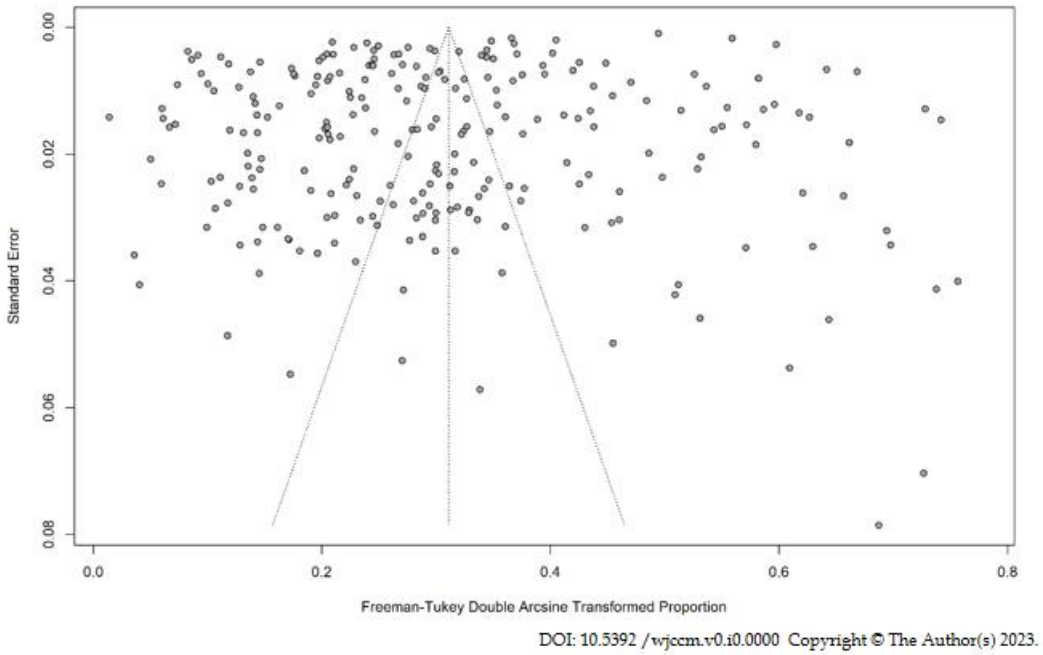

Supplementary Figure 1 Funnel chart for publications of the prevalence of human immunodeficiency virus among pregnant women in Africa. *P* Egger test: < 0.001.

Supplementary Table 1 Search strategy in PubMed

Search	Virus
#1 Condition	HIV OR Human Immunodeficiency Virus OR Immunodeficiency Virus, Human OR Immunodeficiency Viruses, Human OR Virus, Human Immunodeficiency OR Viruses, Human Immunodeficiency OR Human Immunodeficiency Viruses OR HIV-1 OR HIV-2 OR Human T Cell Lymphotropic Virus Type III OR Human T-Cell Lymphotropic Virus Type III OR Human T-Cell Leukemia Virus Type III OR Human T Cell Leukemia Virus Type III OR LAV-HTLV-III OR Lymphadenopathy-Associated Virus OR Lymphadenopathy Associated Virus OR Lymphadenopathy-Associated Viruses OR Virus, Lymphadenopathy-Associated OR Viruses, Lymphadenopathy-Associated OR Human T Lymphotropic Virus Type III OR Human T-Lymphotropic Virus Type III OR AIDS Virus OR AIDS Viruses OR Virus, AIDS OR Viruses, AIDS OR Acquired Immune Deficiency Syndrome Virus OR Acquired Immunodeficiency Syndrome Virus
#2 Population	Pregnant Woman OR Pregnant Women OR Pregnancy OR expecting women OR childbearing OR birthing OR birthing mother OR expecting mother OR pregnant mothers OR maternity leave
#3 Context	Africa* OR Algeria OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR Cameroon OR "Canary Islands" OR "Cape Verde" OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Democratic Republic of Congo" OR Djibouti OR Egypt OR "Equatorial Guinea" OR Eritrea OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR "Guinea Bissau" OR "Ivory Coast" OR "Cote d'Ivoire" OR Jamahiriya OR Kenya OR Lesotho OR Liberia OR Libya OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Mayotte OR Morocco OR Mozambique OR Namibia OR Niger OR Nigeria OR Principe OR Reunion OR Rwanda OR "Sao Tome" OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa" OR “South Sudan” OR "St Helena" OR Sudan OR Swaziland OR Tanzania OR Togo OR Tunisia OR Uganda OR "Western Sahara" OR Zaire OR Zambia OR Zimbabwe OR "Central Africa" OR

	"Central African" OR "West Africa" OR "West African" OR "Western Africa" OR "Western African" OR "East Africa" OR "East African" OR "Eastern Africa" OR "Eastern African" OR "North Africa" OR "North African" OR "Northern Africa" OR "Northern African" OR "South African" OR "Southern Africa" OR "Southern African" OR "sub Saharan Africa" OR "sub Saharan African" OR "sub Saharan Africa" OR "sub Saharan African"
#4	#1 AND #2 AND #3
#5	Limit #4 in English and French

Supplementary Table 2 Items for risk of bias assessment

Hoy *et al*. tool for cross sectional studies	Yes (1)/No (0)
1. Was the study's target population a close representation of the national population in relation to HIV prevalence or CFR in pregnant?	1
2. Was the sampling frame a true or close representation of the population?	1
3. Was some form of random selection used to select the sample, OR was a census undertaken?	1
4. Were data collected directly from the subjects (as opposed to a proxy)?	
5. Was an acceptable case definition used in the study?	
6. Did the author calculate and respect the expected sample size?	
7. Was the HIV detection assay shown to have reliability and validity?	1
8. Was the same mode type of sample collected for all subjects?	1
9. Was the length of the length of the study period > 1 year?	1
10. Were the numerator(s) and denominator(s) for the HIV prevalence/CFR appropriate?	1
Total score	10
Interpretation of the risk of bias tool • 7-10: Low risk of bias • 4-6: Moderate risk of bias • 0-3: High risk of bias	

Modified from: Hoy D, Brooks P, Woolf A, Blyth F, March L, Bain C, *et al*. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. J Clin Epidemiol. 2012;65: 934–939. doi:10.1016/j.jclinepi.2011.11.014

Supplementary Table 3 Individual characteristics of included studies

ID	Author, Year of publication	Setting	Countries	Study period	HIV diagnostic method
1	Abbott *et al*, 1994[1]	Hospital-based	Senegal	Apr/1991-Jan/1993	Serological test
2	Abuku *et al*, 2023[2]	Hospital-based	Ghana	Jun/2018-Sep/2018	Rapid antibody test
3	Agboghoroma *et al*, 2020[3]	Hospital-based	Nigeria	2016	Algorithm (Rapid antibody test)
4	Agida *et al*, 2010[4]	Hospital-based	Nigeria	2007	Algorithm (Rapid antibody test)
5	Ahmed *et al*, 1998[5]	Hospital-based	Malawi	1993-1995	Indirect ELISA; Enzyme Linked Fluorescent Assay (ELFA)
6	Aidaoui *et al*, 2008[6]	Hospital-based	Algeria	Oct/2003-Feb/2004	Indirect ELISA
7	Ajoge *et al*, 2008[7]	Hospital-based	Nigeria	Aug/2006	Algorithm (Indirect ELISA; Western blot)
8	Ajoge *et al*, 2013[8]	Hospital-based	Nigeria	2007	Algorithm (Rapid antibody test)
9	Akani *et al*, 2006[9]	Hospital-	Nigeria	Unclear/ Not	Algorithm (Rapid antibody test)

		based		reported	
10	Akani *et al*, 2010[10]	Hospital-based	Nigeria	Unclear/ Not reported	Indirect ELISA
11	Anaedobe *et al*, 2019[11]	Hospital-based	Nigeria	2013	Rapid antibody test
12	Anoubissi *et al*, 2019[12]	Hospital-based	Cameroon	2017	Algorithm (Rapid antibody test)
13	Assefa *et al*, 2003[13]	Hospital-based	Ethiopia	Unclear/ Not reported	Indirect ELISA
14	Atewogbola *et al*, 2021[14]	Hospital-based	Nigeria	Mar/2019-Oct/2019	Algorithm (Rapid antibody test; Indirect ELISA)
15	Atilola *et al*, 2018[15]	Hospital-based	Nigeria	Aug/2014-May/2015	Algorithm (Rapid antibody test)
16	Awobode *et al*, 2014[16]	Hospital-based	Nigeria	Unclear/ Not reported	Rapid antibody test
17	Awolude *et al*, 2009[17]	Hospital-based	Nigeria	Mar/2005-Sep/2007	Algorithm (Rapid antibody test; Western Blot)
18	Ayisi *et al*, 2000[18]	Hospital-based	Kenya	Jun/1996-Nov/1997	Algorithm (Rapid antibody test)
19	Bafa *et al*, 2020[19]	Hospital-	Ethiopia	2017	Algorithm (Rapid antibody test)

		based			
20	Bayo *et al*, 2014[20]	Hospital-based	Uganda	Sept/2012-Jan/2013	Rapid antibody test
21	Becker *et al*, 2010[21]	Hospital-based	Tanzania	Unclear/ Not reported	Algorithm (Rapid antibody test)
22	Bello *et al*, 2011[22]	Hospital-based	Nigeria	Dec/2005-Feb/2006	Rapid antibody test
23	Bello *et al*, 2022[23]	Hospital-based	Malawi	2016	Algorithm (Rapid antibody test; Indirect ELISA; Western blot)
24	Biadgo *et al*, 2019[24]	Hospital-based	Ethiopia	Jan/2011-Apr/2015	Algorithm (Rapid antibody test)
25	Billong *et al*, 2015[25]	Hospital-based	Cameroon	Jan/2012-Dec/2012	Algorithm (Rapid antibody test)
26	Billong *et al*, 2020[26]	Hospital-based	Cameroon	2016	Algorithm (Rapid antibody test)
27	Bruzzone *et al*, 2008[27]	Hospital-based	Republic of the Congo	Sep/2005-Dec/2006	Algorithm (Rapid antibody test; Enzyme immunoassay (EIA); Western blot; PCR)
28	Buseri *et al*, 2010[28]	Hospital-based	Nigeria	Mar/2008-Feb/2009	Rapid antibody test

29	Byamugisha *et al*, 2010[29]	Hospital-based	Uganda	May/2002-Apr/2009	Algorithm (Rapid antibody test)
30	Cartoux *et al*, 1998[30]	Hospital-based	Burkina Faso; Ivory Coast	Jan/1995-Oct/1996	Algorithm (Indirect ELISA)
31	Chandisarewa *et al*, 2007[31]	Hospital-based	Zimbabwe	Oct/2004-Nov/2005	Algorithm (Rapid antibody test)
32	Changalucha *et al*, 2002[32]	Hospital-based	Tanzania	1992-1993	Algorithm (Indirect ELISA; Western blot)
33	Chetty *et al*, 2012[33]	Hospital-based	South Africa	Mar/2009-Dec/2009	Algorithm (Rapid antibody test)
34	Chukwuali *et al*, 2014[34]	Hospital-based	Nigeria	Jan/2007-Dec/2013	Algorithm (Rapid antibody test)
35	Cisse *et al*, 2018[35]	Hospital-based	Senegal	Jan/2014-Dec/2016	Rapid antibody test
36	Collenberg *et al*, 2006[36]	Hospital-based	Burkina Faso	Jul/2003-Aug/2003	Rapid antibody test
37	Cossa *et al*, 1994[37]	Hospital-based	Mozambique	Sept/1992-Feb/1993	Algorithm (Indirect ELISA; Western blot)
38	Crampin *et al*, 2008[38]	Hospital-based	Malawi	1999-2004	Indirect ELISA; Particle agglutination assays

39	Dao *et al*, 2001[39]	Hospital-based	Burkina Faso	Unclear/ Not reported	Algorithm (Indirect ELISA; Western blot)
40	Datiko *et al*, 2008[40]	Hospital-based	Ethiopia	Sep/2004-Apr/2005	Indirect ELISA
41	de Beer *et al*, 2020[41]	Hospital-based	South Africa	2013-2016	Rapid antibody test
42	De Paschale *et al*, 2014[42]	Hospital-based	Benin	Unclear/ Not reported	Enzyme immunoassay (EIA)
43	Delaporte *et al*, 1996[43]	Hospital-based	Gabon	1994-1998	Indirect ELISA; Western blot
44	Deme *et al*, 2016[44]	Hospital-based	Ethiopia	Jul/2011-Feb/2012	Rapid antibody test
45	Desalegn *et al*, 2016[45]	Hospital-based	Ethiopia	Jul/2014-Oct/2014	Algorithm (Rapid antibody test)
46	Desgrees du Lou *et al*, 1998[46]	Hospital-based	Ivory Coast	1995-1996	Indirect ELISA
47	Diallo *et al*, 1997[47]	Hospital-based	Ivory Coast	Apr/1992-Jul/1992	Algorithm (Rapid antibody test)
48	Dionne-Odom *et al*, 2016[48]	Hospital-based	Cameroon	2014	Algorithm (Rapid antibody test)

49	Diouf *et al*, 1996[49]	Hospital-based	Senegal	Unclear/ Not reported	Western blot
50	Dolmans *et al*, 1989[50]	Hospital-based	Tanzania	Apr/1987	Indirect ELISA; Western blot
51	Dunkle *et al*, 2004[51]	Hospital-based	South Africa	Nov/2001-Apr/2002	Rapid antibody test
52	Duru *et al*, 2009[52]	Hospital-based	Nigeria	Apr/2003-Mar/2004	Rapid antibody test
53	Egbe *et al*, 2016[53]	Hospital-based	Cameroon	Sep/2011-Dec/2011	Algorithm (Rapid antibody test)
54	Egesie *et al*, 2008[54]	Hospital-based	Nigeria	Jan/2005-Dec/2006	Algorithm (Enzyme immunoassay (EIA); Western blot)
55	Ejeta *et al*, 2018[55]	Hospital-based	Ethiopia	2014	Algorithm (Rapid antibody test)
56	Ekouevi *et al*, 2004[56]	Hospital-based	Ivory Coast	May/2000-Oct/2002	Algorithm (Rapid antibody test)
57	Ekouevi *et al*, 2012[57]	Hospital-based	Togo	May/2010-Aug/2010	Algorithm (Rapid antibody test)
58	Elkheir *et al*, 2018[58]	Hospital-based	Sudan	Aug/2016-Mar/2017	Algorithm (Rapid antibody test; Electrochemiluminescence

					immunoassay (ECLIA))
59	Endris *et al*, 2015[59]	Hospital-based	Ethiopia	Fev/2011-Jun/2011	Algorithm (Rapid antibody test)
60	Esu-Williams *et al*, 1997[60]	Hospital-based	Nigeria	Unclear/ Not reported	Algorithm (Rapid antibody test; Indirect ELISA; Enzyme immunoassay (EIA))
61	Etukumana *et al*, 2007[61]	Hospital-based	Nigeria	Jun/2005-Oct/2005	Algorithm (Rapid antibody test; Western blot)
62	Ezeoru *et al*, 2021[62]	Hospital-based	Nigeria	Unclear/ Not reported	Algorithm (Rapid antibody test)
63	Ezugwu *et al*, 2012[63]	Hospital-based	Nigeria	Apr/2009-Mar/2010	Algorithm (Rapid antibody test; Western blot)
64	Fall-Malick *et al*, 2010[64]	Hospital-based	Mauritania	2001-2007	Indirect ELISA
65	Fielding-Miller *et al*, 2017[65]	Hospital-based	Swaziland	Unclear/ Not reported	Rapid antibody test
66	Fonck *et al*, 2000[66]	Hospital-based	Kenya	Unclear/ Not reported	Indirect ELISA
67	Frickmann *et al*, 2013[67]	Hospital-based	Madagascar	Jul/2010-May/2012	Algorithm (Rapid antibody test; Enzyme immunoassay (EIA))

68	Friis *et al*, 2001[68]	Hospital-based	Zimbabwe	Unclear/ Not reported	Algorithm (Enzyme immunoassay (EIA); PCR)
69	Galadanci *et al*, 2008[69]	Hospital-based	Nigeria	Jan/2004-Dec/2006	Serological test
70	Gamba *et al*, 2013[70]	Hospital-based	Central African Republic	Nov/2011-Jan/2012	Algorithm (Indirect ELISA)
71	Gassmelseed *et al*, 2006[71]	Hospital-based	Sudan	Aug/2005-Nov/2005	Indirect ELISA
72	Gay *et al*, 2010[72]	Hospital-based	Malawi	Dec/2000-Jun/2004	Algorithm (Rapid antibody test)
73	Gianelli *et al*, 2010[73]	Hospital-based	Guinea-Bissau	Jan/2002-Apr/2006	Algorithm (Rapid antibody test; Indirect ELISA)
74	Gill *et al*, 2015[74]	Hospital-based	Lesotho	Dec/2009-May/2010	Rapid antibody test
75	Glynn *et al*, 2001[75]	Hospital-based	Cameroon; Kenya; Zambia	1998	Algorithm (Rapid antibody test; Indirect ELISA; Western blot)
76	Gray *et al*, 2011[76]	Hospital-based	Malawi	Oct/2008-Mar/2010	Rapid antibody test
77	Green *et al*, 1994[77]	Hospital-based	Democratic Republic of the Congo	Sep/1988-Jul/1993	Algorithm (Indirect ELISA; Western blot)

78	Gregson *et al*, 2021[78]	Hospital-based	Zimbabwe	Apr/2017-Sep/2017	Algorithm (Indirect ELISA; Western blot)
79	Gumede-Moyo *et al*, 2019[79]	Hospital-based	Zambia	Jan/2010-Dec/2015	Rapid antibody test
80	Hamda *et al*, 2020[80]	Hospital-based	Botswana	Nov/2017-Mar/2018	Algorithm (Rapid antibody test; Indirect ELISA)
81	Handema *et al*, 2001[81]	Hospital-based	Zambia	sept-99	Algorithm (Rapid antibody test; enzyme immunoassay (EIA); Western blot)
82	Harry *et al*, 1992[82]	Hospital-based	Nigeria	Sep/1988-Apr/1990	Western blot
83	Harry *et al*, 1993[83]	Hospital-based	Nigeria	Aug/1989-Jun/1990	Indirect ELISA; Western blot
84	Harry *et al*, 1994[84]	Hospital-based	Nigeria	Jul/1991-Feb/1993	Indirect ELISA
85	Haukenes *et al*, 1992[85]	Hospital-based	Tanzania	1984-1991	Indirect ELISA; Western blot
86	Heemelaar *et al*, 2015[86]	Hospital-based	Zambia	2012	Rapid antibody test
87	Helegbe *et al*, 2018[87]	Hospital-	Ghana	Mar/2013-Feb/2015	Algorithm (Rapid antibody test)

		based			
88	Hinderaker *et al*, 2001[88]	Community based	Tanzania	1995-1996; 1999	Indirect ELISA
89	Hokororo *et al*, 2015[89]	Hospital-based	Tanzania	2012	Algorithm (Rapid antibody test)
90	Holmes *et al*, 2008[90]	Hospital-based	Ghana	2003	Algorithm (Rapid antibody test)
91	Hoque *et al*, 2021[91]	Hospital-based	South Africa	Jan/2018-Dec/2018	Algorithm (Rapid antibody test; Indirect ELISA)
92	Ibrahim *et al*, 2013[92]	Hospital-based	Nigeria	Jul/2008-Jun/2011	Rapid antibody test
93	Ikeako *et al*, 2014[93]	Hospital-based	Nigeria	May/2006-Apr/2008	Rapid antibody test; Indirect ELISA
94	Ilboudo *et al*, 2003[94]	Hospital-based	Burkina Faso	2000	Enzyme immunoassay (EIA)
95	Imade *et al*, 2013[95]	Hospital-based	Nigeria	Mar/2010-Jan/2012	Algorithm (Rapid antibody test)
96	Imade *et al*, 2014[96]	Hospital-based	Nigeria	Apr/2002-Jul/2004	Rapid antibody test; Western blot
97	Isara *et al*, 2021[97]	Hospital-	Gambia	Jun/2017-Oct/2017	Algorithm (Rapid antibody test;

		based			Western blot)
98	Jackson *et al*, 1999[98]	Hospital-based	Kenya	Nov/1991-Apr/1997	Enzyme immunoassay (EIA)
99	Jervasea *et al*, 2010[99]	Hospital-based	South Sudan	2009	Indirect ELISA
100	Jimoh *et al*, 2004[100]	Hospital-based	Equatorial Guinea	Feb/1997-Jul/1997	Indirect ELISA; Western blot
101	Kania *et al*, 2010[101]	Hospital-based	Burkina Faso	Jan/2005-Dec/2007	Algorithm (Rapid antibody test)
102	Kasaro *et al*, 2018[102]	Hospital-based	Zambia	Sep/2014-Jun/2015	Algorithm (Rapid antibody test; Western blot)
103	Kayibanda *et al*, 2011[103]	Hospital-based	Rwanda	2005	Indirect ELISA
104	Kayibanda *et al*, 2011[104]	Hospital-based	Rwanda	2007	Algorithm (Indirect ELISA)
105	Keating *et al*, 2012[105]	Hospital-based	Malawi	Jan/2009-Oct/2009	Algorithm (Rapid antibody test)
106	Keogh *et al*, 2009[106]	Hospital-based	Tanzania	Dec/2007-May/2008	Indirect ELISA
107	Keou *et al*, 1998[107]	Hospital-	Cameroon	Jun/1994-Jul/1996	Indirect ELISA; Western blot

		based			
108	Kharsany *et al*, 2010[108]	Hospital-based	South Africa	Oct/2007-Nov/2008	Indirect ELISA
109	Kharsany *et al*, 2015[109]	Hospital-based	South Africa	Oct/2001-Nov/2013	Rapid antibody test; Indirect ELISA
110	Kiarie *et al*, 2000[110]	Hospital-based	Kenya	Unclear/ Not reported	Rapid antibody test
111	Kidan *et al*, 1995[111]	Hospital-based	Ethiopia	Jun/1994-Sep/1994	Indirect ELISA
112	Kigadye *et al*, 1993[112]	Hospital-based	Tanzania	1988-1991	Indirect ELISA
113	Kilian *et al*, 1999[113]	Hospital-based	Uganda	Oct/1991-Oct/1997	Indirect ELISA
114	Kinoshita-Moleka *et al*, 2008[114]	Hospital-based	Democratic Republic of the Congo	Apr/2004-Jul/2004	Algorithm (Indirect ELISA)
115	Kipp *et al*, 2009[115]	Hospital-based	Uganda	1991-2004	Indirect ELISA
116	Kiptoo *et al*, 2009[116]	Hospital-based	Kenya	Apr/2005-Sep/2006	Algorithm (Rapid antibody test)
117	Koblavi-Deme *et al*,	Hospital-	Ivory Coast	May/1999-	Algorithm (Rapid antibody test)

	2001[117]	based		Sep/1999	
118	Kolawole *et al*, 2016[118]	Hospital-based	Nigeria	Unclear/ Not reported	Algorithm (Rapid antibody test)
119	Kuate *et al*, 2009[119]	Hospital-based	Cameroon	Feb/2000-Jul/2006	Algorithm (Rapid antibody test)
120	Kwiek *et al*, 2008[120]	Hospital-based	Malawi	Dec/2000-Mar/2004	Algorithm (Rapid antibody test)
121	Laktabai *et al*, 2022[121]	Hospital-based	Kenya	Mar/2018-Sep/2019	Rapid antibody test
122	Lallemant *et al*, 1992[122]	Hospital-based	Republic of the Congo	May/1987-Mar/1988	Indirect ELISA
123	Lawi *et al*, 2015[123]	Hospital-based	Tanzania	Jan/2012-Mar/2012	Algorithm (Rapid antibody test)
124	Leroy *et al*, 1995[124]	Hospital-based	Rwanda	May/1995	Rapid antibody test
125	Leroy *et al*, 1998[125]	Hospital-based	Rwanda	Jul/1992-Aug/1993	Algorithm (Indirect ELISA; Western blot)
126	Liotta *et al*, 2016[126]	Hospital-based	Malawi	Sep/2005-Aug/2010	Algorithm (Rapid antibody test)
127	Lodiongo *et al*, 2018[127]	Hospital-	South Sudan	Jun/2016-Aug/2016	Indirect ELISA

		based			
128	Mabunda *et al*, 2021[128]	Hospital-based	South Africa	Mar/2016-Nov/2016	Rapid antibody test
129	Magazani *et al*, 1993[129]	Hospital-based	Democratic Republic of the Congo	Dec/1989-Avr/1991	Indirect ELISA; Enzyme immunoassay (EIA)
130	Mahomed *et al*, 2011[130]	Hospital-based	Zimbabwe	May/1990-Oct/1990	Indirect ELISA; Western blot
131	Makuwa *et al*, 1992[131]	Hospital-based	Republic of the Congo	1987	Indirect ELISA; Western blot
132	Mamadou *et al*, 2012[132]	Hospital-based	Niger	2008	Algorithm (Indirect ELISA; Enzyme immunoassay (EIA))
133	Mandala *et al*, 2019[133]	Hospital-based	Zambia	2013-2014	Algorithm (Rapid antibody test)
134	Manyahi *et al*, 2015[134]	Hospital-based	Tanzania	Sep/2011-Dec/2011	Algorithm (Indirect ELISA)
135	Manyahi *et al*, 2017[135]	Hospital-based	Tanzania	May/2014-Jun/2014	Rapid antibody test
136	Martin-Herz *et al*, 2006[136]	Hospital-based	Zimbabwe	Unclear/ Not reported	Algorithm (Rapid antibody test; Western blot)
137	Mashamba-Thompson	Hospital-	South Africa	Unclear/ Not	Algorithm (Rapid antibody test;

	et al, 2018[137]	based		reported	Indirect ELISA)
138	Matambo *et al*, 1999[138]	Hospital-based	South Africa	Apr/1998-Jun/1998	Algorithm (Rapid antibody test; Indirect ELISA)
139	Mathe *et al*, 2008[139]	Hospital-based	Democratic Republic of the Congo	Dec/2002-Dec/2004	Algorithm (Rapid antibody test; Indirect ELISA)
140	Mayaphi *et al*, 2019[140]	Hospital-based	South Africa	2016	Algorithm (Rapid antibody test; Indirect ELISA)
141	Mbachu *et al*, 2015[141]	Hospital-based	Nigeria	Jan/2012-Apr/2012	Rapid antibody test; Indirect ELISA; Western blot
142	Mbizvo *et al*, 1996[142]	Hospital-based	Zimbabwe	May/1994-Jun/1995	Indirect ELISA
143	Meda *et al*, 1999[143]	Hospital-based	Burkina Faso	Jul/1995-Jun/1996	Algorithm (Indirect ELISA; Western blot)
144	Meda *et al*, 1999[144]	Hospital-based	Burkina Faso	Sep/1996-Oct/1996	Algorithm (Indirect ELISA; Western blot)
145	Melku *et al*, 2015[145]	Hospital-based	Ethiopia	Mar/2012-May/2012	Algorithm (Rapid antibody test)
146	Metaferia *et al*, 2016[146]	Hospital-based	Ethiopia	Apr/2015-May/2015	Algorithm (Rapid antibody test)
147	Mhalu *et al*, 1987[147]	Unclear/	Tanzania	1986	Algorithm (Indirect ELISA; Western

		Not reported			blot)
148	Miotti *et al*, 1990[148]	Hospital-based	Malawi	1989	Serological test
149	Moukandja *et al*, 2017[149]	Hospital-based	Gabon	May/2007-Jul/2010	Rapid antibody test; Indirect ELISA
150	Mphatswe *et al*, 2016[150]	Hospital-based	South Africa	May/2013-Sep/2013	Rapid antibody test
151	Msamanga *et al*, 2006[151]	Hospital-based	Tanzania	Avr/1995-Jul/1997	Algorithm (Indirect ELISA; Western blot)
152	Mseleku *et al*, 2005[152]	Hospital-based	South Africa	Unclear/ Not reported	Algorithm (Indirect ELISA)
153	Msellati *et al*, 2001[153]	Hospital-based	Ivory Coast	Oct/1998-Apr/1999	Indirect ELISA
154	Msellati *et al*, 2006[154]	Hospital-based	Ivory Coast	1995-2002	Indirect ELISA
155	Msuya *et al*, 2006[155]	Hospital-based	Tanzania	Jun/2002-Mar/2004	Algorithm (Rapid antibody test; Indirect ELISA)
156	Mulanga-Kabeya *et al*, 1998[156]	Hospital-based	Republic of the Congo	1997	Algorithm (Rapid antibody test; Indirect ELISA; Enzyme

					immunoassay (EIA))
157	Mulu *et al*, 2007[157]	Hospital-based	Ethiopia	Mar/2005-Jun/2005	Rapid antibody test
158	Munjoma *et al*, 2010[158]	Hospital-based	Zimbabwe	Apr/2002-Sept/2004	Algorithm (Rapid antibody test)
159	Muzyka *et al*, 2001[159]	Hospital-based	Malawi	1998	Indirect ELISA
160	Mwandagalirwa *et al*, 2009[160]	Hospital-based	Republic of the Congo	Oct/2003-Jan/2004	Algorithm (Rapid antibody test; Indirect ELISA; Enzyme immunoassay (EIA))
161	Mwembo-Tambwe *et al*, 2013[161]	Hospital-based	Republic of the Congo	Sept/2010-Feb/2011	Algorithm (Rapid antibody test)
162	Ndege *et al*, 2016[162]	Hospital-based	Kenya	Nov/2008-Jan/2012	Rapid antibody test
163	Ndumbe *et al*, 1994[163]	Hospital-based	Cameroon	1991-1992	Indirect ELISA; Western blot
164	Ngounouh *et al*, 2020[164]	Hospital-based	Cameroon	May/2018-Jul/2018	Algorithm (Rapid antibody test)
165	Ng'wamkai *et al*, 2019[165]	Hospital-based	Tanzania	Feb/2018-May/2018	Algorithm (Rapid antibody test)

166	Niama *et al*, 2017[166]	Hospital-based	Republic of the Congo	Sep/2011-Dec/2011	Algorithm (Rapid antibody test; Indirect ELISA)
167	Nnatu *et al*, 1993[167]	Hospital-based	Nigeria	1991	Enzyme immunoassay (EIA)
168	Nyawanda *et al*, 2020[168]	Hospital-based	Kenya	Feb/2015-Jan/2019	Algorithm (Rapid antibody test)
169	Obi *et al*, 1997[169]	Hospital-based	Zimbabwe	Unclear/ Not reported	Serological test
170	Obi *et al*, 1997[170]	Hospital-based	Zimbabwe	Unclear/ Not reported	Serological test
171	Obi *et al*, 2007[171]	Hospital-based	Nigeria	Jan/2000-Dec/2004	Algorithm (Indirect ELISA; Western blot)
172	Obisesan *et al*, 1997[172]	Hospital-based	Nigeria	Jun/1995-Aug/1995	Algorithm (Indirect ELISA; Western blot)
173	Odehouri *et al*, 1989[173]	Hospital-based	Nigeria	sept-87	Algorithm (Indirect ELISA; Western blot)
174	O'Farrell *et al*, 1989[174]	Hospital-based	South Africa	juin-87	Indirect ELISA
175	Offor *et al*, 1997[175]	Hospital-based	Nigeria	Jun/1989-Mar/1992	Indirect ELISA

176	Okeudo *et al*, 2012[176]	Hospital-based	Nigeria	Mar/2008-Feb/2010	Algorithm (Rapid antibody test)
177	Okonko *et al*, 2020[177]	Hospital-based	Nigeria	Feb/2013-Apr/2014	Indirect ELISA
178	Oladeinde *et al*, 2011[178]	Hospital-based	Nigeria	Sep/2009-Aug/2010	Rapid antibody test
179	Olajubu *et al*, 2009[179]	Hospital-based	Nigeria	Jan/2005-Dec/2006	Algorithm (Rapid antibody test)
180	Olaleye *et al*, 1995[180]	Hospital-based	Nigeria	Jan/1991-Oct/1991	Algorithm (Enzyme immunoassay (EIA); Western blot)
181	Olatunbosun *et al*, 2014[181]	Hospital-based	Nigeria	Jul/2012-Oct/2012	Serological test
182	Olugbenga *et al*, 2018[182]	Hospital-based	Nigeria	Feb/2017-May/2017	Algorithm (Rapid antibody test)
183	Omatola *et al*, 2019[183]	Hospital-based	Nigeria	Sep/2017-Nov/2017	Algorithm (Rapid antibody test)
184	Omoding *et al*, 2014[184]	Hospital-based	Uganda	Mar/2013-May/2013	Algorithm (Rapid antibody test)
185	Onakewhor *et al*, 2009[185]	Hospital-based	Nigeria	Jun/2005-Dec/2005	Algorithm (Rapid antibody test)

186	Onuminya *et al*, 2021[186]	Hospital-based	Nigeria	Jan/2016-Dec/2016	Rapid antibody test
187	Opaleye *et al*, 2016[187]	Hospital-based	Nigeria	Unclear/ Not reported	Rapid antibody test
188	Orish *et al*, 2013[188]	Hospital-based	Ghana	Mar/2010-Oct/2010	Algorithm (Rapid antibody test; Western blot)
189	Ortashi *et al*, 2004[189]	Hospital-based	Sudan	Jan/1999-Oct/1999	Enzyme immunoassay (EIA)
190	Osman *et al*, 2014[190]	Hospital-based	Sudan	Jun/2011-Dec/2011	Algorithm (Rapid antibody test)
191	Price *et al*, 2021[191]	Hospital-based	Zambia	Aug/2015-Sep/2017	Algorithm (Rapid antibody test)
192	Ramon *et al*, 1999[192]	Hospital-based	Ivory Coast	May/1995-Mar/1996	Algorithm (Enzyme immunoassay (EIA))
193	Ramos *et al*, 2010[193]	Hospital-based	Ethiopia	Aug/2008	Algorithm (Enzyme immunoassay (EIA); Western blot)
194	Rashid *et al*, 2014[194]	Hospital-based	Tanzania	Aug/2005-Sep/2010	Algorithm (Rapid antibody test)
195	Rasmussen *et al*, 2020[195]	Hospital-based	Guinea-Bissau	Jun/2008-May/2013	Algorithm (Rapid antibody test)

196	Reuschel *et al*, 2013[196]	Hospital-based	Uganda	2001-2007	Algorithm (Indirect ELISA)
197	Rochat *et al*, 2006[197]	Hospital-based	South Africa	Unclear/ Not reported	Serological test
198	Rodier *et al*, 1995[198]	Hospital-based	Benin	1993	Algorithm (Indirect ELISA; Western blot)
199	Rouet *et al*, 2004[199]	Hospital-based	Ivory Coast	Mar/2001-Feb/2002	Algorithm (Rapid antibody test)
200	Sagay *et al*, 1999[200]	Hospital-based	Nigeria	1989-1998	Algorithm (Indirect ELISA; Western blot)
201	Sagay *et al*, 2005[201]	Hospital-based	Nigeria	Apr/2002-Nov/2003	Algorithm (Rapid antibody test; Western blot)
202	Sagay *et al*, 2006[202]	Hospital-based	Nigeria	Apr/2004-Aug/2004	Algorithm (Rapid antibody test)
203	Sahlu *et al*, 2014[203]	Hospital-based	Ethiopia	Dec/2010-Jun/2011	Rapid antibody test
204	Sama *et al*, 2017[204]	Hospital-based	Cameroon	2016	Algorithm (Rapid antibody test)
205	Sangare *et al*, 1997[205]	Hospital-based	Burkina Faso	Oct/1994-Feb/1995	Algorithm (Rapid antibody test; Indirect ELISA)

206	Schonfeld *et al*, 2017[206]	Hospital-based	Ethiopia	May/2014-Sep/2015	Algorithm (Rapid antibody test)
207	Sebastiao *et al*, 2020[207]	Hospital-based	Angola	2018	Rapid antibody test
208	Shetty *et al*, 2005[208]	Hospital-based	Zimbabwe	Jul/1999-Jun/2001	Algorithm (Rapid antibody test; Western blot)
209	Simpore *et al*, 2004[209]	Hospital-based	Burkina Faso	Unclear/ Not reported	Rapid antibody test; Enzyme immunoassay (EIA)
210	Simpore *et al*, 2005[210]	Hospital-based	Burkina Faso	Dec/2001-Jul/2002	Algorithm (Rapid antibody test)
211	Sirengo *et al*, 2016[211]	Hospital-based	Kenya	2010	Algorithm (Rapid antibody test)
212	Ssentongo *et al*, 2020[212]	Hospital-based	Burundi, Democratic Republic of the Congo, Ghana, Gambia, Mali, Senegal, Togo	Nov/2012-Dec/2017	Algorithm (Rapid antibody test)
213	Strand *et al*, 2007[213]	Hospital-based	Angola	2000	Algorithm (Indirect ELISA)
214	Stringer *et al*, 2008[214]	Hospital-based	Zambia	Jul/2002-Dec/2006	Rapid antibody test

215	Sule *et al*, 2009[215]	Hospital-based	Nigeria	2007	Algorithm (Rapid antibody test)
216	Swai *et al*, 2006[216]	Hospital-based	Tanzania	Oct/2003-Jan/2004	Algorithm (Indirect ELISA)
217	Takow *et al*, 2015[217]	Hospital-based	Cameroon	2010	Algorithm (Rapid antibody test; Indirect ELISA)
218	Taremwa *et al*, 2019[218]	Hospital-based	Uganda	2018	Rapid antibody test
219	Temmerman *et al*, 1992[219]	Hospital-based	Kenya	Jan/1989-Dec/1991	Algorithm (Indirect ELISA; Western blot)
220	Tenthani *et al*, 2015[220]	Hospital-based	Malawi	Jan/2010-Mar/2014	Rapid antibody test
221	Tohon *et al*, 2007[221]	Hospital-based	Nigeria	2002-2006	Indirect ELISA; Western blot
222	Torimiro *et al*, 2018[222]	Hospital-based	Cameroon	Sep/2011-Apr/2015	Algorithm (Rapid antibody test; Indirect ELISA)
223	Tsegaye *et al*, 2003[223]	Hospital-based	Ethiopia	1995-2001	Algorithm (Indirect ELISA; Western blot)
224	Turan *et al*, 2011[224]	Hospital-based	Kenya	Nov/2007-Apr/2009	Rapid antibody test

225	Ukaire *et al*, 2015[225]	Hospital-based	Nigeria	Nov/2013-Jun/2014	Rapid antibody test
226	Umoke *et al*, 2021[226]	Hospital-based	Nigeria	Jan/2018-Dec/2018	Algorithm (Rapid antibody test; Indirect ELISA)
227	Uneke *et al*, 2007[227]	Hospital-based	Nigeria	Jul/2005-Jun/2006	Algorithm (Rapid antibody test; Western blot)
228	Urassa *et al*, 2006[228]	Hospital-based	Tanzania	2000-2002	Algorithm (Indirect ELISA)
229	Urassa *et al*, 2006[229]	Hospital-based	Tanzania	Apr/1995-Dec/2003	Algorithm (Indirect ELISA; Western blot)
230	Utoo *et al*, 2011[230]	Hospital-based	Nigeria	Jan/2010-Jun/2010	Algorithm (Rapid antibody test)
231	Utulu *et al*, 2007[231]	Hospital-based	Nigeria	Dec/2002-Apr/2003	Algorithm (Rapid antibody test; Indirect ELISA)
232	Van den Broek *et al*, 1998[232]	Hospital-based	Malawi	Unclear/ Not reported	Indirect ELISA
233	van der Loeff *et al*, 2003[233]	Hospital-based	Gambia	May/2000-Aug/2001	Algorithm (Indirect ELISA)
234	Van Eijk *et al*, 2001[234]	Hospital-based	Kenya	Jun/1996-Dec/1998	Algorithm (Rapid antibody test)

235	Vueba *et al*, 2021[235]	Hospital-based	Angola	Aug/2016-May/2017	Enzyme-linked fluorescence assay (ELFA)
236	Wannan *et al*, 1997[236]	Hospital-based	Democratic Republic of the Congo	Nov/1990-Feb/1991	Algorithm (Rapid antibody test; Indirect ELISA; Western blot)
237	Westheimer *et al*, 2004[237]	Hospital-based	Tanzania	Aug/2001-Nov/2002	Algorithm (Indirect ELISA; Western blot)
238	Wilkinson, 1999[238]	Hospital-based	South Africa	Jul/1998-Nov/1998	Algorithm (Indirect ELISA)
239	Wilkinson *et al*, 1999[239]	Hospital-based	South Africa	Unclear/ Not reported	Indirect ELISA
240	Woldesenbet *et al*, 2021[240]	Hospital-based	South Africa	Oct/2017-Nov/2017	Algorithm (Enzyme immunoassay (EIA))
241	Woldesenbet *et al*, 2022[241]	Hospital-based	South Africa	Oct/2017-Nov/2017 and Oct/2019-Nov/2019	Algorithm (Immunoassay kit)
242	Woodburn *et al*, 2009[242]	Hospital-based	Uganda	Apr/2003-Nov/2005	Algorithm (Rapid antibody test)
243	Worku *et al*, 2022[243]	Hospital-based	Ethiopia	Oct/2020-Dec/2020	Algorithm (Rapid antibody test)
244	Wumba *et al*, 2015[244]	Hospital-	Democratic Republic of	2009-2012	Rapid antibody test

		based	the Congo		
245	Ya'aba *et al*, 2011[245]	Hospital-based	Nigeria	Jan/2005-May/2006	Algorithm (Rapid antibody test)
246	Yahya-Malima *et al*, 2006[246]	Hospital-based	Tanzania	Nov/2003-Apr/2004	Enzyme immunoassay (EIA)
247	Young *et al*, 2018[247]	Hospital-based	Kenya	Dec/2014-Aug/2015	Algorithm (Rapid antibody test)
248	Zenebe *et al*, 2014[248]	Hospital-based	Ethiopia	Mar/2013-Apr/2013	Algorithm (Rapid antibody test)

Supplementary Table 4 Risk of bias assessment

ID	Author, Year of publication	Was the study's target population a close representation of the national population in relation to HIV prevalence or CFR in pregnant?	Was the sampling frame a true or close representation of the target population?	Was some form of random selection used to select the sample, OR was acensus undertaken?	Were data collected directly from the subjects (as opposed to a proxy)?	Was an acceptable inclusion criteria definition used in the study?	Did the author calculate and respect the expected sample size?	Was the HIV detection assay shown to have reliability and validity?	Was the same mode of data collection used for all subjects?	Was the length of the study period > or = 1 year?	Were the numerator(s) and denominator(s) for the HIV prevalence /CFR appropriate?	Score	Risk of bias
1	Abbott *et al*, 1994[1]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of

													bias
2	Abuku *et al*, 2023[2]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
3	Agboghoroma *et al*, 2020[3]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
4	Agida *et al*, 2010[4]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
5	Ahmed *et al*, 1998[5]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
6	Aidaoui *et al*, 2008[6]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
7	Ajoge *et al*, 2008[7]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	7	Low risk of

													bias
8	Ajoge *et al*, 2013[8]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
9	Akani *et al*, 2006[9]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
10	Akani *et al*, 2010[10]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
11	Anaedobe *et al*, 2019[11]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
12	Anoubissi *et al*, 2019[12]	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias
13	Assefa *et al*,	No	Yes	No	Yes	Yes	No	Yes	Yes	Uncle	Yes	6	Moder

	2003[13]									ar			ate risk of bias
14	Atewogbola *et al*, 2021[14]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
15	Atilola *et al*, 2018[15]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
16	Awobode *et al*, 2014[16]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
17	Awolude *et al*, 2009[17]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
18	Ayisi *et al*, 2000[18]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias

19	Bafa *et al*, 2020[19]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias
20	Bayo *et al*, 2014[20]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
21	Becker *et al*, 2010[21]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	7	Low risk of bias
22	Bello *et al*, 2011[22]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
23	Bello *et al*, 2022[23]	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	7	Low risk of bias
24	Biadgo *et al*, 2019[24]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
25	Billong *et al*, 2015[25]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of

													bias
26	Billong *et al*, 2020[26]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9	Low risk of bias
27	Bruzzone *et al*, 2008[27]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
28	Buseri *et al*, 2010[28]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
29	Byamugisha *et al*, 2010[29]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
30	Cartoux *et al*, 1998[30]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
31	Chandisarewa *et al*, 2007[31]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias

32	Changalucha *et al*, 2002[32]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
33	Chetty *et al*, 2012[33]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
34	Chukwuali *et al*, 2014[34]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
35	Cisse *et al*, 2018[35]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
36	Collenberg *et al*, 2006[36]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
37	Cossa *et al*, 1994[37]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of

													bias
38	Crampin *et al*, 2008[38]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
39	Dao *et al*, 2001[39]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
40	Datiko *et al*, 2008[40]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	7	Low risk of bias
41	de Beer *et al*, 2020[41]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
42	De Paschale *et al*, 2014[42]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
43	Delaporte	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low

	et al, 1996[43]												risk of bias
44	Deme *et al*, 2016[44]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
45	Desalegn *et al*, 2016[45]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
46	Desgrees du Lou *et al*, 1998[46]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
47	Diallo *et al*, 1997[47]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
48	Dionne-Odom *et al*, 2016[48]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of

													bias
49	Diouf *et al*, 1996[49]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	Yes	Yes	7	Low risk of bias
50	Dolmans *et al*, 1989[50]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
51	Dunkle *et al*, 2004[51]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
52	Duru *et al*, 2009[52]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of bias
53	Egbe *et al*, 2016[53]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
54	Egesie *et al*, 2008[54]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of

													bias
55	Ejeta *et al*, 2018[55]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
56	Ekouevi *et al*, 2004[56]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
57	Ekouevi *et al*, 2012[57]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	7	Low risk of bias
58	Elkheir *et al*, 2018[58]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
59	Endris *et al*, 2015[59]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
60	Esu-Williams *et*	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate

	al, 1997[60]												risk of bias
61	Etukumana *et al*, 2007[61]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
62	Ezeoru *et al*, 2021[62]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	Yes	7	Low risk of bias
63	Ezugwu *et al*, 2012[63]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
64	Fall-Malick *et al*, 2010[64]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
65	Fielding-Miller *et al*, 2017[65]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
66	Fonck *et al*, 2000[66]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate

													risk of bias
67	Frickmann *et al*, 2013[67]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
68	Friis *et al*, 2001[68]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
69	Galadanci *et al*, 2008[69]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
70	Gamba *et al*, 2013[70]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
71	Gassmelseed *et al*, 2006[71]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
72	Gay *et al*,	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	8	Low

	2010[72]												risk of bias
73	Gianelli *et al*, 2010[73]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
74	Gill *et al*, 2015[74]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
75	Glynn *et al*, 2001[75]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	Yes	7	Low risk of bias
76	Gray *et al*, 2011[76]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of bias
77	Green *et al*, 1994[77]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
78	Gregson *et*	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	8	Low

	al, 2021[78]												risk of bias
79	Gumede-Moyo *et al*, 2019[79]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
80	Hamda *et al*, 2020[80]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9	Low risk of bias
81	Handema *et al*, 2001[81]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
82	Harry *et al*, 1992[82]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
83	Harry *et al*, 1993[83]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
84	Harry *et al*,	No	Yes	No	Yes	Yes	Uncle	Yes	Yes	Yes	Yes	7	Low

	1994[84]						ar						risk of bias
85	Haukenes *et al*, 1992[85]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
86	Heemelaar *et al*, 2015[86]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
87	Helegbe *et al*, 2018[87]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
88	Hinderaker *et al*, 2001[88]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
89	Hokororo *et al*, 2015[89]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
90	Holmes *et*	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moder

	al, 2008[90]												ate risk of bias
91	Hoque *et al*, 2021[91]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
92	Ibrahim *et al*, 2013[92]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	8	Low risk of bias
93	Ikeako *et al*, 2014[93]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
94	Ilboudo *et al*, 2003[94]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moder ate risk of bias
95	Imade *et al*, 2013[95]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
96	Imade *et al*,	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low

	2014[96]												risk of bias
97	Isara *et al*, 2021[97]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
98	Jackson *et al*, 1999[98]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
99	Jervasea *et al*, 2010[99]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	7	Low risk of bias
100	Jimoh *et al*, 2004[100]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
101	Kania *et al*, 2010[101]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
10	Kasaro *et*	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low

2	*al*, 2018[102]												risk of bias
103	Kayibanda *et al*, 2011[103]	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8	Low risk of bias
104	Kayibanda *et al*, 2011[104]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
105	Keating *et al*, 2012[105]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
106	Keogh *et al*, 2009[106]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
107	Keou *et al*, 1998[107]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias

108	Kharsany *et al*, 2010[108]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
109	Kharsany *et al*, 2015[109]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
110	Kiarie *et al*, 2000[110]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
111	Kidan *et al*, 1995[111]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of bias
112	Kigadye *et al*, 1993[112]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
113	Kilian *et al*, 1999[113]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of

													bias
114	Kinoshita-Moleka *et al*, 2008[114]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
115	Kipp *et al*, 2009[115]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of bias
116	Kiptoo *et al*, 2009[116]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
117	Koblavi-Deme *et al*, 2001[117]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
118	Kolawole *et al*, 2016[118]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	7	Low risk of bias
119	Kuate *et al*, 2009[119]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias

120	Kwiek *et al*, 2008[120]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
121	Laktabai *et al*, 2022[121]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
122	Lallemant *et al*, 1992[122]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moderate risk of bias
123	Lawi *et al*, 2015[123]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
124	Leroy *et al*, 1995[124]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moderate risk of bias
125	Leroy *et al*, 1998[125]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias

126	Liotta *et al*, 2016[126]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
127	Lodiongo *et al*, 2018[127]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
128	Mabunda *et al*, 2021[128]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
129	Magazani *et al*, 1993[129]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
130	Mahomed *et al*, 2011[130]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of bias
131	Makuwa *et al*, 1992[131]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of

													bias
132	Mamadou *et al*, 2012[132]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
133	Mandala *et al*, 2019[133]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
134	Manyahi *et al*, 2015[134]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of bias
135	Manyahi *et al*, 2017[135]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
136	Martin-Herz *et al*, 2006[136]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
137	Mashamba-Thompson	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	Yes	7	Low risk of

	et al, 2018[137]												bias
138	Matambo *et al*, 1999[138]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
139	Mathe *et al*, 2008[139]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
140	Mayaphi *et al*, 2019[140]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
141	Mbachu *et al*, 2015[141]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
142	Mbizvo *et al*, 1996[142]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	Yes	Yes	7	Low risk of bias

143	Meda *et al*, 1999[143]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
144	Meda *et al*, 1999[144]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
145	Melku *et al*, 2015[145]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias
146	Metaferia *et al*, 2016[146]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
147	Mhalu *et al*, 1987[147]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of bias
148	Miotti *et al*, 1990[148]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate

													risk of bias
149	Moukandja *et al*, 2017[149]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	Yes	Yes	7	Low risk of bias
150	Mphatswe *et al*, 2016[150]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
151	Msamanga *et al*, 2006[151]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	8	Low risk of bias
152	Mseleku *et al*, 2005[152]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	No	6	Moderate risk of bias
153	Msellati *et al*, 2001[153]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias

154	Msellati *et al*, 2006[154]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
155	Msuya *et al*, 2006[155]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	8	Low risk of bias
156	Mulanga-Kabeya *et al*, 1998[156]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
157	Mulu *et al*, 2007[157]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
158	Munjoma *et al*, 2010[158]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
15	Muzyka *et*	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moder

9	*al*, 2001[159]												ate risk of bias
160	Mwandagalirwa *et al*, 2009[160]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moderate risk of bias
161	Mwembo-Tambwe *et al*, 2013[161]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
162	Ndege *et al*, 2016[162]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
163	Ndumbe *et al*, 1994[163]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
164	Ngounouh *et al*, 2020[164]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
16	Ng'wamkai	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moder

5	*et al*, 2019[165]												ate risk of bias
166	Niama *et al*, 2017[166]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	5	Moderate risk of bias
167	Nnatu *et al*, 1993[167]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
168	Nyawanda *et al*, 2020[168]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
169	Obi *et al*, 1997[169]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
170	Obi *et al*, 1997[170]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	Unclear	Yes	6	Moderate

													risk of bias
171	Obi *et al*, 2007[171]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
172	Obisesan *et al*, 1997[172]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	7	Low risk of bias
173	Odehouri *et al*, 1989[173]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
174	O'Farrell *et al*, 1989[174]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
175	Offor *et al*, 1997[175]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
17	Okeudo *et*	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low

6	*al*, 2012[176]												risk of bias
177	Okonko *et al*, 2020[177]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
178	Oladeinde *et al*, 2011[178]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
179	Olajubu *et al*, 2009[179]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
180	Olaleye *et al*, 1995[180]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
181	Olatunbosun *et al*, 2014[181]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9	Low risk of bias
18	Olugbenga	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low

2	*et al*, 2018[182]												risk of bias
183	Omatola *et al*, 2019[183]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
184	Omoding *et al*, 2014[184]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
185	Onakewhor *et al*, 2009[185]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
186	Onuminya *et al*, 2021[186]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
187	Opaleye *et al*, 2016[187]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias

188	Orish *et al*, 2013[188]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
189	Ortashi *et al*, 2004[189]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
190	Osman *et al*, 2014[190]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
191	Price *et al*, 2021[191]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
192	Ramon *et al*, 1999[192]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
193	Ramos *et al*, 2010[193]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of

													bias
194	Rashid *et al*, 2014[194]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
195	Rasmussen *et al*, 2020[195]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
196	Reuschel *et al*, 2013[196]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
197	Rochat *et al*, 2006[197]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
198	Rodier *et al*, 1995[198]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
199	Rouet *et al*, 2004[199]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of

													bias
200	Sagay *et al*, 1999[200]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
201	Sagay *et al*, 2005[201]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
202	Sagay *et al*, 2006[202]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
203	Sahlu *et al*, 2014[203]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	8	Low risk of bias
204	Sama *et al*, 2017[204]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
205	Sangare *et al*, 1997[205]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of

													bias
206	Schonfeld *et al*, 2017[206]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
207	Sebastiao *et al*, 2020[207]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
208	Shetty *et al*, 2005[208]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
209	Simpore *et al*, 2004[209]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
210	Simpore *et al*, 2005[210]	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	7	Low risk of bias
211	Sirengo *et al*, 2016[211]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of

													bias
212	Ssentongo *et al*, 2020[212]	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	9	Low risk of bias
213	Strand *et al*, 2007[213]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
214	Stringer *et al*, 2008[214]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
215	Sule *et al*, 2009[215]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
216	Swai *et al*, 2006[216]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
217	Takow *et al*, 2015[217]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of

													bias
218	Taremwa *et al*, 2019[218]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
219	Temmerman *et al*, 1992[219]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
220	Tenthani *et al*, 2015[220]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
221	Tohon *et al*, 2007[221]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	7	Low risk of bias
222	Torimiro *et al*, 2018[222]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of bias
223	Tsegaye *et al*, 2003[223]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8	Low risk of bias
22	Turan *et al*,	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low

4	2011[224]												risk of bias
225	Ukaire *et al*, 2015[225]	No	Yes	No	Yes	Yes	Unclear	Yes	Yes	No	Yes	6	Moderate risk of bias
226	Umoke *et al*, 2021[226]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
227	Uneke *et al*, 2007[227]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
228	Urassa *et al*, 2006[228]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
229	Urassa *et al*, 2006[229]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
230	Utoo *et al*, 2011[230]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate

													risk of bias
231	Utulu *et al*, 2007[231]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
232	Van den Broek *et al*, 1998[232]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
233	van der Loeff *et al*, 2003[233]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
234	Van Eijk *et al*, 2001[234]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
235	Vueba *et al*, 2021[235]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of

													bias
236	Wannan *et al*, 1997[236]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
237	Westheimer *et al*, 2004[237]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	6	Moderate risk of bias
238	Wilkinson, 1999[238]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate risk of bias
239	Wilkinson *et al*, 1999[239]	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	6	Moderate risk of bias
240	Woldesenbet *et al*, 2021[240]	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias

241	Woldesenbet *et al*, 2022[241]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9	Low risk of bias
242	Woodburn *et al*, 2009[242]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
243	Worku *et al*, 2022[243]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias
244	Wumba *et al*, 2015[244]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
245	Ya'aba *et al*, 2011[245]	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	7	Low risk of bias
246	Yahya-Malima *et al*, 2006[246]	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	7	Low risk of bias
247	Young *et al*, 2018[247]	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	6	Moderate

													risk of bias
248	Zenebe *et al*, 2014[248]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	8	Low risk of bias

Supplementary Table 5 Univariable and multivariable meta-regression analysis on the prevalence of human immunodeficiency virus in pregnant women in Africa

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Seropositive HIV						63.07%
Study Design		0				
Cohort						
Cross-sectional	0		0.83 [0.77 - 0.91]			
Sampling		0.456				
Non probabilistic						
Probabilistic	0.456		1.02 [0.96 - 1.08]			
Timing of samples collection		0.938				
Prospectively						
Retrospectively	0.938		1 [0.95 - 1.05]			
Countries		0				
Angola						
Burkina Faso	0.328		1.06 [0.95 - 1.18]	0.328	1.06 [0.95 - 1.18]	

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Cameroon	0.527		1.04 [0.93 - 1.15]	0.527	1.04 [0.93 - 1.15]	
Democratic Republic of the Congo	0.435		0.95 [0.85 - 1.07]	0.435	0.95 [0.85 - 1.07]	
Ethiopia	0.76		1.02 [0.91 - 1.13]	0.76	1.02 [0.91 - 1.13]	
Ghana	0.585		0.96 [0.85 - 1.1]	0.585	0.96 [0.85 - 1.1]	
Ivory Coast	0.01		1.16 [1.04 - 1.3]	0.01	1.16 [1.04 - 1.3]	
Kenya	0.003		1.18 [1.06 - 1.31]	0.004	1.17 [1.05 - 1.31]	
Malawi	0		1.25 [1.12 - 1.39]	0	1.25 [1.12 - 1.39]	
Nigeria	0.587		1.03 [0.93 - 1.14]	0.666	1.02 [0.92 - 1.13]	
Republic of the Congo	0.998		1 [0.89 - 1.12]	0.998	1 [0.89 - 1.12]	
Rwanda	0.012		1.18 [1.04 - 1.34]	0.012	1.18 [1.04 - 1.34]	
Senegal	0.036		0.86 [0.75 - 0.99]	0.036	0.86 [0.75 - 0.99]	
South Africa	0		1.42 [1.28 - 1.58]	0	1.42 [1.28 - 1.58]	
Sudan	0.057		0.88 [0.77 - 1]	0.057	0.88 [0.77 - 1]	

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Tanzania	0.355		1.05 [0.95 - 1.17]	0.381	1.05 [0.94 - 1.16]	
Uganda	0.038		1.13 [1.01 - 1.26]	0.038	1.13 [1.01 - 1.26]	
Zambia	0		1.25 [1.11 - 1.4]	0	1.25 [1.11 - 1.4]	
Zimbabwe	0		1.35 [1.21 - 1.51]	0	1.34 [1.2 - 1.5]	
WHO Region		0.001				
Africa						
Eastern Mediterranean	0.001		0.82 [0.73 - 0.92]			
Sustainable Development Goal (SDG) regions		0.001				
Northern Africa and Western Asia						
Sub-Saharan Africa	0.001		1.25 [1.1 - 1.42]			
World Bank Income Groups		0				
Low-income countries						
Lower-middle-income countries	0.756		1 [0.96 - 1.03]			
Upper-middle-income countries	0		1.24 [1.17 - 1.32]			

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Study period		0.296				
[1987-2001[						
[2001-2016[	0.144		0.97 [0.93 - 1.01]			
[2016-2020]	0.844		0.99 [0.93 - 1.06]			
Parity		0.688				
Multiparous						
Nulliparous	0.931		1 [0.93 - 1.08]			
Primiparous	0.47		0.97 [0.9 - 1.05]			
Gravidity		0.32				
Multigravidae						
Primigravidae	0.32		0.95 [0.87 - 1.05]			
Gestational age		0.919				
First trimester						
Second trimester	0.692		1.03 [0.91 - 1.16]			
Third trimester	0.883		1.01 [0.9 - 1.13]			

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Residence		0.79				
Rural						
Urban	0.79		1.01 [0.95 - 1.06]			
Education		0.85				
None						
Primary	0.78		1.01 [0.94 - 1.08]			
Secondary	0.41		1.03 [0.96 - 1.1]			
Tertiary	0.888		1.01 [0.94 - 1.08]			
Type of HIV		0				
HIV-1						
HIV-2	0		0.84 [0.79 - 0.89]			
Sample size		0.018				
<100						
>=100	0.018		0.86 [0.76 - 0.97]	0.007	0.89 [0.82 - 0.97]	
Risk of bias		0.228				

	Bivariate Model			Multivariate Model		
	P-Value	P-Value Global	OR [95% CI]	P-Value	OR [95% CI]	R2
Low risk of bias						
Moderate risk of bias	0.228		1.02 [0.99 - 1.06]			