Measure of upper limb function for people with neck pain: a systematic review of measurement and practical properties (Protocol)

Ahmad Alreni, Sionnadh McLean, Deborah Harrop, Anil Gumber

Citation

Review question(s)
What are the quality, acceptability, and feasibility of all outcome measures used to assess upper limb disability in patients with neck pain.

Searches
Search strategy:

A search strategy combining title/abstract words and, where available, database controlled vocabulary terms relating to upper limb function and neck pain will be used to locate all measures used to assess upper limb function in neck pain patients.

Databases:
The following databases will be searched from their inception: Allied and Complementary Medicine Database (AMED) (OvidSP), CINAHL Complete (EBSCO), the Cochrane Library (Wiley), MEDLINE (EBSCO), PubMed (US National Library of Medicine), PsycINFO (ProQuest), SPORTDiscus (EBSCO), Web of Science (Thomson Reuters).

Inclusion and exclusion criteria:

Any study will be considered for inclusion without restriction of design or publication date if: 1) they involve adults, age \( \geq 18 \), with neck pain, which is defined here as dysfunction of the cervical structure, 2) at least one of the measures aimed to measure upper limb disability, which is defined here as any difficulties or limitations an individual may have in executing upper limb activity.

Studies will be excluded if they: 1) are not available in English, 2) involve participants under 18-years of age and/or 3) involve participants with a disorder other than neck pain.

Types of study to be included
Phase - 1

Any study will be considered for inclusion without restriction of design or publication date if: 1) they involve adults, age \( \geq 18 \), with neck pain, which is defined here as dysfunction of the cervical structure, 2) at least one of the measures aimed to measure upper limb disability, which is defined here as any difficulties or limitations an individual may have in executing upper limb activity. Studies will be excluded if they: 1) are not available in English, 2) involve participants under 18-years of age and/or 3) involve participants with a disorder other than neck pain.

Phase - 2
Studies will be included if they are available in English and their aim was to develop an instrument to measure upper limb function in patients with neck pain or to evaluate one or more of the practical properties of an instrument.

**Condition or domain being studied**
Upper limb disability in patients with neck pain

**Participants/ population**
Phase - 1

Inclusion and exclusion criteria:

Any study will be considered for inclusion without restriction of design or publication date if: 1) they involve adults, age >= 18, with neck pain, which is defined here as dysfunction of the cervical structure, 2) at least one of the measures aimed to measure upper limb disability, which is defined here as any difficulties or limitations an individual may have in executing upper limb activity. Studies will be excluded if they: 1) are not available in English, 2) involve participants under 18-years of age and/or 3) involve participants with a disorder other than neck pain.

Phase - 2

Studies will be included if they are available in English and their aim was to develop an instrument to measure upper limb function in patients with neck pain or to evaluate one or more of the practical properties of an instrument.

**Intervention(s), exposure(s)**
Outcome measure assessing upper limb disability in patients with neck pain.

**Comparator(s)/ control**
Not applicable

**Context**
1. Studies used upper limb outcome measures for patients with neck pain.
2. Studies aimed to develop an instrument to measure upper limb function for patient with neck pain or to evaluate one or more of the measurement properties of an instrument.

**Outcome(s)**
**Primary outcomes**
1. The number of studies in which the measurement or practical properties of the instrument is assessed.
2. The homogeneity and methodological quality of these studies.
3. The results of each measurement/practical property per measure.
4. The consistency of the results.

**Secondary outcomes**
None

**Data extraction, (selection and coding)**
Two reviewers will independently screen the titles, abstracts, and full-text of the studies retrieved from the literature search. In the case of disagreement between the two reviewers, a third reviewer will be used to make the decision regarding inclusion of the study.

Selected studies in this review will be evaluated in accordance with the modified COSMIN checklist and data will be extracted to a standardised data extraction form, which has been developed and used in other similar studies.

Two independent reviewers will perform the data extraction and the evaluation of the methodological quality of each
Risk of bias (quality) assessment
The methodological quality of the included studies will be assessed against the COSMIN checklist, which was developed specifically for evaluating the methodological quality of studies on health related outcome measurements. A 4-point scale, ‘excellent’, ‘good’, ‘fair’, ‘poor’ will be used to score each measurement properties; study methodological quality will be rated for each measurement property evaluated within the study and determined by the lowest rating.

Strategy for data synthesis
Best evidence synthesis will be performed in this review as reported in other similar reviews. This qualitative synthesis will determine the overall quality and acceptability of each identified instrument. This synthesis will be based on the following criteria: 1) the number of studies in which the measurement or practical properties of the instrument is assessed, 2) the homogeneity and methodological quality of these studies, 3) the results of each measurement/practical property per measure, and 4) the consistency of the results.

The overall rating for outcome measures properties will be rated as “positive”, “indeterminate”, or “negative” as reported by (Terwee et al. 2007). This will accompanied with the level of evidence, (strong, moderate, limited, conflicting, unknown), as suggested by the Cochrane Back Review Group.

Analysis of subgroups or subsets
None

Contact details for further information
Mr Alreni
37 Hill crescent, Harrow HA12PW
ahmadalreni@hotmail.co.uk

Organisational affiliation of the review
Sheffield Hallam university
www.shu.ac.uk

Review team
Mr Ahmad Alreni, PhD researcher
Dr Sionnadh McLean, Lecturer
Miss Deborah Harrop, Information Scientist
Dr Anil Gumber, Lecturer

Collaborators
Dr Caroline Terwee, VU University Medical Center

Details of any existing review of the same topic by the same authors
None

Anticipated or actual start date
10 January 2015

Anticipated completion date
04 May 2015

Funding sources/sponsors
Sheffield Hallam University
Conflicts of interest
None known

Other registration details
Sheffield Hallam University

Language
English

Country
England

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Humans; Neck Pain; Pain Measurement; Upper Extremity

Stage of review
Ongoing

Date of registration in PROSPERO
24 February 2015

Date of publication of this revision
24 February 2015

DOI
10.15124/CRD42015016624

Stage of review at time of this submission

<table>
<thead>
<tr>
<th>Activity</th>
<th>Started</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary searches</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Piloting of the study selection process</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Formal screening of search results against eligibility criteria</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data extraction</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Risk of bias (quality) assessment</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data analysis</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

PROSPERO
International prospective register of systematic reviews
The information in this record has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.