

Table 1. Characteristics of lymphatic filariasis prevalence studies where microfilaraemia (pMF) and antigenemia (pICT) were assessed in the same sample population

Continent	Study	Country	Pre-control/ post-control	Population surveyed mf	pMF	Population surveyed	pICT
					median (IQR)	ICT	median (IQR)
Africa	^a Benin MoH, 2002 ¹	Benin	0/1	519	0.4	519	0
	^a Burkina Faso MoH, 2010 ²	Burkina Faso	6/3	3478	7.4 (2.3-8.7)	2520	18.8 (10.1-20.7)
	^a Cote d'Ivoire, 2009 ³	Cote d'Ivoire	3/0	794	1.9 (1.2-2.5)	230	16.9 (1.2-17.3)
	Ramzy et al., 1999 ⁴	Egypt	0/4	1813	2.9 (1.9-6.6)	1813	8.2 (4.4-12.7)
	Ramzy et al., 2006 ⁵	Egypt	10/2	9127	1.3 (0.3-2.9)	11134	5 (3-12.1)
	Geshere et al., 2012 ⁶	Ethiopia	0/1	123	0	60	0
	^a Ghana MoH, 2001 ⁷	Ghana	0/9	915	20 (18-23)	915	40 (37-42)
	Simonsen et al., 2002 ⁸	Kenya	0/1	1013	2.7	1013	16.5
	Njenga et al., 2011 ⁹	Kenya	8/8	2498	10.6 (1-22.2)	2505	21.6 (10.5-33.9)
	Nielsen et al., 2002 ¹⁰	Malawi	0/2	537	21.5 (20.3-22.6)	507	64.4 (63.4-65.4)
	^a Niger MoH, 2008 ¹⁰	Niger	0/2	984	0.9 (0.4-1.4)	150	21.5 (17-26)
	^a Niger MoH, 2009 ¹¹	Niger	2/0	1075	0.3 (0.2-0.4)	150	34.5 (17-52)
	^a Nigeria MoH, 2004 ¹²	Nigeria	7/2	2726	1.8 (1.7-7.4)	2726	15.3 (1.8-22.9)
	^a Nigeria MoH, 2006 ¹³	Nigeria	9/0	1163	0.7 (0.5-2.5)	1163	0.7 (0.5-2.5)
	^a Nigeria MoH, 2008 ¹⁴	Nigeria	10/0	1013	0 (0-2.7)	1013	7.4 (1.8-9.8)
	^a Nigeria MoH, 2009 ¹⁵	Nigeria	3/0	1472	1.8 (1.2-3.1)	0	0
	^a Nigeria MoH, 2010 ¹⁶	Nigeria	0/3	1294	10.8 (2.9-12.3)	50	0 (0-46)
	Richards et al., 2011 ¹⁷	Nigeria	34/10	9897	1.1 (0-3.9)	9332	10.1 (5.5-22.3)
	Ekanem et al., 2011 ¹⁸	Nigeria	0/1	222	0	222	17.1
	Ebenezer et al., 2011 ¹⁹	Nigeria	0/1	1803	7	1803	11.3
	^a Togo MoH, 2001 ²⁰	Togo	0/7	3500	1.2 (0.8-10.6)	615	4.9 (2.7-31.3)
	^a Togo MoH, 2008 ²¹	Togo	3/0	1501	0 (0-2)	1785	2.6 (0.3-8.4)
	Meyrowitsch et al., 2004 ²²	Tanzania	2/0	1024	18.4 (16.7-20.1)	1024	44.3 (43.5-45.1)
	Onapa et al., 2001b ²³	Uganda	0/1	173	0	289	0
	Onapa et al., 2001a ²⁴	Uganda	0/3	1257	22.4 (9.7-25.5)	2686	29.1 (18.3-30.1)
	^a Uganda MoH, 2010 ²⁵	Uganda	4/0	2062	0.2 (0-0.5)	454	0
Ashton et al., 2011 ²⁶	Uganda	14/0	938	4.7 (0-8.7)	1398	13 (3.4-37.5)	

Continent	Study	Country	Pre-control/ post-control	Population surveyed mf	pMF	Population surveyed	pICT
					median (IQR)	ICT	median (IQR)
Americas	Aguiar-Santos et al., 2013 ²⁷	Brazil	0/1	159	1.2	159	13.8
	Braga et al., 2003 ²⁸	Brazil	0/1	625	6.8	625	31.7
	Braga et al., 2005 ²⁹	Brazil	0/1	1130	6.9	790	25.7
	De Rochars et al., 2005 ³⁰	Haiti	0/4	455	9.5 (7.4-13.5)	455	35.7 (22.4-43.5)
	Boyd et al., 2010 ³¹	Haiti	6/0	3499	4.4 (4.2-7.4)	3465	16.9 (11.8-28.7)
Asia	Ramaiah et al., 2007b ³²	India	0/1	238	17.2	57	17.5
	Chhotray et al., 2005 ³³	India	0/2	4297	10.3 (9.5-11)	2400	17.3 (16.8-17.8)
	Sunish et al., 2001 ³⁴	India	0/1	3505	12.2	3505	23.7
	Ramaiah & Vanamail, 2013 ³⁵	India	3/0	415	0.4 (0-3.6)	415	3.6 (0-4)
	Chandrasena et al., 2002 ³⁶	Sri Lanka	0/2	226	30.8 (27.5-34.2)	226	34.8 (34.2-35.3)
	Gunawardena et al., 2007 ³⁷	Sri Lanka	24/0	4008	0	4008	1.4 (0-3.7)
	Bhumiratana et al., 1999 ³⁸	Thailand	0/1	225	5.8	225	20
	Bhumiratana et al., 2002 ³⁹	Thailand	0/1	219	3.7	219	23.7
Oceania	^b WHO Country report	Fiji	4/0	6762	0.7 (0.2-1.6)	6762	7 (1.9-13.3)
	WHO Annual report, 2003 ⁴⁰	New Caledonia	0/1	382	3.6	382	32.5
	Fraser et al., 2005 ⁴¹	Vanuatu	10/8	2079	2.2 (0-7.1)	2079	10.2 (3.9-27.2)
	Ichimori et al., 2007 ⁴²	Samoa	1/0	4054	1.1	4054	4.2
	Joseph et al., 2011 ⁴³	Samoa	7/0	1269	0.5 (0.2-0.6)	1269	14.6 (8.4-16.7)
	^c WHO Country report	Samoa	7/0	6448	0.4 (0.2-0.8)	6448	2.1 (0.7-3)

ICT: immuno-chromatographic test; mf: microfilariae; IQR = inter-quartile range.

^a Unpublished data.

^b <http://www.wpro.who.int/southpacific/pacelf/countries/fji/activities/en/index.html>.

^c <http://www.wpro.who.int/southpacific/pacelf/countries/wsm/activities/en/index.html>.

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Sensitivity analysis upon regression model

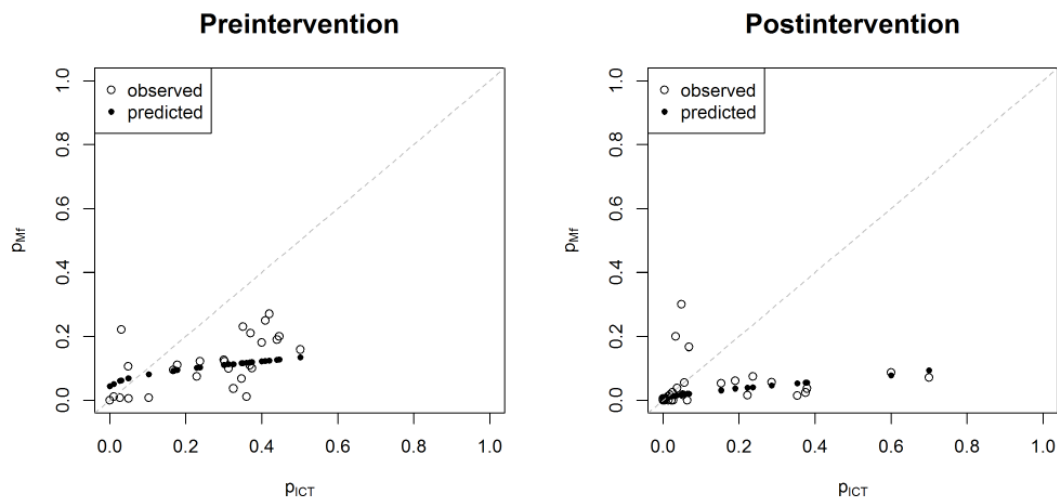
We conducted a sensitivity analysis by fitting various models based solely on thick smears based on 1. 20 μl of blood volume; 2. 20 to 60 μl of blood (equivalent to 1-3 thick smears); and 3. 50 μl or 60 μl of blood, as follows:

for each survey $i = 1, \dots, N$,

$$Y_{mf_i} | p_{mf_i} \sim \text{Binomial}(N_{mf_i}, p_{mf_i})$$

Model 1. Only thick smears based on 20 μl of blood

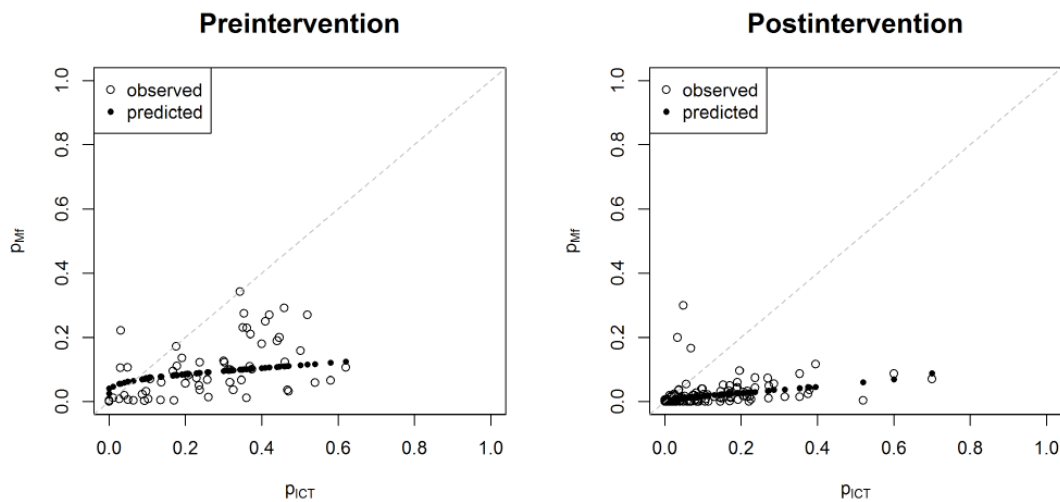
$$\text{logit}(p_{Mf_i}) = \alpha + \alpha_1 \text{logit}(p_{ICT_i}) + \alpha_{PRE} \times PRE_i + \alpha_{1PRE} \text{logit}(p_{ICT_i}) \times PRE_i$$



DIC = 863.9; DIC with random effects = 316.7

Model 2. Thick smears based on 20-60 μl of blood

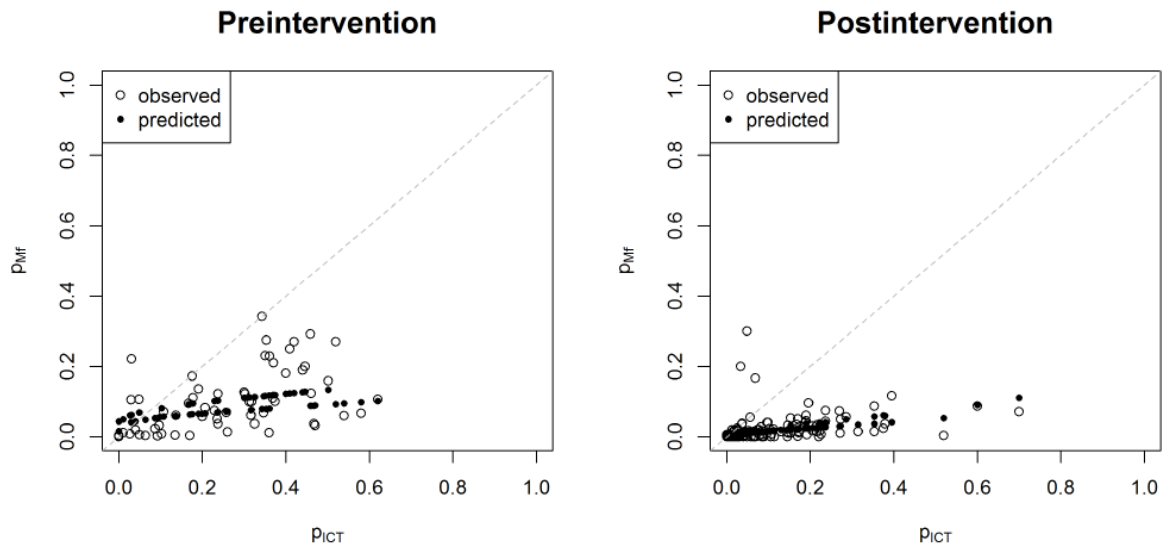
$$\text{logit}(p_{Mf_i}) = \alpha + \alpha_1 \text{logit}(p_{ICT_i}) + \alpha_{PRE} \times PRE_i + \alpha_{1PRE} \text{logit}(p_{ICT_i}) \times PRE_i$$



DIC = 2147.6; DIC with random effects = 858.3

Model 3. Thick smears based on 20-60 µl of blood, and adjusting by blood volume

$$\text{logit}(p_{Mf_i}) = \alpha + \alpha_1 \text{logit}(p_{ICT_i}) + \alpha_{PRE} \times PRE_i + \alpha_{1PRE} \text{logit}(p_{ICT_i}) \times PRE_i + \alpha_{BLOOD50} \times BLOOD_{50} + \alpha_{BLOOD60} \times BLOOD_{60}$$



DIC = 2041.8; DIC with random effects = 852.5

None of the new models improve the overall model fit and therefore we have not altered the results.