

# Supplementary Materials: Genotoxicity of Mercury and Its Derivatives Demonstrated In Vitro and In Vivo in Human Populations Studies. Systematic Review

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Table S1. PRISMA 2020 Main Checklist.

Topic	No.	Item	Location where item is reported
<b>TITLE</b>			
<b>Title</b>	1	Identify the report as a systematic review.	title, line 3–4
<b>ABSTRACT</b>			
<b>Abstract</b>	2	See the PRISMA 2020 for Abstracts checklist	
<b>INTRODUCTION</b>			
<b>Rationale</b>	3	Describe the rationale for the review in the context of existing knowledge.	line 114–123
<b>Objectives</b>	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	line 118–123
<b>METHODS</b>			
<b>Eligibility criteria</b>	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	line 124–157
<b>Information sources</b>	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.	line 124–126
<b>Search strategy</b>	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	line 129–148
<b>Selection process</b>	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.	line 149–157
<b>Data collection process</b>	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	line 149–157

		data from study investigators, and if applicable, details of automation tools used in the process.	
<b>Data items</b>	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.	line 149-157
	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.	line 149-157
<b>Study risk of bias assessment</b>	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.	line 149-157
<b>Effect measures</b>	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Tables 1,2 and 3
<b>Synthesis methods</b>	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)).	line 124-128, line 149-157
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	line 149-157
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Table 1,2 and 3
	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.	Table 1,2 and 3
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Table 1,2 and 3
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Table 1,2 and 3
<b>Reporting bias assessment</b>	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Table 1,2 and 3

<b>Certainty assessment</b>	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Table 1,2 and 3
<b>RESULTS</b>			
<b>Study selection</b>	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.	Table 1,2 and 3, supplementary material and line 124- 157
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	already explained in methods line 149-157
<b>Study characteristics</b>	17	Cite each included study and present its characteristics.	Table 1,2 and 3, lines 158-441
<b>Risk of bias in studies</b>	18	Present assessments of risk of bias for each included study.	Table 1,2 and 3, lines 158-441
<b>Results of individual studies</b>	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.	Table 1,2 and 3, lines 158-441
<b>Results of syntheses</b>	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Table 1,2 and 3, lines 158-441
	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.	Table 1,2 and 3, lines 158-441
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Table 1,2 and 3, lines 158-441
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Table 1,2 and 3, lines 158-441
<b>Reporting biases</b>	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Table 1,2 and 3, lines 158-441
<b>Certainty of evidence</b>	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Table 1,2 and 3, lines 158-441
<b>DISCUSSION</b>			
<b>Discussion</b>	23a	Provide a general interpretation of the results in the context of other evidence.	Table 1,2 and 3, lines 158-441
	23b	Discuss any limitations of the evidence included in the review.	Table 1,2 and 3, lines 158-441

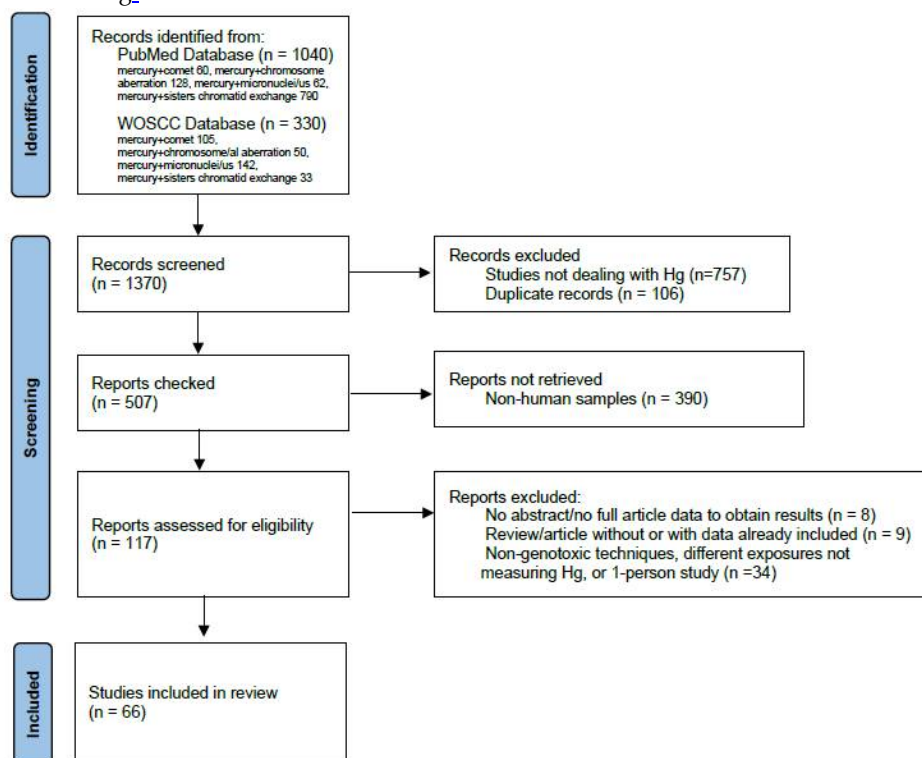
	23c	Discuss any limitations of the review processes used.	Table 1,2 and 3, lines 158-441
	23d	Discuss implications of the results for practice, policy, and future research.	conclusions line 442-515
<b>OTHER INFORMATION</b>			
<b>Registration and protocol</b>	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	not applicable
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	not applicable
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	not applicable
<b>Support</b>	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	line 521-523 funding
<b>Competing interests</b>	26	Declare any competing interests of review authors.	line 526
<b>Availability of data, code and other materials</b>	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.	results and references

Table S2. PRIMSA Abstract Checklist.

Topic	No.	Item	Reported?
<b>TITLE</b>			
<b>Title</b>	1	Identify the report as a systematic review.	Yes
<b>BACKGROUND</b>			
<b>Objectives</b>	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses.	Yes
<b>METHODS</b>			
<b>Eligibility criteria</b>	3	Specify the inclusion and exclusion criteria for the review.	Yes
<b>Information sources</b>	4	Specify the information sources (e.g. databases, registers) used to identify studies and the date when each was last searched.	Yes
<b>Risk of bias</b>	5	Specify the methods used to assess risk of bias in the included studies.	No
<b>Synthesis of results</b>	6	Specify the methods used to present and synthesize results.	No
<b>RESULTS</b>			

<b>Included studies</b>	7	Give the total number of included studies and participants and summarise relevant characteristics of studies.	Yes
<b>Synthesis of results</b>	8	Present results for main outcomes, preferably indicating the number of included studies and participants for each. If meta-analysis was done, report the summary estimate and confidence/credible interval. If comparing groups, indicate the direction of the effect (i.e. which group is favoured).	Yes
<b>DISCUSSION</b>			
<b>Limitations of evidence</b>	9	Provide a brief summary of the limitations of the evidence included in the review (e.g. study risk of bias, inconsistency and imprecision).	No
<b>Interpretation</b>	10	Provide a general interpretation of the results and important implications.	Yes
<b>OTHER</b>			
<b>Funding</b>	11	Specify the primary source of funding for the review.	No
<b>Registration</b>	12	Provide the register name and registration number.	No

From: 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. *MetaArXiv*. 2020, September 14. DOI: 10.31222/osf.io/v7gm2. For more information, visit: [www.prisma-statement.org](http://www.prisma-statement.org).



**Figure S1.** PRISMA 2020 flow diagram for Hg systematic reviews including searches of databases and registers only.