Letter to the Editor
Carta ao Editor

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Evidence-based speech therapy: the role of systematic revisions

Fonoaudiologia baseada em evidências: o papel das revisões sistemáticas

Evidence-based practice aims to use the best available clinical evidence, coupled with professional clinical experience and patient values and preferences for decision-making in clinical practice[1], widely recognized in the medical field, has also spread to other areas of health, including speech therapy. Systematic reviews (SR) and meta-analyzes are at the top of the evidence pyramid, providing the highest level of evidence to verify the effectiveness of interventions[2]. They seek to collect all evidence that fits pre-defined eligibility criteria to verify a specific research question[3]. The use of well-defined and explicit methods is aimed at minimizing biases, which is their main difference with literature reviews, thus providing more reliable results, with which conclusions can be made and decisions made[4].

SR help health professionals stay current, provide evidence for decision -making, allow for the assessment of the risks and benefits of interventions, provide support for the development of care guidelines, and provide information on previous studies for potential sources of new research funding[5]. Given this, the production of quality SR can directly impact the quality of health care. The definition of quality criteria in the development and reporting of SR aims to encourage the improvement of the scientific production in speech therapy, as well as to subsidize clinical speech pathologists in the identification of good sources of support for their practice. It is of fundamental importance, then, that speech-language pathologists know how to delineate SR of quality, as well as to look for scientific evidences in corrected revisions.

The Cochrane Collaboration is an international organization that aims to support informed decision-making in clinical practice by preparing, maintaining and promoting accessibility to systematic reviews[3], one of the organizations that work with the production of evidence today. This organization defines criteria for SR planning and execution, being the main reference in this area. In the same way that the Consolidated Standards of Reporting Trials (CONSORT)[6] helps in the elaboration of randomized clinical trials, a good SR should be reported according to the Guideline PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyzes)[7] in order to ensure transparency and quality in the preparation and publication.

We will discuss methods for elaborating a SR Cochrane[3]: The development of a SR starts with a well-defined research question. In general, it contains a careful selection of the criteria defined by the acronym PICO (T): Participant (s), Intervention (s), Comparator (s), Outcome (s) and Type of study. The research question guides the definition of the search strategy and the eligibility criteria of the studies[8].

We indicate that the search should be performed, minimally, in the bibliographic databases: Medline, The Cochrane Central Register of Controlled Trials and EMBASE, but with indication of search in the largest number of specific literary bases of the studied subject, in which the searches must search high sensitivity, and may result in relatively low

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accuracy, as there is no consensus established in the literature. Keywords should be identified in the Medical Subject Headings (MeSH) and EMTREE (Embase Subject headings). The inclusion of gray literature is important to reduce the influence of publication bias on the results of systematic reviews and contributes to exposure of underestimated risks in published studies[9]. It is indicated that the selection of studies should be done by at least two independent reviewers. The grounds for exclusion of the full texts evaluated should be recorded and set out in the article.

For a typical selection of studies, Green et al.[4] guide you to: Merge search results using reference management software and remove duplicate records from the same report, examine titles and summaries, and remove obviously irrelevant items, acquire the full text of relevant reports, and examine them against criteria of SR eligibility. If the eligibility criteria are unclear, it may be appropriate to request more information, such as missing results. Finally, make final decisions about inclusion in the study and proceed with data collection.

They also bring the importance of the application of an instrument to evaluate the risk of bias of the articles included in the research. Bias is a systematic error in the conduct of the study, with the risk of overestimating or underestimating the true effect of the intervention / exposure. The Cochrane Collaboration recommends the use of a specific tool to assess the risk of bias in each included study. The judgment should be performed by at least 2 independent reviewers, who rate bias as "low risk," "high risk," or lack sufficient information in the study, "uncertain risk."

Finally, meta-analysis should be performed, if possible. Combining information from all relevant studies, one can estimate the effects of a given intervention or exposure more accurately than each study individually. However, it also has the potential to deceive, particularly if the study designs used, their biases and the variation between studies are not carefully considered. The variation between studies (heterogeneity) should be considered, although most Cochrane reviews do not have enough studies to allow reliable investigation of the reasons for this. In the speech-language field, many studies are identified published in national and international journals, and, often, there is no statistical significance of the data, due to the low number of patients studied. The meta-analysis comes against this, providing evidence or not, some information of interest with the pooled analysis of the studies found.

Cochrane presents recent speech-language contributions of SR. Rimoli et al.[10] conducted a study to verify the efficacy of treatments for laryngeal granulomas and, through the meta-analysis, identified that there is no evidence to prove any type of treatment in this population. Mitchell et al.[11] studied interventions to improve speech in post-stroke patients and did not find randomized clinical trials, but only limited evidence to suggest a beneficial effect on levels of speech impairment. This research[11] also becomes important, because it identifies to speech-language pathologists that the practices used in clinical practice with these patients and this specific objective are not based on evidence, without scientific evidence of its benefits.

Many judgments are needed in the process of preparing a Cochrane review or meta-analysis, and they should be followed in pursuit of quality scientific evidence. In order to generate consistent information in the speech-language pathology, it becomes important to apply the steps described above, making SR performed by speech therapists more consistent and with greater credibility in national and international literature.

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Author contributions