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Supplementary webappendix

This webappendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Ngugi AK, Bottomley C, Kleinschmidt I, et al, for the SEEDS group. Prevalence of active convulsive epilepsy in sub-Saharan Africa and associated risk factors: cross-sectional and case-control studies. *Lancet Neurol* 2013; published online Jan 31. [http://dx.doi.org/10.1016/S1474-4422\(13\)70003-6](http://dx.doi.org/10.1016/S1474-4422(13)70003-6).

APPENDICES

Stage II (SII) screening questions

- Q1. Have you ever had a fit?
- Q2. Has someone ever told you that you have fits?
- Q3. Have you ever been told that you have epilepsy or epileptic fits?
- Q4. Have you ever had attacks in which you fall to the ground with loss of consciousness?
- Q5. Have you ever fallen to the ground without a reason and experienced:
- a) Twitching?
 - b) Shaking of the arms or legs without control?
 - c) Wetting yourself?
 - d) Biting of the tongue?
- Q6. Have you ever been told by a doctor that you have epilepsy or epileptic fits?
- If **Yes** to any of the above 6 questions:
- I. When did the seizures start?
 - II. When was the last seizure?
 - III. Have you ever had any seizure within the last **5** years?
 - IV. If **Yes**, how many seizures have you had within the last one year?
 - V. Did **all** the seizures occur with a febrile illness?
 - VI. Are you currently using any drugs for convulsions?

Supplementary Table 1: Centre-specific comparison of the two- and three-stage methods for detecting cases of active convulsive epilepsy among participants selected in the population samples.

Study centre	Sample	Two-stage method (SII+SIII)				Three-stage method (SI+SII+SIII)		Comparison		
		Screened SI	Screened SII	Positive SII	Screened SIII	Cases detected (crude)	*Adjusted prevalence (95% CI)	Cases detected (crude)	*Adjusted prevalence (95% CI)	† Prevalence proportion (%) missed in 3-stages
Kilifi	6000	5883	5594	68	38	23	9•3 (7•4-12•8)	17	7•0 (5•0-9•4)	24•7
Agincourt	4500	4209	3889	67	58	26	9•8 (6•9-13•4)	16	7•4 (5•0-10•4)	24•5
Iganga	5000	4436	4053	125	46	22	19•7 (15•7-24•5)	15	10•1 (7•4-13•6)	48•7
Ifakara	5000	4702	4985	54	49	31	9•8 (7•2-13•0)	22	15•3 (12•0-19•2)	Nil
Kintampo	5000	4183	4849	38	24	16	15•5 (12•2-19•4)	11	12•4 (9•3-16•3)	20•0
Overall	25 500	23 413	23 371	352	215	116		81		

*Adjusted for attrition and sensitivity of SII+SIII (76•7%) and SI+SII+SIII (48•6%); †Based on ratio of the two adjusted prevalence estimates.

Supplementary Table 2: Demographic characteristics of cases and controls at each centre (AGN=Agincourt, IFA=Ifakara, IGN=Iganga, KIL=Kilifi, KIN=Kintampo)

		Agincourt		Ifakara		Iganga-Mayuge		Kilifi		Kintampo		All	
		% Control (N=261)	Case % (N=245)	% Control (N=625)	Case % (N=366)	% Control (N=239)	Case % (N=152)	% Control (N=527)	Case % (N=699)	% Control (N=381)	Case % (N=249)	% Control (N=2033)	Case % (N=1711)
Age†	0-5	4	4	7	7	21	34	16	14	3	2	10	11
	6-12	16	11	28	20	29	29	23	23	19	13	24	20
	13-18	10	15	23	24	18	16	19	21	28	25	21	21
	19-28	20	19	15	18	18	13	16	20	28	38	19	21
	29-49	33	35	21	25	11	7	15	13	17	17	19	19
	50+	16	16	6	6	3	2	11	9	6	5	8	8
Sex‡	Female	68	47	49	52	54	47	53	49	51	45	54	49
	Male	32	53	51	48	46	53	47	51	49	55	46	51
Education	None	21	20	17	28	24	27	46	51	48	43	32	38
	Primary	36	40	58	55	44	50	44	40	5	4	40	39
	Secondary and above	41	37	3	1	23	16	7	3	45	51	19	16
	Unknown	2	3	23	16	9	7	3	5	3	3	10	7

† 4 individuals missing age, ‡18 individuals missing sex

Supplementary Table 3a: Risk factors for ACE in children by country (Agincourt)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	6•9(5/72)	15•9(13/82)	2•52(0•79,9•50)	0•130	3•06(0•97,9•67)	0•057
Maternal seizures	0•0(0/72)	2•5(2/81)	NA	0•498	NA	NA
Abnormal delivery	10•6(7/66)	10•3(8/78)	0•96(0•29,3•32)	1	0•92(0•29,2•96)	0•892
Abnormal antenatal period	3•2(2/63)	5•7(4/70)	1•85(0•25,21•02)	0•683	1•13(0•18,7•02)	0•894
Home delivery	12•9(9/70)	16•5(13/79)	1•34(0•49,3•80)	0•646	1•51(0•56,4•11)	0•415
Problems after birth	1•4(1/71)	7•7(6/78)	5•83(0•67,272•03)	0•119	4•03(0•41,39•26)	0•230
Difficulties feeding, crying or breathing	4•5(3/66)	10•1(7/69)	2•37(0•51,14•76)	0•326	2•03(0•46,8•93)	0•348
Head injury	1•4(1/73)	7•3(6/82)	5•68(0•66,264•98)	0•121	4•36(0•48,39•80)	0•192
Malnourished	20•8(15/72)	19•7(13/66)	0•93(0•37,2•32)	1	0•87(0•35,2•15)	0•765
Eats cassava	50•7(37/73)	46•3(38/82)	0•84(0•43,1•66)	0•631	0•85(0•42,1•74)	0•664
Dogs in household	13•7(10/73)	25•6(21/82)	2•17(0•89,5•58)	0•073	1•93(0•80,4•62)	0•142
Cats in household	8•2(6/73)	4•9(4/82)	0•57(0•11,2•54)	0•518	0•54(0•13,2•26)	0•398
Eats Pork	15•1(11/73)	11•1(9/81)	0•70(0•24,2•01)	0•483	0•63(0•23,1•77)	0•385
Malaria IgG +ve (schizont)	22•0(13/59)	23•9(11/46)	1•11(0•40,3•06)	0•82	1•26(0•45,3•49)	0•662
Hospitalised with malaria or fever	0•0(0/73)	0•0(0/83)	NA	NA	NA	NA
Toxocara canis IgG4 +ve	22•0(13/59)	19•6(9/46)	0•86(0•29,2•46)	0•813	0•90(0•31,2•64)	0•854
Toxoplasma gondii IgG +ve	6•8(4/59)	2•2(1/46)	0•31(0•01,3•26)	0•383	0•57(0•05,6•20)	0•647
Taenia solium +ve	NA	NA	NA	NA	NA	NA
Onchocerca volvulus +ve	NA	NA	NA	NA	NA	NA
HIV +ve	12•1(7/58)	4•3(2/46)	0•33(0•03,1•88)	0•293	0•28(0•05,1•68)	0•163

* OR children adjusted for: age, sex, maternal education, maternal marital status and employment of either parent; † Fisher's exact test for unadjusted p-values
N=73 controls and N=83 cases, including 17 cases not identified as part of the three stage survey

Supplementary Table 3b: Risk factors for ACE in adults by country (Agincourt)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	3•2(6/187)	13•7(28/204)	4•80(1•88,14•48)	0•0002	6•71(2•52,17•83)	0•0001
Maternal seizures	0•0(0/187)	0•5(1/204)	NA	1	NA	NA
Abnormal delivery	0•0(0/103)	6•0(11/184)	NA	0•009	NA	NA
Home delivery	45•2(47/104)	47•2(83/176)	1•08(0•65,1•81)	0•805	0•72(0•37,1•38)	0•319
Problems after birth	1•0(1/104)	4•4(8/182)	4•74(0•62,212•10)	0•163	9•05(1•00,81•98)	0•050
Head injury	1•6(3/188)	1•9(4/209)	1•20(0•20,8•32)	1	0•61(0•12,3•04)	0•545
Drinks alcohol	15•8(29/183)	16•3(33/203)	1•03(0•58,1•85)	1	0•75(0•40,1•40)	0•365
Eats cassava	62•0(116/187)	73•4(149/203)	1•69(1•08,2•66)	0•017	2•10(1•30,3•40)	0•002
Eats Pork	31•0(58/187)	22•7(46/203)	0•65(0•40,1•05)	0•067	0•65(0•40,1•08)	0•097
Uses drugs	3•3(6/183)	3•0(6/201)	0•91(0•24,3•46)	1	0•45(0•13,1•62)	0•222
Hypertension	7•0(13/187)	11•3(23/204)	1•70(0•80,3•77)	0•163	3•45(1•50,7•92)	0•004
Stroke	2•7(5/187)	4•9(10/204)	1•88(0•57,7•12)	0•299	2•18(0•65,7•26)	0•204
Diabetes mellitus	1•1(2/187)	3•4(7/204)	3•29(0•61,32•73)	0•178	3•28(0•61,17•59)	0•166
Malnourished	12•3(23/187)	14•4(26/180)	1•20(0•63,2•31)	0•646	0•92(0•47,1•77)	0•793
Dogs in household	21•9(41/187)	23•0(47/204)	1•07(0•64,1•77)	0•810	1•26(0•74,2•14)	0•387
Cats in household	8•6(16/186)	5•9(12/204)	0•66(0•28,1•55)	0•331	0•88(0•38,2•01)	0•758
Malaria IgG +ve (schizont)	37•5(57/152)	43•7(66/151)	1•29(0•80,2•10)	0•294	1•44(0•85,2•44)	0•180
Hospitalised with malaria or fever	0•0(0/188)	0•5(1/209)	NA	1	NA	NA
Toxocara canis IgG4 +ve	7•9(12/152)	9•9(15/151)	1•29(0•54,3•13)	0•553	1•61(0•64,4•02)	0•312
Toxoplasma gondii IgG +ve	11•2(17/152)	15•9(24/151)	1•50(0•73,3•12)	0•244	1•50(0•70,3•20)	0•293
Taenia solium +ve	NA	NA	NA	NA	NA	NA
Onchocerca volvulus +ve	NA	NA	NA	NA	NA	NA
HIV +ve	28•0(42/150)	22•5(34/151)	0•75(0•43,1•30)	0•291	0•69(0•37,1•28)	0•237

* OR adults adjusted for: age, sex, education, marital status and employment; † Fisher's exact test for unadjusted p-values
N=188 controls and N=209 cases, including 30 cases not identified as part of the three stage survey

Supplementary Table 4a: Risk factors for ACE in children by country (Ifakara) *

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	10•5(36/343)	14•7(32/218)	1•47(0•85,2•52)	0•146	1•45(0•86,2•46)	0•161
Maternal seizures	1•2(4/344)	2•8(6/218)	2•41(0•56,11•71)	0•197	2•78(0•69,11•24)	0•152
Abnormal delivery	4•1(14/341)	3•2(7/217)	0•78(0•26,2•10)	0•655	0•76(0•30,1•94)	0•564
Abnormal antenatal period	2•3(8/341)	7•4(16/215)	3•35(1•32,9•18)	0•005	3•84(1•52,9•71)	0•004
Home delivery	36•7(121/330)	35•3(76/215)	0•94(0•65,1•37)	0•785	0•90(0•62,1•30)	0•557
Problems after birth	2•6(9/340)	8•8(19/216)	3•55(1•49,9•06)	0•002	3•73(1•59,8•76)	0•003
Difficulties feeding, crying or breathing	0•9(3/338)	10•3(22/213)	12•86(3•78,67•70)	<0•0001	13•29(3•79,46•62)	<0•0001
Head injury	0•6(2/341)	2•8(6/215)	4•87(0•86,49•59)	0•06	4•25(0•84,21•44)	0•079
Malnourished	15•5(50/322)	20•4(42/206)	1•39(0•86,2•25)	0•159	1•48(0•92,2•38)	0•108
Eats cassava	49•9(171/343)	57•3(125/218)	1•38(0•96,1•97)	0•069	1•23(0•87,1•75)	0•240
Dogs in household	84•3(290/344)	84•4(184/218)	1•01(0•62,1•66)	1	1•06(0•65,1•71)	0•826
Cats in household	87•7(300/342)	94•5(205/217)	2•39(1•20,5•11)	0•008	2•53(1•29,4•97)	0•007
Eats Pork	66•1(226/342)	59•6(130/218)	0•76(0•53,1•09)	0•127	0•73(0•51,1•05)	0•093
Malaria IgG +ve (schizont)	90•1(154/171)	95•6(153/160)	2•41(0•92,7•07)	0•058	1•71(0•63,4•61)	0•289
Hospitalised with malaria or fever	3•5(12/347)	8•2(18/220)	2•49(1•11,5•78)	0•020	2•74(1•23,6•10)	0•013
Toxocara canis IgG4 +ve	43•7(31/71)	55•1(43/78)	1•59(0•79,3•19)	0•191	1•60(0•78,3•28)	0•199
Toxoplasma gondii IgG +ve	31•3(50/160)	42•1(64/152)	1•60(0•98,2•62)	0•060	1•50(0•91,2•46)	0•111
Taenia solium +ve	0•0(0/172)	1•3(2/158)	NA	0•228	NA	NA
Onchocerca volvulus +ve	21•1(36/171)	21•3(34/160)	1•01(0•58,1•78)	1	1•04(0•60,1•81)	0•882
HIV +ve	8•2(14/171)	13•8(22/160)	1•79(0•84,3•93)	0•114	1•86(0•88,3•91)	0•102

* OR children adjusted for: age, sex, maternal education, maternal marital status and employment of either parent; † Fisher's exact test for unadjusted p-values
N=347 controls and N=220 cases, including 44 cases not identified as part of the three stage survey

Supplementary Table 4b: Risk factors for ACE in adults by country (Ifakara)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	11•7(32/273)	28•4(64/225)	2•99(1•83,4•95)	<0•0001	3•20(1•91,5•37)	<0•0001
Maternal seizures	0•4(1/277)	2•2(5/230)	6•13(0•68,291•07)	0•096	5•28(0•56,50•17)	0•147
Abnormal delivery	6•8(19/278)	3•5(8/230)	0•49(0•18,1•20)	0•113	0•51(0•20,1•30)	0•158
Home delivery	55•9(124/222)	66•5(135/203)	1•57(1•04,2•37)	0•029	1•61(1•01,2•56)	0•044
Problems after birth	1•1(3/275)	2•6(6/229)	2•44(0•51,15•22)	0•312	2•09(0•48,9•07)	0•327
Head injury	0•4(1/278)	2•2(5/230)	6•16(0•68,292•12)	0•096	13•95(1•21,161•28)	0•035
Drinks alcohol	21•9(59/269)	19•2(41/214)	0•84(0•52,1•35)	0•498	1•08(0•63,1•83)	0•787
Eats cassava	52•9(147/278)	66•7(152/228)	1•78(1•22,2•60)	0•002	1•96(1•30,2•94)	0•001
Eats Pork	62•1(169/272)	70•9(163/230)	1•48(1•00,2•20)	0•047	1•52(1•00,2•32)	0•050
Uses drugs	5•1(14/272)	3•7(8/217)	0•71(0•25,1•84)	0•514	1•07(0•40,2•87)	0•898
Hypertension	0•0(0/274)	0•9(2/218)	NA	0•196	NA	NA
Stroke	0•0(0/273)	0•5(1/219)	NA	0•445	NA	NA
Diabetes mellitus	0•0(0/277)	0•5(1/219)	NA	0•442	NA	NA
Malnourished	10•2(28/274)	16•4(37/225)	1•73(0•99,3•04)	0•045	2•07(1•13,3•80)	0•019
Dogs in household	82•7(230/278)	81•7(187/229)	0•93(0•57,1•51)	0•816	1•06(0•64,1•76)	0•828
Cats in household	89•9(250/278)	90•4(207/229)	1•05(0•56,2•00)	0•882	1•35(0•70,2•63)	0•374
Malaria IgG +ve (schizont)	98•3(171/174)	97•7(173/177)	0•76(0•11,4•56)	1	0•86(0•15,4•97)	0•867
Hospitalised with malaria or fever	1•1(3/278)	3•9(9/230)	3•73(0•92,21•64)	0•043	3•51(0•84,14•59)	0•085
Toxocara canis IgG4 +ve	58•5(48/82)	79•4(85/107)	2•74(1•37,5•49)	0•002	2•43(1•16,5•08)	0•018
Toxoplasma gondii IgG +ve	53•4(87/163)	56•1(92/164)	1•12(0•71,1•77)	0•657	1•10(0•66,1•86)	0•710
Taenia solium +ve	0•6(1/174)	3•4(6/176)	6•11(0•73,282•40)	0•121	10•12(1•13,90•89)	0•039
Onchocerca volvulus +ve	37•9(66/174)	54•2(96/177)	1•94(1•24,3•04)	0•003	1•87(1•15,3•05)	0•012
HIV +ve	17•2(30/174)	20•9(37/177)	1•27(0•72,2•25)	0•417	1•12(0•61,2•05)	0•716

*OR adults adjusted for: age, sex, education, marital status and employment; † Fisher's exact test for unadjusted p-values
N=278 controls and N=230 cases, including 40 cases not identified as part of the three stage survey

Supplementary Table 5a: Risk factors for ACE in children by country (Iganga-Mayuge) *

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	8•4(13/154)	23•1(40/173)	3•26(1•62,6•93)	0•0003	2•99(1•51,5•91)	0•002
Maternal seizures	0•6(1/155)	2•9(5/170)	4•67(0•51,222•09)	0•217	3•93(0•42,36•94)	0•231
Abnormal delivery	1•3(2/150)	3•5(6/172)	2•67(0•47,27•41)	0•292	3•60(0•69,18•91)	0•129
Abnormal antenatal period	1•3(2/151)	8•2(14/171)	6•64(1•48,60•93)	0•004	15•45(1•98,120•67)	0•009
Home delivery	12•4(19/153)	28•9(50/173)	2•87(1•55,5•43)	0•0004	2•90(1•55,5•43)	0•0009
Problems after birth	2•6(4/152)	5•8(10/172)	2•28(0•64,10•17)	0•182	2•98(0•88,10•07)	0•078
Difficulties feeding, crying or breathing	0•7(1/151)	6•6(11/166)	10•65(1•51,461•11)	0•006	11•12(1•39,88•86)	0•023
Head injury	0•7(1/153)	3•5(6/170)	5•56(0•66,257•40)	0•125	3•78(0•42,34•03)	0•236
Malnourished	23•7(31/131)	21•3(32/150)	0•87(0•48,1•60)	0•669	0•82(0•45,1•49)	0•507
Eats cassava	91•0(141/155)	92•5(160/173)	1•22(0•51,2•93)	0•689	1•19(0•48,2•91)	0•707
Dogs in household	16•1(25/155)	6•9(12/173)	0•39(0•17,0•84)	0•014	0•42(0•20,0•88)	0•022
Cats in household	3•9(6/155)	1•7(3/173)	0•44(0•07,2•10)	0•316	0•46(0•11,1•98)	0•298
Eats Pork	10•4(16/154)	12•9(22/171)	1•27(0•61,2•71)	0•605	1•28(0•60,2•73)	0•515
Malaria IgG +ve (schizont)	99•2(125/126)	100•0(91/91)	NA	1	NA	NA
Hospitalised with malaria or fever	0•6(1/155)	0•0(0/173)	NA	0•473	NA	NA
Toxocara canis IgG4 +ve	18•3(23/126)	18•7(17/91)	1•03(0•48,2•17)	1	1•18(0•55,2•57)	0•669
Toxoplasma gondii IgG +ve	19•8(25/126)	22•0(20/91)	1•14(0•55,2•32)	0•736	0•92(0•44,1•92)	0•831
Taenia solium +ve	1•6(2/126)	1•1(1/91)	0•69(0•01,13•44)	1	1•50(0•07,33•68)	0•798
Onchocerca volvulus +ve	4•8(6/126)	12•1(11/91)	2•75(0•89,9•39)	0•071	2•93(1•00,8•57)	0•049
HIV +ve	2•4(3/126)	3•3(3/91)	1•40(0•18,10•66)	0•697	1•06(0•17,6•79)	0•950

* OR children adjusted for: age, sex, maternal education, maternal marital status and employment of either parent; † Fisher's exact test for unadjusted p-values
N=155 controls and N=173 cases, including 55 cases not identified as part of the three stage survey

Supplementary Table 5b: Risk factors for ACE in adults by country (Iganga-Mayuge)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	10•8(9/83)	32•8(20/61)	4•01(1•56,10•87)	0•002	5•19(1•49,18•16)	0•010
Maternal seizures	0•0(0/84)	1•6(1/61)	NA	0•421	NA	NA
Abnormal delivery	2•4(2/83)	1•7(1/60)	0•69(0•01,13•51)	1	1•67(0•08,35•63)	0•741
Home delivery	42•7(35/82)	31•1(19/61)	0•61(0•28,1•29)	0•168	0•49(0•16,1•48)	0•207
Problems after birth	0•0(0/79)	7•3(4/55)	NA	0•027	NA	NA
Head injury	0•0(0/84)	0•0(0/62)	NA	NA	NA	NA
Drinks alcohol	11•6(8/69)	15•4(8/52)	1•39(0•42,4•59)	0•595	3•21(0•69,15•01)	0•138
Eats cassava	92•8(77/83)	100•0(61/61)	•(1•21,•)	0•039	1•00(1•00,1•00)	
Eats Pork	11•0(9/82)	19•4(12/62)	1•95(0•69,5•63)	0•233	1•55(0•41,5•84)	0•519
Uses drugs	30•0(21/70)	20•4(11/54)	0•60(0•23,1•48)	0•301	0•66(0•22,1•93)	0•449
Hypertension	1•2(1/83)	1•6(1/62)	1•34(0•02,106•78)	1	NA	NA
Stroke	0•0(0/83)	1•6(1/62)	NA	0•428	NA	NA
Diabetes mellitus	0•0(0/83)	0•0(0/62)	NA	NA	NA	NA
Malnourished	12•3(9/73)	31•1(19/61)	3•22(1•23,8•81)	0•01	2•41(0•70,8•32)	0•163
Dogs in household	13•4(11/82)	9•7(6/62)	0•69(0•20,2•19)	0•606	1•68(0•34,8•17)	0•522
Cats in household	2•4(2/82)	1•6(1/62)	0•66(0•01,12•90)	1	4•45(0•28,70•53)	0•29
Malaria IgG +ve (schizont)	100•0(73/73)	100•0(40/40)	NA	NA	NA	NA
Hospitalised with malaria or fever	0•0(0/84)	1•6(1/62)	NA	0•425	NA	NA
Toxocara canis IgG4 +ve	35•6(26/73)	45•0(18/40)	1•48(0•62,3•49)	0•420	1•77(0•58,5•41)	0•315
Toxoplasma gondii IgG +ve	41•1(30/73)	35•0(14/40)	0•77(0•32,1•84)	0•552	0•99(0•31,3•13)	0•985
Taenia solium +ve	0•0(0/73)	2•5(1/40)	NA	0•354	NA	NA
Onchocerca volvulus +ve	8•2(6/73)	5•0(2/40)	0•59(0•06,3•51)	0•710	0•32(0•03,3•98)	0•377
HIV +ve	2•7(2/73)	5•0(2/40)	1•87(0•13,26•56)	0•614	57•15(2•28,1431•47)	0•014

* OR adults adjusted for: age, sex, education, marital status and employment; † Fisher's exact test for unadjusted p-values
N=84 controls and N=62 cases, including 28 cases not identified as part of the three stage survey

Supplementary Table 6a: Risk factors for ACE in children by country (Kilifi)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	15•6(45/288)	16•7(70/418)	1•09(0•71,1•68)	0•756	1•00(0•65,1•53)	0•992
Maternal seizures	1•0(3/289)	2•4(10/418)	2•34(0•59,13•31)	0•258	1•88(0•50,7•05)	0•349
Abnormal delivery	3•5(10/286)	6•0(25/417)	1•76(0•80,4•17)	0•159	1•90(0•86,4•23)	0•115
Abnormal antenatal period	12•3(35/285)	21•3(87/408)	1•94(1•24,3•06)	0•002	1•88(1•20,2•93)	0•006
Home delivery	84•4(243/288)	84•2(352/418)	0•99(0•64,1•52)	1	0•89(0•56,1•40)	0•609
Problems after birth	5•9(17/288)	13•8(57/414)	2•55(1•42,4•77)	0•0007	2•15(1•20,3•86)	0•010
Difficulties feeding, crying or breathing	2•8(8/285)	8•3(34/408)	3•15(1•40,7•98)	0•003	2•60(1•17,5•79)	0•019
Head injury	3•5(10/288)	8•6(36/419)	2•61(1•24,6•00)	0•008	2•44(1•14,5•21)	0•021
Malnourished	24•5(67/274)	25•5(100/392)	1•06(0•73,1•54)	0•786	1•11(0•76,1•63)	0•597
Eats cassava	80•3(232/289)	80•9(338/418)	1•04(0•70,1•54)	0•847	0•92(0•60,1•41)	0•707
Dogs in household	36•5(105/288)	33•8(142/420)	0•89(0•64,1•23)	0•471	0•90(0•65,1•26)	0•548
Cats in household	46•5(134/288)	54•8(229/418)	1•39(1•02,1•90)	0•032	1•37(0•99,1•89)	0•054
Eats Pork	16•1(46/285)	17•4(71/409)	1•09(0•71,1•68)	0•757	1•00(0•65,1•53)	0•990
Malaria IgG +ve (schizont)	60•6(83/137)	59•7(92/154)	0•97(0•59,1•59)	0•905	0•86(0•50,1•46)	0•574
Hospitalised with malaria or fever	4•2(12/289)	9•0(38/423)	2•28(1•14,4•87)	0•016	2•19(1•09,4•41)	0•028
Toxocara canis IgG4 +ve	29•2(40/137)	33•1(51/154)	1•20(0•71,2•04)	0•527	1•27(0•75,2•17)	0•375
Toxoplasma gondii IgG +ve	15•3(21/137)	22•1(34/154)	1•57(0•83,3•01)	0•177	1•74(0•90,3•39)	0•101
Taenia solium +ve	NA	NA	NA	NA	NA	NA
Onchocerca volvulus +ve	NA	NA	NA	NA	NA	NA
HIV +ve	1•5(2/134)	6•0(9/150)	4•21(0•85,40•59)	0•065	4•30(0•82,22•43)	0•084

* OR children adjusted for: age, sex, maternal education, maternal marital status and employment of either parent; † Fisher's exact test for unadjusted p-values
N=289 controls and N=423 case, including 40 cases not identified as part of the three stage survey

Supplementary Table 6b: Risk factors for ACE in adults by country (Kilifi)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	13•5(32/237)	17•2(59/343)	1•33(0•82,2•20)	0•247	1•25(0•76,2•06)	0•384
Maternal seizures	0•8(2/237)	2•9(10/343)	3•53(0•74,33•35)	0•135	3•02(0•61,14•86)	0•174
Abnormal delivery	0•0(0/236)	3•0(10/337)	NA	0•007	NA	NA
Home delivery	83•2(198/238)	81•2(281/346)	0•87(0•55,1•38)	0•584	1•01(0•62,1•65)	0•969
Problems after birth	1•3(3/237)	4•8(16/332)	3•95(1•11,21•35)	0•03	3•00(0•77,11•64)	0•113
Head injury	2•5(6/238)	5•8(20/346)	2•37(0•90,7•32)	0•068	2•57(0•94,7•02)	0•066
Drinks alcohol	23•6(55/233)	12•9(44/342)	0•48(0•30,0•76)	0•001	0•55(0•33,0•92)	0•023
Eats cassava	91•9(217/236)	84•3(291/345)	0•47(0•26,0•84)	0•007	0•43(0•24,0•80)	0•008
Eats Pork	34•2(81/237)	26•8(92/343)	0•71(0•49,1•03)	0•065	0•74(0•50,1•10)	0•138
Uses drugs	12•1(28/232)	11•7(40/342)	0•96(0•56,1•68)	0•896	1•44(0•81,2•55)	0•217
Hypertension	0•8(2/237)	2•3(8/344)	2•80(0•55,27•23)	0•212	4•61(0•91,23•47)	0•065
Stroke	0•0(0/237)	0•6(2/345)	NA	0•516	NA	NA
Diabetes mellitus	0•0(0/237)	0•0(0/346)	NA	NA	NA	NA
Malnourished	14•2(33/232)	15•8(54/341)	1•13(0•69,1•88)	0•637	1•02(0•61,1•71)	0•947
Dogs in household	35•3(84/238)	27•2(94/345)	0•69(0•47,1•00)	0•044	0•69(0•47,1•02)	0•061
Cats in household	52•9(126/238)	53•2(184/346)	1•01(0•72,1•42)	1	0•96(0•67,1•37)	0•804
Malaria IgG +ve (schizont)	93•0(120/129)	93•2(136/146)	1•02(0•35,2•90)	1	1•27(0•44,3•62)	0•659
Hospitalised with malaria or fever	2•9(7/238)	5•5(19/346)	1•92(0•76,5•48)	0•158	1•95(0•74,5•14)	0•177
Toxocara canis IgG4 +ve	29•5(38/129)	49•3(72/146)	2•33(1•38,3•96)	0•0009	1•76(1•01,3•06)	0•044
Toxoplasma gondii IgG +ve	42•6(55/129)	45•9(67/146)	1•14(0•69,1•89)	0•628	1•40(0•82,2•40)	0•218
Taenia solium +ve	NA	NA	NA	NA	NA	NA
Onchocerca volvulus +ve	NA	NA	NA	NA	NA	NA
HIV +ve	3•2(4/126)	7•8(11/141)	2•58(0•74,11•37)	0•117	3•51(1•01,12•25)	0•049

*OR adults adjusted for: age, sex, education, marital status and employment; † Fisher's exact test for unadjusted p-values
N=238 controls N=346 cases, including 30 cases not identified as part of the three stage survey

Supplementary Table 7a: Risk factors for ACE in children by country (Kintampo) *

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	14•0(24/172)	30•8(44/143)	2•74(1•52,5•02)	0•0003	3•31(1•83,5•96)	<0•0001
Maternal seizures	0•6(1/172)	1•4(2/144)	2•41(0•12,142•89)	0•593	2•92(0•26,32•81)	0•386
Abnormal delivery	3•7(6/164)	9•2(13/141)	2•67(0•91,8•80)	0•057	2•99(1•07,8•34)	0•036
Abnormal antenatal period	11•5(19/165)	17•8(24/135)	1•66(0•83,3•38)	0•138	1•87(0•94,3•75)	0•075
Home delivery	71•3(119/167)	79•6(113/142)	1•57(0•90,2•77)	0•113	1•47(0•85,2•55)	0•173
Problems after birth	2•4(4/164)	7•7(11/142)	3•36(0•96,14•75)	0•036	3•51(1•02,12•06)	0•047
Difficulties feeding, crying or breathing	0•6(1/164)	31•6(43/136)	75•37(12•27,3062•68)	<0•0001	73•04(9•81,544•07)	<0•0001
Head injury	18•7(32/171)	25•0(36/144)	1•45(0•82,2•57)	0•216	1•45(0•82,2•54)	0•200
Malnourished	20•8(32/154)	12•5(15/120)	0•54(0•26,1•11)	0•077	0•56(0•28,1•12)	0•102
Eats cassava	100•0(170/170)	96•5(138/143)	0•00(0•00,0•63)	0•019	1•00(1•00,1•00)	
Dogs in household	48•3(83/172)	47•6(68/143)	0•97(0•61,1•55)	0•910	0•93(0•58,1•50)	0•777
Cats in household	33•1(57/172)	34•3(49/143)	1•05(0•64,1•73)	0•905	0•97(0•59,1•58)	0•896
Eats Pork	51•2(88/172)	53•8(77/143)	1•11(0•70,1•78)	0•652	1•12(0•70,1•78)	0•646
Malaria IgG +ve (schizont)	99•1(116/117)	100•0(93/93)	NA	1	NA	NA
Hospitalised with malaria or fever	0•0(0/173)	0•0(0/145)	NA	NA	NA	NA
Toxocara canis IgG4 +ve	13•7(16/117)	14•0(13/93)	1•03(0•43,2•42)	1	0•97(0•42,2•24)	0•935
Toxoplasma gondii IgG +ve	42•7(50/117)	51•6(48/93)	1•43(0•80,2•56)	0•213	1•06(0•58,1•94)	0•852
Taenia solium +ve	6•9(8/116)	4•3(4/93)	0•61(0•13,2•36)	0•554	0•40(0•10,1•66)	0•207
Onchocerca volvulus +ve	16•2(19/117)	33•3(31/93)	2•58(1•28,5•26)	0•005	2•32(1•12,4•78)	0•023
HIV +ve	20•5(24/117)	25•8(24/93)	1•35(0•67,2•71)	0•410	1•35(0•67,2•73)	0•395

* OR children adjusted for: age, sex, maternal education, maternal marital status and employment of either parent; † Fisher's exact test for unadjusted p-values
N=173 controls and N=145 cases, including 57 cases not identified as part of the three stage survey

Supplementary Table 7b: Risk factors for ACE in adults by country (Kintampo)*

	Controls (n/N, %)	Cases (n/N, %)	Unadjusted OR (95% CI)	p value†	Adjusted OR (95% CI)	p value
Seizures in the family	13•0(27/207)	24•8(60/242)	2•20(1•30,3•77)	0•002	1•83(1•05,3•20)	0•034
Maternal seizures	0•0(0/207)	0•4(1/243)	NA	1	NA	NA
Abnormal delivery	8•1(16/198)	6•7(16/239)	0•82(0•37,1•80)	0•586	0•82(0•36,1•90)	0•646
Home delivery	85•6(167/195)	86•0(208/242)	1•03(0•57,1•82)	1	1•07(0•58,1•99)	0•824
Problems after birth	3•1(6/196)	18•3(44/240)	7•11(2•92,20•82)	<0•0001	8•74(3•21,23•83)	<0•0001
Head injury	4•3(9/208)	6•1(15/245)	1•44(0•58,3•82)	0•529	1•26(0•49,3•21)	0•633
Drinks alcohol	24•1(49/203)	27•3(66/242)	1•18(0•75,1•85)	0•514	1•51(0•91,2•52)	0•111
Eats cassava	93•2(193/207)	98•0(240/245)	3•48(1•16,12•54)	0•017	3•92(1•14,13•54)	0•031
Eats Pork	41•3(86/208)	49•0(119/243)	1•36(0•92,2•01)	0•108	1•68(1•09,2•58)	0•018
Uses drugs	1•9(4/206)	4•5(11/242)	2•40(0•70,10•50)	0•187	2•80(0•78,10•14)	0•116
Hypertension	2•5(5/202)	0•0(0/243)	0•00(0•00,0•63)	0•019	NA	NA
Stroke	0•0(0/202)	0•0(0/243)	NA	NA	NA	NA
Diabetes mellitus	0•5(1/201)	0•0(0/243)	0•00(0•00,•)	0•453	NA	NA
Malnourished	17•5(34/194)	18•6(41/221)	1•07(0•63,1•83)	0•800	0•97(0•53,1•77)	0•923
Dogs in household	49•5(103/208)	43•9(107/244)	0•80(0•54,1•17)	0•256	0•90(0•59,1•37)	0•616
Cats in household	30•3(63/208)	36•1(88/244)	1•30(0•86,1•97)	0•230	1•28(0•82,2•00)	0•275
Malaria IgG +ve (schizont)	100•0(175/175)	99•5(187/188)	0•00(0•00,•)	1	NA	NA
Hospitalised with malaria or fever	0•0(0/208)	0•0(0/245)	NA	NA	NA	NA
Toxocara canis IgG4 +ve	20•6(36/175)	24•5(46/188)	1•25(0•74,2•12)	0•383	1•26(0•72,2•21)	0•411
Toxoplasma gondii IgG +ve	67•4(118/175)	81•9(154/188)	2•19(1•31,3•68)	0•002	1•99(1•15,3•45)	0•014
Taenia solium +ve	4•0(7/174)	3•7(7/188)	0•92(0•27,3•15)	1	0•83(0•24,2•93)	0•774
Onchocerca volvulus +ve	32•0(56/175)	50•5(95/188)	2•17(1•39,3•41)	0•0004	2•09(1•29,3•40)	0•003
HIV +ve	30•9(54/175)	29•3(55/188)	0•93(0•58,1•49)	0•819	0•76(0•45,1•28)	0•303

*OR adults adjusted for: age, sex, education, marital status and employment; † Fisher's exact test for unadjusted p-values
N=208 controls and N=245 cases, including 84 cases not identified as part of the three stage survey

Supplementary Table 8: Prevalence of risk factors among children by country

	Agincourt		Ifakara		Iganga-Mayuge		Kilifi		Kintampo	
	% Control	% Case	% Control	% Case	% Control	% Case	% Control	% Case	% Control	% Case
	(N=261)	(N=245)	(N=625)	(N=366)	(N=239)	(N=152)	(N=527)	(N=699)	(N=381)	(N=249)
Seizures in the family	7	14	10	15	8	22	16	16	14	33
Maternal seizures	0	3	1	3	1	3	1	2	1	2
Abnormal delivery	11	10	4	3	1	3	3	6	4	9
Abnormal antenatal period	3	8	2	7	1	9	12	21	12	15
Home delivery	13	20	36	38	12	25	84	85	71	78
Problems after birth	1	8	3	9	3	9	6	13	2	6
Difficulties feeding, crying or breathing	5	13	1	12	1	6	3	8	1	39
Head injury	1	3	1	3	1	4	3	9	19	23
Malnourished	21	13	15	20	24	23	24	26	21	12
Eats cassava	51	44	50	59	91	91	80	80	100	97
Dogs in household	14	26	84	84	16	7	36	34	48	45
Cats in household	8	0	88	95	4	1	47	54	33	36
Eats Pork	15	12	66	58	10	16	16	18	51	57
Malaria IgG +ve (schizont)	22	24	90	97	99	100	61	60	99	100
Hospitalised with malaria or fever	0	0	3	6	0	0	4	9	0	0
Toxocara canis IgG4 +ve	22	13	44	56	18	16	29	34	14	14
Toxoplasma gondii IgG +ve	7	0	31	43	20	19	15	20	43	42
Taenia solium +ve	NA	NA	0	2	2	2	NA	NA	7	4
Onchocerca volvulus +ve	NA	NA	21	22	5	12	NA	NA	16	33
HIV +ve	12	8	8	11	2	2	1	7	21	21

Supplementary Table 9: Prevalence of risk factors among adults by country

	Agincourt		Ifakara		Iganga-Mayuge		Kilifi		Kintampo	
	% Control	% Case	% Control	% Case	% Control	% Case	% Control	% Case	% Control	% Case
	(N=261)	(N=245)	(N=625)	(N=366)	(N=239)	(N=152)	(N=527)	(N=699)	(N=381)	(N=249)
Seizures in the family	3	13	12	31	11	28	14	17	13	25
Maternal seizures	0	1	0	1	0	3	1	3	0	0
Abnormal delivery	0	4	7	3	3	3	0	3	8	6
Home delivery	45	50	57	67	44	42	83	81	86	85
Problems after birth	1	4	1	3	0	3	1	5	3	20
Head injury	2	1	0	2	0	0	2	6	5	7
Drinks alcohol	16	14	23	22	12	10	24	12	24	27
Eats cassava	62	75	53	66	93	100	92	85	93	98
Eats Pork	31	24	63	71	11	24	34	27	41	49
Uses drugs	3	3	5	3	31	23	12	12	2	5
Hypertension	7	11	0	1	1	0	1	2	2	0
Stroke	3	4	0	1	0	0	0	1	0	0
Diabetes mellitus	1	3	0	1	0	0	0	0	0	0
Malnourished	12	15	10	16	13	36	14	15	18	19
Dogs in household	22	24	83	81	14	6	35	28	50	43
Cats in household	9	6	90	88	3	0	53	53	30	38
Malaria IgG +ve (schizont)	38	45	98	98	100	100	93	93	100	100
Hospitalised with malaria or fever	1	0	1	3	0	3	3	6	0	0
Toxocara canis IgG4 +ve	8	9	62	84	34	38	29	50	21	25
Toxoplasma gondii IgG +ve	11	15	54	56	43	38	43	44	67	84
Taenia solium +ve	NA	NA	1	4	0	4	NA	NA	4	3
Onchocerca volvulus +ve	NA	NA	38	56	9	12	NA	NA	32	52
HIV +ve	28	22	18	21	3	4	3	5	31	28

Supplementary Table 10: Risk factors for focal epilepsy in adults

	Controls (n/N, %)	Cases (n/N, %)	Odds ratio (95% CI)*	p value
Seizures in the family	10•7(106/987)	22•6(107/473)	2•70(1•94,3•74)	<0•0001
Maternal seizures	0•3(3/992)	1•1(5/475)	2•74(0•56,13•46)	0•213
Abnormal delivery	4•1(37/898)	3•2(15/465)	1•02(0•51,2•01)	0•959
Home delivery	67•9(571/841)	70•1(312/445)	1•17(0•85,1•60)	0•330
Problems after birth	1•5(13/891)	6•3(29/460)	5•97(2•82,12•65)	<0•0001
Head injury	1•8(18/996)	3•1(15/478)	2•07(0•97,4•41)	0•060
Drinks alcohol	20•9(200/957)	17•0(79/464)	0•90(0•64,1•25)	0•518
Eats cassava	75•7(750/991)	80•0(380/475)	1•62(1•18,2•21)	0•002
Eats Pork	40•9(403/986)	40•2(191/475)	1•00(0•77,1•29)	0•977
Uses drugs	7•6(73/963)	5•6(26/461)	0•99(0•58,1•67)	0•958
Hypertension	2•1(21/983)	3•6(17/470)	1•58(0•75,3•30)	0•227
Stroke	0•5(5/982)	1•3(6/472)	1•75(0•49,6•29)	0•393
Diabetes mellitus	0•3(3/985)	1•1(5/473)	3•26(0•69,15•43)	0•135
Malnourished	13•2(127/960)	18•0(82/456)	1•46(1•04,2•04)	0•027
Dogs in household	47•2(469/993)	39•6(188/475)	0•81(0•61,1•06)	0•130
Cats in household	46•1(457/992)	45•4(216/476)	1•01(0•74,1•38)	0•943
Malaria IgG +ve (schizont)	84•8(596/703)	79•3(264/333)	1•16(0•71,1•91)	0•550
Hospitalised with malaria or fever	1•1(11/996)	2•5(12/478)	1•91(0•79,4•61)	0•152
Toxocara canis IgG4 +ve	26•2(160/611)	34•1(101/296)	1•63(1•10,2•41)	0•015
Toxoplasma gondii IgG +ve	44•4(307/692)	45•4(149/328)	1•55(1•10,2•17)	0•011
Taenia solium +ve	1•9(8/421)	5•3(8/152)	3•80(1•28,11•23)	0•016
Onchocerca volvulus +ve	30•3(128/422)	57•1(88/154)	2•81(1•81,4•37)	<0•0001
HIV +ve	18•9(132/698)	19•9(66/332)	0•93(0•63,1•36)	0•691

*OR adjusted for age, sex, education, marital status, employment and country

Supplementary Table 11: Risk factors for focal epilepsy in children

	Controls (n/N, %)	Cases (n/N, %)	Odds ratio (95% CI)*	p value
Seizures in the family	11•9(122/1028)	17•0(62/364)	1•62(1•13,2•33)	0•008
Maternal seizures	0•9(9/1031)	1•9(7/360)	1•88(0•63,5•61)	0•256
Abnormal delivery	3•9(39/1006)	7•0(25/357)	1•99(1•14,3•47)	0•015
Abnormal antenatal period	6•6(66/1004)	11•6(40/344)	1•64(1•03,2•61)	0•036
Home delivery	50•6(510/1007)	58•9(211/358)	1•07(0•78,1•47)	0•671
Problems after birth	3•5(35/1014)	9•5(34/358)	2•47(1•46,4•16)	0•0007
Difficulties feeding, crying or breathing	1•6(16/1003)	10•4(36/346)	5•78(3•04,10•97)	<0•0001
Head injury	4•5(46/1025)	7•4(27/363)	2•48(1•38,4•45)	0•002
Malnourished	20•4(194/952)	19•0(63/332)	0•98(0•70,1•38)	0•905
Eats cassava	73•0(751/1029)	70•2(254/362)	0•98(0•72,1•33)	0•895
Dogs in household	49•7(512/1031)	47•4(172/363)	1•00(0•74,1•34)	0•974
Cats in household	48•8(502/1029)	55•7(201/361)	1•28(0•93,1•78)	0•131
Eats Pork	37•8(387/1025)	31•3(111/355)	0•88(0•64,1•20)	0•415
Malaria IgG +ve (schizont)	80•5(491/610)	69•5(132/190)	0•79(0•48,1•32)	0•369
Hospitalised with malaria or fever	2•3(24/1036)	6•3(23/365)	2•11(1•13,3•95)	0•020
Toxocara canis IgG4 +ve	24•1(123/510)	34•4(53/154)	1•23(0•79,1•91)	0•365
Toxoplasma gondii IgG +ve	25•0(150/599)	27•6(51/185)	1•25(0•81,1•92)	0•323
Taenia solium +ve	2•4(10/414)	2•0(2/98)	1•97(0•38,10•31)	0•423
Onchocerca volvulus +ve	14•7(61/414)	22•7(22/97)	1•30(0•70,2•41)	0•399
HIV +ve	8•3(50/606)	10•7(20/187)	1•71(0•93,3•15)	0•085

*OR adjusted for age, sex, education, marital status, employment and country

Supplementary Table 12: Risk factors for ACE in children after adjustment for a reduced set of confounders (age, sex and country)

	OR (95% CI) full model	OR (95% CI) reduced model	p value
Seizures in the family	1.72(1.31,2.25)	1.72(1.32,2.25)	<0.0001
Maternal seizures	2.84(1.24,6.49)	2.87(1.27,6.52)	0.011
Abnormal delivery	1.56(0.98,2.47)	1.48(0.95,2.32)	0.085
Abnormal antenatal period	2.15(1.53,3.02)	2.26(1.62,3.16)	<0.0001
Home delivery	1.24(0.97,1.57)	1.25(0.99,1.57)	0.060
Problems after birth	2.77(1.82,4.23)	2.98(1.97,4.52)	<0.0001
Difficulties feeding, crying or breathing	10.23(5.85,17.88)	10.53(6.04,18.34)	<0.0001
Head injury	1.97(1.28,3.03)	2.07(1.36,3.15)	0.0006
Malnourished	1.00(0.78,1.29)	1.00(0.78,1.27)	0.982
Eats cassava	0.99(0.77,1.26)	1.01(0.79,1.28)	0.951
Dogs in household	0.91(0.73,1.15)	0.89(0.72,1.11)	0.313
Cats in household	1.26(0.98,1.62)	1.29(1.02,1.65)	0.036
Eats Pork	0.99(0.79,1.25)	1.00(0.80,1.25)	0.990
Malaria IgG +ve (schizont)	1.14(0.75,1.73)	1.15(0.77,1.71)	0.504
Hospitalised with malaria or fever	2.01(1.17,3.45)	2.08(1.22,3.55)	0.007
Toxocara canis IgG4 +ve	1.19(0.85,1.66)	1.10(0.79,1.52)	0.565
Toxoplasma gondii IgG +ve	1.15(0.85,1.58)	1.20(0.89,1.63)	0.230
Taenia solium +ve	1.09(0.34,3.45)	0.93(0.31,2.80)	0.898
Onchocerca volvulus +ve	1.67(1.09,2.57)	1.58(1.04,2.40)	0.031
HIV +ve	1.28(0.80,2.03)	1.28(0.81,2.03)	0.281

Supplementary Table 13: Risk factors for ACE in adults after adjustment for a reduced set of confounders (age, sex and country)

	OR (95% CI) full model	OR (95% CI) reduced model	p value
Seizures in the family	2•30(1•73,3•07)	2•37(1•81,3•10)	<0•0001
Maternal seizures	3•02(0•75,12•14)	3•75(1•01,13•91)	0•049
Abnormal delivery	1•11(0•65,1•89)	1•02(0•63,1•67)	0•927
Home delivery	1•18(0•92,1•53)	1•23(0•97,1•55)	0•089
Problems after birth	6•41(3•28,12•53)	5•73(3•08,10•67)	<0•0001
Head injury	2•29(1•22,4•30)	1•90(1•05,3•45)	0•034
Drinks alcohol	0•88(0•67,1•15)	0•71(0•55,0•92)	0•009
Eats cassava	1•46(1•12,1•91)	1•38(1•08,1•76)	0•010
Eats Pork	1•10(0•89,1•36)	1•02(0•83,1•24)	0•882
Uses drugs	1•21(0•81,1•79)	0•90(0•62,1•31)	0•571
Hypertension	1•74(0•91,3•33)	1•82(0•98,3•36)	0•057
Stroke	1•94(0•61,6•15)	2•54(0•84,7•71)	0•099
Diabetes mellitus	2•48(0•56,10•87)	2•31(0•57,9•44)	0•242
Malnourished	1•25(0•93,1•67)	1•39(1•06,1•81)	0•018
Dogs in household	0•89(0•71,1•12)	0•82(0•67,1•02)	0•073
Cats in household	1•03(0•80,1•32)	1•01(0•80,1•28)	0•922
Malaria IgG +ve (schizont)	1•17(0•75,1•81)	1•16(0•77,1•75)	0•472
Hospitalised with malaria or fever	2•28(1•06,4•92)	2•23(1•07,4•65)	0•032
Toxocara canis IgG4 +ve	1•74(1•27,2•40)	1•86(1•39,2•48)	<0•0001
Toxoplasma gondii IgG +ve	1•39(1•05,1•84)	1•28(0•99,1•66)	0•057
Taenia solium +ve	1•98(0•72,5•43)	1•71(0•66,4•44)	0•270
Onchocerca volvulus +ve	2•23(1•56,3•19)	2•18(1•58,3•01)	<0•0001
HIV +ve	0•85(0•61,1•18)	0•90(0•66,1•22)	0•487