Supplementary table 1. PRISMA checklist for the systematic review and metaanalysis

Section and Topic	Item #	Checklist item	Page where item is reported			
TITLE	-					
Title	1	Identify the report as a systematic review.	1			
ABSTRACT						
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	3			
INTRODUCTION	- 1					
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	4-5			
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	5			
METHODS						
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	6			
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	5-6			
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	5-6			
Selection process	8	Specify 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.	6			
Data collection process	9	Specify 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.	6-7			
Data items	10a	List and define all outcomes for which data were sought. Specify 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.	7			
	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.	7			
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.	7			
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	7			
Synthesis methods	13a	Describe 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)).	7-8			
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	7-8			
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	7-8			
	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,	7-8			

Section and Topic	Item #	Checklist item	Page where item is reported			
		and software package(s) used.				
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	8			
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Not done			
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	8			
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	8			
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.	8			
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	8			
Study characteristics	17	Cite each included study and present its characteristics.	8-9			
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	9			
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	10-11			
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	9			
	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.	9-10			
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Not done			
	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.	NA			
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	10			
DISCUSSION						
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	11-13			
	23b	Discuss any limitations of the evidence included in the review.	13			
	23c	Discuss any limitations of the review processes used.	13			
	23d	Discuss implications of the results for practice, policy, and future research.	14			
OTHER INFORMATION						
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	5			
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Protocol was not prepared			
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	None			
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	15			

Section and Topic	Item #	Checklist item	Page where item is reported
Competing interests	26	Declare any competing interests of review authors.	14
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.	14

Supplementary Table 2. Risk of bias Assessment of the studies

Risk of bias item and Criteria for answers	Agha et al 2020	Kazibwe et al	Smith et al	Adewole et al. 2015	Andia-Biraro I et al. 2019	Chukwudi et al. 2020
A: EXTERNAL VALIDITY		2020	2022	Ct di. 2010	Ct di. 2013	Ct di. 2020
	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Yes (LOW	Yes (LOW	Yes (LOW
1. Was the study's target	The study's target	RISK): The	RISK): The	RISK): The	RISK): The	RISK): The
population <u>a close</u> representation of the	population was a	study's target	study's target	study's target	study's target	study's target
national population in	close	population was	population was	population	population was	population was
relation to relevant	representation of	a close	a close	was a close	a close	a close
variables, e.g. age, sex,	the national	representation	representation	representation	representation	representation
occupation?	population*	of the national	of the national	of the national	of the national	of the national
		population*	population*	population*	population*	population*
2. Was the sampling frame	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Yes (LOW	Yes (LOW	Yes (LOW
a <u>true or close</u>	The sampling	RISK): The	RISK): The	RISK): The	RISK): The	RISK): The
representation of the	frame was a true	sampling frame	sampling	sampling	sampling frame	sampling
target population?	or close	was a true or	frame was a	frame was a	was a true or	frame was a
	representation of	close	true or close	true or close	close	true or close
	the target	representation	representation	representation	representation	representation
	population	of the target	of the target	of the target	of the target	of the target
0.14/22.22.22.4	V (LOW BIOK)	population	population	population	population	population
3. Was some form of	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Cannot assess	Cannot assess	Yes (LOW
random selection used to	Some form of random selection	RISK): Some	RISK): Some	that because only an	that because only an abstract	RISK): Some
select the sample, OR,		form of random	form of	abstract was	was available	form of
was a census	was used to	selection was	random	available	was available	random
undertaken?	select the sample	used to select	selection was			selection was
		the sample	used to select			used to select
4. Was the likelihood of non-	Yes (LOW RISK):	Yes (LOW	the sample	Cannot assess	Cannot assess	the sample
response bias minimal?	The response rate	RISK): The	Yes (LOW RISK): The	that because	that because	Yes (LOW RISK): The
response bias minimar	for the study was	1	,	only an	only an abstract	,
	adequate	response rate for the study	response rate for the study	abstract was	was available	response rate for the study
	auequate	was adequate	was adequate	available		was adequate
B: INTERNAL VALIDITY		was adequate	was adequate			was adequate
5. Were data collected	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Cannot assess	Cannot assess	Yes (LOW
directly from the subjects	All data were	RISK): All data	RISK): All data	that because	that because	RISK): All data
(as opposed to a proxy)?	collected directly	were collected	were collected	only an	only an abstract	were collected
(do opposed to a prexy).	from the subjects.	directly from the	directly from	abstract was	was available	directly from
		subjects.	the subjects.	available		the subjects.
		- casjooto.	and dubjects.			and dubjects.
6. Was an acceptable case	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Cannot assess	Cannot assess	Yes (LOW
definition used in the	An acceptable	RISK): An	RISK): An	that because	that because	RISK): An
study?	case definition	acceptable case	acceptable	only an	only an abstract	acceptable
	was used.	definition was	case definition	abstract was	was available	case definition
		used.	was used.	available		was used.
7. Was the study instrument	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Cannot assess	Cannot assess	Yes (LOW
that measured the	The study	RISK): The	RISK): The	that because	that because	RISK): The
parameter of interest	instrument has	study	study	only an	only an abstract	study
shown to have <u>reliability</u>	been shown to	instrument has	instrument has	abstract was	was available	instrument has
and validity (if	have reliability	been shown to	been shown to	available		been shown to
necessary)?	and validity	have reliability	have reliability			have reliability
	Vac (LOW DICK):	and validity	and validity	Connet	Connet	and validity
8. Was the <u>same mode of</u>	Yes (LOW RISK):	Yes (LOW	Yes (LOW	Cannot assess	Cannot assess	Yes (LOW
data collection used for all	The same mode	RISK): The same mode of	RISK): The same mode of	that because only an	that because only an abstract	RISK): The
subjects?	of data collection	data collection	data collection	abstract was	was available	same mode of
	was used for all	was used for all	was used for	available	was available	data collection
	subjects.	subjects.	all subjects.			was used for
						all subjects.

9. Was the <u>length of the</u> <u>shortest prevalence</u>	Yes (LOW RISK): The shortest	Yes (LOW RISK): The	Yes (LOW RISK): The	Cannot assess that because	Cannot assess that because	Yes (LOW RISK): The
period for the parameter of interest appropriate?	prevalence period for the parameter of interest was	shortest prevalence period for the	shortest prevalence period for the	only an abstract was available	only an abstract was available	shortest prevalence period for the
	appropriate	parameter of interest was appropriate	parameter of interest was appropriate			parameter of interest was appropriate
10.Were the <u>numerator(s)</u> and denominator(s) for the	Yes (LOW RISK): The paper	Yes (LOW RISK): The	Yes (LOW RISK): The	Cannot assess that because	Cannot assess that because	Yes (LOW RISK): The
parameter of interest appropriate?	presented appropriate numerator(s) AND denominator(s) for the parameter of interest	paper presented appropriate numerator(s) AND denominator(s) for the parameter of interest	paper presented appropriate numerator(s) AND denominator(s) for the parameter of interest	only an abstract was available	only an abstract was available	paper presented appropriate numerator(s) AND denominator(s) for the parameter of interest
C: SUMMARY ITEM ON THE OVERALL RISK OF STUDY BIAS -Low risk of bias -Moderate risk of bias -High risk of bias	Low risk of bias	Low risk of bias	Low risk of bias	Cannot effectively assess the risk of bias	Cannot effectively assess the risk of bias	Low risk of bias

^{*} The study participants in all studies were generally stable patients with diabetes attending routine diabetes outpatient clinics, similar to what would be described in most national diabetes outpatient clinics