Epidemiology of *Anaplasma* species amongst cattle in Africa from 1970 to 2022: a systematic review and meta-analysis

Claire Julie Akwongo, Charles Byaruhanga

Supplementary file 1: A checklist for this systematic review and meta-analysis. Based on the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020

Section and Topic		Checklist item	Location where item is reported
TITLE			
Title	1	Identification of the report as a systematic review.	Line 2
ABSTRACT			
Abstract	2	The Abstract and Abstract checklist.	Abstract is included in lines 5-37. No Abstract check list attached
INTRODUCTION			
Rationale	3	A description of the rationale for the review in the context of existing knowledge.	Lines 42-121
Objectives	4	An explicit statement of the objective(s) or question(s) the review addresses.	Line 123-125
METHODS			
Eligibility criteria	5	A description of the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Lines 168-179 and 199-231
Information sources	6	A description of the databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. A statement on dates when each source was last searched or consulted.	Lines 132-140
Search strategy	7	A presentation of the full search strategies for all databases, registers and websites, including any filters and limits used.	Line 143-165
Selection process	8	Description of the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 136-140, 143-165, 168-179, 182-190, 193-197, 234-243
Data collection process	9	The methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Lines 193-231
Data items	10a	A list and definition of all outcomes for which data were sought. Specification of whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Lines 199-231

Section and Topic		Checklist item	Location where item is reported
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Lines 199-231
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 234-243
Effect measures	12	Specification of each outcome the effect measure(s) (e.g. prevalence, risk ratio, mean difference) used in the synthesis or presentation of results.	Lines 199-216
Synthesis methods	13a	Description of the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Lines 168-179
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Lines 246-289
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Lines 246-289
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Lines 246-289
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Lines 246-289
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Lines 265-270
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	**Not done**
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Lines 293-334 and Figures 1, 2, 3
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Line 243
Study characteristics	17	Cite each included study and present its characteristics.	S1 Table; S1 Figure A-I
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Lines 327-343, Table 2
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimates and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Lines 375-419, S1 Table, Table 1, Table 3, Table 4, Table 5, S1 Figure A-I
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Lines 346-356, Table 2
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Lines 375-419, S1 Table, Tables 1, 3, 4,

Section and Topic		Checklist item	Location where item is reported
			5, S1 Figure A-I
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Lines 342-388, S1 Table, Tables 2 and 3, Figure 4
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Not done
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Lines 346-356, Figures 4 and 5
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Not done
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Lines 422-663
	23b	Discuss any limitations of the evidence included in the review.	Lines 674-701
	23c	Discuss any limitations of the review processes used.	Lines 674-701
	23d	Discuss implications of the results for practice, policy, and future research.	Line 653-663
OTHER INFORMATION			
Registration and protocol	24a	Registration of the review protocol	Line 131-132
	24b	Publication of the review protocol	Not published
	24c	Non applicable.	Not Applicable
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Lines 730
Competing interests	26	Declare any competing interests of review authors.	Lines 733
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	Data extracted from included studies can be found in supplementary table S1 Table. Any other data can be availed on request from the corresponding author

Checklist based on the guide by: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.