

Supplementary Table 1. PRISMA checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	
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.	
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.	
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	
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.	
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.	
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.	
	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.	
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.	
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.	
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)).	
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	
	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.	
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	

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Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	
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.	
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	
Study characteristics	17	Cite each included study and present its characteristics.	
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	
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.	
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing 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.	
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	
	23b	Discuss any limitations of the evidence included in the review.	
	23c	Discuss any limitations of the review processes used.	
	23d	Discuss implications of the results for practice, policy, and future research.	
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.	
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	
Competing interests	26	Declare any competing interests of review authors.	

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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.	

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.n71. For more information, visit: <http://www.prisma-statement.org/>

Details of the methods

Detailed search strategy:

Search date: 1992.01.01 – 2024.12.21

Language restrictions: none

Filters: none

Search key:

- PubMed: acute AND (chronic OR recurrent) AND pancreatitis
- Cochrane Library: acute AND (chronic OR recurrent) AND pancreatitis
- Embase: acute AND (chronic OR recurrent) AND pancreatitis

Detailed search key:

- PubMed: (("acute"[All Fields] OR "acutely"[All Fields] OR "acutes"[All Fields]) AND ("recurrence"[All Fields] OR "recurrence"[MeSH Terms] OR "recurrence"[All Fields] OR "recurrences"[All Fields] OR "recurrences"[All Fields] OR "recurrency"[All Fields] OR "recurrent"[All Fields] OR "recurrently"[All Fields] OR "recurrents"[All Fields] OR ("chronic"[All Fields] OR "chronical"[All Fields] OR "chronically"[All Fields] OR "chronicities"[All Fields] OR "chronicity"[All Fields] OR "chronicization"[All Fields] OR "chronics"[All Fields]))) AND ("pancreas"[MeSH Terms] OR "pancreas"[All Fields] OR "pancreatic"[All Fields] OR "pancreatitides"[All Fields] OR "pancreatitis"[MeSH Terms] OR "pancreatitis"[All Fields])
- Cochrane Library: acute AND (chronic OR recurrent) AND pancreatitis
- Embase: acute AND (recurrent OR chronic) AND ('pancreatitis'/exp OR pancreatitis)

Risk of Bias:

With the JBI tool the studies were evaluated based on the following nine criteria:

1. Was the sample frame appropriate to address the target population?
2. Were study participants sampled in an appropriate way?
3. Was the sample size adequate?
4. Were the study subjects and the setting described in detail?
5. Was the data analysis conducted with sufficient coverage of the identified sample?
6. Were valid methods used for the identification of the condition?
7. Was the condition measured in a standard, reliable way for all participants?
8. Was there appropriate statistical analysis?

9. Was the response rate adequate, and if not, was the low response rate managed appropriately?

Reviewers classified each domain as yes, no, unclear, or not applicable.

With the QUIPS tool the studies were evaluated based on 6 domain:

1. Study participation
2. Study attrition
3. Prognostic factor measurement
4. Outcome measurement
5. Study confounding
6. Statistical analysis and reporting

Each domain was classified as having low, moderate, or high risk of bias according to predefined criteria and signaling questions.

Data synthesis:

In case of pooled MD calculation if the SD was not given, but instead the SEM was available, the SD was calculated as SEM multiplied by the square root of the sample size. If instead of the mean, SD or SEM the quartiles were given, for estimating the mean and standard deviation from the quartiles, Lou and Shi methods were used ([1] and[2], as implemented in the used *meta* R package).

Random intercept logistic regression model method- more specific, a random intercept logistic regression model - was used to pool proportions (as recommended by[3] and[4]). Pooled OR was calculated by the Mantel-Haenszel method[5, 6]. Exact Mantel-Haenszel method (without continuity correction) was used to handle zero cell counts (as recommended by[7]). Inverse variance weighting method was used to calculate the pooled MD. We used a Hartung-Knapp adjustment[8, 9] for CIs. To estimate the heterogeneity variance measure (τ^2), for the prevalence measure maximum likelihood method, for OR calculation the Paule-Mandel method ([10], recommended by[11]) and for MD the restricted maximum-likelihood estimator was used with the Q profile method for confidence interval[11].

On the forest plots, the Clopper-Pearson method[12] used for CI of proportion calculation of individual studies. In case of 0 cell counts, individual study proportion and OR with 95% CI was calculated by adding 0.5 as continuity correction (it was used only for visualization on forest plot, not for the analyses). The t-distribution based method used for CI of MD calculation of individual studies.

In case of subgroup analyses we used a fixed-effects “plural” model (aka. mixed-effects model). We assumed different τ^2 values in the subgroups. To assess the difference between the subgroups, a Cochran’s Q test (an omnibus test) was used between subgroups[13].

Outlier and influence analyses were performed following recommendations by Harrer et al. and Viechtbauer and Cheung (2010) [14]. Heterogeneity variance (τ^2) was estimated using the maximum likelihood method [15]. Publication bias was assessed through funnel plots and Peter's test at a significance level of 10%, due to the small number of studies [16].

Forest plots for leave-one-out analyses included the following measures: Influential studies marked with an asterisk (*); Effect size and its 95% confidence interval without the given study; Higgins & Thompson's I^2 heterogeneity value without the given study [3]; Studentized residual (standardized residual of the omitted study); DFFITS (difference in fitted values standardized by their estimated standard deviation); Cook's distance (reflecting residual and leverage); Covariance ratio (change in determinant of the covariance matrix of the effect size); and Hat value (from the hat matrix excluding the given study).

Due to limited study numbers in several outcomes, assessment of publication bias and outlier analyses were not always feasible [16].

Details of the results