**Supplementary Table 3:** Prevalence and intensity of infection of *S. japonicum* in humans from Hunan province as determined by real-time PCR (qPCR)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Total n** | **n positive** | **% positive** | **95%CI\*** | **% of total n** | **GMEPG\*\*** | **95%CI** |
|  |  | Hunan | 1905 | 153 | 8.03 | 6.81-9.25 | 100.00 | 23.77 | 19.69-28.69 |
|  | **Sex** | Male | 989 | 80 | 8.09 | 6.39-9.79 | 51.92 | 20.71 | 15.89-26.98 |
|  | Female | 916 | 73 | 7.97 | 6.21-9.73 | 48.08 | 27.64 | 21.11-36.21 |
|  | **Hunan** | Longwang | 168 | 34 | 20.24 | 14.10-26.38 | 8.82 | 18.17 | 12.59-26. |
|  | Xiangjiang | 156 | 29 | 18.59 | 12.42-24.76 | 8.19 | 20.84 | 11.87-36.58 |
|  | Zhangshu | 260 | 21 | 8.08 | 4.74-11.41 | 13.65 | 39.57 | 24.36-64.27 |
|  | Changjiang | 268 | 7 | 2.61 | 0.69-4.53 | 14.07 | 21,.29 | 10.81-41.95 |
|  | Ganzhou | 300 | 24 | 8.00 | 4.91-11.09 | 15.75 | 14.84 | 9.49-23.19 |
|  | Xincheng | 247 | 24 | 9.72 | 5.99-13.44 | 12.97 | 37.63 | 25.72-55.04 |
|  | Dongtinghong | 234 | 8 | 3.42 | 1.07-5.76 | 12.28 | 29.80 | 9.01-99.07 |
|  | Xinggang | 272 | 6 | 2.21 | 0.45-3.96 | 14.28 | 30.33 | 7.45-123.51 |
|  | **Age group** | <10 | 46 | 5 | 10.87 | 1.52-20.21 | 2.41 | 31.99 | 5.69-179.88 |
|  | 10 - 20 | 114 | 6 | 5.26 | 1.10-9.42 | 5.98 | 33.02 | 4.70-231.75 |
|  | 20 - 40 | 480 | 30 | 6.25 | 4.08-8.42 | 25.20 | 18.82 | 12.85-27.57 |
|  | 40 - 60 | 930 | 80 | 8.60 | 6.80-10.41 | 48.82 | 22.30 | 17.37-28.64 |
|  | >60 | 335 | 32 | 9.55 | 6.39-12.72 | 17.59 | 31.14 | 19.64-49.35 |
|  | **Education** | Illiterate | 109 | 13 | 11.93 | 574-18.11 | 5.72 | 15.84 | 8.70-28.83 |
|  | Primary school | 685 | 60 | 8.76 | 6.64-10.88 | 35.96 | 27.09 | 19.72-37.23 |
|  | Middle-high school | 1036 | 77 | 7.43 | 5.83-9.03 | 54.38 | 21.96 | 16.8-28.56 |
|  | College | 75 | 3 | 4.00 | 0-8.54 | 3.94 | 76.78 | 30.49-193.36 |
| **Education 2** | Illiterate | <20 | 1 | 0 | 0.00 | na | 0.05 | na | na |
| Primary school | <20 | 82 | 5 | 6.10 | 0.81-11.39 | 4.30 | 31.99 | 5.69-179.88 |
| Middle-high school | <20 | 74 | 6 | 8.11 | 1.74-14.48 | 3.88 | 33.02 | 4.70-231.75 |
| College | <20 | 3 | 0 | 0.00 | na | 0.16 | na | na |
| Illiterate | >20 | 108 | 13 | 12.04 | 5.80-18.27 | 5.67 | 15.84 | 8.70-28.83 |
| Primary school | >20 | 603 | 55 | 9.12 | 6.82-11.43 | 31.65 | 26.69 | 19.15-37.19 |
| Middle-high school | >20 | 962 | 71 | 7.38 | 5.73-9.04 | 50.50 | 21.21 | 16.38-27.48 |
| College | >20 | 72 | 3 | 4.17 | 0-8.90 | 3.78 | 76.78 | 30.49-193.36 |
|  | **Occupation** | Farmer | 1660 | 139 | 8.37 | 7.04-9.71 | 87.14 | 23.15 | 19.00-28.21 |
|  | Fisherman | 2 | 0 | 0.00 | na | 0.10 | na | na |
|  | Farmer + Fisherman | 10 | 2 | 20.00 | 0-50.16 | 0.52 | 24.47 | 12.71-93.50 |
|  | Businessman | 6 | 1 | 16.67 | 0-59.51 | 0.31 | 103.24 | na |
|  | Teacher/administrator | 9 | 1 | 11.11 | 0-36.73 | 0.47 | 86.67 | na |
|  | Student | 161 | 10 | 6.21 | 2.44-9.99 | 8.45 | 24.14 | 9.54-61.05 |
|  | Unemployed | 22 | 0 | 0.00 | na | 1.15 | na | na |
|  | Preschool/child | 1 | 0 | 0.00 | na | 0.05 | na | na |
|  | Other | 34 | 0 | 0.00 | na | 1.78 | na | na |
|  | **Occupation 2** | Farmer/fisher | 1672 | 141 | 8.43 | 7.10-9.77 | 87.77 | 23.28 | 19.16-28.30 |
|  | Business/teacher | 15 | 2 | 13.33 | 0-32.82 | 0.79 | 94.59 | 31.13-287.47 |
|  | Child/student | 162 | 10 | 6.17 | 2.43-9.92 | 8.50 | 24.4 | 9.54-61.06 |
|  | Unemployed | 22 | 0 | 0.00 | na | na | na | na |
|  | Other | 34 | 0 | 0.00 | na | na | na | na |
|  | **Defecate 1** | Home latrine | 1904 | 153 | 8.04 | 6.81-9.26 | 99.95 | 23.77 | 19.69-28.69 |
|  | Public latrine | 1 | 0 | 0.00 | na | 0.05 | na | na |
|  | Field | 0 | 0 | na | na | na | na | na |
|  | Other | 0 | 0 | na | na | na | na | na |
|  | Unknown | 0 | 0 | na | na | na | na | na |
|  | **Defecate 2** | Home latrine | 156 | 29 | 18.59 | 12.42-24.76 | 8.19 | 20.84 | 11.87-36.58 |
|  | Public latrine | 552 | 33 | 5.98 | 3.99-7.96 | 28.98 | 33.20 | 23.29-49.40 |
|  | Field | 0 | 0 | na | na | na | na | na |
|  | Marsh or lake | 0 | 0 | na | na | na | na | na |
|  | Other | 0 | 0 | na | na | na | na | na |
|  | Unknown | 684 | 76 | 11.11 | 8.75-13.47 | 35.91 | 21.12 | 16.44-27.13 |
|  | Missing | 513 | na | na | na | 26.93 | na | na |
|  | **Diarrhoea** | No | 1764 | 128 | 7.26 | 6.04-8.47 | 92.60 | 24.58 | 20.04-30.14 |
|  | 1-5 episodes/fortnight | 25 | 5 | 20.00 | 3.15-36.85 | 1.31 | 30.03 | 10.82-83.37 |
|  | >5 episodes/fortnight | 114 | 20 | 17.54 | 10.46-24.63 | 5.98 | 18.08 | 9.69-33.75 |
|  | Don't know | 2 | 0 | 0.00 | na | 0.10 | na | na |
|  | **Weakness** | No | 1723 | 123 | 7.14 | 5.92-8.36 | 90.45 | 24.49 | 19.97-30.03 |
|  | 1-5 episodes/fortnight | 75 | 4 | 5.33 | 0.13-10.54 | 3.94 | 10.21 | 2.84-36.63 |
|  | >5 episodes/fortnight | 106 | 25 | 23.58 | 15.37-31.80 | 5.56 | 24.95 | 14.22-43.78 |
|  | Don't know | 1 | 1 | 100.00 | na | 0.05 | 5.34 | na |
|  | **Fever** | No | 1858 | 145 | 7.80 | 6.58-9.02 | 97.53 | 24.07 | 19.82-29.23 |
|  | 1-5 episodes/fortnight | 3 | 0 | 0.00 | na | 0.16 | 16.51 | 5.63-48.42 |
|  | >5 episodes/fortnight | 38 | 7 | 18.42 | 5.51-31.33 | 1.99 | 16.51 | 5.63-48.42 |
|  | Don't know | 6 | 1 | 16.67 | 0-59.50 | 0.31 | 48.80 | na |
|  | **HepB** | Yes | 19 | 5 | 26.32 | 4.51-48.12 | 1.00 | 31.35 | 8.06-122.03 |
|  | No | 1827 | 146 | 7.99 | 6.75-9.24 | 95.91 | 23.38 | 19.25-28.40 |
|  | Don't know | 59 | 2 | 3.39 | 0-8.15 | 3.10 | 39.79 | 0.13-12241.02 |
|  | **Ever had schistosomiasis** | Yes | 1217 | 115 | 9.45 | 7.80-11.10 | 63.88 | 21.49 | 17.53-26.34 |
|  | No | 679 | 38 | 5.60 | 3.86-7.33 | 35.64 | 32.27 | 20.67-50.37 |
|  | Don't know | 9 | 0 | 0.00 | na | 0.47 | na | na |
|  | **Had advanced schistosomiasis** | Yes | 2 | 0 | 0.00 | na | 0.10 | na | na |
|  | No | 1903 | 153 | 8.04 | 6.82-9.26 | 99.90 | 23.77 | 19.69-26.69 |
|  | Don't know | 0 | 0 | na | na | 0.00 | na | na |
|  | **Had acute schistosomiasis** | Yes | 0 | 0 | 0.00 | na | 0.00 | na | na |
|  | No | 1904 | 152 | 7.98 | 6.81-9.26 | 99.95 | 23.77 | 19.69-26.69 |
|  | Don't know | 1 | 0 | na | na | 0.05 | na | na |
|  | **Treated for schistosomiasis last 2 years** | Yes | 689 | 59 | 8.56 | 6.47-10.66 | 36.17 | 23.95 | 18.00-31.85 |
|  | No | 1215 | 94 | 7.74 | 6.23-9.24 | 63.78 | 23.66 | 18.37-30.46 |
|  | Don't know | 1 | 0 | na | na | 0.05 | na | na |
|  | **Years worked in this village** | <5 | 13 | 0 | 0.00 | na | 0.68 | na | na |
|  | 5-10 | 75 | 6 | 8.00 | 1.72-14.28 | 3.94 | 43.15 | 17.57-105.96 |
|  | 10-20 | 308 | 20 | 6.49 | 3.73-9.26 | 16.17 | 19.31 | 10.53-35.44 |
|  | >20 | 1509 | 127 | 8.42 | 7.01-9.82 | 79.21 | 23.88 | 19.44-29.32 |
|  | **Live and work for more than 6 mths/yr in this village** | Yes | 1894 | 152 | 8.03 | 6.80-9.25 | 99.42 | 23.57 | 19.51-28.46 |
|  | No | 11 | 1 | 9.09 | 0-29.35 | 0.58 | 86.67 | na |
|  | Don't know | 0 | 0 | 0.00 | na | 0.00 | na | na |
|  | No answer | 0 | 0 | 0.00 | na | 0.00 | na | na |
|  | **Have you had water contact last 12 mths** | Yes | 1786 | 148 | 8.29 | 7.01-9.57 | 93.75 | 23.10 | 19.66-28.85 |
|  | No | 119 | 5 | 4.20 | 0.54-7.86 | 6.25 | 22.44 | 4.86-103.68 |
|  | Don't know | 0 | 0 | 0.00 | na | 0.00 | na | na |
|  | No answer | 0 | 0 | 0.00 | na | 0.00 | na | na |
| **Spring water contact activities** | **Frequency of water contact** | >1 per wk | 389 | 36 | 9.25 | 6.36-12.15 | 20.42 | 28.79 | 18.80-44.08 |
| Between weekly and monthly | 274 | 26 | 9.49 | 6.00-12.98 | 14.38 | 22.26 | 14.61-33.92 |
| 1 per mth | 514 | 52 | 10.12 | 7.50-10.12 | 26.98 | 24.38 | 17.60-33.77 |
| No response | 729 | 34 | 4.66 | na | 38.27 | na | na |
| **Fishing** | Checked | 192 | 15 | 7.81 | 3.98-11.64 | 10.08 | 24.18 | 19.80-29.53 |
| Unchecked | 1713 | 138 | 8.06 | 6.77-9.35 | 89.92 | 20.38 | 10.84-37.3 |
| **Herding bovines** | Checked | 18 | 1 | 5.56 | 0-17.28 | 0.94 | 23.62 | 19.55-28.53 |
| Unchecked | 1887 | 152 | 8.06 | 6.83-9.28 | 99.06 | 62.37 | na |
| **Farming/Cutting grass** | Checked | 675 | 69 | 10.22 | 7.93-12.51 | 35.43 | 23.35 | 17.78-30.66 |
| Unchecked | 1230 | 84 | 6.83 | 5.42-8.24 | 64.57 | 24.29 | 18.70-31.54 |
| **washing clothes** | Checked | 64 | 3 | 4.69 | 0-10.01 | 3.36 | 23.53 | 19.52-28.36 |
| Unchecked | 1841 | 150 | 8.15 | 6.90-9.40 | 96.64 | 39.31 | 0.13-12334.27 |
| **Swimming or playing** | Checked | 26 | 1 | 3.85 | 0-11.77 | 1.36 | 23.56 | 19.51-28.45 |
| Unchecked | 1879 | 152 | 8.09 | 6.86-9.32 | 98.64 | 92.56 | na |
| **Wading/Washing hands** | Checked | 285 | 30 | 10.53 | 6.94-14.11 | 14.96 | 23.62 | 19.16-29.11 |
| Unchecked | 1620 | 123 | 7.59 | 6.30-8.88 | 85.04 | 24.39 | 15.43-38.55 |
| **Other** | Checked | 15 | 1 | 6.67 | 0-20.97 | 0.79 | 23.84 | 19.72-28.81 |
| Unchecked | 1890 | 152 | 8.04 | 6.82-9.27 | 99.21 | 15.47 | na |
| **Summer water contact activities** | **Frequency of water contact** | >1 per wk | 397 | 32 | 8.06 | 5.37-10.75 | 20.84 | 20.70 | 13.36-32.08 |
| Between weekly and monthly | 348 | 32 | 9.20 | 6.14-12.25 | 18.27 | 26.10 | 16.04-42.48 |
| 1 per mth | 555 | 34 | 6.13 | 4.12-8.13 | 29.13 | 18.29 | 12.81-26.11 |
| No response | 605 | 55 | 9.09 | na | 31.76 | na | na |
| **Fishing** | Checked | 331 | 14 | 4.23 | 2.05-6.41 | 17.38 | 25.72 | 21.11-31.34 |
| Unchecked | 1574 | 139 | 8.83 | 7.43-10.23 | 82.62 | 10.85 | 6.52-18.04 |
| **Herding bovines** | Checked | 18 | 1 | 5.56 | 0-17.28 | 0.94 | 23.62 | 19.55-28.53 |
| Unchecked | 1887 | 152 | 8.06 | 6.83-9.28 | 99.06 | 62.37 | na |
| **Farming/Cutting grass** | Checked | 521 | 52 | 9.98 | 7.40-12.56 | 27.35 | 24.01 | 19.04-30.27 |
| Unchecked | 1384 | 101 | 7.30 | 5.93-8.67 | 72.65 | 23.31 | 16.69-32.54 |
| **washing clothes** | Checked | 64 | 7 | 10.94 | 3.08-18.80 | 3.36 | 24.36 | 20.05-29.59 |
| Unchecked | 1841 | 146 | 7.93 | 6.70-9.17 | 96.64 | 14.26 | 6.67-30.49 |
| **Swimming or playing** | Checked | 63 | 1 | 1.59 | 0-4.76 | 3.31 | 23.62 | 19.55-28.53 |
| Unchecked | 1842 | 152 | 8.25 | 6.99-9.51 | 96.69 | 62.40 | na |
| **Wading/Washing hands** | Checked | 367 | 25 | 6.81 | 4.22-9.40 | 19.27 | 23.89 | 19.57-29.18 |
| Unchecked | 1538 | 128 | 8.32 | 6.94-9.70 | 80.73 | 23.14 | 13.12-40.81 |
| **Other** | Checked | 114 | 4 | 3.51 | 0.08-6.94 | 5.98 | 23.52 | 19.40-28.2 |
| Unchecked | 1791 | 149 | 8.32 | 7.04-9.60 | 94.02 | 34.89 | 14.63-83.20 |
| **Autumn water contact activities** | **Frequency of water contact** | >1 per wk | 237 | 23 | 9.70 | 5.91-13.50 | 12.44 | 21.93 | 13.70-35.11 |
| Between weekly and monthly | 86 | 10 | 11.63 | 4.71-18.54 | 4.51 | 21.17 | 9.30-48.23 |
| 1 per mth | 199 | 10 | 5.03 | 1.96-8.09 | 10.45 | 26.69 | 12.96-54.97 |
| Missing | 1383 | 110 | 7.95 | na | 72.60 | na | na |
| **Fishing** | Checked | 78 | 1 | 1.28 | 0-3.83 | 4.09 | 17.39 | na |
| Unchecked | 1827 | 152 | 8.32 | 7.05-9.59 | 95.91 | 23.82 | 19.71-28.79 |
| **Herding bovines** | Checked | 16 | 1 | 6.25 | 0-19.57 | 0.84 | 62.37 | na |
| Unchecked | 1889 | 152 | 8.05 | 6.82-9.27 | 99.16 | 23.62 | 23.62-19.55 |
| **Farming/Cutting grass** | Checked | 337 | 37 | 10.98 | 7.62-14.33 | 17.69 | 21.29 | 15.18-29.85 |
| Unchecked | 1568 | 116 | 7.40 | 6.10-8.69 | 82.31 | 24.62 | 19.64-30.86 |
| **washing clothes** | Checked | 16 | 0 | 0.00 | na | 0.84 | na | na |
| Unchecked | 1889 | 153 | 8.10 | 6.87-9.33 | 99.16 | 23.77 | 19.69-28.69 |
| **Swimming or playing** | Checked | 8 | 0 | 0.00 | na | 0.42 | na | na |
| Unchecked | 1897 | 153 | 8.07 | 6.84-9.29 | 99.58 | 23.77 | 19.69-28.69 |
| **Wading/Washing hands** | Checked | 71 | 4 | 5.63 | 0.14-11.13 | 3.73 | 35.28 | 2.43-511.16 |
| Unchecked | 1834 | 149 | 8.12 | 6.87-9.38 | 96.27 | 23.52 | 19.46-28.42 |
| **Other** | Checked | 7 | 0 | 0.00 | na | 0.37 | na | na |
| Unchecked | 1898 | 153 | 8.06 | 6.84-9.29 | 99.63 | 23.77 | 19.69-28.69 |
| **Water contact - seasons combined** | **Fishing** | Checked | 414 | 22 | 5.31 | 3.14-7.48 | 21.73 | 16.05 | 10.00-25.75 |
| Unchecked | 1491 | 131 | 8.79 | 7.48-10.22 | 78.27 | 25.39 | 20.68-31.17 |
| **Herding bovines** | Checked | 20 | 1 | 5.00 | 0-15.7 | 1.05 | 62.37 | na |
| Unchecked | 1885 | 152 | 8.06 | 6.83-9.29 | 98.95 | 23.62 | 23.62-19.55 |
| **Farming/Cutting grass** | Checked | 821 | 77 | 9.38 | 7.38-11.38 | 43.10 | 24.88 | 19.29-32.09 |
| Unchecked | 1084 | 76 | 7.01 | 5.49-8.53 | 56.90 | 22.69 | 17.09-30.12 |
| **washing clothes** | Checked | 109 | 9 | 8.26 | 3.01-13.51 | 5.72 | 20.76 | 6.89-62.53 |
| Unchecked | 1796 | 144 | 8.02 | 6.76-9.27 | 94.28 | 23.97 | 19.78-29.05 |
| **Swimming or playing** | Checked | 80 | 2 | 2.50 | 0-6.00 | 4.20 | 76.21 | 6.44-901.34 |
| Unchecked | 1825 | 151 | 8.27 | 7.01-9.54 | 95.80 | 23.40 | 19.36-28.29 |
| **Wading/Washing hands** | Checked | 619 | 49 | 7.92 | 5.78-10.05 | 32.49 | 24.20 | 16.83-34.80 |
| Unchecked | 1286 | 104 | 8.09 | 6.60-9.58 | 67.51 | 23.57 | 18.87-29.43 |
| **Other** | Checked | 119 | 4 | 3.36 | 0.08-6.65 | 6.25 | 34.89 | 14.63-83.20 |
| Unchecked | 1786 | 149 | 8.34 | 7.06-9.63 | 93.75 | 23.52 | 19.40-28.52 |
| **Any WC** | Checked | 1784 | 147 | 8.24 | 1.03-8.89 | 93.65 | 24.15 | 19.94-29.23 |
| Unchecked | 121 | 6 | 4.96 | 6.96-8.24 | 6.35 | 16.15 | 3.85-67.69 |

\*95% confidence interval

\*\*Geometric mean eggs per gram of faeces