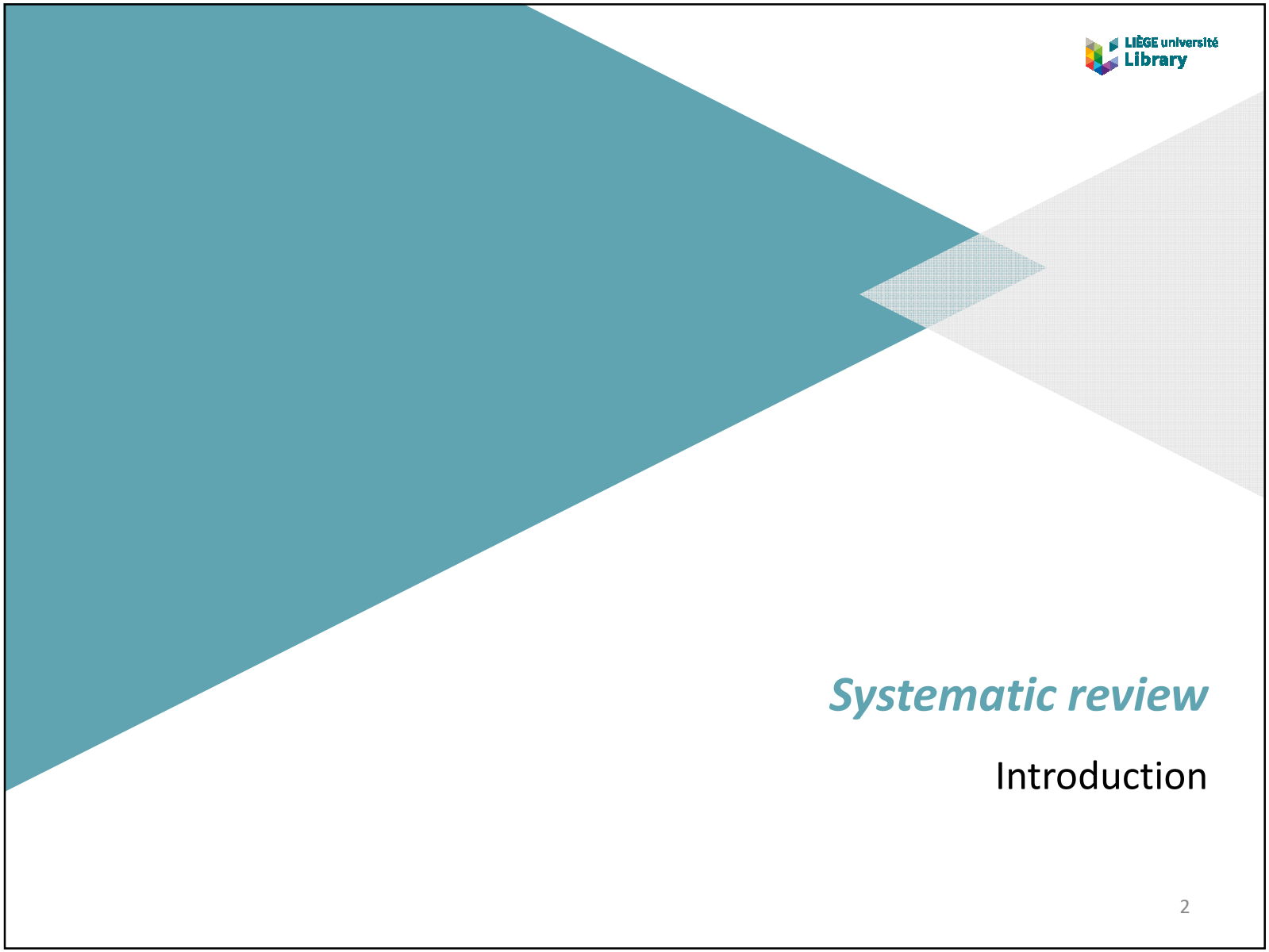
Etapes clés de la réalisation d'une revue systématique de la littérature : application à la logopédie

Nancy Durieux

Ecole d'été en logopédie-orthophonie 2019

Liège, le 3 juillet 2019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Systematic review
Introduction
2

- Profusion d'articles scientifiques, de qualité variable
  - Nombre d'articles abordant une thématique : bien souvent ↑
  - Pour le clinicien tout comme pour le chercheur :

Intérêt des **synthèses**

de la littérature scientifique

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Systematic review

- Synthèse des études primaires
  - Abordant une question de recherche spécifique
  - Développée selon une méthodologie rigoureuse, transparente, reproductible
    - → Minimiser les biais et fournir les résultats les plus fiables à partir desquels des conclusions peuvent être tirées et des décisions prises

Tiré de https://community.cochrane.org/handbook-sri/chapter-1-introduction/11-cochrane/12-systematic-reviews/122-what-systematic-review (consulté le 27 juin 2019)

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- Le plus souvent : revue systématique évaluant les effets d'une intervention
  - Présentation narrative des résultats
    - Présenter le nombre d'études en faveur ou en défaveur du traitement
      - Essais contrôlés randomisés : *design* d'étude considéré comme le *gold standard* des études primaires pour évaluer l'efficacité d'un traitement
    - Discuter des discordances éventuelles entre ces études
    - Statuer sur un effet, si une si une tendance se dégage, mais sans discuter de l'intensité de cet effet

(Beaudart, Rabenda, & Bruyère, 2016)

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- Pour obtenir estimation précise de la taille de l'effet du traitement

→ Revue systématique complétée par une méta-analyse

  - Les résultats de toutes les études primaires répondant à la question posée sont sommés (poolés) et recalculés

    - Synthèse chiffrée / statistique

(Rabenda, Beaudart, & Bruyère, 2017)

- *Design* d'étude considéré comme apportant des données d'un haut niveau de preuve

Level	Description
Ia	Well-designed meta-analysis of >1 randomized controlled trial
Ib	Well-designed randomized controlled study
IIa	Well-designed controlled study without randomization
IIb	Well-designed quasi-experimental study
III	Well-designed non-experimental studies, i.e., correlational and case studies
IV	Expert committee report, consensus conference, clinical experience of respected authorities

Tiré de https://www.asha.org/Research/EBP/Assessing-the-Evidence/ (consulté le 30 juin 2019)

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- Une revue systématique peut être réalisée sur d'autres thématiques et avoir comme objectif
  - de synthétiser les données de prévalence ou d'incidence observées d'une même maladie / d'un trouble
  - de synthétiser les conséquences reliées à une maladie / un trouble
  - de synthétiser les effets prédictifs d'une maladie / un trouble
  - etc.

(Beaudart, Rabenda, & Bruyère, 2016)

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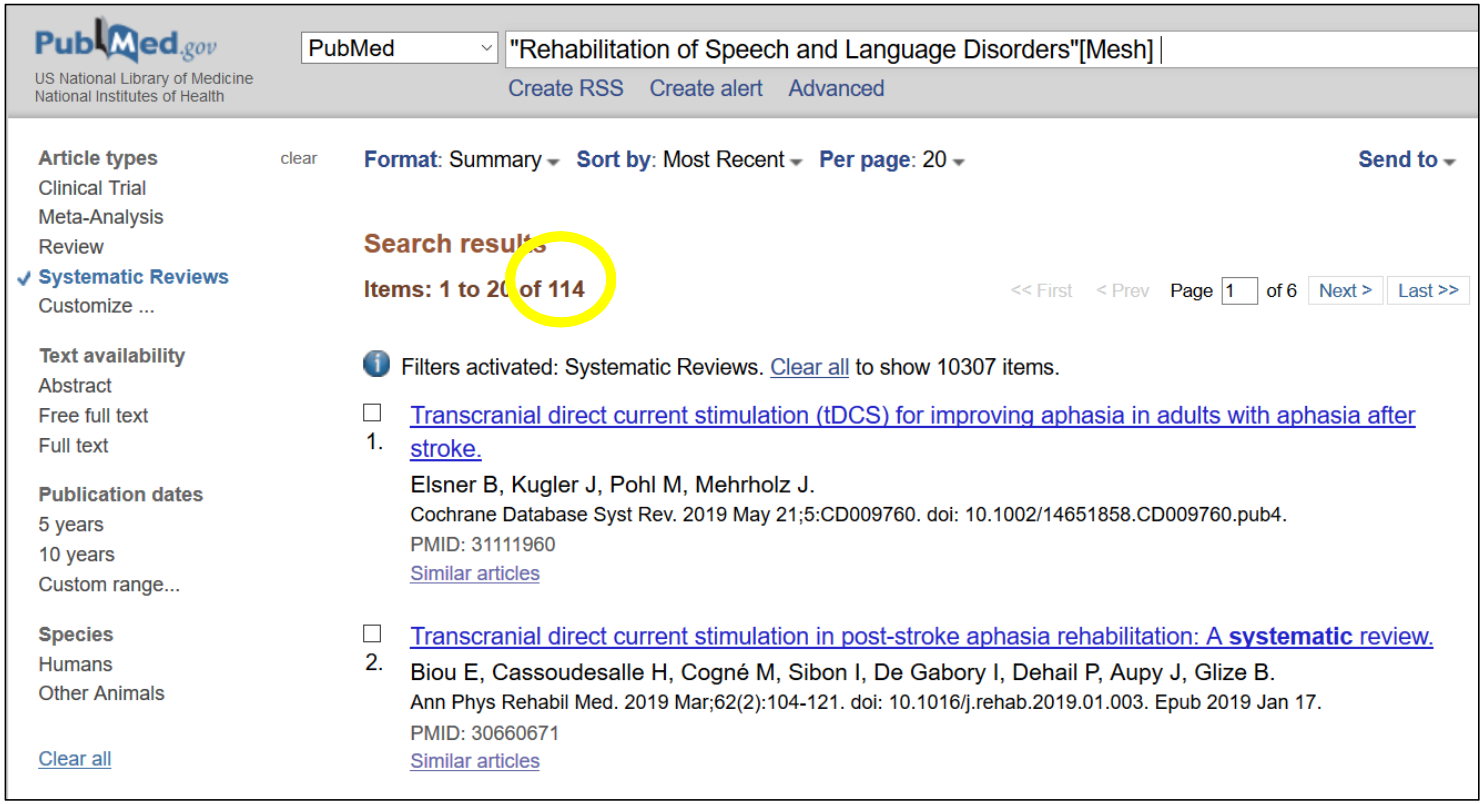
- Des *systematic reviews* en logopédie ?



Recherche effectuée le 30 juin 2019

- Revues systématiques / méta-analyses publiées dans des périodiques scientifiques
  - *Journal of Speech, Language, and Hearing Research*
  - *International Journal of Language and Communication Disorders*
  - …

- Ainsi que : revues systématiques / méta-analyses développées par des groupes Cochrane et publiées dans la *Cochrane Database of Systemac Reviews*

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Who are we?

We are a global independent network of researchers, professionals, patients, carers, and people interested in health.

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D’autres types de synthèses de la littérature ?

- Oui !

Systematic review

Scoping review

Meta-analysis

Literature review

Umbrella review

…

→ Caractéristiques spécifiques (Grant & Booth, 2009)

Scoping review (Tricco et al., 2018)

- Apporte des réponses à des questions « larges » telles que :
  - Quelle est la nature des données scientifiques pour cette intervention ?
  - Que sait-on à propos de ce concept ?
- Nécessite une recherche systématique des données issues de la littérature scientifique

Scoping review (Tricco et al., 2018)

- Objectifs variés
  - Examiner l'étendue, la variété et les caractéristiques des données issues de la littérature scientifique par rapport à une problématique ou une question
  - Déterminer l'intérêt de réaliser une revue systématique de la littérature
  - Résumer les résultats d'un corpus de connaissances hétérogène en termes de méthodes ou de disciplines
  - Identifier les lacunes dans la littérature pour aider à la planification et à la commande de recherches futures

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Literature review = narrative review (Grant & Booth, 2009)

- Question traitée : souvent large
- Synthèse non méthodique de la littérature
- Approches rétrospectives et actuelles
- Le plus souvent : pas de (description de la) stratégie de recherche
  - → biais éventuels !!

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Autres (Grant & Booth, 2009)

- *State-of-the-art review*
  - Un sous-type de *literature review* qui aborde des questions plus actuelles
- *Umbrella review*
  - Synthèse de revues systématiques
- …

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Systematic review

Etapes clés

Etapes clés

- Formuler la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- Effectuer une recherche exhaustive de la littérature
- Sélectionner les études à inclure dans la synthèse
- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- Interpréter les résultats obtenus
- Rédiger votre article

Planification du travail sur l'année à venir

Month	Activity
1 – 2	Preparation of protocol.
3 – 8	Searches for published and unpublished studies.
2 – 3	Pilot test of eligibility criteria.
3 – 8	Inclusion assessments.
3	Pilot test of 'Risk of bias' assessment.
3 – 10	Validity assessments.
3	Pilot test of data collection.
3 – 10	Data collection.
3 – 10	Data entry.
5 – 11	Follow up of missing information.
8 – 10	Analysis.
1 – 11	Preparation of review report.
12 –	Keeping the review up-to-date.

Tiré de https://handbook-5-1.cochrane.org/chapter_2/box_2_3_b_timeline_for_a_cochrane_review.htm (consulté le 30 juin 2019)

The TEAM

- Constituée de
  - Vous 
  - Au moins un collègue expert dans le domaine de recherche de votre revue systématique
  - Un collègue spécialisé dans la réalisation d'une revue systématique (méthodologie)
  - Toute autre personne qui pourra vous apporter sa contribution

Pour vous aider (1)

- Site web : http://www.prisma-statement.org/
  - PRISMA 2019 Checklist
    - Eléments qui doivent être présents dans une revue systématique / une méta-analyse
      - →Utile pour la rédaction, mais aussi pour l'élaboration
  - Remarque : mise à jour de cette checklist en cours
    - A suivre !!!

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	

!!! Error in the wording for Item 21 → 'Present the main results of the review. If meta-analyses are done, include for each, confidence intervals and measures of consistency'

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Pour vous aider (2)

- Site web : https://amstar.ca/index.php
  - AMSTAR 2 Checklist
    - *A Measurement Tool to Assess Systematic Reviews*
    - Eléments à prendre en consideration lors de l'évaluation d'une revue systématique (d'études randomisées et d'études d'observation)
      - →Utile pour évaluer (lire de manière critique) une revue systématique, mais aussi pour l'élaboration d'une telle étude

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Etapes clés

- **Formuler l'objectif de la revue systématique et la question de recherche**
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- Effectuer une recherche exhaustive de la littérature
- Sélectionner les études à inclure dans la synthèse
- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- Interpréter les résultats obtenus
- Rédiger votre article

- Formuler l'objectif de la revue systématique
  - Pourquoi réaliser une telle étude ? Quel est le besoin ?

- Formuler la question de recherche abordée dans la revue systématique
  - Comme pour les autres disciplines : en logopédie,
    - Le plus souvent, question en lien avec une intervention
    - Mais il existe aussi des questions en lien avec la prévalence d'un trouble, le dépistage précoce des pathologies du langage chez l'enfant…

(Marshall, Goldbart, Pickstone, & Roulstone, 2011)

Formulation de la question

- Pour vous aider : canevas PICO

P	Patients/Participants/Population ou Problème
I	Intervention (au sens large)
C	Intervention servant de comparaison, de contrôle (si pertinent)
O	*Outcomes* (issue clinique, critères de jugement)

Question : exemples

- *What is the effectiveness of specific intervention programmes delivered by technologies (i.e. computer and smart tablet) in the management of post-stroke anomia, in terms of improving naming capacities and generalisation to untreated items and daily communication?* (Lavoie, Macoir, & Bier, 2017)

- *Does screening for speech and language delays or disorders lead to improved speech and language outcomes as well as improved outcomes in domains other than speech and language?* (Berkman et al., 2015)

Exemple « fil rouge »

Cochrane Database of Systematic Reviews

Interventions for childhood apraxia of speech

Cochrane Systematic Review - **Intervention** | Version published: 30 May 2018 see what's new

https://doi.org/10.1002/14651858.CD006278.pub3

New search Conclusions changed Am score 4 View article information

Angela T Morgan | Elizabeth Murray | Frederique J Liégeois

View authors' declarations of interest

- *What treatments help to improve the speech and language of children and adolescents with childhood apraxia of speech (CAS)?*

Formulation de la question

- Pour vous aider : canevas PESICO (Schlosser, Koul, & Costello, 2007)
  - Questions en lien avec la communication améliorée et alternative
  - Canevas PICO
    - + E = *environment*
      - L'environnement dans lequel la personne évolue
    - + S = *stakeholders*
      - Les parties prenantes, les intervenants qui interagissent avec le patient/participant

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Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- **Définir les critères d'inclusion / d'exclusion**
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- Effectuer une recherche exhaustive de la littérature
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- Rédiger votre article

Intérêt de ces critères

- Définir les caractéristiques des papiers à inclure / exclure dans la revue systématique
  - Caractéristiques des études
    - PICO, *design* d'étude…
  - Caractéristiques des articles
    - Langue, année de publication…
- À définir avant la collecte des données

Remarque sur les *designs* d'études

- En fonction de la question posée
  - *Designs* plus appropriés que d'autres et d*esigns* apportant des données d'un plus haut niveau de preuve que d'autres
  - Exemples (Salmi, 2012)

Question	Schéma d'étude idéal
traitement	essai contrôlé randomisé
facteur pronostique (évolution naturelle)	étude de cohorte
prévalence	étude transversale
description d'un phénomène	série de cas
synthèse des connaissances	synthèse méthodique ou méta-analyse

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- Pour les questions en lien avec l'efficacité d'une intervention / d'un traitement
  - Etude contrôlée randomisée (*randomized controlled trial, RCT*)
    - Étude prospective, comparative, contrôlée et randomisée
    - Groupes parallèles
    - Répartition des individus étudiés se fait au hasard (*random*)
    - Groupe contrôle : placebo ou traitement de référence
    - Protocole strict d'expérimentation
  - *Design* recommandé aussi en logopédie

> The gold standard of evidence for any intervention is to have its effectiveness demonstrated in a large, carefully controlled experimental research study involving hundreds or even thousands of subjects who are randomly assigned to experimental and control (or comparison) groups. The

Tiré de http://www.asha.org/NJC/Evidence-Based-Practice/ (consulté le 2 juillet 2019)

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étude contrôlée randomisée

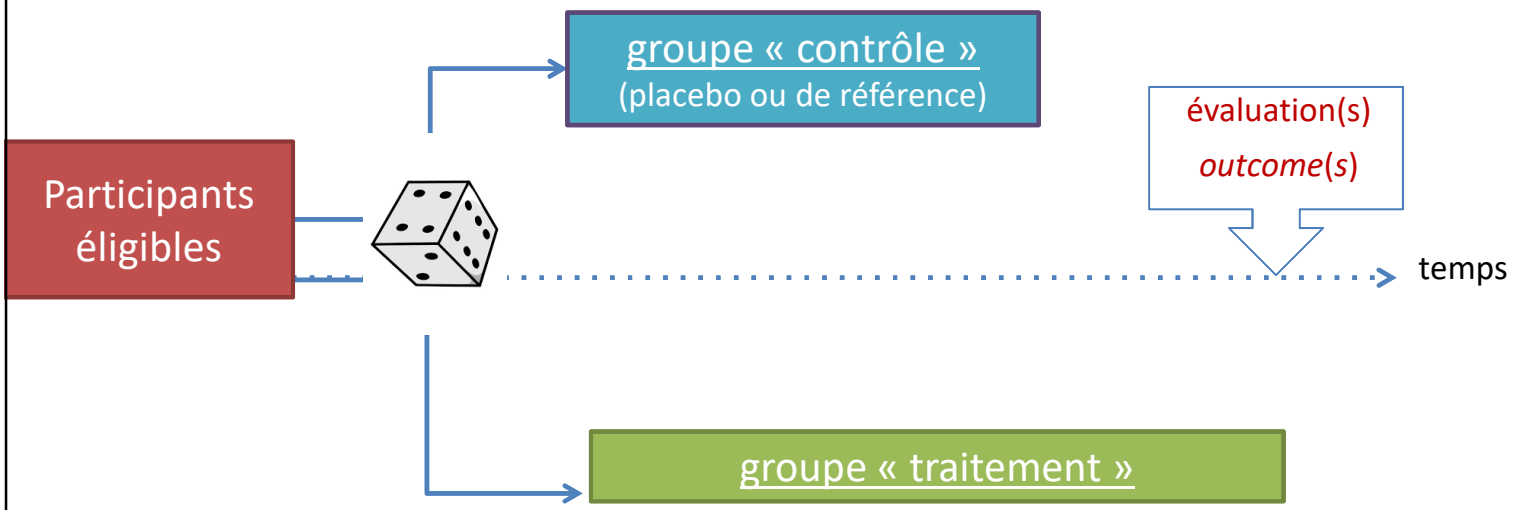
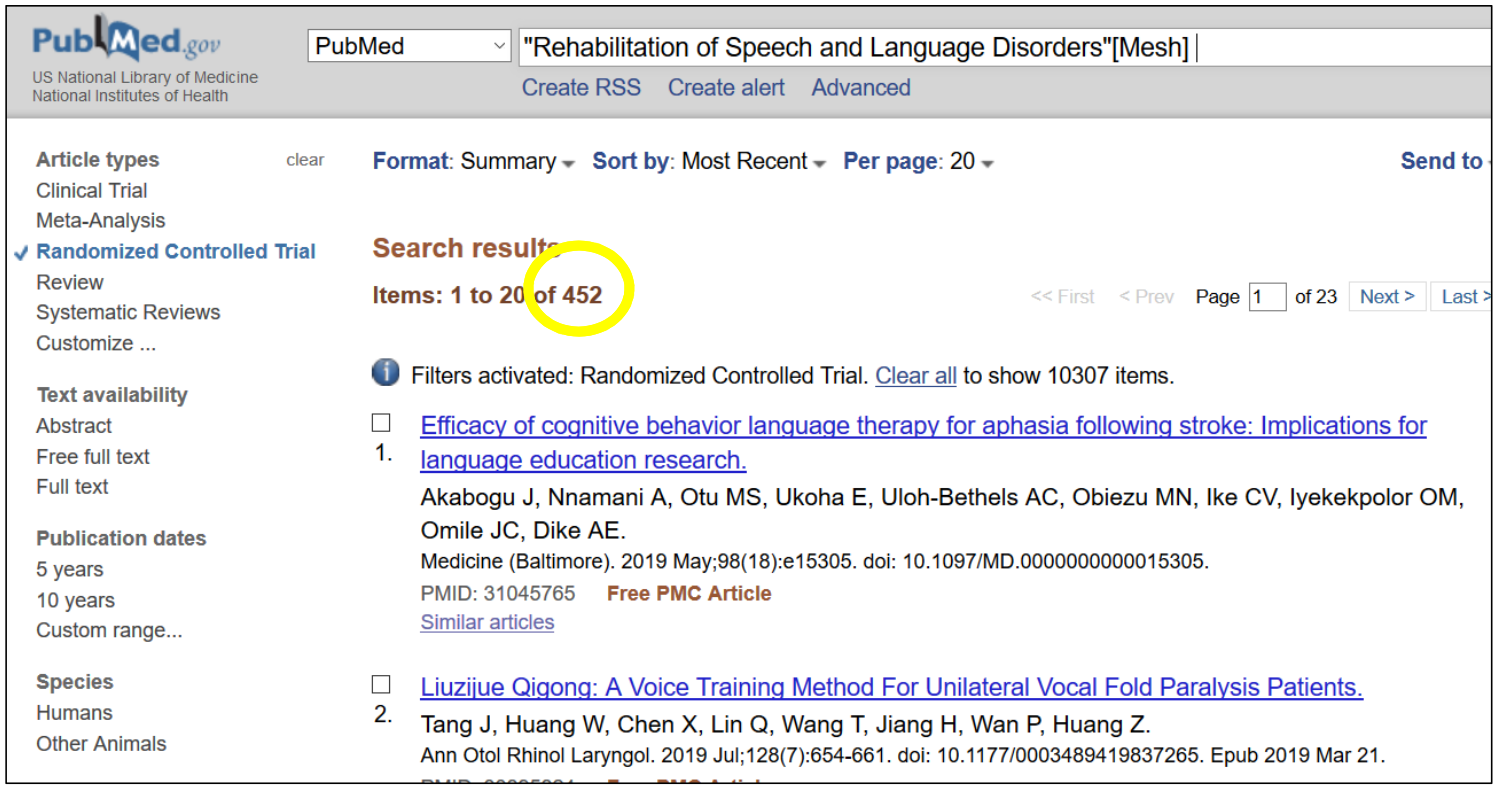


Schéma expérimental : deux groupes de sujets, l'un recevant le traitement, l'autre servant de témoin

- Des RCTs en logopédie ?



Recherche effectuée le 2 juillet 2019

- Cependant, les RCTs ne sont pas toujours appropriés / possibles

→Sélectionner d'autres *designs* expérimentaux / interventionnels : ex. études avec un groupe contrôle, mais sans randomisation

> In reality, however, it is often not practical or even possible to conduct randomized trials with large sample sizes when we want to study the effectiveness of a communication intervention method for use with individuals who have the most severe disabilities. For this reason, we must be willing and able to evaluate the quality of evidence along a continuum from least to most convincing. Although there are many unique ways to design research or combine research designs, we can identify three basic points along this continuum of evidence: Case reports < controlled single-subject, and quasi-experimental designs < true experimental designs.

Tiré de http://www.asha.org/NJC/Evidence-Based-Practice/ (consulté le 2 juillet 2019)

Voir aussi l'article de Hahs-Vaughn & Nye (2008) et l'article de Ebbels (2017)

Exemple « fil rouge »

Cochrane Database of Systematic Reviews
Interventions for childhood apraxia of speech
Cochrane Systematic Review - Intervention | Version published: 30 May 2018 see what's new
https://doi.org/10.1002/14651858.CD006278.pub3

Criteria for considering studies for this review

Types of studies

RCTs and quasi-RCTs (e.g. studies in which participants are allocated to intervention groups on alternate days).

Types of participants

Children aged 3 to 16 years with a diagnosis of CAS made by a speech and language pathologist/therapist.

Types of interventions

See Description of the intervention section above.

Eligible control groups were no treatment control (e.g. wait-list control), treatment as usual, or other treatment controls.

Exemple « fil rouge »

Cochrane Database of Systematic Reviews
Interventions for childhood apraxia of speech
Cochrane Systematic Review - Intervention | Version published: 30 May 2018 see what's new
https://doi.org/10.1002/14651858.CD006278.pub3

Types of outcome measures

Primary outcomes

1. Accuracy of production on treated or non-treated* items (may be associated with motor-based, linguistic or multi-modal communication approaches noted under How the intervention might work)

A desirable outcome would have been an improvement in accuracy of speech or multi-modal communication, while an undesirable outcome would have been deterioration from baseline.

*Non-treated items are stimuli (e.g. syllables, words, phrases) that have not been practised by children during intervention sessions. They are a form of control whereby we are able to measure children's performance on 'treated' items (e.g. syllables, words, phrases the child has practised during speech sessions) and compare it with performance on 'non-treated' items. In this way, we can quantify whether the child has 'generalised' their newly acquired speech skills, or improvement in speech, to non-treated stimuli, or whether they have only improved on speech items practised during therapy.

Secondary outcomes

1. Speech production consistency across repeated words and syllables (may be associated with motor-based, linguistic or multi-modal communication approaches noted under How the intervention might work)
2. Accuracy of connected speech, including co-articulation accuracy (e.g. syllable segregation, voice onset time; most commonly associated with motor-based or linguistic approaches noted under How the intervention might work)
3. Functional communication (e.g. child- or parent-based questionnaire; may be associated with motor-based, linguistic or multi-modal communication approaches noted under How the intervention might work)

A desirable outcome would have been an improvement on outcomes one to three, whilst an undesirable outcome would have been deterioration from baseline on outcomes one to three.

Outcome measurements were recorded before, immediately after and at longer-term follow-up.

Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
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- Effectuer une recherche exhaustive de la littérature
- Sélectionner les études à inclure dans la synthèse
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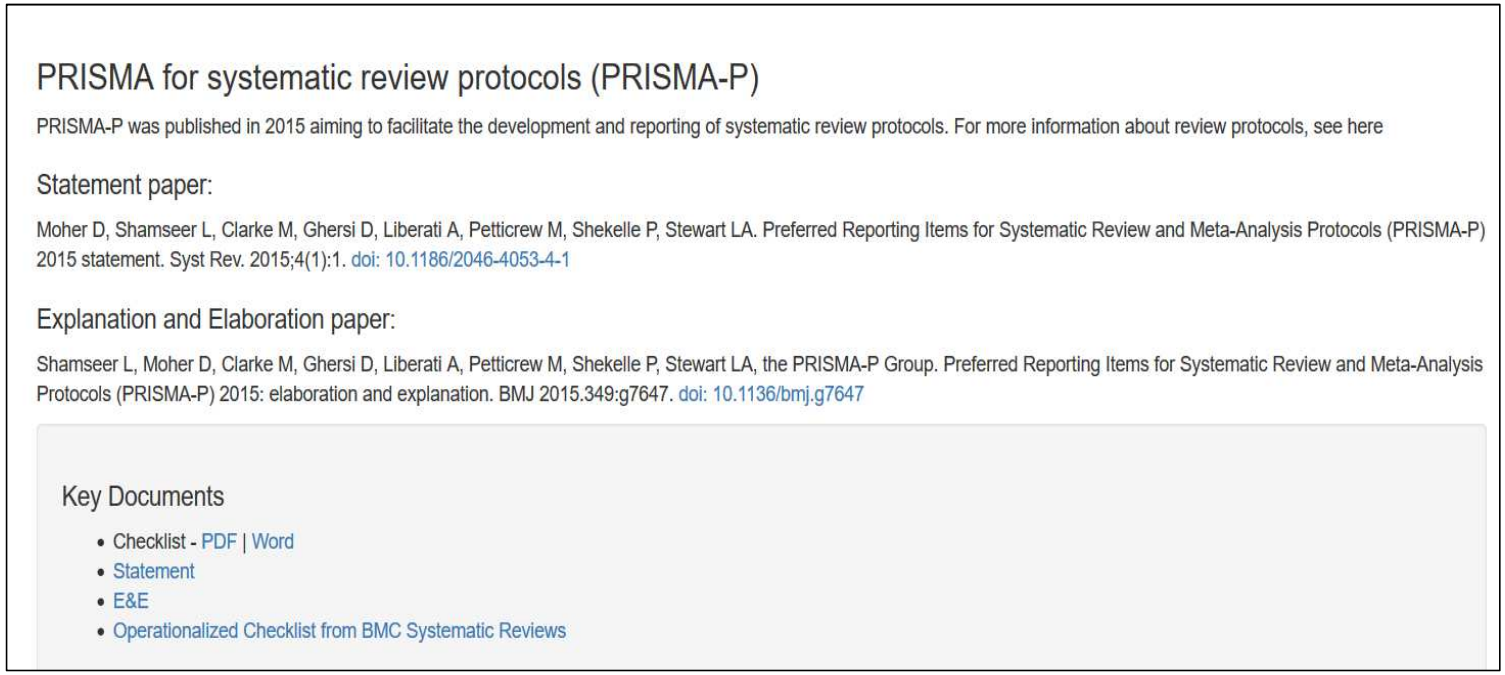
- Interpréter les résultats obtenus
- Rédiger votre article

Développement d'un protocole de recherche

- Titre du projet
- Objectif et question de recherche
- Méthodologie de la recherche

- Pour vous aider : http://www.prisma-statement.org/Extensions/Protocols.aspx



PRISMA for systematic review protocols (PRISMA-P)

PRISMA-P was published in 2015 aiming to facilitate the development and reporting of systematic review protocols. For more information about review protocols, see here

Statement paper:

Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart LA. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 statement. Syst Rev. 2015;4(1):1. doi: 10.1186/2046-4053-4-1

Explanation and Elaboration paper:

Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart LA, the PRISMA-P Group. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015: elaboration and explanation. BMJ 2015.349:g7647. doi: 10.1136/bmj.g7647

Key Documents

- Checklist - PDF | Word
- Statement
- E&E
- Operationalized Checklist from BMC Systematic Reviews

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol*

Section and topic	Item No	Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Identify the report as a protocol of a systematic review
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review

Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)

*** It is strongly recommended that this checklist be read in conjunction with the PRISMA-P Explanation and Elaboration (cite when available) for important clarification on the items. Amendments to a review protocol should be tracked and dated. The copyright for PRISMA-P (including checklist) is held by the PRISMA-P Group and is distributed under a Creative Commons Attribution Licence 4.0.**

From: Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647.

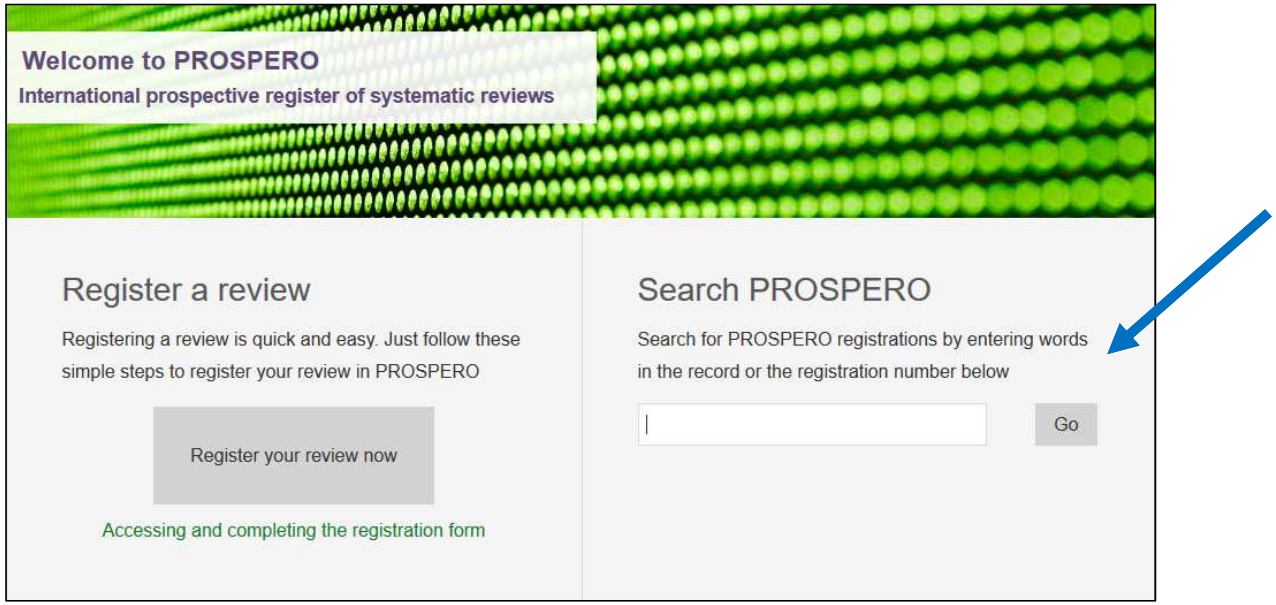
- Le protocole peut / doit être **PUBLIÉ/ ENREGISTRÉ** !
  - Exemple :

PROSPERO
International prospective register of systematic reviews

NHS
National Institute for Health Research

- Intérêt ?
  - Garantir une meilleure rigueur scientifique et la transparence dans le processus
- → De plus en plus demandé !!!

- Remarques (1)
  - Avant de vous lancer dans l'élaboration d'une revue systématique, vérifier s'il n'y en a déjà pas une en cours sur le même sujet que le vôtre



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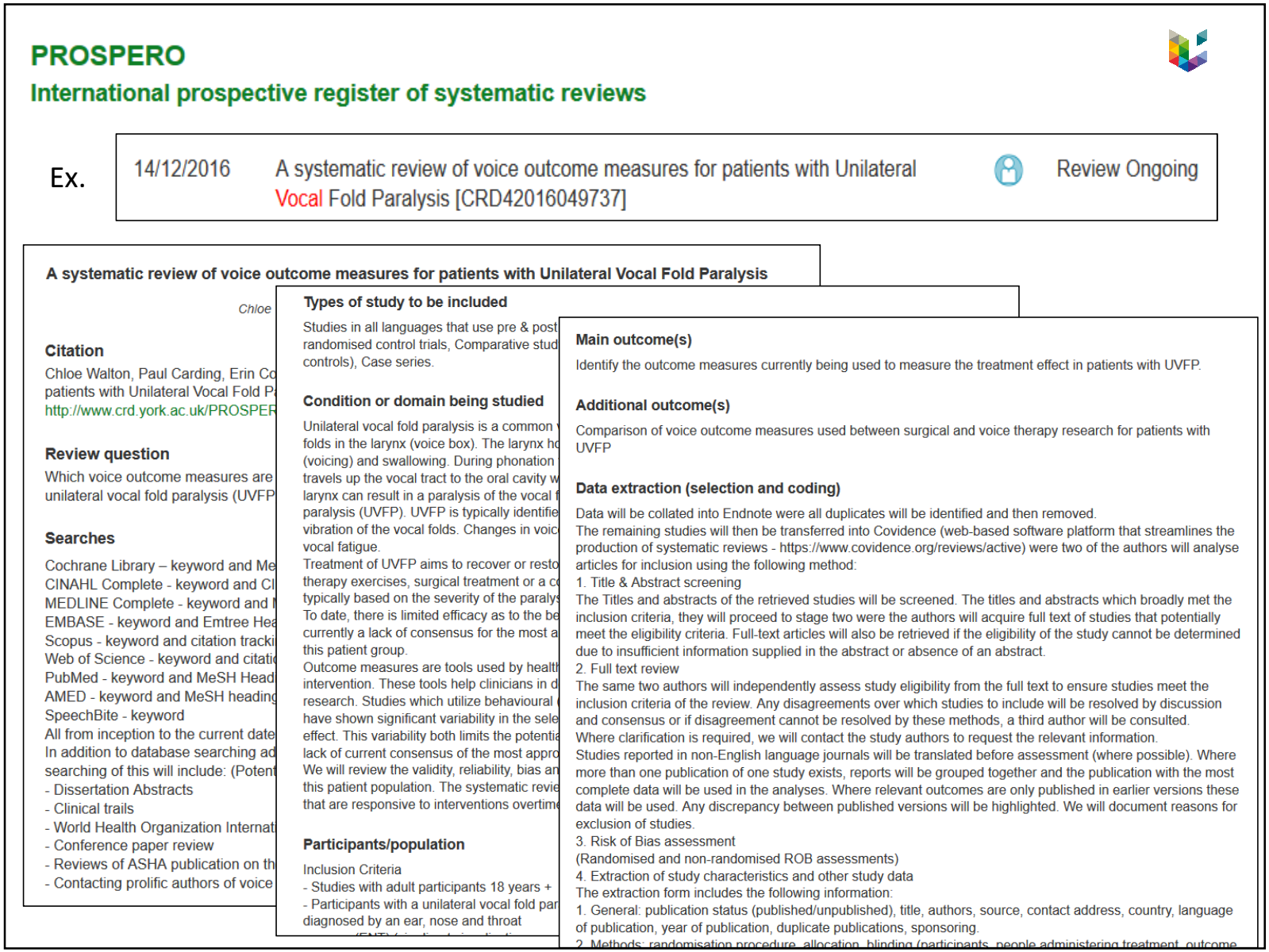
- Remarques (2)
  - Avant d'enregistrer votre protocole, faites des tests !
    - Assurez-vous que la méthodologie élaborée soit correcte



PROSPERO

International prospective register of systematic reviews

Ex.

14/12/2016 A systematic review of voice outcome measures for patients with Unilateral Vocal Fold Paralysis [CRD42016049737] Review Ongoing

A systematic review of voice outcome measures for patients with Unilateral Vocal Fold Paralysis

Chloe

Citation

Chloe Walton, Paul Carding, Erin Co
patients with Unilateral Vocal Fold P
http://www.crd.york.ac.uk/PROSPER

Review question

Which voice outcome measures are
unilateral vocal fold paralysis (UVFP

Searches

Cochrane Library – keyword and Me
CINAHL Complete - keyword and Cl
MEDLINE Complete - keyword and
EMBASE - keyword and Emtree Hea
Scopus - keyword and citation tracki
Web of Science - keyword and citati
PubMed - keyword and MeSH Head
AMED - keyword and MeSH heading
SpeechBite - keyword
All from inception to the current date
In addition to database searching ad
searching of this will include: (Potent
- Dissertation Abstracts
- Clinical trails
- World Health Organization Internat
- Conference paper review
- Reviews of ASHA publication on th
- Contacting prolific authors of voice

Types of study to be included

Studies in all languages that use pre & post
randomised control trials, Comparative stud
controls), Case series.

Condition or domain being studied

Unilateral vocal fold paralysis is a common
folds in the larynx (voice box). The larynx ho
(voicing) and swallowing. During phonation
travels up the vocal tract to the oral cavity w
larynx can result in a paralysis of the vocal f
paralysis (UVFP). UVFP is typically identifie
vibration of the vocal folds. Changes in voic
vocal fatigue.
Treatment of UVFP aims to recover or resto
therapy exercises, surgical treatment or a co
typically based on the severity of the paraly
To date, there is limited efficacy as to the be
currently a lack of consensus for the most a
this patient group.
Outcome measures are tools used by health
intervention. These tools help clinicians in d
research. Studies which utilize behavioural
have shown significant variability in the sele
effect. This variability both limits the potentia
lack of current consensus of the most appro
We will review the validity, reliability, bias an
this patient population. The systematic revie
that are responsive to interventions overtime

Participants/population

Inclusion Criteria
- Studies with adult participants 18 years +
- Participants with a unilateral vocal fold par
diagnosed by an ear, nose and throat

Main outcome(s)

Identify the outcome measures currently being used to measure the treatment effect in patients with UVFP.

Additional outcome(s)

Comparison of voice outcome measures used between surgical and voice therapy research for patients with UVFP

Data extraction (selection and coding)

Data will be collated into Endnote were all duplicates will be identified and then removed.
The remaining studies will then be transferred into Covidence (web-based software platform that streamlines the production of systematic reviews - https://www.covidence.org/reviews/active) were two of the authors will analyse articles for inclusion using the following method:
1. Title & Abstract screening
The Titles and abstracts of the retrieved studies will be screened. The titles and abstracts which broadly met the inclusion criteria, they will proceed to stage two were the authors will acquire full text of studies that potentially meet the eligibility criteria. Full-text articles will also be retrieved if the eligibility of the study cannot be determined due to insufficient information supplied in the abstract or absence of an abstract.
2. Full text review
The same two authors will independently assess study eligibility from the full text to ensure studies meet the inclusion criteria of the review. Any disagreements over which studies to include will be resolved by discussion and consensus or if disagreement cannot be resolved by these methods, a third author will be consulted.
Where clarification is required, we will contact the study authors to request the relevant information.
Studies reported in non-English language journals will be translated before assessment (where possible). Where more than one publication of one study exists, reports will be grouped together and the publication with the most complete data will be used in the analyses. Where relevant outcomes are only published in earlier versions these data will be used. Any discrepancy between published versions will be highlighted. We will document reasons for exclusion of studies.
3. Risk of Bias assessment
(Randomised and non-randomised ROB assessments)
4. Extraction of study characteristics and other study data
The extraction form includes the following information:
1. General: publication status (published/unpublished), title, authors, source, contact address, country, language of publication, year of publication, duplicate publications, sponsoring.
2. Methods: randomisation procedure, allocation, blinding (participants, people administering treatment, outcome

Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- **Effectuer une recherche exhaustive de la littérature**
- Sélectionner les études à inclure dans la synthèse
- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- Interpréter les résultats obtenus
- Rédiger votre article

Ressources à consulter

- Au moins deux bases de données bibliographiques
  - Ex. : Medline®, PsycINFO®, Scopus®
    - À sélectionner en fonction de la question abordée
    - Bien préciser les années de couverture de la base de données et l'interface de recherche (ex. : Ovid®, ProQuest®, Ebsco®…)
- Autres
  - Ex. : Registres de RCT (si RCT est un critère d'inclusion ; ex, ClinicalTrials.gov), *Handsearching, Web searching*…

Exemple « fil rouge »

Cochrane Database of Systematic Reviews
Interventions for childhood apraxia of speech
Cochrane Systematic Review - Intervention | Version published: 30 May 2018 see what's new
https://doi.org/10.1002/14651858.CD006278.pub3

Electronic searches

Margaret Anderson, Cochrane Information Specialist for the Developmental, Psychosocial and Learning Problems Group, conducted the searches for this update in August 2011, June 2014 and April 2017. We searched the following list of sources which includes bibliographic databases, and international and national trials registers. We did not apply any date restrictions, but we only examined articles written in the English language. We report the search strategies for this update in Appendix 1. Earlier search strategies are in Appendix 2.

1. Cochrane Central Register of Controlled Trials (CENTRAL; 2017, Issue 3) in the Cochrane Library, and which includes the Cochrane Developmental, Psychosocial and Learning Problems Specialized Register (searched 6 April 2017)
2. Ovid MEDLINE (1946 to March week 5 2017)
3. Ovid MEDLINE E-Pub Ahead of Print (searched 6 April 2017)
4. Ovid MEDLINE In Process & Other Non-indexed Citations (searched 6 April 2017)
5. Embase Ovid (1980 to 2017 week 15)
6. CINAHL EBSCOhost (Cumulative Index to Nursing and Allied Health Literature; 1937 to 10 April 2017)
7. PsycINFO Ovid (1806 to April week 1 2017)
8. PsycINFO EBSCOhost (1887 to 4 August 2011)

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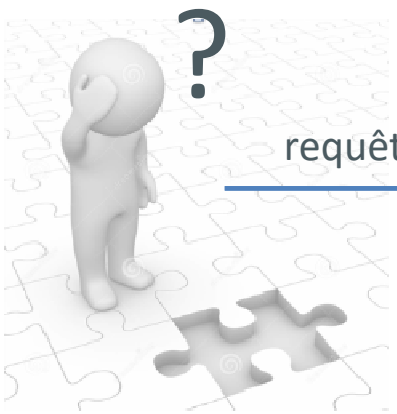
Stratégies de recherche

- Dans chaque ressource sélectionnée, effectuer une stratégie de recherche vous permettant de trouver des articles répondant à vos critères d'inclusion

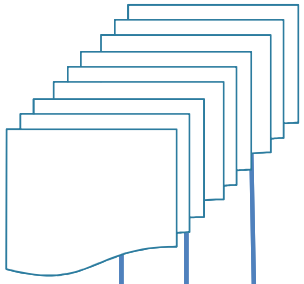
  - Accepter un minimum de BRUIT (références non pertinentes trouvées) pour éviter du SILENCE (références pertinentes non trouvées)

En pratique

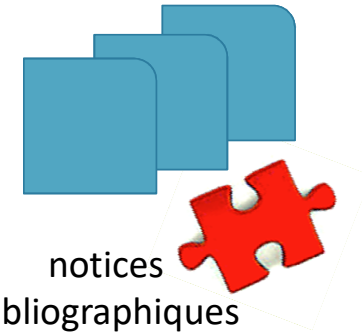


requête

ensemble de la base de données bibliographiques



extraction



notices bibliographiques pertinentes

La pertinence de la réponse dépendra de la pertinence de la formulation de la question !

Conseils

- Pour chaque base de données consultée
  - Maîtriser les spécificités de recherche de l'outil
    - Langage contrôlé, langage libre, troncature, opérateurs booléens, opérateurs de proximité…
  - Etre méthodique !
  - Sauvegarder votre stratégie de recherche
  - Noter les détails de la recherche
    - Date, nombre de références trouvées à chaque équation…

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Exemple « fil rouge »

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https://doi.org/10.1002/14651858.CD006278.pub3

Appendix 1. Search strategies

MEDLINE Ovid

Searched 6 April 2017 (960 records)
Searched 6 June 2014 (896 records)
Searched 4 August 2011 (759 records)

1 exp Apraxias/ ← Recherche avec du langage contrôlé
2 Speech disorders/
3 dyspraxS.tw. ← Recherche avec du langage libre
4 apraxS.tw.
5 praxS.tw.
6 (speech adj3 (disorderS or impairS or problemS or difficultS)).tw.
7 ((voice or vocal) adj3 (disorderS or impairS or problemS or difficultS)).tw.
8 (communication adj3 (disorderS or impairS or problemS or difficultS)).tw.
9 or/1-8
10 adolescent/
11 exp Child/
12 (adolescenS or childS or girlS or boyS or pre schoolS or pre-schoolS or teenS).tw.
13 or/10-12
14 speech therapy/
15 language therapy/
16 (therapS or trainS or measurS or assessS or habilitatS or rehabilitatS or manageS or assistS or treatS or remediaS or augmentS or recoverS or interventS).tw.
17 or/14-16
18 9 and 13 and 17
19 limit 18 to yr="2007 -Current"20 limit 18 to ed=20110401-20140529
21 limit 18 to ed=20140501-20170324

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- Après avoir effectué les recherches dans différentes bases de données bibliographiques
  - Rassembler les notices bibliographiques
  - Identifier les doublons et les supprimer
  - Comment ?
    - Via Excell
    - Via un logiciel de gestion de références bibliographiques (ex. : EndNote, Zotero, Mendeley…)
    - Via un logiciel de support pour la réalisation de revue systématique (ex. : Covidence (payant))
- Ensuite, compléter ces résultats en effectuant une ou des recherches complémentaires

Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- Effectuer une recherche exhaustive de la littérature
- **Sélectionner les études à inclure dans la synthèse**
- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- Interpréter les résultats obtenus
- Rédiger votre article

Sélection des articles : première étape

- Sélection sur base du titre et de l'abstract
  - Exclure les références qui ne répondent pas aux critères d'inclusion
  - Si doute : sélectionner la référence (afin qu'elle passe à l'étape 2)

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Sélection des articles : deuxième étape

- Sélection sur base de la lecture du *full-text*
  - Obtenir le *full-text* de chaque document
    - Un article ne peut être exclus sous prétexte qu'il n'est pas accessible !
      - Toujours moyen d'obtenir un document : soit Open Access, soit abonnement institutionnel au périodique, soit contact avec l'auteur (demandé un tiré-à-part), soit payer pour obtenir le document
  - Exclure les références qui ne répondent pas aux critères d'inclusion
    - Préciser les raisons d'exclusion

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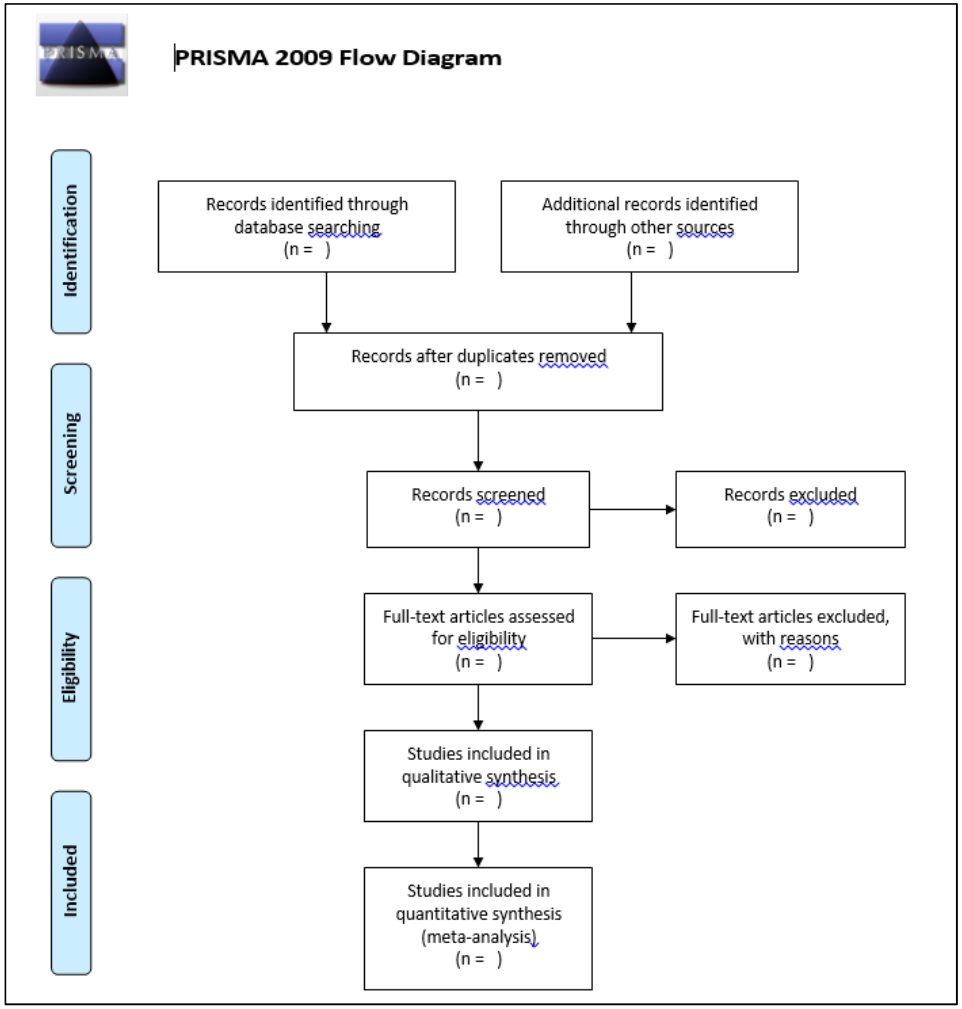
- Pour chacune des étapes
  - Sélection par deux personnes, de manière indépendante
  - Puis mise en commun
    - Si désaccord : consensus, voire intervention d'une 3e personne

- Dans la partie Résultats de toute revue systématique



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Exemple « fil rouge »

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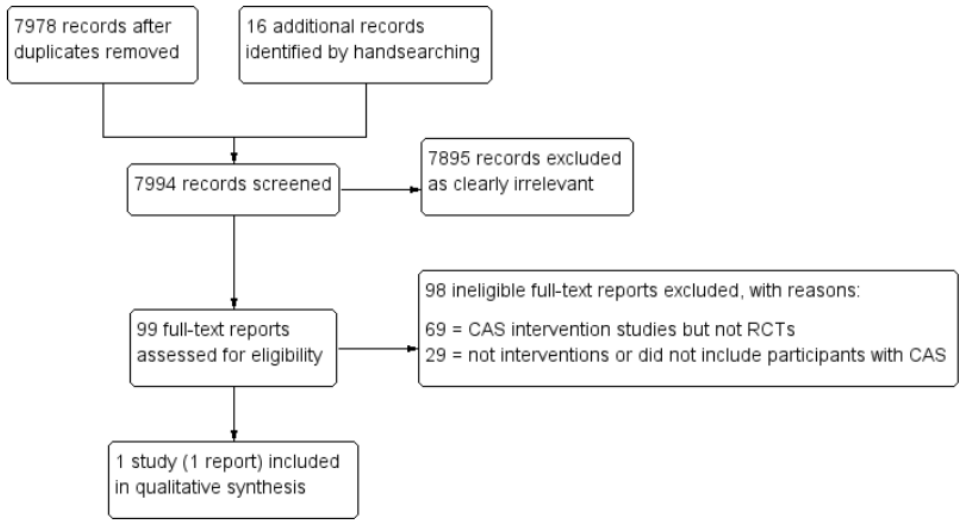
Interventions for childhood apraxia of speech
Cochrane Systematic Review - Intervention | Version published: 30 May 2018 see what's new
https://doi.org/10.1002/14651858.CD006278.pub3

Selection of studies

Two review authors (FL and AM) independently screened all titles and abstracts yielded by the search for eligibility. In cases of uncertainty over whether an abstract met the inclusion criteria, we obtained the full-text report. Next, the same two reviewers independently evaluated each full-text report against the inclusion criteria (Criteria for considering studies for this review). In the event of disagreement over inclusion of a particular paper, FL and AM reached consensus by re-assessing the study against the inclusion criteria together. We present the results of our selection process in a PRISMA diagram; see Figure 1 (Moher 2009).

Figure 1 **Open in figure viewer** | **Download as PowerPoint**



Study flow diagram

Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- Effectuer une recherche exhaustive de la littérature
- Sélectionner les études à inclure dans la synthèse
- **Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études**
- Interpréter les résultats obtenus
- Rédiger votre article

- Lister les différents types de données à extraire
- Collecter les données pour chaque étude sélectionnée
  - En général
    - Sur l'article : auteurs, date de publication, pays, année…
    - Sur l'étude : participants (nombre, âge moyen…), intervention / comparaison (ex. durée des séances, fréquence des séances, durée du suivi…), *outcomes* pris en compte ….
      - Présentation sous la forme d'une table des caractéristiques

- Evaluer chaque étude (en fonction de son *design*)
  - Grilles d'évaluation de la qualité des études (score de qualité)
    - Exemples
      - RoB 2.0 – Cochrane (RCTs)
      - JADAD scale (RCTs)
      - Echelle PEDRO (études cliniques)
      - JBI checklist (plusieurs *designs)*
      - …
    - → Score / indice de qualité à intégrer
      - dans la table des caractéristiques
      - dans une autre table
      - ou encore dans le texte

- Pour chaque étape
  - Extraction des données et évaluation par deux personnes, de manière indépendante
  - Puis mise en commun (si désaccord : consensus, voire intervention d'une 3e personne)

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Exemple « fil rouge »

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https://doi.org/10.1002/14651858.CD006278.pub3

Pour rappel : 1 seule étude sélectionnée

Data extraction and management

In addition to outcome data, we documented the following information using a data management form: participant details; setting (e.g. community clinic, school); type of intervention; length and frequency of intervention; professions inv
impairment; level of severity; co-morbidity; ar
employed. We requested any information that
clear from the corresponding author (Dealing
AM independently extracted and entered the
Review Manager 5 (Review Manager 2014), an
dently evaluated the data and entries. AM an
disagreements until they reached a consensus.
details of excluded studies into Table 1.

Characteristics of included studies *[ordered by study ID]*

Murray 2015

Methods	Parallel-group randomised controlled trial
Participants	**Sample size**: 26 children **Dropouts/withdrawals**: 1 child in the NDP-3 group dropped out mid-treatment yet was included in the analysis using intention-to-treat analysis **Sex**: 18 males, 8 females **Mean age**: 5 years and 6 months (SD = 25 months) **Inclusion criteria** 1. Clinical diagnosis of confirmed CAS, specified as having all 3 features of the ASHA 2007 consensus-based position paper, and at least 4 out of 10 features from the 'Strand' checklist (Shriberg 2010) 2. Aged between 4 and 12 years at time of treatment 3. Standard score of ≥ 85 for receptive language of CELF-IV or CELF-P2 4. Normal or adjusted-to-normal hearing and vision 5. Child and at least 1 parent being native Australian-English speakers 6. No other diagnosed developmental or genetic disorders (e.g. dysarthria, autism or intellectual disability) No information was collected on race, ethnicity or socioeconomic status
Interventions	**Process** Participants were randomly assigned to 1 of the 2 treatments: ReST or NDP-3. Concealed allocation was revealed after baseline assessment was completed. No significant differences between groups for any baseline variables (age, sex, primary or secondary outcome measures or CAS severity). Dose was controlled. Treatment was delivered for both ReST and NDP-3 over 12 x 1-hour sessions, scheduled 4 days/week for 3 weeks in school vacation time in January 2011 and January 2012, with a maximum of 10 partic-

Exemple « fil rouge »

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https://doi.org/10.1002/14651858.CD006278.pub3

Assessment of risk of bias in included studies

Two review authors (FL and AM) independently assessed the risk of bias within the one included study, using Cochrane's 'Risk of bias' tool (Higgins 2011a). Both review authors rated the risk of bias as low, high or unclear (uncertain), across each of the domains listed below. There were no cases of disagreement.

Risk of bias

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Low risk	Clarification was sought from the corresponding author by phone who confirmed that each envelope had a note within it specifying the treatment condition to which the child was allocated (Murray 2015). The authors could not see through the envelopes. Envelopes were placed in a container and an independent person (corresponding author's husband) not involved in the study selected an envelope that was then given a participant number (P1, P2, etc.) until all participants were allocated to an arm of the study. Allocation was not revealed until after the pre-treatment evalua-

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Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
- Effectuer une recherche exhaustive de la littérature
- Sélectionner les études à inclure dans la synthèse
- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- **Interpréter les résultats obtenus**
- Rédiger votre article

- Synthétiser – de manière narrative - les principaux résultats,

  en incluant la force des données pour chaque *outcome*…

  - Remarque
    Si plusieurs study designs retenus,
    ne pas mélanger des pommes et des poires

Etapes clés

- Formuler l'objectif de la revue systématique et la question de recherche
- Définir les critères d'inclusion / d'exclusion
- Elaborer et rédiger le protocole de recherche
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- Extraire les données des études sélectionnées, en évaluant les risques de biais de ces études
- Interpréter les résultats obtenus
- **Rédiger votre article**

Structure classique d'un article de recherche

- Titre
- Résumé structuré
- **I**ntroduction
  Matériel et méthodes
  Résultats
  Discussion
- Références bibliographiques
- Mais aussi, souvent :
  - Déclaration de conflits d'intérêt
  - Remerciements
  - Données supplémentaires

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- Pour vous aider dans cette étape
  - http://www.prisma-statement.org/
    - PRISMA Checklist
      - Sans oublier qu'une mise à jour est en préparation
    - Extensions
      - PRISMA for Abstracts
      - PRISMA Equity
      - PRISMA Harms (for reviews including Harm outcomes)
      - PRISMA Individual Patient Data
      - PRISMA for Network Meta-Analyses
      - PRISMA for Protocols
      - PRISMA for Diagnostic Test Accuracy
      - Extensions in developement

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PRISMA for Abstracts

The PRISMA extension for Abstracts was published in 2013. The 12-item checklist gives authors a framework for condensing their systematic review into the essentials for a journal of conference abstract that will meet the needs of many readers.

Statement paper:

Beller EM, Glasziou PP, Altman DG, et al. PRISMA for Abstracts: Reporting Systematic Reviews in Journal and Conference Abstracts. *PLoS Medicine*. 2013;10(4):e1001419. doi:10.1371/journal.pmed.1001419.

Key Documents

- Checklist - PDF | Word
- Statement

- En développement, par exemple :

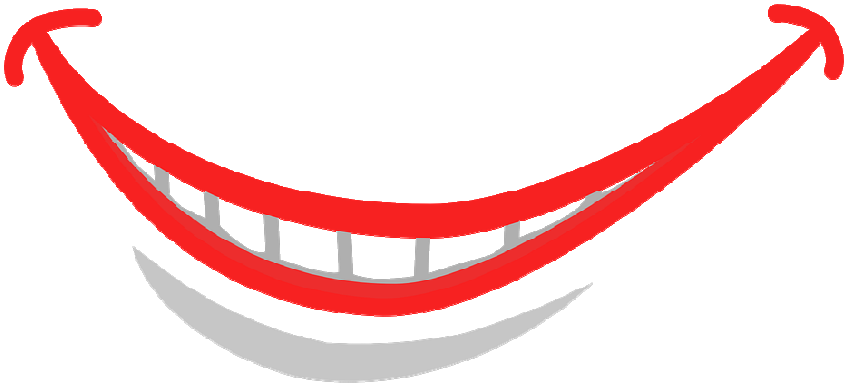
PRISMA-Search: guidelines for reporting systematic review literature searches (registered 17 February 2016)

- Read the protocol (February 2016)
- Contact: Melissa Rethlefsen (mlrethlefsen@gmail.com), Jonathan Koffel (jbkoffel@umn.edu), Shona Kirtley (shona.kirtley@csm.ox.ac.uk

Tiré de http://www.equator-network.org/library/reporting-guidelines-under-development/reporting-guidelines-under-development-for-systematic-reviews/#57 (consulté le 2 juillet 2019)

Plus d'information : https://osf.io/sfc38/ (consulté le 2 juillet 2019)

- Une fois l'article rédigé, soumis pour publication puis accepté pour publication



Good job!

Pour terminer…

- Un élément que je retiens ?
- Un élément que je souhaite qu'on me réexplique ?
- Un commentaire ?

Références

Beaudart, C., Rabenda, V., & Bruyère, O. (2016). Il n'est jamais trop tard pour apprendre à (bien) lire… la revue systématique. *Ortho-Rhumato, 14*, 37-40.

Berkman, N. D., Wallace, I., Watson, L., Coyne-Beasley, T., Cullen, K., Wood, C., & Lohr, K. N. (2015). *Screening for speech and language delays and disorders in children age 5 years or younger: A systematic review for the U.S. preventive services task force.* Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK305674/

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Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal, 26*, 91-108. doi:10.1111/j.1471-1842.2009.00848.x

Hahs-Vaughn, D., & Nye, C. (2008). Understanding high quality research designs for speech language pathology. *Evidence-Based Communication Assessment and Intervention, 2,* 218-224. doi:10.1080/17489530802646323

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Marshall, J., Goldbart, J., Pickstone, C., & Roulstone, S. (2011). Application of systematic reviews in speech-and-language therapy. *International Journal of Language and Communication Disorders, 46*, 261-272. doi:10.3109/13682822.2010.497530

Morgan, A. T., Murray, E., & Liegeois, F. J. (2018). Interventions for childhood apraxia of speech. *Cochrane Database of Systematic Reviews, 2018,* CD006278. doi:10.1002/14651858.CD006278.pub3

Rabenda, V., Beaudart, C., & Bruyère, O. (2017). Il n'est jamais trop tard pour apprendre à (bien) lire… la méta-analyse. *Ortho-Rhumato, 15*, 27-32.

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