



کلیات مرور سیستماتیک و متاآنالیز-3

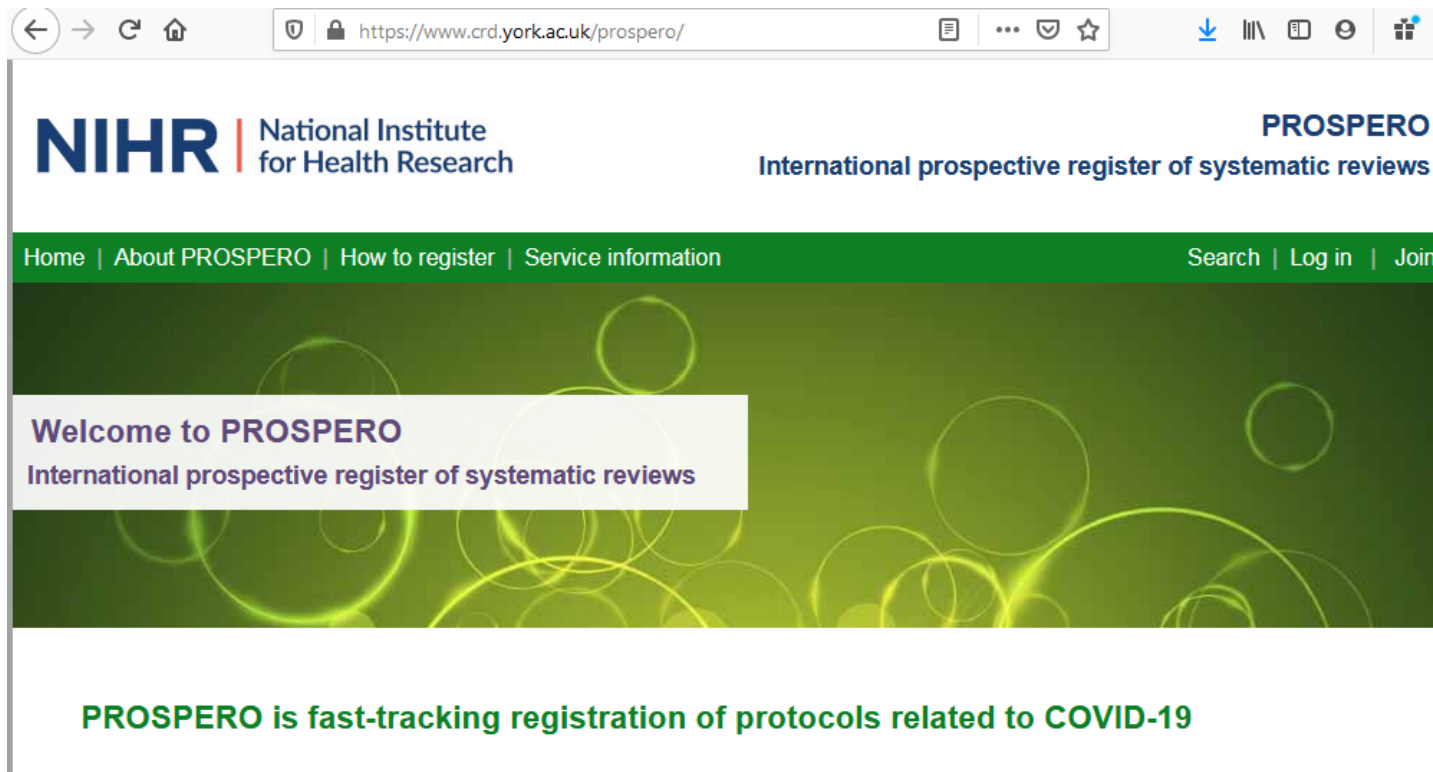
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ثبت پروتکل مرور سیستماتیک-1

- <https://www.crd.york.ac.uk/prospero/>
- PROSPERO (International prospective register of systematic reviews)



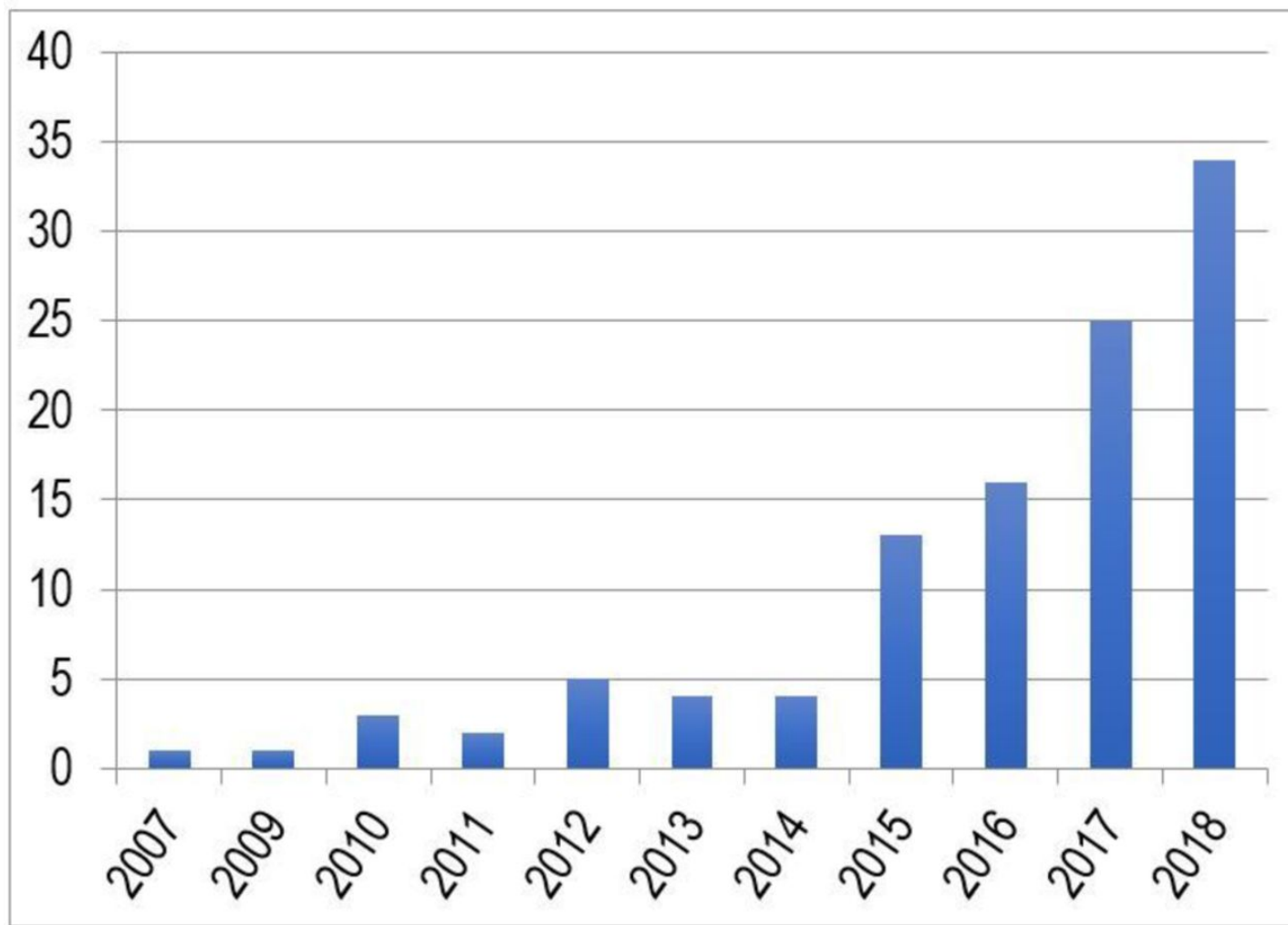
ثبت پروتکل مرور سیستماتیک-2

○ ثبت پروتکل در سایت PROSPERO

- مشخص شدن مرور سیستماتیک های قبلی (اعم از چاپ شده یا نشده)
- با توجه به داوری شدن پروتکل، نظرات داوران کمک به بهبود کیفیت مطالعه و شفاف شدن روش مطالعه و سایر اجزا مطالعه
- ممانعت از بروز هرگونه سوگرایی و بروز تفاوت بین قسمت های مختلف روش مطالعه یا پیش آیندهای متصور شده برای مطالعه
- مانع از دوباره کاری
- صرفه جویی در منابع مالی
- صرفه جویی در وقت و زمان پژوهشگر

Umbrella Review

Web of Knowledge records containing 'umbrella review' in their title up to April 2018.



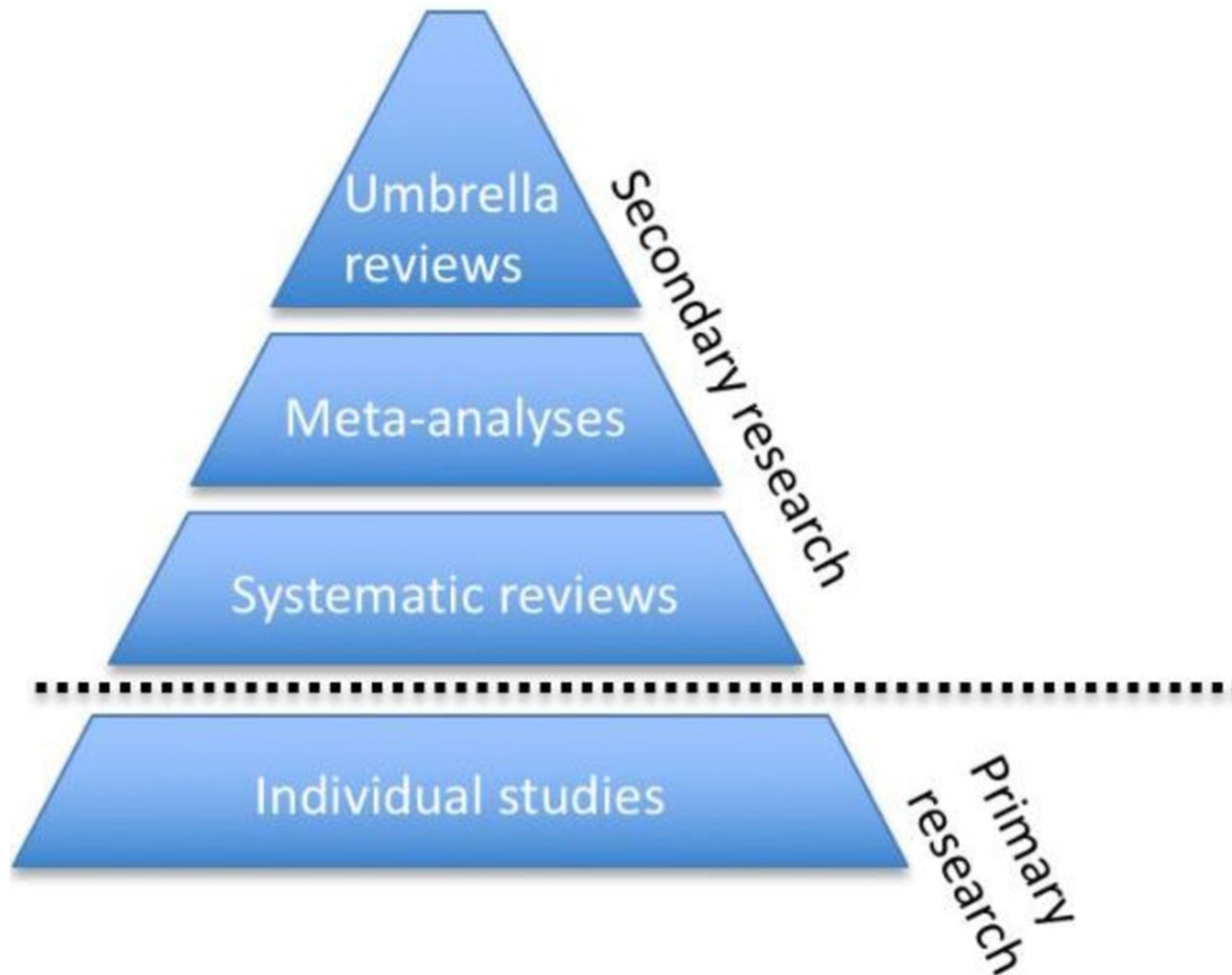
Paolo Fusar-Poli, and Joaquim Radua Evid Based Mental Health 2018;21:95-100

Umbrella Review-1

A typology of reviews: an analysis of 14 review types and associated methodologies

- Specifically refers to review compiling evidence from multiple reviews into one accessible and usable document.
- Focuses on broad condition or problem for which there are competing interventions and highlights reviews that address these interventions and their results.
- In medical research, an umbrella review is a review of systematic reviews or meta-analyses.
- They may also be called overviews of reviews, reviews of reviews, summaries of systematic reviews, or syntheses of reviews.

Hierarchy of evidence synthesis methods.



Paolo Fusar-Poli, and Joaquim Radua Evid Based Mental Health 2018;21:95-100

Ten simple rules for conducting umbrella reviews-1

- Ensure that the umbrella review is really needed
- Prepare a study protocol ahead of initiating the work
- Clearly define the variables of interest (factors and outcomes)
- Estimate a common effect size
- Report the heterogeneity and potential biases (funnel plot, Egger and similar tests)

Ten simple rules for conducting umbrella reviews-2

- Perform a stratification of the evidence:
 - convincing (class I): cases>1000, $p<10^{-6}$, $I^2<50\%$, 95% prediction interval excluding the null, no small-study effects and no excess significance bias
 - highly suggestive (class II): cases>1000, $p<10^{-6}$, largest study, statistically significant effect, class I not met
 - suggestive (class III): cases>1000, $p<10^{-3}$, class I–II not met
 - weak (class IV): $p<0.05$, class I–III not met; non-significant when $p>0.05$

Ten simple rules for conducting umbrella reviews-3

- Conduct sensitivity analyses
- Report transparent results (to summarize clearly the evidence)
- Use appropriate software
- Acknowledge the limitations

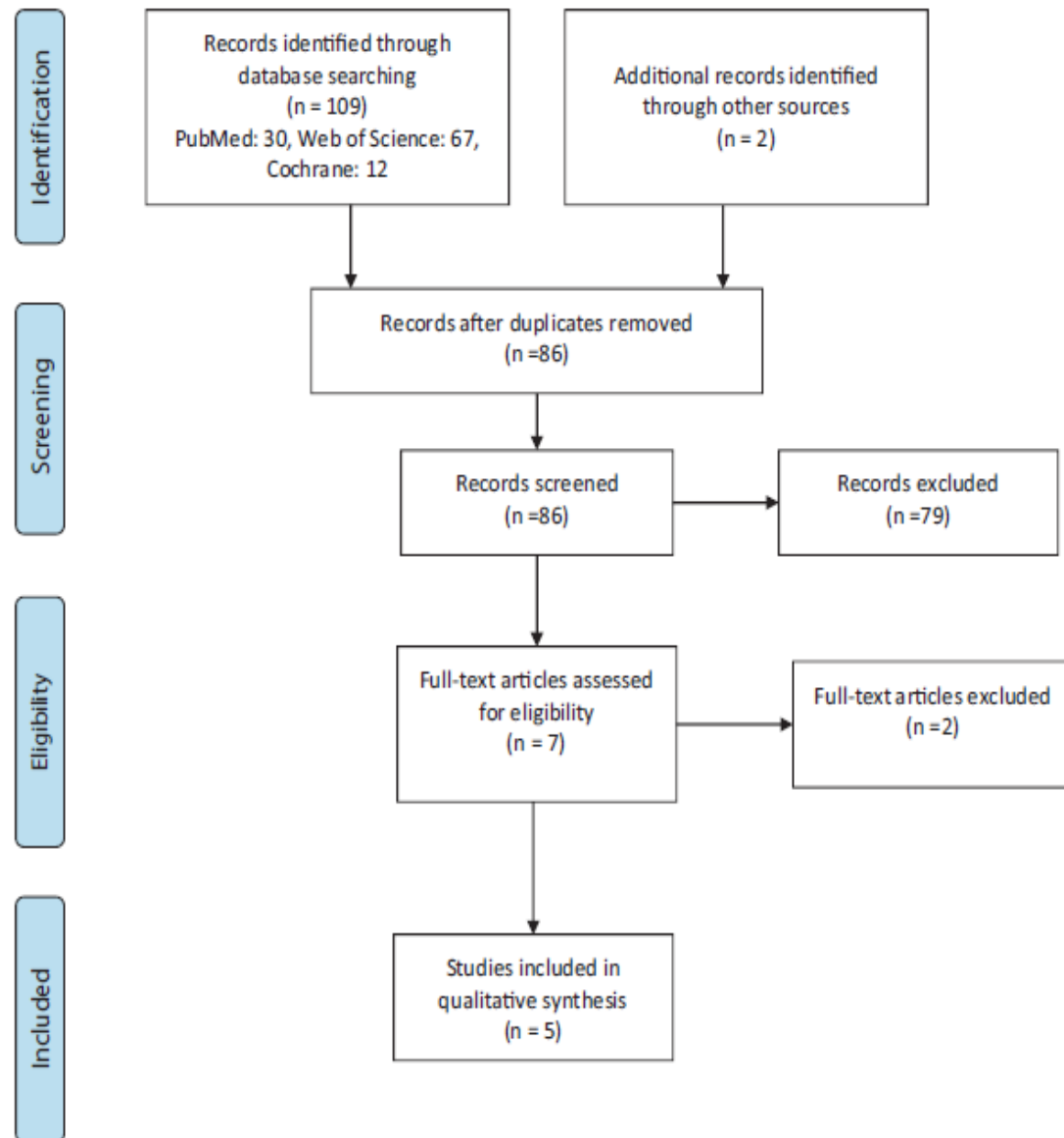
Fusar-Poli P, Radua J. Ten simple rules for conducting umbrella reviews. Evid Based Ment Health. 2018 Aug;21(3):95-100. doi: 10.1136/ebmental-2018-300014. [..\..\New-SR\Umbrella\95.full.pdf](#), [..\..\New-SR\Umbrella\wps.20490.pdf](#)

Ex: Umbrella Reviews

- Coffee consumption and health: umbrella review of meta-analyses of multiple health outcomes.
- Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies.
- Treatment of Pediatric Obesity: An Umbrella Systematic Review.
- An umbrella review of garlic intake and risk of cardiovascular disease.
- Fruit and vegetable consumption and health outcomes: an umbrella review of observational studies.

- **Effect of probiotic foods and supplements on blood pressure: a systematic review of meta-analyses studies of controlled trials**
- **Methods**
 - Study design and searches (PRISMA, PubMed, Web of Science, and Cochrane Library databases, search terms, two independent authors, reference lists)
 - Eligibility criteria and study selection
 - Data extraction (by two authors, authors' name, year of study publication, number and type of included studies in meta-analysis, total sample size, participants' characteristics, type and dose of probiotic product, and duration of intervention)
 - Quality assessment
 - Assessment of Multiple Systematic Reviews' (AMSTAR)

Fig. 1 Flow diagram of the study selection process



○ AMSTAR questions

1. Was an a priori design provided?
2. Was there duplicate study selection and data extraction?
3. Was a comprehensive literature search performed?
4. Was the status of publication (i.e. grey literature) used as an inclusion criterion?
5. Was a list of studies (included and excluded) provided?
6. Were the characteristics of the included studies provided?
7. Was the scientific quality of the included studies assessed and documented?
8. Was the scientific quality of the included studies used appropriately in formulating conclusions?
9. Were the methods used to combine the findings of studies appropriate?
10. Was the likelihood of publication bias assessed?
11. Was the conflict of interest stated?

8-11 (high quality), 4-7 (moderate), ≤ 3 (low quality)

هشدارها-1

- مرور سیستماتیک هیچگاه جایگزین یک مطالعه اولیه خوب نیست
- ممکن است خوب انجام نشود
- شاید مطالعات اولیه خوب نباشند و بالطبع مرور سیستماتیک هم نتایج خوبی ندارد
- همیشه بسیار قابل اعتماد نیست

هشدارها-2

- برای افزایش دقت کار، مراحل زیر توسط دو نفر مستقل انجام شود:
 - ورود نهایی مقالات
 - ارزیابی کیفیت مقالات ورودی
 - استخراج اطلاعات
- نوشتن پروتکل سیستماتیک مانند تهیه گزارش پروپوزال است. پس حتما قبل شروع اجرا باشد چون دآوری می شود فلذا امکان اصلاح داشته باشد.
- محدودیتی در تعداد مقالات ورودی در بررسی دستی منابع گفته نشده. ولی برخی جاها ذکر شده که از 10 الی 15 درصد مقالات ورودی بیشتر نباشد. در غیر اینصورت احتمالا سرچ جامعی انجام نشده.

نکات قبل شروع نگارش مرور سیستماتیک

- هدف از مطالعه مرور سیستماتیک چیست؟ تهیه مقاله برای مجله یا ارائه گزارش به سازمان یا جهت آموزش بیماران
- آیا ساختاری برای نحوه نگارش وجود دارد؟
- اجزاء نگارش چیست؟
- محدودیت لغات و یا صفحات دارد؟
- رعایت اصول کلی نگارش علمی: اسامی نویسندگان، جایگاه،

تمرین عملی

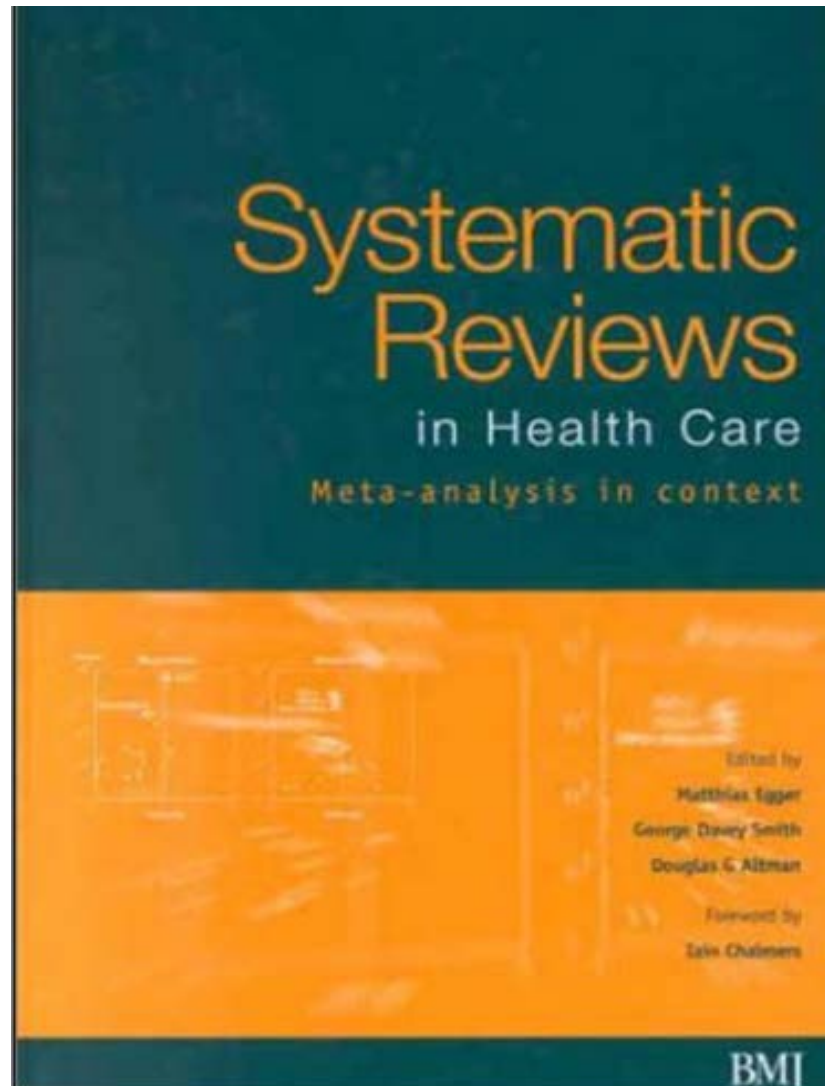
○ چگونه مقاله مرور سیستماتیک/ متاآنالیز را بخوانیم؟

- Dietary ginger as a traditional therapy for blood sugar control in patients with type 2 diabetes mellitus: A systematic review and meta-analysis. *Medicine (Baltimore)*. 2019 Mar;98(13):e15054. doi: 10.1097/MD.00000000000015054.
- Citrus Flavonoids as Promising Phytochemicals Targeting Diabetes and Related Complications: A Systematic Review of In Vitro and In Vivo Studies. *Nutrients*. 2020 Sep 23;12(10):2907. doi: 10.3390/nu12102907.
- The effects of curcumin on the metabolic parameters of non-alcoholic fatty liver disease: a meta-analysis of randomized controlled trials. *Hepatol Int*. 2019 May;13(3):302-313. doi: 10.1007/s12072-018-9910-x.

معرفی چند منبع برای مطالعه بیشتر

Systematic Review in Health Care

MATTHIAS EGGER, GEORGE DAVEY SMITH, DOUGLAS ALTMAN



5/31/2021

Ozra Tabatabaei-Malazy



Cochrane Handbook for Systematic Reviews of Interventions



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Guidelines and Guidance

Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement

David Moher^{1,2*}, Alessandro Liberati^{3,4}, Jennifer Tetzlaff¹, Douglas G. Altman⁵, The PRISMA Group^{*}

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Introduction

Systematic reviews and meta-analyses have become increasingly important in health care. Clinicians read them to keep up to date with their field [1,2], and they are often used as a starting point for developing clinical practice guidelines. Granting agencies may require a systematic review to ensure there is justification for further research [3], and some health care journals are moving in this direction [4]. As with all research, the value of a systematic review depends on what was done, what was found, and the clarity of reporting. As with other publications, the reporting quality of systematic reviews varies, limiting readers' ability to assess the strengths and weaknesses of those reviews.

clinicians, medical editors, and a consumer. The objective of the Ottawa meeting was to revise and expand the QUOROM checklist and flow diagram, as needed.

The executive committee completed the following tasks, prior to the meeting: a systematic review of studies examining the quality of reporting of systematic reviews, and a comprehensive literature search to identify methodological and other articles that might inform the meeting, especially in relation to modifying checklist items. An international survey of review authors, consumers, and groups commissioning or using systematic reviews and meta-analyses was completed, including the International Network of Agencies for Health Technology Assessment (INAHTA) and the Guidelines International Network (GIN). The survey aimed to

Cochrane Handbook for Diagnostic Test Accuracy Review

THE COCHRANE COLLABORATION

Diagnostic Test Accuracy Working Group

Handbook for DTA Reviews

A team of authors and editors are working to prepare the handbook. As each chapter is completed we will upload it to this website.

Part 1: Cochrane Reviews

Chapter 1: Introduction

Chapter 2: Planning and preparation of a Cochrane review

Chapter 3: Keeping a Cochrane review up-to-date

[Chapter 4](#): Guide to the contents of a Cochrane review and protocol for Diagnostic Test Accuracy (PDF 209 KB)

Part 2: General Methods for Cochrane Reviews of Diagnostic Test Accuracy

Chapter 5: Introduction to diagnostic research

[Chapter 6](#): Developing criteria for including studies (PDF 125 KB)

[Chapter 7](#): Searching for studies (PDF 410 KB)

Chapter 8: Selecting studies and collecting data not ready yet...do take a look at the tutorial for this in RevMan for DTA reviews, though.

[Chapter 9](#): Assessing methodological quality (PDF 225 KB)

[Chapter 10](#): Analysing and presenting results. Version 1.0 uploaded January 2011 (PDF 765 KB)

[Chapter 10 supporting files](#) (.zip 7.6 KB)

Chapter 11: Interpreting results

CONSENSUS STATEMENT

Meta-analysis of Observational Studies in Epidemiology

A Proposal for Reporting

Donna F. Stroup, PhD, MSc

Jesse A. Berlin, ScD

Sally C. Morton, PhD

Ingram Olkin, PhD

G. David Williamson, PhD

Drummond Rennie, MD

David Moher, MSc

Betsy J. Becker, PhD

Theresa Ann Sipe, PhD

Stephen B. Thacker, MD, MSc

for the Meta-analysis Of
Observational Studies in
Epidemiology (MOOSE) Group

BECAUSE OF PRESSURE FOR TIMELY and informed decisions in public health and medicine and the explosion of information in the scientific literature, research results must be synthesized to answer urgent questions.¹⁻⁴ Principles of evidence-based methods to assess the effectiveness of

Objective Because of the pressure for timely, informed decisions in public health and clinical practice and the explosion of information in the scientific literature, research results must be synthesized. Meta-analyses are increasingly used to address this problem, and they often evaluate observational studies. A workshop was held in Atlanta, Ga, in April 1997, to examine the reporting of meta-analyses of observational studies and to make recommendations to aid authors, reviewers, editors, and readers.

Participants Twenty-seven participants were selected by a steering committee, based on expertise in clinical practice, trials, statistics, epidemiology, social sciences, and biomedical editing. Deliberations of the workshop were open to other interested scientists. Funding for this activity was provided by the Centers for Disease Control and Prevention.

Evidence We conducted a systematic review of the published literature on the conduct and reporting of meta-analyses in observational studies using MEDLINE, Educational Research Information Center (ERIC), PsycLIT, and the Current Index to Statistics. We also examined reference lists of the 32 studies retrieved and contacted experts in the field. Participants were assigned to small-group discussions on the subjects of bias, searching and abstracting, heterogeneity, study categorization, and statistical methods.

Consensus Process From the material presented at the workshop, the authors developed a checklist summarizing recommendations for reporting meta-analyses of observational studies. The checklist and supporting evidence were circulated to all conference attendees and additional experts. All suggestions for revisions were addressed.

Conclusions The proposed checklist contains specifications for reporting of meta-analyses of observational studies in epidemiology, including background, search strategy, methods, results, discussion, and conclusion. Use of the checklist should improve the usefulness of meta-analyses for authors, reviewers, editors, readers, and decision makers. An evaluation plan is suggested and research areas are explored.

JAMA. 2000;283:2008-2012

www.jama.com