Crude and multiple-adjusted odds ratios for anemia among study children from Kwale County stratified by sex

Independent variables	Boys				Girls			
	Crude OR	Adjusted OR	95% CI	P value	Crude OR	Adjusted OR	95% CI	P value
Age 5–6 years*	1.7	**2.1**	**1.1, 4.1**	**0.026**	1.3	1.2	0.6, 2.3	0.61
Age 7–8 years*	0.95	1.1	0.6, 2.1	0.771	0.6	**0.5**	**0.2, 0.9**	**0.029**
Age 9–10 years*	0.7	0.76	0.4, 1.45	0.413	0.7	0.6	0.3, 1.2	0.130
Age 11–12 years*	0.9	0.95	0.5, 1.8	0.895	0.6	0.56	0.3, 1.1	0.091
Age 13–14 years*	0.8	0.92	0.49, 1.7	0.793	0.95	**0.8**	0.4, 1.7	0.650
Age 15–16 years*	1.1	1.21	0.6, 2.4	0.574	0.7	0.7	0.3, 1.3	0.269
S. haematobium (heavy intensity)†	**1.7**	**2**	**1.3, 2.9**	**< 0.0001**	**1.7**	**1.8**	**1.2, 2.7**	**0.006**
S. haematobium (light intensity)†	**1.9**	**1.9**	**1.3, 3.0**	**0.002**	1.3	1.3	0.8, 1.9	0.251
Hookworm intensity (log egg count + 1)	–	1.1	0.98, 1.3	0.069	–	1.1	0.8, 1.3	0.389
P. falciparum malaria†	**2.2**	**2.2**	**1.3, 3.6**	**0.002**	1.4	1.3	0.8, 2.1	0.249
Trichuris	0.97				1.1			
Filaria	1.3	0.98	0.6, 1.6	0.954	1.4	0.7	0.4, 1.1	0.126
S. haematobium–hookworm‡	**1.6**	1	0.6, 1.8	0.897	**1.6**	1.03	0.5, 2	0.921
S. haematobium–*Pf* malaria‡	**2.4**	0.8	0.4, 1.7	0.733	**1.7**	1	0.5, 2.1	0.991
Hookworm–*Pf* malaria‡	**2.6**	0.9	0.4, 2	0.896	1.5	1	0.4, 2.4	0.996
S. haematobium–*Trichuris*‡	1.1				0.9			
S. haematobium–filaria‡	1.2				0.8			
Hookworm–*Trichuris*‡	0.7				0.9			
Hookworm–filaria‡	0.5				0.9			
Poorest SES quintile§	**1.7**	1.4	0.9, 2.2	0.099	1.2	1.1	0.7, 1.7	0.594
Second poorest SES quintile§	**1.6**	1.3	0.9, 2	0.195	0.9	0.83	0.6, 1.3	0.416
Third poorest SES quintile§‡	1.3	1.1	0.7, 1.7	0.631	0.8	0.8	0.5, 1.2	0.354
Fourth poorest SES quintile§	**1.9**	**2.1**	**1.3, 3.3**	**0.001**	0.94	0.97	0.6, 1.5	0.901
Jego Village‖	0.86				0.96			
Milalani Village‖	1.1				**1.4**			
Nganja Village‖	0.99				1.3			

Crude odds ratios are presented for all variables explored in initial analysis stratified by sex. Bold variables are those variables that were significantly associated with anemia (*P* < 0.05). Only those variables retained in the final GEE logistic model (accounting for household clustering) are shown with adjusted ORs, 95% CIs, and *P* values. Based on their significance compared with nested models, the final model included variables for 2-year age categories, *S. haematobium* intensity categories, hookworm intensity as a numerical variable based on egg count, and the presence or absence of *P. falciparum* malaria, filarial infection, and categorical variables reflecting the presence of coinfections (*S. haematobium*–hookworm, *S. haematobium*–*Pf* malaria, and hookworm–malaria); SES was obtained by analysis of asset scores obtained through PCA with households divided into SES quintiles. Of note, village categories and the *S. haematobium*–*Trichuris*, *S. haematobium*–filaria, hookworm–*Trichuris*, and hookworm–filaria coinfection variables were not included in the final model.
* Relative to oldest age group (17–18 years).
† Relative to uninfected.
‡ Relative to single or no infection.
§ Relative to highest (richest) SES.
‖ Relative to Vuga Village.

Crude and multiple-adjusted odds ratios for wasting among study children from Kwale County, Kenya, stratified by sex

	Boys				Girls			
Independent variables	Crude OR	Adjusted OR	95% CI	P value	Crude OR	Adjusted OR	95% CI	P value
Age 5–6 years*	**0.08**	**0.08**	**0.03, 0.2**	**< 0.0001**	**0.1**	**0.13**	**0.002, 0.3**	**< 0.0001**
Age 7–8 years*	**0.09**	**0.1**	**0.04, 0.2**	**< 0.0001**	**0.2**	**0.2**	**0.08, 0.4**	**< 0.0001**
Age 9–10 years*	**0.15**	**0.15**	**0.07, 0.3**	**< 0.0001**	**0.3**	**0.3**	**0.01, 0.7**	**0.003**
Age 11–12 years*	**0.32**	**0.36**	**0.2, 0.7**	**0.002**	0.6	0.68	0.3, 1.3	0.284
Age 13–14 years*	0.6	0.62	0.3, 1.1	0.127	0.7	0.91	0.4, 1.8	0.800
Age 15–16 years*	0.7	0.78	0.4, 1.4	0.427	1.2	1.3	0.6, 2.6	0.446
S. haematobium (heavy intensity)†	1.6	1.1	0.7, 1.7	0.661	0.8	0.84	0.4, 2.6	0.603
S. haematobium (light intensity)†	**2**	**2.2**	**1.2, 4.4**	**0.015**	1.4	1.6	0.7, 13.2	0.280
Pf malaria†	**1.8**				1.06			
S. haematobium–Pf malaria‡	0.8	**2.3**	**1.1, 4.3**	**0.015**	1.1	1.3	0.6, 7.7	0.421
S. haematobium–filaria‡	**2.2**	0.7	0.3, 1.4	0.341	0.98	1.4	0.4, 3	0.418
S. haematobium–hookworm‡	0.8				0.6			
S. haematobium–Trichuris‡	0.98				0.7			
Hookworm–*Pf* malaria‡	0.6				0.7			
Hookworm–*Trichuris*‡	0.6				0.5			
Hookworm–filaria‡	2.6				0.5			
Poorest SES quintile§	1.1	1.4	0.9, 2.5	0.158	1.5	**1.9**	**1.1, 3.4**	**0.033**
Second poorest SES quintile§	0.8	0.87	0.5, 1.5	0.653	0.7	0.72	0.4, 1.4	0.336
Third poorest SES quintile§	0.7	0.83	0.5, 1.4	0.529	1.2	0.94	0.5, 1.7	0.852
Fourth poorest SES quintile§	1.2	1.3	0.7, 2.1	0.362	1.4	1.4	0.8, 2.4	0.272
High-risk villages‖	1	1.1	0.7, 1.7	0.604	0.35	**0.34**	**0.2, 0.6**	**< 0.0001**
Jego Village¶	**0.3**				**0.2**			
Milalani Village¶	**0.6**				**0.2**			
Nganja Village¶	0.7				**0.3**			

Crude odds ratios are presented for all variables explored in initial analysis stratified by sex. Bold variables are those variables that were significantly associated with anemia ($P < 0.05$). Only those variables retained in the final GEE logistic model (accounting for household clustering) are shown with adjusted ORs, 95% CIs, and P values. Based on their significance compared with nested models, the final model included variables for 2-year age categories, *S. haematobium* intensity categories, and categorical variables reflecting the presence of coinfections (*S. haematobium*–filarial and *S. haematobium–Pf* malaria); SES was obtained by analysis of asset scores obtained through PCA with households divided into SES quintiles.
* Relative to oldest age group (17–18 years).
† Relative to uninfected.
‡ Relative to single or no infection.
§ Relative to highest (richest) SES.
‖ Relative to low-risk villages (low *S. haematobium* prevalence).
¶ Relative to Vuga Village.

Crude and multiple-adjusted odds ratios for stunting among study children from Kwale County, Kenya, stratified by sex

Independent variables	Boys				Girls			
	Crude OR	Adjusted OR	95% CI	P value	Crude OR	Adjusted OR	95% CI	P value
Age 5–6 years*	**0.3**	**0.3**	**0.1, 0.5**	**< 0.0001**	**0.4**	**0.4**	**0.2, 0.8**	**0.009**
Age 7–8 years*	**0.4**	**0.3**	**0.2, 0.6**	**< 0.0001**	**0.4**	**0.4**	**0.2, 0.8**	**0.014**
Age 9–10 years*	**0.6**	**0.4**	**0.2, 0.8**	**0.009**	0.9	0.8	0.4, 1.7	0.645
Age 11–12 years*	0.8	0.7	0.4, 1.4	0.339	1.1	1.1	0.5, 2.3	0.705
Age 13–14 years*	0.98	1.04	0.6, 1.9	0.895	1.1	1.2	0.6, 2.4	0.637
Age 15–16 years*	1.1	1.07	0.6, 2.02	0.815	1.3	1.3	0.6, 2.6	0.506
S. haematobium (heavy intensity)†	1.4	0.9	0.6, 1.2	0.448	**0.8**	**0.6**	**0.3, 0.9**	**0.018**
S. haematobium (light intensity)†	**1.7**	**1.6**	**1.03, 2.4**	**0.035**	0.8	0.8	0.5, 1.3	0.317
Filaria†	1.4	1.3	0.8, 2.0	0.321	1.3	1.4	0.9, 2.2	0.181
Hookworm intensity (log egg count +1)	1.04				0.99			
P. falciparum malaria†	0.9				0.8			
Trichuris	1.1				1.1			
S. haematobium–*Pf* malaria‡	1.4	1.3	0.7, 2.3	0.377	**1.5**	1.7	0.96, 2.9	0.065
Hookworm–*Trichuris*‡	0.5	0.5	0.2, 1.2	0.104	0.5	0.5	0.2, 1.2	0.148
S. haematobium–hookworm‡	0.9				0.95			
S. haematobium–*Trichuris*‡	0.9				0.97			
S. haematobium–filaria‡	1.2				1.1			
Hookworm–*Pf* malaria‡	1				0.9			
Hookworm–filaria‡	1.2				0.7			
Poorest SES quintile§	**1.8**	**2.4**	**1.5, 3.9**	**< 0.0001**	**1.8**	**1.9**	**1.2, 3.1**	**0.006**
Second poorest SES quintile§	1.2	1.4	0.9, 2.3	0.144	1.2	1.2	0.7, 2	0.391
Third poorest SES quintile§	1.1	1.4	0.9, 2.4	0.149	0.96	0.94	0.6, 1.6	0.836
Fourth poorest SES quintile§	1.3	**1.6**	**1, 2.7**	**0.05**	1.3	1.4	0.8, 2.2	0.189
High-risk villages‖	**1.4**	**1.6**	**1.2, 2.3**	**0.007**	**0.5**	1.1	0.7, 1.5	0.727
Jego Village¶	**0.5**				**0.6**			
Milalani Village¶	**0.7**				0.95			
Nganja Village¶	1.1				**1.8**			

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* Relative to oldest age group (17–18 years).
† Relative to uninfected.
‡ Relative to single or no infection.
§ Relative to highest (richest) SES.
‖ Relative to Vuga village.
¶ Relative to low-risk villages (low *S. haematobium* prevalence).