

REVISÕES DA LITERATURA CIENTÍFICA: TIPOS, MÉTODOS E APLICAÇÕES EM ENFERMAGEM

REVISIONES DE LA LITERATURA CIENTÍFICA: TIPOS, MÉTODOS Y APLICACIONES EN ENFERMERÍA

SCIENTIFIC LITERATURE REVIEWS: TYPES, METHODS AND APPLICATIONS IN NURSING

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RESUMO

Introdução: O interesse da Enfermagem pela metodologia de revisões da literatura tem vindo a aumentar, constituindo-se métodos que permitem uma prática baseada na evidência científica.

Objetivo: Caracterizar os diferentes tipos de revisões da literatura e descrever etapas principais de uma revisão sistemática da literatura.

Material e métodos: Revisão narrativa da literatura. Pesquisa em bases de dados nas seguintes plataformas Google Académico, Scientific Electronic Library Online (SciELO), EBSCO Host, e Biblioteca Virtual em Saúde (BVS). As palavras-chave: metanálise; medicina baseada em evidências; literatura de revisão como assunto; metodologia, nos idiomas inglês e português.

Resultados: Foram descritas 14 tipos de revisões e analisadas de acordo com o tipo de pesquisa, avaliação da qualidade metodológica dos artigos incluídos, síntese da informação colhida e análise global dos dados. Foram apresentadas as vantagens e desvantagens de cada tipo e descritos os principais passos de uma revisão sistemática da literatura.

Conclusões: A revisão sistemática da literatura é um dos alicerces para prática baseada em evidência, uma vez que agrega uma grande quantidade de informações num único estudo.

Palavras chave: metanálise; medicina baseada em evidências; literatura de revisão como assunto; metodologia; enfermagem de reabilitação.

RESUMEN

Introducción: El interés de la enfermería por la metodología de revisiones sistemática de la literatura ha aumentado, ya que se constituye un método que permite una práctica basada en la evidencia científica.

Objetivo: Caracterizar los diferentes tipos de revisión de la literatura y describir etapas principales de una revisión sistemática de la literatura.

Material y métodos: Revisión narrativa de la literatura. Búsqueda en bases de datos en las siguientes plataformas Google Académico, Scientific Electronic Library Online (SciELO), EBSCO Host, y Biblioteca Virtual en Salud (BVS). Las palabras clave: *meta-analysis; evidence-based medicine; review literature as topic; methodology*, en Inglés y portugués.

Resultados: Se describieron 14 tipos de revisiones que fueron analizadas de acuerdo con el tipo de investigación, evaluación de la calidad metodológica de los artículos incluidos, síntesis de la información recolectada y análisis global de los datos. Han sido presentadas las ventajas y desventajas de cada tipo y descritos los principales pasos de una revisión sistemática de la literatura.

Conclusiones: La revisión sistemática de la literatura es el fundamento para la práctica basada en la evidencia, ya que agrega una gran cantidad de información en un único estudio.

Palabras clave: metanálisis; medicina basada en evidencias; literatura de revisión como asunto; metodología; enfermería de rehabilitación

ABSTRACT

Introduction: The interest of nursing in the methodology of the literature systematic review has been increasing, since it constitutes a method that allows a practice based on scientific evidence with scientific accuracy.

Objective: To characterize the different types of literature review and to describe the main steps of a systematic review of the literature

Material and methods: Narrative review of the literature. Database search on the following platforms: Google Academic, Scientific Electronic Library Online (SciELO), EBSCO Host, and Virtual Health Library (VHL). Keywords: *meta-analysis; evidence-based medicine; review literature as topic; methodology*, in the English and Portuguese languages.

Results: fourteen types of reviews were described and analyzed according to the type of research, evaluation of the methodological quality of the articles included, synthesis of the information collected and global analysis of the data. The advantages and disadvantages of each type and the main steps of a systematic review of the literature were presented.

Conclusions: A systematic review of the literature is the foundation for evidence-based practice, since it aggregates a large amount of information in a single study.

Keywords: meta-analysis; evidence-based medicine; review literature as subject; methodology; rehabilitation nursing

INTRODUCTION

Literature reviews have been increasingly used by health professionals to assimilate the results of studies in the context of health care.¹

Among the various reviews, the systematic literature review (SLR) is defined as a systematic, explicit and reproducible method that allows the identification, evaluation and synthesis of studies carried out by researchers, academics and health professionals.² This methodology starts from a question that is clearly formulated and uses systematic and explicit methods to identify, select and critically appraise studies; in addition, it allows for the collection and analysis of data from the studies that were included in the review.¹

Although this method of literature synthesis has had greater expression in recent years, it is not a recent idea. James Lind, in 1753, conducted the first randomized clinical trial, recognized the value of systematic methods to identify, to extract and to evaluate information from studies in order to avoid biased interpretations of the investigation.³⁻⁴

There are many important historical events on the SLR, for example: in 1904, when Pearson publishes a historical review on the effects of vaccines against typhoid fever; in 1976, Glass coined the term "meta-analysis"; in 1984, Light and Pillemer report summarizing the results; in 1987, Mulrow publishes a medical review article on the state of science; in 1989, Enkin and colleagues publish *Effective Pregnancy and Childbirth Care*; in 1992, Antman and colleagues illustrated the value of accumulating results; in 1993, the launch of Cochrane Collaboration; in 1994, the creation of the UK NHS Center for Reviews and Dissemination; and in 2000, the creation of the Campbell Collaboration Foundation.

Literature review^{3,10} can assume different expressions related to the degree of systematization and function for which they are intended. However, the SLR is based on an explicit, clear and standardized method so that it can be reproduced, which describes a priori in a rigorous way how it should be planned.³⁻⁵

The use of SLR makes it possible to "take stock" and have an overview of the knowledge produced so far, to identify opportunities that have not been explored yet and carrying out an innovative research project, in short, makes it possible to know the "state of the art". On the other hand, it allows verifying a specific hypothesis, in order to select tools, instruments or scales that are useful to conduct research and also to know gaps in studies, indicate unexplored topics or help to formulate research questions.³

The key features of an SLR are: clear definition of objectives based on pre-defined eligibility criteria for studies; explicit and reproducible methodology; systematic search that tries to identify all studies that meet the eligibility criteria; assessing the validity of the results of the included studies, for example, by assessing the risk of bias; and systematic presentation and synthesis of the characteristics and findings of the included studies.⁶ The fact that it is reproducible is

highlighted, which emphasizes the need for clarity in each of the steps.

This essay aims to present the different types of literature review and describe the main stages of an SLR.

MATERIAL AND METHODS

A narrative review of the literature⁷ was carried out in order to obtain a synthesis of the various types of systematic review, as well as their characteristics and functions in the context of nursing.

The essays included were obtained through the following platforms: Academic Google, Scientific Electronic Library Online (SciELO), EBSCO Host and Virtual Health Library (VHL), where it was possible to access the following databases: IBECs; CINAHL Complete; Library, Information Science & Technology Abstracts and MEDLINE Complete.

The subject titles and free terms were: 1. (Meta-Analysis/Meta-analysis) AND (Evidence-Based Medicine/Evidence-Based Medicine) AND 2. (Review/review) OR (Review Literature as Topic/review literature as subject) AND (Methodology /Methodology).

The inclusion criteria were: Language (Portuguese, English and Spanish); Availability (full text), all types of articles and books. The references of these articles or books were also considered.

RESULTS AND DISCUSSION

Literature reviews can be named as: Critical review; Integrative review; Literature revision; Systematic mapping/map review; Meta-analysis; Review of mixed studies/mixed methods review; Overview; Qualitative systematic review/synthesis of qualitative evidence; Quick review; Scoping review; Review of the state of the art; Systematic review; Systematized review; Systematic research and review; and Umbrella Review.^{3,8}

The critical review of the literature aims to demonstrate that an extensive literature search was carried out and its quality was critically assessed.⁸ In order to help with this assessment, guidelines are available to critically assess the quality of studies with a qualitative design.⁹

The integrative literature review allows for the combination of primary and secondary research, after evaluating the methodological quality and consists of six distinct phases: 1) Identification of the theme and selection of the hypothesis or research question for the elaboration of the integrative review; 2) Establishment of inclusion and exclusion criteria for studies/sampling or literature search; 3) Definition of information to be extracted from selected studies/categorization of studies; 4) Evaluation of the studies included in the integrative review; 5) Interpretation of results and, 6) Presentation of the review/synthesis of knowledge.^{10,11}

The steps of a narrative literature review or also called traditional are: selection of a review topic; literature search; selection/collection, reading and

analysis of literature; review writing; and references.¹² Review essays can cover a variety of subjects and may include research findings. As it presents a very broad description, generalization is not possible.⁸

The steps of the mapping or systematic map review are: 1) Establishment of a review and *stakeholder* engagement team; definition of scope and issue; definition of inclusion criteria for studies; scope of studies; development; and publication of protocols; 2) Search for evidence; 3) Selection of evidence; 4) Encoding; production of a systematic map database; 5) Critical evaluation (optional); 6) Description and visualization of results; production report; and supporting information.¹³ This review allows you to map and categorize existing literature on a specific subject, by identifying gaps in the literature and justifying further reviews and/or primary studies.^{3,8}

Meta-analysis is a technique that statistically combines the results of primary studies in order to find a more accurate effect of the results, decreasing the bias and increasing objectivity, robustness and correlations of the results.^{8,14} A *Preferred Reporting Items for Systematic reviews and Meta-Analyses* (PRISMA) for Protocols is a 17-item checklist designed to facilitate the preparation and reporting of a robust protocol for systematic review.¹⁴ The latest update of PRISMA's recommendations has 27 checklists, which allows to improve the quality of the report as well as the methodological quality.¹⁵

Mixed methods review can refer to any combination of methods in which at least one of the components is a literature review (usually systematic). For example, it may include a systematic review accompanied by interviews or a *stakeholder* consultation.^{3,8}

An overview review is a generic term describing a review of the medical literature. As such, it can be used for many different types of literature review, with different degrees of systematicity.^{8,16}

Qualitative reviews, according to the *Cochrane Collaboration's handbook and the Center for Reviews and Dissemination methodologies*, are gradually gaining more weight.^{3,8} They are also part of primary studies, applied in a insightful and uniform way, but not statistically combined. They find their genesis in

the deepening of human interaction and individual experiences. Used in research work on attitudes, beliefs, preferences and life experiences.¹⁷

Rapid review methods were considered by some authors as an undesirable need for evidence-based decisions. This type of review allows for an assessment of what is already known about an issue of policy or practice, using systematic review methods to research and critically assess existing literature.^{8,18}

The *scoping* review provides a preliminary assessment of the potential size and extent of available research literature. It is intended to identify the nature and scope of the evidence.^{8,19}

The state-of-the-art review focuses on more current issues. This review may offer new perspectives on an issue or highlight an area that needs further investigation.^{3,8}

Systematic review is the best known type of review. The systematic search for, evaluating and synthesizing evidence from studies, often adhering to guidelines on conducting a review provided by the *Cochran Collaboration*.^{3,8}

Systematic review and research combines the strengths of a critical review with a comprehensive research process. Typically, this type of review addresses broad issues and the result is a synthesis of better evidence.^{3,8}

Systematized reviews attempt to include one or more elements of the systematic review process and are not considered a true systematic review. It is usually performed by a graduate student.⁸

The umbrella review (also called coverage review) uses only units of analysis taken from systematic reviews and meta-analysis. It must comply with a peer review protocol and the tools available to assess the research synthesis, which must be explicit, clear and objective.^{8,20}

In general, the methods used in a review comprise conducting the review in four stages: Research (search and selection of studies), evaluation, synthesis and analysis.^{3,8,21} The main types of literature review and will be presented and analyzed based on these four steps (Table 1).

Table 1 - Characterization of the type of literature review.

Review type	Description	Research	Evaluation	Synthesis	Analysis
Critical review	It aims to demonstrate extensive research and critical quality assessment. It allows including the degree of analysis and conceptual innovation. It usually results in a hypothesis or model.	It seeks to identify the most significant items in the field.	Não. Avalia apenas através de contributos.	No. It only evaluates through contributions.	It seeks to identify the conceptual contribution to incorporate existing theory or obtain new theory.
Integrative review	It uses the widest type of research review methods, allowing the inclusion of experimental and non-experimental investigations in order to understand a phenomenon more broadly. Integrative reviews can combine data from theoretical and empirical literature.	Comprehensive search to identify the maximum number of eligible primary sources using two or more strategies.	Reports coded according to quality but it may not be deleted.	Tabular (matrices, charts, graphs or networks) Narrative	Creativity, critical data analysis and data presentation are key to comparing and identifying important patterns and themes.
Literature review	It consists of an analysis of recent or current literature. It can cover a wide range of subjects at various levels of coverage. May include search results.	Possibly comprehensive/ extensive.	Possible.	Narrative.	Chronological, conceptual, thematic, among others.
Mapping/Systematic Map Review	It maps and categorizes existing literature from reviews and/or primary research, identifying gaps in research literature.	The research is done according to the time available.	No.	Graphic. Tabular.	It characterizes the quantity and quality of literature. Can identify the need for primary/secondary research.
Meta-analysis	It statistically combines the results of quantitative studies to provide an accurate effect of the results.	Exhaustive and comprehensive . You can use funnel chart or forest plot.	Yes. What allows you to determine inclusion/ exclusion and/or sensitivity analysis	Graphic. Tabular. Narrative.	Numerical analysis.
Review of mixed studies	It combines methods that include review components (usually systematic). It combines quantitative and qualitative studies or results with process studies.	Sensitive research or separate quantitative and qualitative strategies.	Yes. Generic assessment instruments are used.	Narrative. Tabular. Graphic (to integrate quantitative and qualitative studies).	You can look for correlations between characteristics and use gap analysis to identify aspects missing in the literature.
General overview	It tries to search literature and describe its characteristics.	It depends on how systematic your methods are.	It depends on how systematic your methods are.	It depends on how systematic your methods are.	Chronological, conceptual, thematic, among others.
Qualitative systematic review / synthesis of qualitative evidence	It integrates or compares findings from qualitative studies. Search for "themes" or "constructs" in or through individual studies.	Selective or intentional.	It is frequently used to make the include/exclude decision.	Qualitative, narrative synthesis.	Thematic and may include conceptual models.

Rapid Review	It assesses what is already known about policy or practice, uses systematic review methods to research and critically assess existing research.	The research is done according to the time available.	The assessment is made according to the time available.	Narrative. Tabular.	Quantity and overall quality of literature/direction of literature effect.
Scoping Review	Preliminary assessment of the potential scope and breadth of available literature. It aims to identify the nature and extent of evidence from studies (usually including ongoing research).	As it allows time, it may include studies that are ongoing.	No.	Narrative. Tabular.	Quantity and quality of literature (study design and other characteristics). Attempt to specify a viable revision.
State of the art review	It addresses current issues. It can offer a new perspective on the issue or indicate an area for further investigation.	Comprehensive (current literature).	No.	Narrative. Tabular.	Current states of knowledge, priorities for future investigations and their limitations.
Systematic and research review	It combines the strengths of critical review with the comprehensive research process. It addresses broad issues to produce "better synthesis of evidence".	Exhaustive and comprehensive	Possible.	Narrative. Tabular.	It allows finding what is known and making recommendations for practice.
Systematic review	Attempt to include elements of the systematic review process in the abbreviated systematic review. It is usually done in graduate student work.	It may or may not include a comprehensive search.	It may or may not make the assessment of methodological quality.	It is usually narrative using tables.	What is known? Identify uncertainties around discoveries; limitations of methodologies.
Umbrella Review or Coverage	Review refers to gathering evidence from multiple reviews in an accessible and usable document. The Focus is on a broad condition or issue for which there are competing interventions and highlights comments that address these interventions and their outcomes.	Identification of other revisions. It does not use primary studies.	Quality assessment of included reviews.	Graphic. Tabular and narrative comments.	What is known? Recommendations for practice. What remains unknown? Recommendations for future investigations.

Source: Booth A.³; Grant MJ, Booth A.¹⁰

A “systematic approach” refers to the elements/attributes that a literature review, whether done individually or collectively, has to present so that its methods are considered explicit and reproducible.³ In this sense, conducting a systematic review involves the work of at least two researchers, who will independently assess the methodological quality of each selected article, based on a research protocol⁹ and who will then compare the results obtained, which, if there is no agreement, should proceed to the next step, so that can be re-screened.

Systematic approaches are evidenced both in terms of conduct and in presentation of the literature review, and are summarized in the description of the method. Specifically, these approaches include:

- Systematic approaches to literature search, such as the scoping review and mapping review;
- Systematic approaches to assessing the quality of literature, as in an integrative review;
- Systematic approaches that allow for the synthesis of literature, as can be seen in techniques such as meta-ethnography, realistic synthesis and thematic synthesis; and
- Systematic approaches to analyzing the robustness and validity of review results as in subgroup analysis, either qualitative or quantitative, or in sensitivity analysis.³

Table 2 presents the main types of review that exist and the most used in the health field, where their advantages and disadvantages are explained.

Table 2 - Advantages and Disadvantages of Various Types of Review.

Type of review	Advantages	Disadvantages
Critical review	It critically evaluates previously produced literature. It allows you to analyze the perspective of competing schools of thought in order to promote conceptual development.	They usually do not demonstrate the systematicity of other more structured approaches in the literature. There is no formal requirement to present search, synthesis and analysis methods explicitly and there is no formal quality assessment. The synthesis is subjective and the resulting product is the starting point of a new investigation.
Integrative review	It is most commonly used for synthesizing results on a topic or issue. It provides broader information about a particular subject or problem. Those who use it can combine data from theoretical and empirical literature and from experimental or quasi-experimental elements.	The heterogeneity of the studies does not allow for comparisons. They use quality assessment, but not as an exclusion criterion.
Literature review	It intends to identify what was done previously, allowing the consolidation, for the construction of works, avoiding duplication and identifying omissions or gaps in the literature produced.	It is not explicitly intended to maximize scope or analyze the data collected. The conclusions may be biased by likely omission, perhaps inadvertently, from significant sections of the literature or by not questioning the validity of their results.
Mapping/Systematic Map Review	It allows the contextualization of in-depth systematic literature reviews within the broader literature and the identification of gaps in the evidence base. They are a valuable tool for providing policymakers, practitioners and researchers with an explicit and transparent means of identifying narrower issues about relevant policy and practice. Systematic maps can characterize studies in other ways, such as in a theoretical perspective, in the population group or in the context in which the studies were carried out.	They are necessarily time-constrained and lack the synthesis and analysis of more systematic approaches. Studies can be characterized at a broad descriptive level and thus oversimplify the picture or mask considerable variation (heterogeneity) between studies and their findings. These do not include a quality assessment process; characterizing studies only based on study design.
Meta-analysis	Small or inconclusive studies, without statistical significance, can, however, contribute to the larger picture. Furthermore, these compilations are time-efficient for decision makers, particularly when compared to the time spent reviewing scattered individual studies.	Combination of studies that are not sufficiently similar. However, this is not a critique of meta-analysis per se, but rather of the inappropriate use of meta-analysis. On the other hand, a meta-analysis cannot be better than your included studies [it is related to the quality of the studies, "garbage goes in, garbage comes out"]
Review of mixed studies	This review allows us to capitalize on the corresponding weaknesses of systematic review and more divergent alternative approaches to theory. It allows a more holistic understanding of a particular intervention or condition is compelling. These reviews also provide a potentially more complete picture of the research landscape in a specific area.	Difficulty in integrating the results of quantitative and qualitative investigations. More significant than these pragmatic decisions are more complex issues in relation to the theoretical and methodological challenges of putting together differently structured studies, addressing different yet related issues, and conducted within different paradigms.
General overview	These can provide a broad and often comprehensive summation of a subject area and, as such, are of value to people coming into contact with a subject for the first time.	This is often used as a non-discriminatory word for reviews of varying rigor and quality. For this reason, Cochrane chose to differentiate between "systematic overview", used as a synonym for "systematic review", from another type of overview that typically lacks both systematic methods and explicit reporting.
Qualitative systematic review / synthesis of qualitative evidence	These reviews can be used: to explore barriers and facilitating factors in service delivery; to explore the users perspective; investigate perceptions about new roles. These types of reviews have considerable strength in complementing research evidence. Qualitative research findings can be more powerful than isolated comments.	Methods for conducting a qualitative systematic review are still in their infancy and there is considerable debate about when specific methods or approaches are appropriate. Such debates focus on the search for a dominant model for the synthesis of qualitative evidence. It is questioned whether this is the classic systematic review method or whether it is more appropriate to adapt and adopt concepts from primary qualitative research (eg grounded theory, theoretical saturation, and intentional sampling).

<p>Rapid review</p>	<p>They are intended to be rigorous and explicit in method and therefore systematic, but make allowances for the length or depth of the process, limiting particular aspects of the systematic review process.</p> <p>This methodology identifies several legitimate techniques that can be used to shorten the time scale. These carefully include the focus of the question, using broader or less sophisticated research strategies, carrying out a review of reviews, restricting the amount of gray literature, extracting only key variables, and carrying out only "simple" quality assessments. The reviewer chooses which steps to limit and then explicitly reports the likely effect of that method.</p>	<p>Reducing the length of the review process runs the risk of introducing bias. This is true for any review process, but this risk is heightened when measures are accelerated or even circumvented. Limiting the time required for research can result in publication bias, limiting evaluation or quality assessment can place a disproportionate emphasis on poorer quality research, while lack of attention to synthesis can ignore inconsistencies or contradictions. Furthermore, inadequate attention to the question being addressed or the quantity and quality of literature that exists on a subject can result in a very accurate answer to the wrong question or an inconclusive answer to a poorly conceived question.</p>
<p>Scoping review</p>	<p>This type of review is able to inform investigators if a full systematic review is needed. This shares several characteristics of systematic review in an attempt to be systematic, transparent and replicable.</p>	<p>These reviews generally cannot be considered as an end point in themselves, mainly because limitations on their rigor and limitations on their duration lead to the potential for bias. These usually do not include a quality assessment process. There is a danger that studies, without quality, will be used as the basis for conclusions. As a result, their findings cannot be used to recommend policies or practices.</p>
<p>State of the art review</p>	<p>These reviews are valued by those new to an area or those seeking to identify potential opportunities for further investigation. Instead of having to read several articles describing specific developments, the reader can get an idea of the quantity and main characteristics of a subject in a single review article.</p>	<p>These methods are limited in time and can distort the overall development picture of a field. For example, if a subject has been extensively covered by research in the past, but has temporarily gone into "remission", its importance may be underrepresented simply because it falls outside the established timeframe. On the other hand, an expert may simply provide a particularly idiosyncratic and personal perspective on current and future priorities.</p>
<p>Systematic and research review</p>	<p>Systematic reviews seek to bring together all the knowledge available on a subject area. In recent years, with the establishment of organizations such as the Campbell Collaboration and the Cochrane Qualitative Methods Group, there has been a notable shift to include a broader range of study designs, incorporating quantitative, qualitative, and mixed methods studies.</p>	<p>Restricting studies for inclusion in a single study design, such as randomized controlled trials, as practiced in the early years of the Cochrane Collaboration, may limit the application of this methodology to providing insights into effectiveness rather than seeking answers to more complex research questions; for example, why is a particular intervention effective?</p>
<p>Systematic review</p>	<p>The author can search just one or more databases and then code and analyze all results systematically. These can be the basis of more extensive work, whether as a dissertation or a fully funded research project.</p>	<p>This review falls short of having the same scope as the systematic review. Quality assessment and synthesis may be less identifiable. This means that these processes are not described, that they are modeled using a small set of eligible articles, or that they are completely absent.</p>
<p>Umbrella Review or Coverage</p>	<p>Synthesis of systematic reviews that can be compared. It only allows the inclusion of reviews with a higher level of evidence.</p> <p>Allows the reader a quick overview (and an exhaustive list) of comments on the decision.</p>	<p>The main weakness of an umbrella review is logistics. For a comprehensive review to be really useful, the more restricted component reviews must pre-exist.</p>

Source: Booth A.³; Grant MJ, Booth A.⁸

Considering the 14 review types and methodologies associated with systematic review labels, there are frequent inconsistencies or overlaps between descriptions of nominally different review types. Currently, there is no international consensus on the types of reviews that are serious, coherent and mutually exclusive. The most pragmatic way to identify which of these various types of review is the most appropriate is through the application of the four main processes associated with the development of that review.^{3,8}

*The Cochrane Collaboration*²² recommends that a systematic review be carried out in 8 (eight) steps: Definition of a review question and criteria for including studies; Search for studies; Selection of studies and data collection; Assessment of the risk of bias in the included studies; Data analysis and conducting meta-analyses; Placement of biases in the report; Present results and tables with "results summary", and lastly; Interpretation of results and conclusions.

Other authors⁹⁻¹⁰ refer to seven steps:

1. Construction of the research protocol so that the review follows the same accuracy as a primary research. The components of this protocol are: the review question, inclusion criteria, and strategies for seeking research, how research will be critically evaluated, data collection and synthesis. The review planning is carefully prepared and it is recommended that the protocol be evaluated by a competent professional, prior to the start of the review.⁹⁻¹⁰ It is recommended to register the protocol on the PROSTERO platform to avoid redundancies (<https://www.crd.york.ac.uk/PROSPERO/>).

2. Formulation of the question using the acronym PICO,⁹ where P corresponds to the person or population (*population*), I is the intervention (*intervention*), C is the comparison or control (*comparison/control*) and O is the outcome or result (*outcomes*). In some specific cases, acronym derived from PICO should be used.²³

3. Search for studies with the definition of descriptors, search strategies in each of the various electronic databases (MEDLINE, CINAHL, EMBASE, LILACS, *Cochrane Controlled Trials Database*, *SciSearch*, among others).⁹⁻¹⁰

4. Selection and review of studies applying predetermined inclusion and exclusion criteria.⁹⁻¹⁰

5. Critical evaluation of each article; for this purpose the grids must be used. *Joanna Briggs Institute* (JBI) criteria may be used according to the study design: JBI-QARI for the qualitative assessment and review of the instrument and is designed to facilitate critical assessment, data extraction and meta-synthesis of results of qualitative studies; JBI-MAStARI is specific for quantitative studies and is used to perform meta-analysis; JBI-NOTARI allows to evaluate text narratives, opinions and evaluations, facilitating critical evaluation, data extraction and the synthesis of expert opinions in texts and reports; and JBI-ACTUARI which uses in cost analysis, technology and the use of assessment and instrument review, facilitating critical assessment, data extraction and synthesis of economic data.²⁴ However, as an alternative, one can use the following grids and guidelines to assess the methodological quality of the studies, based on their design: Randomized clinical trials - CONSORT; observational studies - STROBE; Systematic reviews - PRISMA and AMSTAR; case studies - CARE; Qualitative research - SRQR & COREQ; Diagnostic/prognostic studies - STARD&TRIPOD; Quality improvement studies - SQUIRE; Economic evaluations - CHEERS; Clinical guidelines / guidelines - AGREE II. Guidelines for each type of study are accessible on the website - <http://www.equator-network.org/>.²⁵

6. Data collection using instruments that analyze in pairs (two researchers independently) the methodological validity. At this stage, the level of evidence, quality²⁶ and degree of recommendation²⁷⁻²⁸, the applicability of the results, the cost and current practice is determined, in addition, the limits between the benefits and risks of a given intervention are clearly determined.⁹⁻¹⁰

7. Summary of results/data, where the studies should be grouped based on the homogeneity of the studies. The presentation and synthesis of data must be pre-established in the protocol, as well as the graphical and numerical presentation mode, to facilitate the reader's understanding of the reader.⁹⁻¹⁰

The main criticism that has been made to literature reviews is related to the non-use of clear, formal, explicit and systematic methods, which has harmed their status and usefulness as research.²⁹

Regardless of the choice of the type of study to be applied when there is a need to investigate a particular subject or theme, it is essential that these studies are credible. This must reflect accuracy and quality in its conduct. Well-conducted reviews increase the possibility of unbiased results, and of making valid and robust interpretations. This type of writing remains a challenge, but its importance is crucial, enabling all this information produced to have an impact on the provision of nursing care and also on the knowledge that is produced.³⁰⁻³¹

The characteristics of a high-quality systematic literature review in contrast to low-quality ones (main errors and pitfalls) are presented below.

Table 3 - Characteristics of a high-quality review and major flaws.

Merits
<ul style="list-style-type: none"> - Answerable question; - Does the review improve significantly over existing reviews? - PICOS strategy protocol; - PROSPERO registration; - PRISMA Guidelines, Checklist and Flowchart; - Complete data extraction; - Quantitative synthesis of study data (if it is applicable, meta-analysis); - Ranking of evidence and strength of recommendations (eg SORT, GRADE); and - Explicit statement of the "starting point" of the review.
Failures and pitfalls
<ul style="list-style-type: none"> - Underestimation of time to complete review; - Do not mention whether the review has been carried out recently; - Question not specific or too broad ("unanswerable"); - Failure to identify explicit inclusion and exclusion criteria for the study; - Revision "transparency" failure; - Do not exclude duplicate study populations in different studies; - Failure to recognize and report heterogeneity of studies;

- Failure to recognize and report study bias; and Make statements in conclusions that go beyond the facts/results of the review.

Source: Harris et al.³²

Subtitle:

PRISMA - Preferred Reporting Items for Systematic Reviews and Meta-analyses;

PROSPERO - International prospective register of systematic reviews³³

SORT - Strength of Recommendation Taxonomy³⁴

GRADE - Grading of Recommendations Assessment, Development, and Evaluation.³⁵

PICOS - Participant(s), intervention(s), comparison(s), outcome(s), and study design.

Managing a literature review is similar to managing any research project. In this sense, it is necessary to identify the skills, mastery of tools and methodologies, as well as the necessary resources (human, database, time, financial, among others).^{3,36}

In order for rehabilitation nursing to expand the production of its knowledge and demonstrate health gains sensitive to its care, it is necessary to expand both the strength of the evidence and the degree of recommendation²⁸ and the quality of the evidence being produced.

Therefore, the source of the scientific evidence must be identified, which preferably should be primary studies, but may also be secondary, but an assessment of the quality must be carried out, in terms of its robustness (validity and reliability) and its relevance to the context location (applicability).⁸

FINAL THOUGHTS

There are several types of systematic review of the scientific literature, all of them with advantages and disadvantages. In this narrative review, 14 types of review were found, all of which can be important to synthesize the knowledge produced.

To help in making the decision for the type of review, it is necessary to balance and consider the investment of resources and energy in new researches if there are others done previously.

A systematic review of the literature has common principles and similar processes, but it can vary like primary studies, both in terms of length, scope and depth, as well as in the types of questions, data and methods used.

These secondary studies, like any other primary study, need proper quality assurance processes to assess them so that the result is representative of reality.

Researchers in general, and rehabilitation nurses in particular, should be aware of the many practical, methodological and policy challenges involved in this type of study and its broader role in the production and use of research findings.

REFERENCES

1. Rudnicka AR, Owen CG. An introduction to systematic reviews and meta-analyses in health care. *Ophthalmic Physiol Opt.* 2012 May 1;32(3):174-83.
2. Fink A. *Conducting research literature reviews: from the Internet to paper.* 4th Edition. Los Angeles: Sage Publications; 2014.
3. Booth A. The literature review: its role within research. In Booth A, Sutton A, Papaioannou D. (Eds). *Systematic approaches to a successful literature review.* Los Angeles: Sage; 2016 May 10.
4. [Sousa MR, Ribeiro AL. Revisão sistemática e meta-análise de estudos de diagnóstico e prognóstico: um tutorial. *Arq Bras Cardiol.* 2009;92(3):241-51. Available from: <http://dx.doi.org/10.1590/S0066-782X2009000300013>.
5. Karino ME, Felli VE. Enfermagem baseada em evidências: avanços e inovações em revisões sistemáticas. *Ciênc Cuid Saúde.* 2012 Mar;11(5):011-5.
6. Chandler J, Higgins JPT, Deeks JJ, Davenport C, Clarke MJ. Chapter 1: Introduction. In: Higgins JPT, Churchill R, Chandler J, Cumpston MS (editors), *Cochrane Handbook for Systematic Reviews of Interventions Version 5.2.0* (updated February 2017), Cochrane, 2017. Available from http://community.cochrane.org/book_pdf/764
7. Rother ET. Revisão sistemática X revisão narrativa. *Acta paul. enferm.* 2007 Jun;20(2):1-2.
8. Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J.* 2009 Jun 1;26(2):91-108.
9. Ercole FF, Melo LS, Alcoforado CL. Revisão integrativa versus revisão sistemática. *REME Rev Min Enferm.* 2014;18(1):9-12.
10. Galvão CM, Sawada NO, Trevisan MA. Revisão sistemática: recurso que proporciona a incorporação das evidências na prática da Enfermagem. *Rev Latino-am Enferm.* 2004 maio-jun; 12(3):549-56.
11. Sousa LM, Marques-Vieira C, Severino SS, Antunes AV. Metodologia de Revisão Integrativa da Literatura em Enfermagem. *Rev Inv Enferm.* 2017; Série II(21): 17-26.
12. Cronin P, Ryan F, Coughlan M. Undertaking a literature review: a step-by-step approach. *Br J Nurs.* 2008 Jan 10;17(1):38-43.
13. James KL, Randall NP, Haddaway NR. A methodology for systematic mapping in environmental sciences. *Environmental Evidence.* 2016 Dec 1;5(1):7.
14. 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 Dec;4(1):1. <https://doi.org/10.1186/2046-4053-4-1>
15. Panic N, Leoncini E, De Belvis G, Ricciardi W, Boccia S. Evaluation of the endorsement of the preferred reporting items for systematic reviews and meta-analysis (PRISMA) statement on the quality of published systematic review and meta-analyses. *PLoS one.* 2013 Dec 26;8(12):e81318.
16. Hunt H, Pollock A, Campbell P, Estcourt L, Brunton G. An introduction to overviews of reviews: planning a relevant research question and objective for an overview. *Syst Rev.* 2018 Dec 1;7(1):39. <https://doi.org/10.1186/s13643-018-0695-8>
17. Costa AB, Zoltowski AP, Koller SH, Teixeira MA. Construção de uma escala para avaliar a qualidade metodológica de revisões sistemáticas. *Ciênc Saúde Colet.* 2015;20:2441-52.
18. Featherstone RM, Dryden DM, Foisy M, Guise JM, Mitchell MD, Paynter RA, Robinson KA, Umscheid CA, Hartling L. Advancing knowledge of rapid reviews: an analysis of results, conclusions and recommendations from published review articles examining rapid reviews. *Syst Rev.* 2015 Dec;4(1):50. <https://doi.org/10.1186/s13643-015-0040-4>
19. Colquhoun HL, Levac D, O'Brien KK, Straus S, Tricco AC, Perrier L, Kastner M, Moher D. Scoping reviews: time for clarity in definition, methods, and reporting. *J Clin Epidemiol.* 2014 Dec 1;67(12):1291-4.

20. Borges LS, Biondi-Zoccai G. Compreendendo a Revisão Guarda-Chuva na Pesquisa Cardiovascular. *Int.J Cardiovasc.Sci.(Impr.)*. 2016;29(6):500-3.
21. Pereira MG, Galvão TF. Extração, avaliação da qualidade e síntese dos dados para revisão sistemática. *Epidemiol Serv Saúde*. 2014;23:577-8.
22. Higgins JPT, Churchill R, Chandler J, Cumpston MS (editors), *Cochrane Handbook for Systematic Reviews of Interventions Version 5.2.0 (updated February 2017)*, Cochrane, 2017.
23. Sousa LM, Marques JM, Firmino CF, Frade F, Valentim OS, Antunes AV. Modelos de formulação da questão de investigação a Prática Baseada na Evidência. *Rev Inv Enferm*. 2018; 52(23): 31-39.
24. Joanna Briggs Institute's User Manual: version 5.0 system for the unified management. *Assessment and Review of Information*. [s.i.]: Joanna Briggs Institute's. 2011. disponível em <http://www.joannabriggs.org/assets/docs/sumari/SUMARI-V5-User-guide.pdf>
25. Pereira R. Enfermagem Baseada na Evidência: Um Desafio, uma Oportunidade. In C. Marques-Vieira; L. Sousa (Eds). *Cuidados de Enfermagem de Reabilitação à Pessoa ao Longo da Vida*. Loures: Lusodidata. 2017: 101-111.
26. Registered Nurses' Association of Ontario (RNAO). *Preventing Falls and Reducing Injury from Falls. Fourth Edition*. Toronto, Canada: Registered Nurses' Association of Ontario; 2017.
27. Registered Nurses' Association of Ontario (RNAO). *Falls Prevention: Building the Foundations for Patient Safety. A Self Learning Package*. Toronto, Canada: Registered Nurses' Association of Ontario; 2007.
28. Pereira ÂL, Bachion MM. Atualidades em revisão sistemática de literatura, critérios de força e grau de recomendação de evidência. *Rev Gaúch Enferm*. 2006;27(4):491-8.
29. Gough D, Oliver S, Thomas J, editors. *An introduction to systematic reviews*. In Gough D, Oliver S, Thomas J, editors. *An introduction to systematic reviews*. Sage; 2017 Mar 28.
30. Bento T. Revisões sistemáticas em desporto e saúde: Orientações para o planeamento, elaboração, redação e avaliação/Guidelines for planning, conducting, reporting and evaluating Systematic Reviews in Sport and Health. *Motricidade*. 2014 Apr 1;10(2):107.
31. Galvão TF, Silva MT, Garcia LP. Ferramentas para melhorar a qualidade e a transparência dos relatos de pesquisa em saúde: guias de redação científica. *Epidemiol Serv Saúde*. 2016; 25:427-36.
32. Harris JD, Quatman CE, Manring MM, Siston RA, Flanigan DC. How to write a systematic review. *Am J Sports Med*. 2014 Nov;42(11):2761-8.
33. PROSPERO. International prospective register of systematic reviews. Available at: <https://www.crd.york.ac.uk/prosperto/> Accessed May 27, 2018.
34. Ebell MH, Siwek J, Weiss BD, et al. Strength of recommendation taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature. *Am Fam Physician*. 2004;69(3):548- 556.
35. Grade Working Group. *Grading of Recommendations Assessment, Development and Evaluation*. Available at: <http://www.gradeworkinggroup.org/> Accessed May 27, 2018.
36. Boland A, Cherry G, Dickson R, editors. *Doing a systematic review: A student's guide*. Sage; 2017 Oct 9



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