

Supplementary Table 1. A summary of the methodological quality of included studies according to the Newcastle Ottawa scale for observational studies

<u>Study</u> Author Year	<u>Selection</u> Representativeness of the exposed cohort	<u>Selection</u> Selection of the non-exposed cohort	<u>Selection</u> Ascertainment of exposure	<u>Selection</u> Demonstration that outcome of interest was not present at start of study	<u>Comparability</u> Comparability of cohorts on the basis of the design or analysis	<u>Outcome</u> Assessment of outcome	<u>Outcome</u> Was follow-up long enough for outcomes to occur	<u>Outcome</u> Adequacy of follow-up of cohorts
Ashok et al. 1986	B) Somewhat representative of the average population of Benghazi, Libya (females and stroke patients unable to attend polyclinics or hospitals may be underrepresented)*	A) Drawn from the same community*	A) Secure records*	A) Yes*	A) Study reports age and sex* B) Study reports types of stroke and risk factors	A) Independent assessment*	A) Yes (1 year)*	D) No statement

Damasceno et al. 2010	B) Somewhat representative of Maputo, Mozambique*	A) Drawn from the same community*	A) Secure records (STEPS questionnaire, medical records, CT scan images, necropsy reports, self-reports)*	A) Yes*	A) Study reports age and sex* B) Study reports type of stroke and risk factors	A) Independent assessment*	A) Yes (1 year)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost 22 (4%)*
Danesi et al. 2013	A) Truly representative of the average population Surulere Local Government Area (LGA), Lagos State, Nigeria*	A) Drawn from the same community*	A) Secure records (confirmed by study neurologist)*	A) Yes*	A) Study reports age and sex*	A) Independent assessment*	A) Yes (1 year)*	B) Subjects lost to follow-up unlikely to introduce bias - small number not followed up 29 (15%)*
Zunni et al. 1995	B) Somewhat representative of the average population of Benghazi, Libya (females and stroke patients unable to attend polyclinics or hospitals may be underrepresented)*	A) Drawn from the same community*	A) Secure records*	A) Yes*	A) Study reports age and sex* B) Study reports type of stroke and risk factors	A) Independent assessment*	A) Yes (3 years)*	D) No statement

El-Tallawy et al. 2013	A) Truly representative of the average population of Al Quseir city, Red Sea Governorate, Egypt*	A) Drawn from the same community*	B) Structured interview (door to door survey by three neurologists)*	A) Yes*	A) Study reports age and sex* B) Study reports type of stroke	A) Independent assessment*	A) Yes (1 year)*	A) Complete follow-up - all subjects - accounted for*
Farghaly et al. 2013	A) Truly representative of the average population of Al-Kharga District, New Valley Governorate, Egypt*	A) Drawn from the same community*	B) Structured interview (door to door survey by three neurologists)*	A) Yes*	A) Study reports age and sex* B) Study reports stroke type, urban and rural locations	A) Independent assessment*	A) Yes (3 years)*	D) No statement
Gomes et al. 2013	B) Somewhat representative of the average population of Maputo, Mozambique (stroke patients unable to attend hospital may be underrepresented)*	A) Drawn from the same community*	A) Secure records (CT scan or autopsy)*	A) Yes*	A) Study reports age and sex* B) Study reports demographic details, types of stroke and risk factors	A) Independent assessment*	A) Yes (1 year)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up 22 (5%)*

Matenga et al. 1997	B) Somewhat representative of the average population of Harare, Zimbabwe. (stroke patients unable to attend hospital may be underrepresented)*	A) Drawn from the same community*	A) Secure records (hospital records, postmortem register, monthly hospital discharge summaries)*	A) Yes*	A) Study reports age and sex*	A) Independent assessment*	A) Yes (1 year)*	A) Complete follow-up - all subjects accounted for*
Nakibuuka et al. 2015	C) Selected group from Mulago national referral and teaching hospital, city Kampala, Uganda	A) Drawn from the same community*	A) Secure record*	A) Yes*	A) Study reports age and sex* B) Study reports demographic details, types of stroke and risk factors	A) Independent assessment*	B) No (6 months)	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up 2 (2%)*
Nkoike et al. 2015	C) Selected group from Yaounde Central Hospital and the Yaounde General Hospital Yaounde, Cameroon	A) Drawn from the same community*	A) Secure record and patient/relative interviews*	A) Yes*	A) Study reports age and sex* B) Study reports demographic details, types of stroke and risk factors	A) Independent* assessment	A) Yes (1 year)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up 10 (4%)*
Okung's et al. 2016	C) Selected group from Muhimbili National Hospital,	A) Drawn from the same community*	A) Secure record and verbal autopsy*	A) Yes*	A) Study reports age and sex* B) Study reports demographic	A) Independent assessment*	B) No (6 months)	B) Subjects lost to follow-up unlikely to introduce bias - small

	Dar es Salaam, Tanzania				details, types of stroke and risk factors			number lost to follow-up 38 (17%)*
Okon et al. 2015	B) Somewhat representative of the average population of Akure South Local Government and Akure North Local Government Areas in Ondo State (females and stroke patients unable to attend* hospital may be underrepresented)	A) Drawn from the same community*	A) Secure record (Clinical notes, admission records, discharge lists, notifications from private family physicians and death certificates)*	A) Yes*	A) Study reports age and sex*	A) Independent blinded assessment*	A) Yes (1 year)*	A) Complete follow-up - all subjects accounted for*
Walker et al. 2011	A) Truly representative of the average population of 52 villages in the Hai district of northern Tanzania*	A) Drawn from the same community*	A) Secure record (the Tanzanian Stroke Incidence Project (TSIP) combined with verbal autopsy*	A) Yes*	A) Study reports age and sex*	A) Independent assessment*	A) Yes (3 years)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up*
Garbusinski et al. 2005	C) Selected group from The Royal Victoria Teaching Hospital (RVTH), Banjul, The Gambia	A) Drawn from the same community*	A) Secure record*	A) Yes*	A) Study reports age and sex* B) Study reports demographic details, types of stroke and risk factors	A) Independent assessment*	A) Yes (1 year)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up 5 (3%)*

Walker et al. 2010	A) Truly representative of the average population of the 8 geographical divisions in Dar-es Salaam and each of the 52 villages in the Hai district, Tanzania*	A) Drawn from the same community*	A) Secure record (the Tanzanian Stroke Incidence Project (TSIP) combined with verbal autopsy)*	A) Yes*	A) Study reports age and sex*	D) No description	A) Yes (3 years)*	B) Subjects lost to follow-up unlikely to introduce bias - small number lost to follow-up*
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Supplementary Table 2. A summary of the epidemiological data from stroke studies in Africa

Study and publication year	No. of cases of stroke identified	Imaging available N (%)	Stroke type N (%)	Mean age (years) Mean (SD)	Female N (%)	Crude annual incidence [†] N (95% CI)	Sex-disaggregated incidence rate [†]		Age-adjusted incidence [†] N (95% CI)	Crude prevalence [†] N (95% CI)	Age-adjusted prevalence [†] N (95% CI)	One-month case fatality % (95% CI)
							Males N (95% CI)	Females N (95% CI)				
Ashok et al. 1986	329	264 (80)	IS 266 (81) ICH 63 (19)	NS	145 (44)	63 (57-70*)	69 (59-79)*	58 (48-57)*	NS	NS	NS	17 (13-21)*
Damasceno et al. 2010	651	540 (83)	IS 351 (58) ICH 242 (40) SAH 8 (1)	59.1 (13)	309 (48)	148 (NS)	NS	NS	260 (NS) WHO	NS	NS	50 (44-56)
Danesi et al. 2013	189	71 (38)	NS	58.5 (13)	71 (38)	25 (22–29)	28 (23-33)*	21 (16-26)*	54 (49-59) WHO	NS	NS	16 (10-22)*
El-Tallawy et al. 2013	130	130 (100)	IS 116 (89) ICH 12 (9) SAH 2 (2)	NS	48 (37)	181 (122–241)	212 (121-302)	151 (75-227)	NS	655 (543-761)	NS	NS
Farghaly et al. 2013	156	156 (100)	NS	NS	70 (45)	250 (210-288*)	270 (211-324)*	230 (176-284)*	NS	560 (NS)	NS	NS
Matenga et al. 1997	273	0 (0)	NS	NS	131 (48)	31 (27-34)	30 (NS)	32 (NS)	68 (NS) WHO	NS	NS	NS
Okon et al. 2015	298	NS	NS	NS	114 (38)	61 (54-68)	NS	NS	61 (NS)	NS	NS	4 (2-6)*
Walker et al. 2010	636	223 (35)	NS	NS	216 (34)	Hai: 95 (76-115) Dar-es-Salaam: 108 (88-130)	NS	NS	Hai:109 (89-131) Dar-es-Salaam: 316 (282-352)	NS	NS	NS
Nakibuuka et al. 2015	127	127 (100)	IS 88 (69) ICH 39 (31)	NS	68 (54)	NS	NS	NS	NS	NS	NS	27 (18-36)*

Gomes et al. 2013	651	601 (92)	IS 351 (58) ICH 242 (40) SAH 8 (1)	NS	NS	NS	NS	NS	NS	NS	NS	43 (40-48)*
Nkoke et al. 2015	254	231 (91)	IS 162 (64) ICH 69 (27) UD 23 (9)	62 (13)	119 (47)	NS	NS	NS	NS	NS	NS	23 (17-29)*
Okeng'o et al. 2016	186	NS	IS 125 (67) ICH 61 (33)	62 (15)	94 (51)	NS	NS	NS	NS	NS	NS	33 (25-41)*
Walker et al. 2011	453	63 (14)	NS	NS	NS	NS	NS	NS	NS	NS	NS	27 (19-35)
Garbusinski et al. 2005	148	0 (0)	IS 42 (30) ICH 63 (46) UD 33 (24)	NS	75 (51)	NS	NS	NS	NS	NS	NS	46 (35-81)*

†: Estimates were reported in 100,000/person-years; N: no of events; CI: confidence interval;

NS Not stated;

IS: Ischaemic Stroke; ICH: Intracerebral Haemorrhage; UD: undefined stroke type; SD: Standard Deviation; WHO: World Health Organization;

*Calculated manually based on information in the article

Supplementary Table 3: **Meta-regression results of stroke incidence studies**

	Estimate	SE	Z-value	<i>P</i> -value	Confidence interval	
					lower	upper
intercept	3.1537	0.3467	9.0956	<.0001	2.4741	3.8332
Follow-up (months)	0.0690 [†]	0.0141	4.9061	<.0001	0.0414	0.0966

SE; standard error

[†]: the coefficient (0.0966) is in the log scale