Data in Brief 20 (2018) 940–947

Contents lists available at ScienceDirect

Data in Brief

journal homepage: www.elsevier.com/locate/dib

Data Article

Contemporaneous data on the prevalence of Human Respiratory Syncytial Virus infection in people with acute respiratory tract infections in Africa (2000–2017)

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ARTICLE INFO

Article history:
Received 5 June 2018
Received in revised form
24 July 2018
Accepted 15 August 2018
Available online 22 August 2018

Keywords:
Human Respiratory Syncytial Virus
Respiratory tract infection
Africa

ABSTRACT

Availability of accurate data on the burden of the Human Respiratory Syncytial Virus (HRSV) can help to implement better strategies to curb this burden in Africa continent among people with acute respiratory tract infections (ARTI). We summarize here available contemporaneous data published from January 1, 2000 to August 31, 2017 on the prevalence of HSRV infection among people with ARTI in the continent.

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https://doi.org/10.1016/j.dib.2018.08.039
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Specifications Table

Subject area	Medicine
More specific subject area	Virology, Epidemiology
Type of data	Data presented in tables, CSV database, R codes
How data was acquired	Systematic search of literature
Data format	Raw data
Experimental factors	Not applicable
Experimental features	Not applicable
Data source location	Not applicable
Data accessibility	All data are included in this article
Related research article	Prevalence of Human Respiratory Syncytial Virus infection in people with acute respiratory tract infections in Africa: a systematic review and meta-analysis [1].

Value of the data

- This work provides data to understanding the prevalence and distribution of HRSV infection in people with ARTI in Africa.
- The data allow deeper examination of epidemiology of HRSV infection in Africa and therefore could help for better prevention and control for HRSV infection in the continent.
- The data could be used as baseline for comparison in future studies and comparison with data from other regions outside Africa.

1. Data

Availability of accurate data on the burden of the Human Respiratory Syncytial Virus (HRSV) can help to implement better strategies to curb this burden in Africa continent among people with acute respiratory tract infections (ARTI). To date, data synthesis on the epidemiology of HRSV infection prevalence in the continent are lacking. We present here a summary of available data on the prevalence based on HRSV infection in people with ARTI in Africa.

2. Experimental design, materials and methods

A comprehensive search of PubMed, Excerpta Medica Database, Africa Journals Online, and Global Index Medicus helped to identify all published data from January 1, 2000 and September 18, 2017 on the prevalence of HRSV infection in Africa. The search was limited in the last 18 years to have contemporaneous and relevant data. Table 1 presents the search strategy in PubMed. This search strategy was adapted to fit with other databases. Studies conducted exclusively on African populations living outside Africa, commentaries, editorials, case reports, case series, letters to editor, duplicates, studies lacking prevalence data (number of cases and sample size) on HRSV, and studies lacking full text even after request from authors were excluded. HRSV infection had to be diagnosed with polymerase chain reaction technique on respiratory samples.

Titles and abstracts of all records were reviewed by two investigators and full texts of eligible records were assessed. Reference lists of eligible papers and relevant review articles were scanned to identify other eligible papers. Disagreements were solved through a discussion or by an arbitration of a third investigator. In total, 66 full texts including 67 studies were retained (one paper included two

Table 1
Search strategy.

Search	Search terms
#1	“HRSV” OR “RSV” OR “human respiratory syncytial virus” OR “respiratory syncytial virus”
#2	“respiratory tract infections” OR “respiratory tract infection” OR “respiratory infection” OR “respiratory infections” OR “lower respiratory tract infections” OR “LRTI” OR “acute lower respiratory infections” OR “ALRI” OR “pneumonia” OR “community acquired pneumonia” OR “bronchiolitis” OR “severe acute respiratory infections” OR “severe acute respiratory illness” OR “experimental lung inflammation” OR “pneumonitis” OR “pulmonary inflammation” OR “bronchopneumonia” OR “pleuropneumonia”
#3	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	Limits 2000/01/01–2017/08/31

Table 2
Risk of bias in individual included studies.

Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Score	Bias
Agoti [2]	1	1	0	1	0	1	0	1	**5**	Moderate risk
Ahmed [3]	1	1	1	1	1	1	1	1	**8**	Low risk
Akinloye [4]	0	1	1	1	1	1	0	1	**6**	Low risk
Annamalay [5]	0	1	1	1	1	0	0	1	**5**	Moderate risk
Berkley [6]	1	1	1	1	1	1	1	1	**8**	Low risk
Bigogo [58]	1	1	1	1	1	1	1	1	**8**	Low risk
Bimouhen [7]	1	1	1	1	1	1	1	1	**8**	Low risk
Breiman [8]	1	1	1	1	1	1	1	1	**8**	Low risk
Brottet [59]	1	1	1	0	1	1	0	0	**5**	Moderate risk
Ciervo [9]	1	1	1	1	1	1	0	1	**7**	Low risk
Cohen [10]	0	1	1	1	1	1	1	1	**7**	Low risk
Cohen [46]	0	1	1	1	1	1	0	1	**7**	Low risk
Dia [47]	1	1	1	1	0	1	1	1	**6**	Low risk
Dia [60] **(2)**	1	1	1	1	1	1	1	1	**8**	Low risk
El Kholy [12]	1	1	1	1	1	1	1	1	**8**	Low risk
ElBasha [11]	0	1	0	0	1	1	1	1	**5**	Moderate risk
Embarek Mohamed [61]	1	1	1	1	1	1	1	0	**7**	Low risk
Emukule [13]	0	1	1	0	1	1	1	1	**6**	Low risk
Enan [14]	0	1	1	1	1	1	1	1	**7**	Low risk
Fall [48]	1	1	1	1	1	1	1	1	**7**	Low risk
Feikin [16]	0	1	1	1	1	1	1	1	**7**	Low risk
Feikin [16] **(2)**	1	1	1	1	1	1	1	0	**7**	Low risk
Feikin [15] **(1)**	0	1	1	1	1	1	1	1	**7**	Low risk
Feikin [62] **(2)**	0	1	1	1	1	1	1	1	**7**	Low risk
Fuller [17]	0	1	1	1	1	1	1	1	**7**	Low risk
Ghani [18]	0	0	1	1	0	1	0	1	**4**	Moderate risk
Hammitt [19]	0	1	1	1	1	1	1	1	**7**	Low risk
Hoffman [20]	0	1	1	1	1	1	1	1	**7**	Low risk
Horton [21]	1	1	1	1	1	1	1	1	**8**	Low risk
Jroundi [22]	1	1	1	1	1	1	1	1	**8**	Low risk
Jroundi [63]	0	1	1	1	1	1	0	1	**6**	Low risk
Kadjo [49]	0	1	1	1	1	1	0	1	**8**	Low risk
Kelly [23]	0	1	1	1	1	1	0	1	**6**	Low risk
Kenmoe [24]	1	1	1	1	1	1	1	1	**8**	Low risk
Kim [25]	0	1	1	1	0	1	1	1	**6**	Low risk
Kwofie [26]	1	1	1	1	1	1	1	1	**8**	Low risk
Lagare [27]	1	1	1	1	1	1	1	1	**8**	Low risk
Lekana-Douki [50]	1	1	1	1	1	1	1	1	**7**	Low risk
Lonngren [28]	0	1	1	1	1	1	1	1	**7**	Low risk
Mazur [29]	1	1	1	1	1	1	1	1	**8**	Low risk
Meligy [30]	0	1	1	1	1	1	0	1	**6**	Low risk
Mohamed [64]	0	1	1	1	1	1	0	1	**6**	Low risk
Moyes [51]	1	1	1	1	1	1	1	1	**4**	Low risk
Moyes [52]	1	1	1	1	1	1	0	1	**8**	Low risk
Nakouné [53]	1	1	1	1	1	1	1	1	**7**	Low risk
Ndegwa [54]	1	0	1	1	1	1	1	1	**8**	Low risk
Niang [31]	0	0	1	1	1	1	0	1	**5**	Moderate risk
Niang [55]	1	1	1	1	1	1	0	1	**8**	Low risk
Njouom [57]	1	1	1	1	0	1	1	1	**6**	Low risk
Nyawanda [65]	1	1	1	1	1	1	1	1	**8**	Low risk
Obodai [32]	1	1	1	1	1	1	0	1	**7**	Low risk
O'Callaghan-Gordo [33]	1	1	1	1	1	1	1	1	**8**	Low risk
Othman [34]	1	1	1	1	1	1	1	1	**8**	Low risk
Otieno [35]	1	1	1	1	1	1	1	1	**8**	Low risk
Ouédraogo Yugbaré [66]	1	1	1	1	1	1	1	1	**8**	Low risk
Ouedraogo [36]	0	1	1	1	1	1	0	1	**6**	Low risk
Peterson [37]	0	1	1	1	1	1	0	1	**6**	Low risk
Pretorius [38]	1	1	1	1	0	1	1	1	**7**	Low risk
Pretorius [39]	1	1	1	1	0	1	1	1	**7**	Low risk
Pretorius [40]	1	1	1	1	0	1	1	1	**7**	Low risk

Table 2 (*continued*)

Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Score	Bias
Razanajatovo [57]	0	1	1	0	0	1	0	1	**0**	Moderate risk
Rowlinson [41]	0	1	1	1	1	1	1	1	**7**	Low risk
Rowlinson [42]	0	1	1	1	1	1	0	1	**6**	Low risk
Shafik [43]	1	1	1	1	1	1	1	1	**8**	Low risk
Simusika [67]	1	1	1	1	1	1	0	1	**7**	Low risk
Venter [44]	1	1	1	1	1	1	0	1	**7**	Low risk
Zar [45]	1	1	1	1	1	1	0	1	**7**	Low risk

studies) [2–67]. Table 2 presents the risk of bias in each included study using an 8-item rating scale [68]. Disagreements were solved through discussion and consensus.

Extracted data from original studies included [2–67]: first author name, year of publication, design, setting, sampling method, respiratory samples collection period, timing of data analysis, number of viruses screened, site of recruitment location (country, city, latitude, longitude, and altitude), clinical presentation, number of patients screened, number of patients infected with HRSV, diagnostic techniques used, and proportion of male participants. We assigned a United Nations Statistics Division (UNSD) African region (Central, Eastern, Northern, Southern, and Western) to each study regarding the country of recruitment [69]. We considered two groups of clinical presentation: severe respiratory tract infection (SRTI) and benign respiratory tract infection (BRTI). Using Google Global Positioning System, we assigned altitude, latitude and longitude according to the cities and country of recruitment [70]. In the case of multi-cities, we considered the median. All these data are presented in Supplementary Table 3. These data are related to a systematic review and meta-analysis published in Influenza and Other Respiratory Viruses [1]. The CSV database used for meta-analysis is online alongside with R codes used.

Risk of bias in included studies using an 8-item rating scale [68]. These items included: (item 1) participation response rate more than 75% agree to participate or analysis to show whether respondents and non-respondents were similar for the sociodemographic characteristics; (Item 2) acute respiratory tract infection clearly defined; (item 3) method of inclusion identical for all subjects; (item 4) description of diagnostic technique; (item 5) same type of sample collected for all patients (nasopharyngeal aspirate, nasal or throat swab); (item 6) standardized method for sample collection (quantity of aspirate or of liquid used for the nasal wash with any virological medium transport for swabs); (item 7) analysis performed according to relevant subgroups (by age classes, by center, or by symptomatology, for example); (item 8) and presentation of data sources (counts are presented, not only percentages).

Each item was assigned a score of 1 (Yes) or 0 (No), and each score was summed across items to generate an overall study quality score. The total score was ranged from 0 to 8 with the overall score categorized as follows: 6–8: “low risk of bias”, 3–5: “moderate risk”, and 0–2: “high risk”.

Acknowledgements

None.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Transparency document. Supplementary material

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2018.08.039.

Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2018.08.039.

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