A Scoping Review on Pain Assessment and Management in Pediatric Palliative Care

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Background

Although high-level evidence (systematic reviews) exist with regards to procedural, acute, and chronic pain assessment and management, systematic reviews specific to pain in pediatric palliative care (PPC) are lacking. Adequate pain assessment and management in this vulnerable population is crucial to minimize long-term negative impacts on the child, family, and health care professionals who care for them. However, until existing research is systematically synthesized and mapped, it is difficult to guide research in this field and guide clinical practice.

Purpose

To systematically map literature available on pain assessment and management in PPC using the scoping review methodology to determine:

1)The reliability, validity, feasibility, and clinical utility of tools for **pain assessment** when used with children with a life-threatening condition and/or with children at end of life.

2)The quality and quantity of evidence available to guide **pain management** (pharmacologic, physical, psychological) in children with a life-threatening condition and/or in children at end of life.

Methods

IDENTIFYING RELEVANT STUDIES

Database subject headings and keywords related to 3 key concepts were used to retrieve relevant articles (see *Table 1*) within the following electronic databases:

- Scopus
- CINAHL
- MEDLINE
- Embase
- Other (includes PsycINFO, EMB reviews, Social Sciences Citation Index, Science Citation Index and Conference, Proceedings Citation Index)

STUDY SELECTION

Titles and abstracts were first reviewed to eliminate articles irrelevant to the two research questions, followed by review of the full paper. Screening of articles was conducted by two independent reviewers with discrepancies resolved by a third reviewer

CHARTING THE DATA

The age range of the study sample, disease types, stage of disease (i.e. diagnosis, ongoing care, end-of-life), instruments used for pain assessment, pain management type (pharmacologic, physical, psychological), key findings and study limitations were key data areas extracted from each article under review.

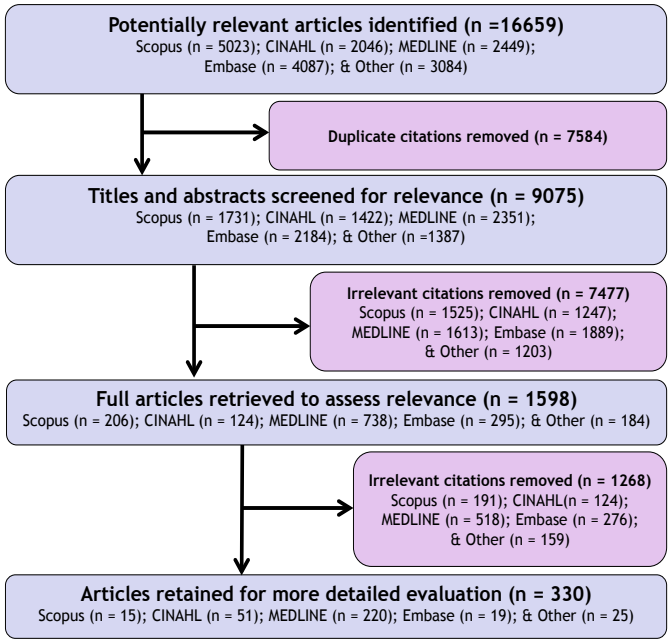
COLLATING, SUMMARIZING AND REPORTING RESULTS

Data will be synthesized quantitatively and qualitatively with strengths and gaps in the current literature outlined. Recommendations for the direction of future research will also be made.

Table 1: Search Strategy for Scopus

Pain	Palliative Care	Paediatric
TITLE-ABS-KEY(pain*) TITLE-ABS-KEY(comfort* OR discomfort* OR irritab* OR suffering)	TITLE-ABS-KEY("comfort care" or "support* care" or "end of life care" or "eol care" or "advanced cancer" or "advanced cancers" or "advanced disease" or "advanced diseases" or "advanced stage" or "advanced stages" or "bereavement care" or "dying patient" or "dying patients" or "end stage" or "end stages" or "hospice" or "hospices" or incurable or "life limiting" or "life shortening" or "life threatening" or "mortal disease" or "mortal diseases" or "mortal illness" or "mortal illnesses" or palliat* or "terminal cancer" or "terminal care" or "terminal disease" or "terminal diseases" or "terminal illness" or "terminal medical condition" or "terminal medical conditions" or "terminal patient" or "terminal patients" or "terminal phase" or "terminal phases" or "terminal sedation" or "terminal* ill)	TITLE-ABS-KEY(infan* OR neonat* OR newborn* OR baby OR babies OR toddler* OR paediatric* OR pediatric* OR child OR children OR childs OR teen* OR adoles* OR youth OR youths)

Figure 1: Scoping Review Process



Results

Titles, abstracts, and full articles have been reviewed (see *Figure 1*) and we have begun to extract detailed data from relevant articles.

- Many articles were excluded because only a few participants were under the age of 19 and information specific to those patients could not be extracted.

Thus far, we have evaluated 85 articles in greater detail. The following data were obtained:

- Articles focused on pain assessment alone (n = 12)
- Articles focused on pain management alone (n = 33)
- Articles focused on both pain assessment and management (n = 40)
- Interventions for pain managements fall into 3 categories: pharmacological (n = 31), physical (n = 4) and psychological (n = 8)

Next Steps

1. The same process will be used to extract and summarize data from the remaining articles. Data synthesized from these articles will be used to identify knowledge and gaps in knowledge as it pertains to the 2 identified research questions
2. Results will be shared at a stakeholder meeting in Fall 2014 to engage stakeholders with the scoping review results and identify steps needed to advance the research and clinical field of PPC.
3. Recommendations will be made for the direction of future research and for potential development of evidence-based practice guidelines and evidence summaries to ensure optimal pain assessment and management in children with life-threatening illnesses.

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References

1. Holen J, Hjermstad M, Loge J, et al. Pain assessment tools: Is the content appropriate for use in palliative care? *J Pain Sympt Manage.* 2006;32:567-580.
2. Arksey H, O' Malley L. Scoping Studies: Towards a Methodological Framework. *Int J Soc Res Methodol* 2005; 8: 19-32.
3. Levac D, Colquhoun H, O' Brien KK. Scoping studies: advancing the methodology. *Implementation Science* 2010, 5(69): 1-9.