Chiropractic Management of Adults with Cervicogenic or Tension-Type Headaches: a Systematic Review and Clinical Practice Guideline

SUMMARY OF METHODOLOGY

Purpose

The purpose of the project was to develop a clinical practice guideline (CPG) combining the best available evidence with a Delphi consensus process to recommend the best practices for chiropractic management of adult patients with cervicogenic or tension-type headaches.

The development of recommendations followed steps based on those used in previous projects:[1-7]

- Establish a multidisciplinary Steering Committee (SC) with training and experience in management of patients with headaches and/or evidence-based chiropractic practice. The SC's role was to examine and evaluate the evidence; develop recommendations based on the best available evidence; revise the recommendations, based on the Delphi panelists' ratings and comments, in order to reach consensus; and contribute to the final manuscript.
- Systematically review the most current evidence related to the chiropractic management of adult patients with cervicogenic or tension-type headaches.
- Make recommendations on chiropractic management, based on the best available evidence.
- Conduct a Delphi consensus process with a multidisciplinary panel of experienced practitioners and faculty.
- Gather additional feedback from a public posting of the consensus statements.[2,5,6]

Human subjects considerations

Prior to establishing the Delphi panel, the lead institution obtained Institutional Review Board approval. Delphi panelists signed an informed consent that specified that their participation was voluntary and without compensation. They were provided with a consent form after the consensus process was completed in which they agreed to be acknowledged by name in the resulting publication after we obtained their signed form.

Literature search

To provide a foundation for guideline development, we performed a systematic review of the relevant literature. A health sciences librarian, working with the SC, conducted the literature search. At least 2 investigators screened the articles for inclusion. Our research question was: Which non-pharmacological interventions for adults with cervicogenic or tension-type headaches are effective? We focused on non-pharmacological interventions because chiropractic scope of practice does not include medications or surgery. In addition, the Steering Committee experts were provided with the lists of included and excluded articles and asked for any additional references.

Evaluation of the quality of the evidence

We evaluated the quality of the articles meeting the inclusion criteria. For CPGs, we used the Appraisal of Guidelines for Research & Evaluation instrument Global Rating Scale (Table 1).[1] We used the Scottish Intercollegiate Guideline Network (SIGN) [10] checklist for systematic reviews and meta-analyses (Table 2).[10] For any randomized controlled trials (RCTs) that were not already evaluated in a systematic review, we used the SIGN checklist for RCTs (Table 3). At least two investigators rated each study and discussed differences in ratings until they reached agreement. Studies of other designs were categorized as "lower level" and not formally assessed.

To evaluate the overall quality of evidence, we used GRADE (Grading of Recommendations Assessment, Development and Evaluation) (Table 4).[11–13] At least two investigators performed the GRADE assessment independently. If they disagreed, a third investigator joined them, and they discussed the assessment and used the majority opinion.

After the quality assessment was completed, the members of the SC were provided with all included articles and their quality assessment.

Seed document development
The SC developed the seed statements, going through extensive revisions before completing the set of seed statements circulated to the Delphi panel.

Delphi process
Panelists were first sent relevant background literature. The consensus process was conducted via email. Panelists were deidentified during the rating process, in order to avoid possible bias. After a Delphi round, the SC revised statements as per the panelists' ratings and comments. The comment box expanded to allow any length of comment desired. Only the items on which there was disagreement (see below) were re-circulated.

Appropriateness of the procedure or practice described was rated as follows:
1=highly inappropriate; 5= uncertain; and 9= highly appropriate.

highly inappropriate **uncertain** **highly appropriate**
1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐
Specific comments:

We defined "appropriateness" to mean that the expected health benefit to the patient exceeds the expected negative consequences by a sufficiently wide margin that it is worth doing, exclusive of cost.[14] If panelists rated a statement as inappropriate (rating 1-3), they were asked to state a reason and provide a citation from the peer-reviewed literature to support it, if possible. Without a specific reason, the response was considered incomplete and no number recorded. This procedure was used to facilitate creation of an appropriate, evidence-informed revision that accurately represented the panelists' input.

Delphi rounds, rating system and data analysis
We conducted the consensus process according to the RAND-UCLA methodology.[14] This method uses an ordinal scale of 1-9 (highly inappropriate to highly appropriate) applied to each seed statement.

After a Delphi round, panelists and the Steering Committee were sent the median ratings, percent agreement, and comments for each statement. Based on the panelists' comments, the Steering Committee revised any statements not reaching at least 80% agreement. These recirculated until at least 80% agreement was reached.

Literature cited
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