64) | 17 (6.4)0.84 (0.43-1.64) | 1 (1.1)- | 19 (4.4)0.64 (0.35-1.16) |
| **Anemic (compared to normal)** |  |
| No | 354 (98.6) | 262 (99.2) | 94 (100) | 424 (98.8) |
| Yes | 4 (1.1)1 (0.29-3.48) | 2 (0.8)2.01 (0.18-22.3) | 0- | 5 (1.2)1.25 (0.33-4.70) |
| **Presence of respiratory tract infection (compared to absence of RTI)** |  |
| Absence | 353 (98.3) | 259 (98.1) | 93 (98.9) | 423 (98.6) |
| Presence | 6 (1.7)0.59 (0.21-1.65) | 5 (1.9)0.62 (0.20-1.91) | 1 (1.1)1 (0.62-16.23) | 6 (1.4)0.54 (0.20-1.47) |
| **Malaria diagnosis recommended by clinician (compared self-diagnosis without recommendation by clinician)** |  |
| No recommendation | 135 (37.6) | 136 (51.5) | 0 | 138 (32.2) |
| Recommendation | 224 (62.4)1.26 (0.94-1.70) | 128 (48.5)1.30 (0.92-1.83) | 94 (100)- | 291 (67.8)1.84\* (1.39-2.43) |

**CI=confidence interval**

**\* Factors with p-value <0.05**