PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1, Line 2
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 1, Line 9-26.
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 2&3, Line 46-91
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 4, Line 92-99
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Page 5&6, Line 141-188
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.	Page 4&5, Line 122-127
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page 5, Line 127-140
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.	Page 5, Line 141-180
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.	Page 8, Line 192-215
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.	Page 8, Line197-205
	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.	Page 8, Line 205-212
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.	Page 8, Line 212-215
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.	Page 8, Line197-205
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)).	Page 5&6, Line 141-188
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Page 8, Line 201-214
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Page 8, Line 194-196
	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.	Page 11, Line 299-310 (Results section)
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Page 11, Line 305-311 (Results section)

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	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Page 8, Line 210-215; Page 11, Line 300-303 & Line 310-311
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Page 8, Line 210-215
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Page 8, Line 210-214
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.	Page 7, Line 183-188 (Methods section) Page 11, Line 312-328 (Results section)
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Page 7, Line 183-188 (Methods section) Page 8, Line 210-212 (Methods section)
Study characteristics	17	Cite each included study and present its characteristics.	Page 11, Line 299 (Table A1) Note: Also, full description of each study's characteristics will be uploaded on Elsevier's Digital Commons Data once the paper is accepted for publication.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Page 8, Line 214-215 (Methods section)
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.	Page 12-28, Line 329-657 Subgroup analysis was conducted for all 73 studies. All units of measurements were standardised.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Page 12-28, Line 329-657 After each Subgroup analysis, a summary is provided to discuss the findings of this study in the lens of other studies.
	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.	Line Page 12-28, Line 329-657 This study is a systematic review only (not meta-analysis)
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Line Page 12-28, Line 329-657 This study is a systematic review only (not meta-analysis)
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Page 29-30, Line 329-669 Note: Forest plot visualised the precision of microplastic concentration data points.
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Page 8, Line 210-215 (Methods section)
Certainty of	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Page 12-28, Line 329-657

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evidence			After each Subgroup analysis, a summary is provided to discuss the findings of this study in the lens of other studies.
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Page 26, Line 607-628 (Results section) Page 31, Line 672-696 (Discussion section)
	23b	Discuss any limitations of the evidence included in the review.	Page 31&32, Line 697-710
	23c	Discuss any limitations of the review processes used.	Page 32, Line 711-719
	23d	Discuss implications of the results for practice, policy, and future research.	Page 32, Line 720-733
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.	Review was not registered
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Protocol was not prepared. This study followed the PRISMA framework.
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	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.	No financial nor non-financial support was accorded for this review
Competing interests	26	Declare any competing interests of review authors.	No competing interests among the authors
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 used for all analyses and analytic code 'will be publicly available in Elsevier (digital commons data) once the paper is accepted for publication.

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