**Supplementary Table 1: Search strategy for Incidence of yellow fever in Africa**

1 Developing Countries OR Africa OR Africa, Northern OR Africa South of the Sahara OR Africa, Central OR Africa, Eastern OR Africa, Southern OR Africa, Western OR Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cameroon OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Congo OR Cote d'Ivoire OR Djibouti OR "Democratic Republic of the Congo" OR Eritrea OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Kenya OR Lesotho OR Liberia OR Libya OR Madagascar OR Malawi OR Mali Mauritania OR Mauritius OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR Sudan OR Swaziland OR Tanzania OR Togo OR Uganda OR Zambia OR Zimbabwe

2 Madagascar OR Malagasy Republic OR Malawi OR Nyasaland OR Mali OR Mauritania OR Mauritius OR Agalega Islands OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Ruanda OR Sao Tome OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR Sudan OR Swaziland OR Tanzania OR Togo OR Togolese Republic OR Uganda OR Zambia OR Zimbabwe OR Rhodesia

 3 Africa OR Angola OR Benin OR Botswana OR Burkina Faso OR Burkina Fasso OR Upper Volta OR Burundi OR Urundi OR Cameroon OR Cameroons OR Cameron OR Camerons OR Cape Verde OR Central African Republic OR Chad OR Comoros OR Comoro Islands OR Comores OR Mayotte OR Congo OR Zaire OR Cote d'Ivoire ] OR Ivory Coast OR Djibouti OR French Somaliland OR Ethiopia OR Gabon OR Gabonese Republic OR Gambia OR Ghana OR Gold Coast OR Guinea OR Guiana OR Kenya OR Lesotho OR Basutoland OR Liberia OR Libya

4 "developing country" OR "developing countries" OR "developing nation" OR "developing nations" OR "developing population" OR "developing populations" OR "developing world" OR "less developed country" OR "less developed countries" OR "less developed nation" OR "less developed nations" OR "less developed population" OR "less developed populations" OR "less developed world" OR "lesser developed country" OR "lesser developed countries" OR "lesser developed nation" OR "lesser developed nations" OR "lesser developed population" OR "lesser developed populations" OR "lesser developed world" OR "under developed country" OR "under developed countries" OR "under developed nation” OR "under developed nations" OR "under developed population" OR "under developed populations" OR "under developed world" OR "underdeveloped country" OR "underdeveloped countries" OR "underdeveloped nation" OR "underdeveloped nations" OR "underdeveloped population" OR "underdeveloped populations" OR "underdeveloped world" OR "middle income country" OR "middle income countries" OR "middle income natiu1on" OR "middle income nations" OR "middle income population" OR "middle income populations" OR "low income country" OR "low income countries" OR "low income nation" OR "low income nations" OR "low income population" OR "low income populations” OR "lower income country “OR "lower income countries" OR "lower income nation" OR "lower income nations “OR "lower income population" OR "lower income populations" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations" OR "underserved world" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations “OR "underserved world" OR "deprived country" OR "deprived countries" OR "deprived nation “OR "deprived nations" OR "deprived population" OR "deprived populations" OR "deprived world" OR "poor country" OR "poor countries" OR "poor nation" OR "poor nations" OR "poor population" OR "poor populations" OR "poor world" OR "poorer country" OR "poorer countries" OR "poorer nation" OR "poorer nations" OR "poorer population" OR "poorer populations" OR "poorer world" OR "developing economy" OR "developing economies" OR "less developed economy" OR "less developed economies" OR "lesser developed economy" OR "lesser developed economies" OR "under developed economy" OR "under developed economies" OR "underdeveloped economy" OR “underdeveloped economies" OR "middle income economy" OR "middle income economies" OR "low income economy" OR "low income economies" OR "lower income economy" OR "lower income economies" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR “lmics" OR "third world" OR "lami country" OR "lami countries" OR "transitional country" OR "transitional countries"

5 1 0R 2 OR 3 OR 4

6 “yellow fever” OR “yellow jack” OR “yellow fever”

7 surveys or survey OR questionnaire OR questionnaires OR "Surveys and Questionnaires

8 prevalence OR "Prevalence"

9 "Global Burden of Disease" OR “disease burden” OR “burden of disease”

10 surveys or survey OR questionnaire OR questionnaires OR "Surveys and Questionnaires

11 prevalence OR "Prevalence"

12 5 AND 6 AND 11

**Supplementary Table 2: Characteristics of included studies of yellow fever in Africa**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study ID** | **Year of assessment (duration)** | **Country** | **Mode of transmission** | **Population** | **Study design/type** | **Outcomes** | **Hospital vs field based** | **Rural / urban/mixed** |
| Thonnon 1998a | 1995(1 month) | Senegal | Intermediate | Cases: 110All ages | Case detection and sero-survey | Death: 46Attack rate: 0,0126Incidence per 100000: 1267,6Case fatality rate (%): 41.8Mortality per 100000: 530,1 | Hospital & field | Rural |
| Thonnon 1998b | 1995(8 days) | Senegal | Sylvatic | Cases: 128All ages | Case finding & surveillance | Death: 36Attack rate: 0,059095106Incidence per 100000: 5909,5Case fatality rate (%):28,1 Mortality per 100000: 1662 | Hospital & field | Rural |
| Lilay et al. 2017 | 2013(2months) | Ethiopia | Sylvatic | Cases: 141All ages | Case finding & survey | Death: 43Attack rate: 0,0004 Incidence per 100000: 40Case fatality rate (%): 30,5Mortality per 100000: 12.2 | Hospital & field | Mixed |
| Sanders et al. 1998 | 19936months) | Kenya | Sylvatic | Cases: 5510 – 70 years | Retrospective and prospective case surveillance | Death: 34Attack rate: 0,000274Incidence per 100000: 27,4Case fatality rate (%): 61,8Mortality per 100000: 16.9 | Hospital | Rural |
| Wamala et al. 2012 | 2010 (1month) | Uganda | Sylvatic | Cases: 1253monts -83yrs | Case series | Death: 38Attack rate: 0,00013 Incidence per 100000: 13Case fatality rate (%): 30.4Mortality per 100000: 4 | Hospital & field | Rural |
| Kwagonza et al. 2018  | 2018(3months) | Uganda | Sylvatic | Cases: 423 – 64 years | Case control | Death: 14Attack rate: 0,000026Incidence per 100000: 2.6Case fatality rate (%): 33.3Mortality per 100000: 0.9 | Hospital & field | Rural |
| Monath et al. 1980  | 1979 (1month) | Gambia | Sylvatic | Cases: 244All ages | Retrospective case finding and surveillance | Death: 65Attack rate: 0,04565Incidence per 100000: 45,7Case fatality rate (%): 26.6Mortality per 100000: 12.2 | Hospital & field | Rural |
| Agadzi et al. 1984 Upper Volt  | N/A | Ghana | Urban | Cases: 136All ages | Surveillance | Death: 34Case fatality rate (%):25  | Hospital | Rural |
| Agadzi et al. 1984 Eastern Region  | N/A | Ghana | Urban | Cases: 207All ages | Surveillance | Death: 44Attack rate: 0,04565Incidence per 100000: 10,350Case fatality rate (%): 21,6Mortality per 100000: 2200 | Hospital | Rural |
| Agadzi et al. 1984 Volta Region  | N/A | Ghana | Urban | Cases: 340All ages | Surveillance | Death: 52Case fatality rate (%): 15.29  | Hospital | Rural |
| Agadzi et al. 1984 Brong Ahafo  | N/A | Ghana | Urban | Cases: 104All ages | Surveillance | Death: 44Case fatality rate (%): 42.3% | Hospital | Rural |
| Otshudiema et al. 2017  | 2016(1month) | DR Congo | Sylvatic | Cases: 4100 – 72 years | Case based surveillance | Death: 42Attack rate: 0,00013Incidence per 100000: 13Case fatality rate (%): 10.2Mortality per 100000: 1.3 | Hospital & field | Urban |
| Nasidi et al. 1989 Oyo  | 1987 (N/A) | Nigeria | Urban | Cases: 805All ages | Survey & case finding | Death: 416Attack rate: 0,000111Incidence per 100000: 11Case fatality rate (%): 52Mortality per 100000: 6 | Hospital & field | Urban |
| Nasidi et al. 1989 Ogun  | 1987(N/A) | Nigeria | Urban | Cases: 72All ages | Survey & case finding | Death: 8Incidence per 100000: 2.6Case fatality rate (%): 11Mortality per 100000: 0.3 | Hospital & field | Urban |
| Nasidi et al. 1989 Ondo  | 1987(N/A) | Nigeria | Urban | Cases: 9All ages | Survey & case finding | Death: 3Incidence per 100000: 0.3Case fatality rate (%): 33Mortality per 100000: 0.1 | Hospital & field | Urban |
| Nasidi et al. 1989 Kwara  | 1987(N/A) | Nigeria | Urban | Cases: 7All ages | Survey & case finding | Death: 6Incidence per 100000: 0.2Case fatality rate (%): 85Mortality per 100000: 0.2 | Hospital & field | Urban |
| Nasidi et al. 1989 Lagos  | 1987(N/A) | Nigeria | Urban | Cases: 69All ages | Survey & case finding | Death: 9Incidence per 100000: 1.4Case fatality rate (%): 13Mortality per 100000: 0.2 | Hospital & field  | Urban |
| Social Services Imo State 1994  | 1994(3months) | Nigeria | N/A | Cases: 83All ages | Survey & case finding | Death: 44Attack rate: 0,000838Incidence per 100000: 83,8Case fatality rate (%): 53Mortality per 100000: 44.4 | Hospital & field | Rural |
| De Cock et al. 1988  | 1986(1month) | Nigeria | Sylvatic | Cases: 126All ages | Epidemiological survey | Death: 59Attack rate: 0,000838Incidence per 100000: 63Case fatality rate (%): 46,8Mortality per 100000:  | Hospital & field | Rural |

**Supplementary Table 3: Risk of bias of assessment of included studies**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study ID**  | **Representation** | **Sampling** | **Random selection** | **Non response bias** | **Data collection** | **Case definition** | **Reliability of tool** | **Method of data collection** | **Prevalence period** | **Numerator and Denominators** | **Summary assessment** |
| Thonnon 1998a  | Low | Low | Low | Low | Low | Low | Low | Low | unclear | low | Low |
| Thonnon 1998b  | Low | low  | Low | Low | Low | Low | Low | Low | unclear | low | Low |
| Lilay et al. 2017  | Low | Low | High | Unclear | Low | Low | Low | Low | unclear | high | Low |
| Sanders et al. 1998  | Low | High | High | High | Low | Low | Low | Low | unclear | low | Low |
| Wamala et al. 2012  | Low | High | High | Low | Low | low  | Low | Low | unclear | low | Low |
| Kwagonza et al. 2018  | Low | Low | Low | High | Low | Low | Low | Low | unclear | low | Low |
| Monath et al. 1980  |  Low | High | High | Unclear | Low | Low | Low | Low | unclear | low | Low |
| Agadzi et al. 1984  | Low | Low | High | High | High | Low | Low | High | unclear | unclear | Moderate |
| Otshudiema et al. 2017  | Unclear | Unclear | High | Low | Low | Low | Unclear | Low | unclear | high | Moderate |
| Nasidi et al. 1989  | Low | High | High | Unclear | Low | Low | Low | Low | unclear | low | Low |
| Social service Imo state 1994 | Low | Low | Low | Low | Low | Low | Low | Low | unclear | low | Low |
| De Cock et al. 1988  | Low | Low | high  | Unclear | High | Low | Low | High | unclear | low | Low |