ACCSCIENCE PUBLISHING

Gene & Protein in Disease

REVIEW ARTICLE

MTHFR C677T polymorphism and breast cancer risk in the United States population: An updated meta-analysis

Supplementary Files

Table S1. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist for abstract section

Section and topic	Item #	Checklist item	Reported (yes/no)
Title			
Title	1	Identify the report as a systematic review	Yes
Background			
Objectives	2	Provide an explicit statement of the main objective(s) or question(s) the review addresses	Yes
Methods			
Eligibility criteria	3	Specify the inclusion and exclusion criteria for the review	No
Information sources	4	Specify the information sources (e.g., databases, registers) used to identify studies and the date when each was last searched	Yes
Risk of bias	5	Specify the methods used to assess risk of bias in the included studies	Yes
Synthesis of results	6	Specify the methods used to present and synthesise results	Yes
Results			
Included studies	7	Give the total number of included studies and participants and summarize relevant characteristics of studies	Yes
Synthesis of results	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 favored)	Yes
Discussion			
Limitations of evidence	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
Interpretation	10	Provide a general interpretation of the results and important implications	Yes
Other			
Funding	11	Specify the primary source of funding for the review	No
Registration	12	Provide the register name and registration number	Yes

Table S2. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist

Section and topic	Item #	Checklist item	Reported (yes/no)
Title			
Title	1	Identify the report as a systematic review	Yes
Abstract			
Abstract	2	See the PRISMA 2020 for Abstracts checklist	Yes
Introduction			
Rationale	3	Describe the rationale for the review in the context of existing knowledge	Yes
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses	
Methods			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses	Yes
Information sources	6	Specify all databases, registers, websites, organizations, reference lists, and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted	Yes
Search strategy	7	Present the full search strategies for all databases, registers, and websites, including any filters and limits used	Yes
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	Yes
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	Yes
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	Yes
	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	Yes
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	Yes
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	Yes

(*cont'd...*)

Table S2. (*Continued*)

Section and topic	Item #	Checklist item	Reported (yes/no)
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])	Yes
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions	Yes
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses	Yes
	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	Yes
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g., subgroup analysis, meta-regression)	Yes
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results	Yes
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases)	No
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome	No
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	Yes
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded	Yes
Study characteristics	17	Cite each included study and present its characteristics	Yes
Risk of bias in studies	18	Present assessments of risk of bias for each included study	Yes
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	Yes
Results of syntheses	20a	For each synthesis, briefly summarize the characteristics and risk of bias among contributing studies	Yes
	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	Yes
	20c	Present results of all investigations of possible causes of heterogeneity among study results	Yes
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results	Yes
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed	Yes
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed	Yes

(*cont'd...*)

Table S2. (*Continued*)

Section and topic	Item #	Checklist item	Reported (yes/no)
Discussion			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence	Yes
	23b	Discuss any limitations of the evidence included in the review	Yes
	23c	Discuss any limitations of the review processes used	Yes
	23d	Discuss implications of the results for practice, policy, and future research	Yes
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	NA
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared	NA
	24c	Describe and explain any amendments to information provided at registration or in the protocol	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review	NA
Competing interests	26	Declare any competing interests of review authors	NA
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	NA

Note: Adapted 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. BMJ 2021;372:n71. doi: 10.1136/bmj.n7.

Abbreviation: Not available.