

Supplementary materials for article entitled:

Examining criticism of WHO's COVID-19 response: a scoping review

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Supplementary Table 1. Searching strategies

Search and database	Indexed and keyword terms
(1) PubMed (217 studies)	
1.	"leader"[Title/Abstract] OR "government"[Title/Abstract]
2.	"blam*"[Title/Abstract] OR "critic*"[Title/Abstract] OR "criticism"[Title/Abstract] OR "accus*"[Title/Abstract] OR "condemn*"[Title/Abstract] OR "denounc*"[Title/Abstract]
3.	"World Health Organization"[Title/Abstract] OR "WHO"[Title/Abstract] OR "global health governance"[Title/Abstract] OR "international health organization"[Title/Abstract]
4.	"COVID-19"[Title/Abstract] OR "pandemic response"[Title/Abstract] OR "global health crisis"[Title/Abstract] OR "health emergency"[Title/Abstract]
5.	1 AND 2 AND 3 AND 4
(2) Psycho Info (8 studies)	
1.	abstract("leader" OR "government")
2.	abstract("blam*" OR "critic*" OR "criticism" OR "accus*" OR "condemn*" OR "denounc*")
3.	abstract("World Health Organization" OR "WHO" OR "global health governance" OR "international health organization")
4.	abstract("COVID-19" OR "pandemic response" OR "global health crisis" OR "health emergency")
5.	1 AND 2 AND 3 AND 4
(3) Scopus (1484 studies)	
1.	TITLE-ABS-KEY("leader" OR "government")
2.	TITLE-ABS-KEY("blam*" OR "critic*" OR "criticism" OR "accus*" OR "condemn*" OR "denounc*")
3.	TITLE-ABS-KEY("World Health Organization" OR "WHO" OR "global health governance" OR "international health organization")
4.	TITLE-ABS-KEY("COVID-19" OR "pandemic response" OR "global health crisis" OR "health emergency")
5.	1 AND 2 AND 3 AND 4
(4) Web of Science (297 studies)	
1.	("leader*" OR "govern*") (Abstract)
2.	("blam*" OR "critici?e" OR "criticism" OR "accus*" OR "condemn" OR "denounc*") (Abstract)
3.	("World Health Organization" OR WHO OR "global health governance" OR "international health organization") (Abstract)
4.	("COVID-19" OR "pandemic response" OR "global health crisis" OR "health emergency") (Abstract)
5.	#1 AND #2 AND #3 AND #4
(5) Medline (52 studies)	
1.	Health Policy/ or Leadership/ or Government Employees/
2.	(leader* or government*).ti,ab,kf.
3.	1 or 2
4.	(blam* or critici#e or criticism or accus* or condemn or denounce*).ti,ab,kf.
5.	World Health Organization/
6.	("World Health Organization" or WHO or "global health governance" or "international health organization").ti,ab,kf.
7.	5 or 6
8.	COVID-19/
9.	("COVID-19" or "pandemic response" or "global health crisis" or "health emergency").ti,ab,kf.
10.	8 or 9
11.	3 and 4 and 7 and 10

Supplementary Table 2. (PRISMA-ScR) Checklist

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Title Page
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Page 1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	Page 1-3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	Page 3
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	Not reported
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	Page 4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	Page 4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Supplementary Table 1
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Pag 4
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes	Page 4

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Page 4
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Page 5, Supplementary Tables
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Page 4-5
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Page 6
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Page 8-9
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Page 7, Supplementary Tables
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Page 8
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Page 10-12
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	Page 16-19
Limitations	20	Discuss the limitations of the scoping review process.	Page 19
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	Page 20
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Page 21

JBİ = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. [doi: 10.7326/M18-0850](https://doi.org/10.7326/M18-0850).

Supplementary Table 3. Quality assessment of qualitative studies (JBI checklist)

Author(s)/ Year	Responses*										Yes (%)	Risk of bias	Overall appraisal
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10			
Yin, J.D.C., 2021	Y	Y	Y	Y	Y	N	N	N/A	N/A	Y	60	Low	Included
King & Lugg, 2023	N	Y	Y	Y	Y	N	N	N/A	Y	Y	60	Low	Included
Greer et al., 2022	Y	Y	Y	Y	Y	N	N	N/A	U	Y	60	Low	Included
James et al., 2023	Y	Y	Y	Y	Y	N	N	N/A	Y	Y	70	Low	Included
Denis et al., 2024	Y	Y	Y	Y	Y	N	N	N/A	N/A	Y	60	Low	Included
Yang, H., 2022	Y	Y	Y	Y	Y	N	N	N/A	Y	Y	70	Low	Included
Landini & Sicurelli, 2024	Y	Y	Y	Y	Y	N	N	N/A	Y	Y	70	Low	Included
Yang, H., 2021	Y	Y	Y	Y	Y	N	N	N/A	N/A	Y	60	Low	Included

*Yes (Y); No (N); Unclear (U); Not applicable (N/A)

Q1. Is there congruity between the stated philosophical perspective and the research methodology?

Q2. Is there congruity between the research methodology and the research question or objectives?

Q3. Is there congruity between the research methodology and the methods used to collect data?

Q4. Is there congruity between the research methodology and the representation and analysis of data?

Q5. Is there congruity between the research methodology and the interpretation of results?

Q6. Is there a statement locating the researcher culturally or theoretically?

Q7. Is the influence of the researcher on the research, and vice versa, addressed?

Q8. Are participants, and their voices, adequately represented?

Q9. Is the research ethical according to current criteria or, for recent studies, is there evidence of ethical approval by an appropriate body?

Q10. Do the conclusions drawn in the research report flow from the analysis or interpretation of the data?

Supplementary Table 4. Quality assessment of quantitative cross-sectional studies (JBI checklist)

Author(s)/Year	Responses*								Risk of bias	Overall appraisal
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8		
Bayram & Shields, 2021	Y	Y	Y	Y	Y	Y	Y	Y	Low	Included
Guo et al., 2022	Y	Y	Y	Y	Y	Y	Y	Y	Low	Included
*Yes (Y)	No (N)	Unclear (U)	Not applicable (N/A)							

1. Were the criteria for inclusion in the sample clearly defined?
2. Were the study subjects and the setting described in detail?
3. Was the exposure measured in a valid and reliable way?
4. Were objective, standard criteria used for measurement of the condition?
5. Were confounding factors identified?
6. Were strategies to deal with confounding factors stated?
7. Were the outcomes measured in a valid and reliable way?
8. Was appropriate statistical analysis used?

Supplementary Table 5. Quality assessment results of mixed-methods studies (MMAT appraisal checklist- Version 2018)

Author(s)/Year	Responses*							Comments	Overall appraisal
	SQ 1	SQ2	Q1	Q2	Q3	Q4	Q5		
Kheir-Mataria et al., 2024	Y	Y	Y	Y	Y	C	Y	The study presents a Delphi survey and a Social Network Analyses but does not explicitly discuss any mismatches or inconsistencies between them.	Included

*Yes (Y), No (N), Can't (C)

Screening Question 1. Are there clear research questions?

Screening Question 2. Do the collected data allow to address the research question?

Q1. Is there an adequate rationale for using mixed methods design to address the research question?

Q2. Are the different components of the study effectively integrated to answer the research question?

Q3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?

Q4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?

Q5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?