

SUPPLEMENTAL TABLE 1

Microsatellite markers used for determination of MOI in the samples from the cohort study of 537 children on Pemba Island, Zanzibar, Tanzania\*

Microsatellite marker	Chromosome	Repeat sequence	GenBank accession no.	Allele length of positive control 3D7 in samples	Primer sequence. 5'→3' (internal forward and reverse primer)
Ta81	5	TAA	G38836; AF166147-51	118	F: TGGACAAATGGGAAAGGATA R: TTTCACACAACACAGGATT
C4m8	4	TAA	G37937	146	F: GATGATGAAAATAATAACAG R: GCAAATGAGCACAATCATTG
Pfpk2	12	TTA	G37852	167	F: AAAGAAGGAACAAGCAGA R: CTTTCATCGATACTACGA

\*MOI = multiplicity of infection; F = forward; R = reverse.

SUPPLEMENTAL TABLE 2

Univariate conditional logistic regression with robust standard errors on anemia (hemoglobin &lt; 7 mg/dL), matched on date of presentation, in 120 cases and 556 controls on Pemba Island, Zanzibar, Tanzania\*

Predictor	No. cases (%) or mean (SD)	No. controls (%) or mean (SD)	OR (P)	95% CI
<b>Demographics, SES, and bed use (at enrollment)</b>				
<b>Age, months</b>				
1–6	15 (12.5)	80 (14.3)	Reference	
7–12	68 (56.6)	217 (39.0)	<b>2.36 (0.003)</b>	1.27–4.38
< 13	37 (30.8)	259 (46.5)	0.94 (0.846)	0.49–1.81
<b>Sex</b>				
F	65 (54.1)	274 (49.2)	Reference	
M	55 (45.8)	282 (50.8)	<b>0.69 (0.037)</b>	0.49–0.98
<b>Father's education</b>				
Illiterate	59 (49.1)	314 (56.4)	Reference	
Primary	43 (35.8)	145 (26.1)	<b>1.74 (0.011)</b>	1.14–2.68
Secondary	43 (35.8)	97 (17.4)	0.82 (0.497)	0.46–1.46
<b>Mother's education</b>				
Illiterate	45 (37.5)	213 (38.3)	Reference	
Primary	29 (24.1)	174 (31.2)	0.86 (0.504)	0.54–1.35
Secondary	46 (38.3)	169 (30.3)	0.80 (0.294)	0.52–1.22
<b>Family income (\$/month)</b>				
< 40	48 (40)	201 (36.1)	Reference	
40–100	65 (54.1)	317 (57)	<b>0.55 (0.005)</b>	0.46–0.84
> 100	7 (05.8)	38 (06.8)	0.51 (0.119)	0.22–1.19
<b>Child used bed net†</b>				
No	75 (67.5)	331 (67)	Reference	
Yes	36 (32.4)	163 (33)	0.85 (0.478)	0.56–1.32
<b>Anthropometry at enrollment</b>				
Arm circumference enrollment in cm‡	12.8 (SD 1.16)	12.9 (SD 1.15)	<b>0.85 (0.029)</b>	<b>0.73–0.98</b>
Weight for height at enrollment z-score§	-0.16 (SD 1.15)	-0.21 (SD 1.24)	0.91 (0.200)	0.80–1.05
Weight for age at enrollment z-score¶	-1.03 (SD 1.19)	-1.17 (SD 1.56)	0.95 (0.318)	0.85–1.05
Height for age at enrollment z-score#	-1.03 (SD 0.95)	-1.11 (SD 1.24)	0.9 (0.628)	0.84–1.11
<b>Medical diagnosis at prior visit (-5 to -21 days)</b>				
<b>Malaria (1–5,000 parasites) at prior visit**</b>				
No	97 (85.1)	461 (87.4)	Reference	
Yes	17 (14.9)	66 (12.6)	1.63 (0.094)	0.92–2.88
<b>Malaria (density dependent) at prior visit††</b>				
No	87 (76.3)	442 (83.6)	Reference	
Yes	27 (23.7)	87 (16.4)	<b>1.76 (0.024)</b>	1.08–2.89
<b>Malaria (3 RDT) at prior visit‡‡</b>				
No	74 (64.9)	404 (76.7)	Reference	
Yes	40 (35.1)	123 (23.3)	<b>1.89 (0.003)</b>	1.23–2.87
<b>Malaria (IMCI definition) at prior visit§§</b>				
No	67 (63.2)	335 (64.8)	Reference	
Yes	39 (36.8)	182 (35.2)	1.32 (0.156)	0.90–1.94
<b>Pneumonia at prior visit¶¶</b>				
No	107 (93.8)	511 (96.4)	Reference	
Yes	7 (6.2)	19 (03.6)	<b>14.07 (0.001)</b>	2.90–68.15
<b>Bronchitis at prior visit##</b>				
No	112 (98.2)	433 (96)	Reference	
Yes	2 (1.8)	18 (4)	0.52 (0.454)	0.96–2.84

(Continued)

SUPPLEMENTAL TABLE 2  
Continued

Predictor	No. cases (%) or mean (SD)	No. controls (%) or mean (SD)	OR ( <i>P</i> )	95% CI
<b>Laboratory values</b>				
<b>Gametocytes at prior visit***</b>				
No	111 (97.3)	515 (99.2)	Reference	
Yes	3 (2.7)	14 (0.8)	0.76 (0.698)	0.19–3.01
<b>Gametocytes at current visit</b>				
No	114 (95)	550 (98.9)	Reference	
Yes	6 (5)	6 (0.1)	<b>6.13 (0.001)</b>	2.04–18.43
Parasite density at prior visit (log <sub>10</sub> /μL)†††	2.1 (SD 1.7)	1.6 (SD 1.7)	<b>1.22 (&lt; 0.001)</b>	1.09–1.37
Parasite density at current visit (log <sub>10</sub> /μL)	2.1 (SD 1.9)	1.5 (SD 1.8)	<b>1.29 (&lt; 0.001)</b>	1.15–1.45
Leukocytes at prior visit (in 1,000)‡‡‡	11.5 (SD 3.6)	10.7 (SD 3.3)	<b>1.08 (0.005)</b>	1.02–1.13
<b>MOI (maximum of 3 MS markers), reduced dataset§§§</b>				
<b>MOI = 4 at prior visit</b>				
1	29 (39.1)	175 (40.5)	Reference	
2	22 (29.7)	116 (26.8)	1.39 (0.279)	0.77–2.52
3	14 (18.9)	62 (14.3)	1.84 (0.115)	0.86–3.93
≥ 4	9 (12.1)	79 (18.2)	0.60 (0.250)	0.25–1.44
<b>MOI = 3 at prior visit</b>				
1	29 (39.1)	175 (40.5)	Reference	
2	22 (29.7)	116 (26.8)	1.39 (0.276)	0.77–2.51
≥ 3	23 (31)	141 (32.5)	1.08 (0.820)	0.55–2.14
<b>MOI = 2 at prior visit</b>				
1	29 (39.1)	175 (40.5)	Reference	
≥ 2	45 (60.9)	257 (59.5)	1.24 (0.451)	0.1–2.16
<b>MOI = 4 at current visit</b>				
1	30 (38.9)	128 (42.1)	Reference	
2	26 (33.7)	128 (42.1)	<b>2.66 (0.005)</b>	1.35–5.25
3	17 (22)	46 (15.1)	2.00 (0.114)	0.85–4.68
≥ 4	4 (5.1)	54 (17.7)	0.82 (0.627)	0.38–1.79
<b>MOI = 3 at current visit</b>				
1	30 (38.9)	128 (42.1)	Reference	
2	26 (33.7)	76 (25)	<b>2.70 (0.004)</b>	1.3–5.29
≥ 3	21 (27.1)	100 (32.8)	1.34 (0.381)	0.70–2.55
<b>MOI = 2 at current visit</b>				
1	30 (38.9)	128 (42.1)	Reference	
≥ 2	47 (61.1)	176 (57.9)	<b>1.86 (0.036)</b>	1.04–3.31

\*OR = odds ratio; CI = confidence interval; SES = socioeconomic status; RDT = rapid diagnostic test; IMCI = Integrated Management of Childhood Illness; MOI = multiplicity of infection; MS = microsatellite.

†Information on bed net use missing on 9 cases and 62 controls (7.5% of cases and 11.2% of controls).

‡Information on arm circumference at enrollment missing in 3 cases and 13 controls.

§Information on weight for height z-score at enrollment missing in 4 cases and 12 controls.

¶Information on weight for age z-score at enrollment missing in 4 cases and 10 controls.

#Information on height for age z-score at enrollment missing in 4 cases and 12 controls.

\*\*As per definition 1: ≥ 5,000 parasites/μL plus history of fever or documented fever. Information on previous malaria according to definition 1 was not available for the time window –5 to –21 days in 6 cases and 29 controls.

††As per definition 2: ≥ 1,000 parasites/μL plus documented fever; ≥ 3,000 plus history of fever; ≥ 8,000 regardless of fever. Information on previous malaria according to definition 2 was not available for the time window –5 to –21 days in 6 cases and 27 controls.

‡‡As per definition 3: ≥ any parasites plus history of fever or documented fever. This represents the performance of a rapid diagnostic test with a detection threshold of 50–100 parasites/μL. Information on previous malaria according to definition 3 was not available for the time window –5 to –21 days in 6 cases and 29 controls.

§§As per definition 4: any history of fever or documented fever regardless of parasites. This represents the IMCI definition of presumptive diagnosis of malaria. Information on previous malaria according to definition 4 was not available for the time window –5 to –21 days in 14 cases and 39 controls.

¶¶Information on previous pneumonia was not available for the time window –5 to –21 days in 6 cases and 26 controls.

#Information on previous bronchitis was not available for the time window –5 to –21 days in 6 cases and 26 controls.

\*\*\*Information on previous gametocytes was not available for the time window –5 to –21 days in 6 cases and 27 controls.

†††Information on previous parasite density was not available for the time window –5 to –21 days in 6 cases and 27 controls.

‡‡‡Information on previous leukocytes was not available for the time window –5 to –21 days in 10 cases and 104 controls.

§§§Information on MOI at previous visit (–5 to –21 days) was not available in 46 cases and 124 controls and for current visit in 43 cases and 252 controls.