Reviewer’s report

Title: Measurement properties of instruments to assess pain in children and adolescents with cancer: A systematic review protocol

Version: 0 Date: 25 Sep 2017

Reviewer: Lesley Uttley

Reviewer's report:

The aim of the review is to inform recommendations for health professionals on the assessment and treatment of pain in children with cancer which is laudable. A little more structure on the approach to synthesising and ordering the findings will benefit the review aims.

Searches

I'd like to see a bit more on the search strategy in the main body text about the keywords used to build the strategy and date limitations.

Methods

Some info on the stages of screening titles and abstracts is unnecessarily detailed. Some of the phrasing a bit clumsy such as Line 185 "Reviewers will be instructed to be biased towards inclusion". Maybe amend to "a conservative approach to inclusion will be employed to ensure relevant titles are not excluded". Are two reviewers screening all titles and abstracts or will the second reviewer only screen a proportion of the first reviewer's? If so, what proportion? At abstract selection stage, the position of second reviewer is divided among seven people. What is the purpose/value of this and how will it affect consistency of study selection?

Some info is erroneous such as " citations classified as 'include' by at least one reviewer will be included." This goes without saying. More detail about the eligibility criteria, particularly on the types of studies would be useful. For example, will this review include only quantitative studies (RCTs, single arm, case, series, cohort, observational) of pain measurement instruments in children or will qualitative studies examining user or health professionals perceptions and reflections of these tools also be integrated (mixed methods review).

Data extraction

There is minimal information on precisely what data will be extracted from the primary studies of instruments included and how those data will be synthesised. For example, it is not clear whether this review will simply outline which tools are out there (mapping review), or how it
aims to rank them in terms of clinimetric utility? The prospero registration mentions that a data abstraction form has been developed, maybe include this as an appendix? Moreover the review questions in Table 1 need elaboration. What constitutes "good clinimetric properties" and what, for example, would constitute not good? There seems to be a bit of a leap between understanding how studies will be selected into the review, to how they will be appraised. I understand that this process is subject to development throughout the research itself but if the protocol is to be published as an academic publication in itself, it needs to have a clearer direction about what data is anticipated and how it will be synthesised in order to serve as something more empirically sound than the CRD protocol registration.

Quality Assessment

The quality assessment section details checklists that will be used and explains that criteria by Cohen et al will be used to categorise the instruments but it's not clear whether the 3 categories 'well-established assessment', 'approaching well-established assessment', 'promising assessment' would provide a meaningful hierarchy for readers who are interested in learning which instruments were found to be most, or indeed, least promising for assessing pain in children with cancer from the systematic review. What sorts of criteria, other than methodological quality, would determine which instruments would rank the highest, such as: prevalence in the literature, most extensive validation or service user valuation. More details are required to inform readers what the authors regard as the most important or promising features of relevant measurement instruments.

Discussion

In the discussion the authors highlight a number of important considerations that would determine how instruments could be categorised in the review, such as developmental stages across ages and specific types of pain related to their disease. These seem like important factors that should dictate the way the studies are grouped in the synthesis. The authors acknowledge the impact that recognition and treatment of pain in this group has on their quality of life. I would like to see more discussion of the issues relevant of communication, particular for young, pre-language children and the potential impact of self versus parent/clinician proxy measurement of pain. In many cases children are dependent on their carers', health professionals taking action on their behalf and therefore the use of instruments in these cases should be acknowledged.

Table 1: not all colours are added as described.

Table 2: I would have liked to have seen the numbers generated by the sample search strategy in order to gauge appropriateness of the search.
Line 145: Define VAS on first use and in List of Abbreviations. Also check all abbrevs are added to this list such as COSMIN.

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