Reviewer’s report

Title: Memory of pain in adults. A protocol for systematic review and meta-analysis

Version: 0 Date: 05 Feb 2019

Reviewer: Karolina Wartolowska

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Title: Memory of pain in adults. A protocol of systematic review and meta-analysis.

Manuscript number: SYSR-D-18-00209

Pain recall is very important because ratings for pain over the past days/weeks are often used to make clinical decisions (both diagnostic and therapeutic). The existing literature on pain memory and pain recall does not provide a definitive answer on whether people rate their recalled pain as more or less painful than when they experienced it.

This is a protocol for a systematic review and meta-analysis of the effect of type of pain and the time duration between the pain experience and pain ratings on the recalled pain. The aims are to investigate whether pain recall is accurate or whether it leads to over- or under-estimation of pain and whether the type of pain and duration of the delay affect pain recall.

This is an interesting, timely, and much-needed review; therefore, I recommend this protocol for publication. I will be happy to review a re-submitted version of the protocol and the final systematic review.

Major comments

Comment 1

It is not clear what are the planned analyses that will be performed in this study, which data will be included in the model mentioned in line 203, and which statistical package will be used.

The Background section describes only the analysis of the effect of the type of pain and delays on pain recall [lines 68-69], but the Methods section [lines 184 - 193] lists other types of that that will be extracted. What are the planned analyses of the collected data?

The section on power analysis needs clarifying [lines 171-174]. It is quite unusual to include a power analysis in a systematic review, as the amount of data depends on the available published
literature and cannot really be increased to reach the statistical power. Unless, what was meant was that the trials with insufficient power will be excluded from this systematic review.

Comment 2

The differences in pain recall between pain patients and pain-free volunteers may be even larger than between different types of pain.

I would suggest a split into healthy controls and patients:

Healthy volunteers are always subjected to experimental stimuli, which can be classified by the type of stimulus (mechanical, thermal, laser, ischaemic) or the stimulated nociceptive system (somatic, visceral, trigeminal).

Patients may

(1) not have any chronic pain and experience acute pain, such as post-surgical/labour/molar tooth extraction

or

(2) they may suffer from chronic pain conditions and, as a part of the study, they may be either subjected to an experimental pain stimulus (like the pain-free healthy volunteers), for example thermal pain in patients suffering from osteoarthritis

or

(3) they may have a clinically-relevant pain evoked for example sciatica or shoulder pain evoked by the limb repositioning or evoked allodynia

or

(4) there may be a case in which chronic pain patients were asked about the intensity of their clinical pain, either spontaneous or movement-related (but with chronic pain being highly variable and fluctuating from day to day such study may be difficult to interpret)

Comment 3

The protocol only mentions including trials using the main three pain rating scales. There are, however, many disease-specific scales such as the pain subscale of SF-36, Knee Pain Score, WOMAC pain scale. Instead of the transformation of pain ratings scales, it may be worth
considering using a Standardised Mean Difference. [https://handbook-5-1.cochrane.org/chapter_9/9_2_3_2_the_standardized_mean_difference.htm](https://handbook-5-1.cochrane.org/chapter_9/9_2_3_2_the_standardized_mean_difference.htm) - please note the comment about different variance in different types of studies

Minor comments

Comment 4

The paragraph on the importance of pain recall for clinical decision [lines 226-234] deserves a more prominent place. It would work well as the opening paragraph of the Background section and in a shortened version - as the first sentence of the Abstract.

Comment 5

If the review focuses on pain memory in adults the reference #1, which refers to pain in children [line 49 and line 54], does not seem relevant.

Comment 6

The Authors have published several studies on pain memory and recall, which puts them in an excellent position to undertake this review. However, it may benefit the Readers, firstly, if it was made clear which of the cited publication are Authors' work and secondly, if more studies from other labs were cited to set this problem in a wider context.

Comment 7

I would suggest rephrasing PICOS.

P - "population with and without pain" does not add much. I would suggest replacing it with "patients with chronic or acute pain and pain-free healthy volunteers."

I - in this case you are looking for subjects who were subjected to painful stimuli but who did not receive any pharmacological or non-pharmacological treatment that might have affected pain or pain recall This would involve all experimental studies on pain as well as trials using a painful stimulus but in only the control group, that did not receive any treatment, would be included in the analysis.
C - here the comparator is the original pain rating - trials in which the original pain rating is given during or immediately after pain experience will be excluded.

O - pain rating after the delay, which represents pain memory or pain recall.

S - study type - other study types that should probably be excluded are comments, letters, editorials, case reports, and case studies.

Comment 8

Search terms could be refined by searching for the terms being mentioned adjacent to each other for example (pain* adj memory).tw. and (pain* adj recall*).tw. The publication types that fulfill the exclusion criteria should probably be added to the search terms using either the .tw flag or .pt flag.

Comment 9

The rationale for the risk of bias to reflect the inclusion/exclusion criteria is not given [line 176]. The modified checklist for Risk of Bias should be included in the appendix.

Comment 10

Searching other resources - screening the references of the identified articles seems feasible

But manually screening the content of five journals from their beginning to present seems like a major task - is there going to be a limit on the publication dates of these journals (i.e. all or just the recent issues?)

Comment 11

The narrative review is necessary if the review findings cannot be analysed quantitatively. In this protocol, a narrative summary seems unnecessary as the study involves a systematic review and a meta-analysis; discussion of the findings would be sufficient [line 198].

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