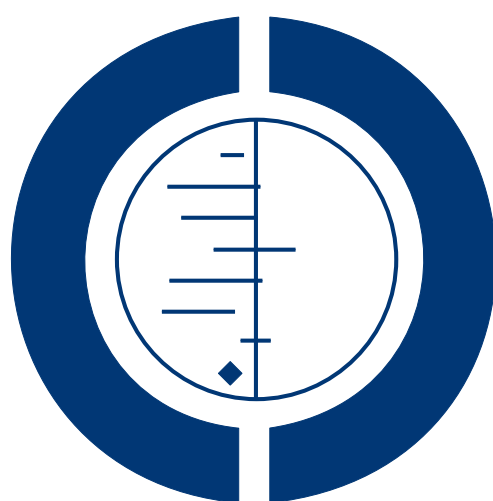


Effectiveness of knowledge translation interventions to improve cancer pain management (Protocol)

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[Intervention Protocol]

Effectiveness of knowledge translation interventions to improve cancer pain management

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ABSTRACT

This is the protocol for a review and there is no abstract. The objectives are as follows:

The objective of this review is to determine the effectiveness of interventions targeting behaviour and facilitating uptake of new knowledge by healthcare practitioners, patients and their family caregivers to improve the management of cancer pain.

Specifically, we will estimate the effects of:

1. interventions targeting healthcare professionals compared to no intervention;
2. interventions targeting patients and their family caregivers compared to no intervention;
3. interventions targeting healthcare professionals compared to interventions targeting patients and their family caregivers; and
4. interventions that are locally tailored compared to interventions developed for more general target audiences.

BACKGROUND

Cancer pain is a serious public health issue, occurring in the vast majority of patients with recurrent disease at some point during their illness (Marcus 2005; Walley 1995). A range of studies document between 30% to 85% of patients experience pain at some point during the illness trajectory depending on practice setting and clinical circumstance (Fitzgibbon 2001). Estimates arising from around the world range from 18% to 78% of patients experiencing substantial pain (Addington-Hall 1995; Cleeland 1994; de Wit 1999; Ellershaw 1995; Ger 1998; Grond 1996; Janjan 1998; Larue 1995; Potter 2003; Rhodes 2001; Yates 2002). Unrelieved cancer pain is associated with increased levels of depression and anxiety, and profound limitations in daily functioning, including general activity, mobility, relationships with others, sleep, and enjoyment of life (Ahles 1983; Cleeland 1994; Ger 1998; Hu 1991; Potter 2003). Furthermore, pain directly related to cancer or cancer treatment is the most or one of the most common clinical problems encountered in palliative care settings (Hearn 2003). Despite improvements in cancer pain management, under-treated chronic cancer pain continues to exist and specific types of pain, such as breakthrough and neuropathic pain, remain particularly difficult to manage.

Extensive research is underway to find ways to manage difficult pain syndromes more effectively (Fainsinger 2008; Hagen 2008). Both clinicians and researchers recognise that the experience of pain is a complex phenomenon and its assessment and management are challenged by its subjective nature. In order to understand the complexity of the patient pain experience, a variety of approaches to research have been used. These include interventional drug studies, research methods that address specific pain episodes and clinical scenarios, studies on symptom clusters, the relationship between pain and existential suffering, and importantly, how the implementation of educational interventions facilitate improved patient outcomes as a result of knowledge transfer.

Recent reviews of a range of diseases, conditions, and practice settings in internal medicine and other areas, suggest up to 30% to 40% of patients do not receive evidence based care (Grol 2003). Barriers to implementing evidence in healthcare have been comprehensively explored (Grol 2001; Grol 2004), and research that examines strategies to support healthcare professionals' behaviour is growing (Godin 2008; Grimshaw 2001; Grimshaw 2002). Extensive efforts have been undertaken to improve the care of cancer patients, based on sensible approaches that are believed to hold significant opportunity for impact (Hagen 1995). These have included recommendations on national accreditation standards, expectations from regulatory agencies and increased funding for research in cancer pain, but above all else, increased education for physicians, nurses, other professional groups, patients and their family caregivers (Hagen 1995). However, although some such interventions have been thought to be effective at local, regional, national and international levels, despite enormous effort and resources, many have fallen short of their intended impact. Know-

ing the attributes of effective knowledge translation interventions for cancer pain could help developers of education programs to more tangibly support improvements in care. Despite the growing interest in and implementation of evidence based guidelines, we were unable to identify any systematic reviews of the effectiveness of implementing best-practice guidelines for cancer pain management in the research literature. Information relating to effectiveness is of value to cancer control programs, hospitals, palliative care programs and national and international cancer control initiatives who want to improve pain outcomes.

OBJECTIVES

The objective of this review is to determine the effectiveness of interventions targeting behaviour and facilitating uptake of new knowledge by healthcare practitioners, patients and their family caregivers to improve the management of cancer pain.

Specifically, we will estimate the effects of:

1. interventions targeting healthcare professionals compared to no intervention;
2. interventions targeting patients and their family caregivers compared to no intervention;
3. interventions targeting healthcare professionals compared to interventions targeting patients and their family caregivers; and
4. interventions that are locally tailored compared to interventions developed for more general target audiences.

METHODS

Criteria for considering studies for this review

Types of studies

Randomised controlled trials, controlled clinical trials, interrupted time series, and controlled before and after studies (according to EPOC criteria, EPOC Module) that evaluate the effect of knowledge translation interventions on patient outcomes. Case reports, cross sectional studies, non-controlled before and after studies and literature reviews will be excluded. We will not restrict searches on the basis of country of origin or when the study was undertaken.

Types of participants

Studies that examine fully qualified healthcare professionals (e.g. physicians, nurses, allied healthcare professionals) working with patients dealing with cancer, and include subjects with cancer pain

will be considered. We will not apply restrictions on age, gender or cancer type.

Types of interventions

In this review, we will analyse interventions for changing practice targeted at healthcare professionals and/or patients with cancer pain.

1. Interventions oriented toward health care professionals:

Any intervention targeted at healthcare professionals to improve the management of cancer related pain. The interventions will be classified according to the EPOC taxonomy of interventions ([EPOC Module](#)).

2. Interventions oriented toward patients and their family caregivers:

Any intervention targeted as patients and their family caregivers to improve the management of patients with cancer related pain including distribution of educational materials, educational workshops, individual or group teaching sessions, meetings between healthcare professionals and patients and their family caregivers, educational home visits and combined strategies.

Types of outcome measures

The primary outcomes of interest are divided in two categories related to healthcare professionals and patients and their family caregivers:

1. For healthcare professionals, the primary outcome of interest is change in behaviour or practice such as change in drug prescribing practices, change in pain evaluation strategies, change in cancer pain treatment strategies, or pain outcomes (reported pain levels, intensity or duration or other validated measures of patient pain control).

2. For patients and their family caregivers, the primary outcome of interest is change in behaviour such as change in adherence with medication regimens, change in pain behaviour, change in strategies to control pain, or change in pain outcomes (reported pain levels, intensity or duration or other validated measures of patient pain control).

Secondary outcomes of interest include: change in quality of life, satisfaction with treatment or change in pain treatment not included as a management pain strategy (see above).

Search methods for identification of studies

See Cochrane Effective Practice and Organisation of Care Group methods for reviews.

We will use a search strategy developed to identify primary studies for this review. The strategy incorporates the methodological

component of the EPOC search strategy combined with selected MeSH terms and free text terms related to cancer pain management and knowledge translation and utilisation. This search strategy will be translated into the other databases using the appropriate controlled vocabulary as applicable. Librarians from the Faculty of Nursing and the Health Sciences Library, University of Alberta, and EPOC will provide assistance with further development of the search strategy.

Electronic searches

We will search the following electronic databases:

1. MEDLINE (1966-Sept 2007);
2. CINAHL (1982-Sept 2007);
3. EMBASE (1988-Sept 2007);
4. AMED (1985-Sept 2007);
5. Cochrane Database of Systematic Reviews;
6. Cochrane Central Register of Controlled Trials (1991-Sept 2007);
7. Web of Science (1965-Sept 2007); and
8. EPOC Register of protocols and reviews.

The following is an example of search terms that we will use:

1. exp CANCER PAIN/
2. exp PAIN/
3. exp ANALGESIA/
4. 2 or 3
5. exp NEOPLASMS/
6. exp Cancer Patients/
7. cancer.mp. [mp=title, subject heading word, abstract, instrumentation]
8. oncolog\$.mp. [mp=title, subject heading word, abstract, instrumentation]
9. palliative care.mp. [mp=title, subject heading word, abstract, instrumentation]
10. or/5-9
11. 4 and 10
12. practice guidelines.mp. [mp=title, subject heading word, abstract, instrumentation]
13. exp Practice Guidelines/
14. guideline\$.mp.
15. exp protocols/ or exp critical path/ or exp nursing protocols/ or exp patient care plans/
16. best practice\$.mp.
17. exp BENCHMARKING/
18. (benchmark\$ or bench mark\$).mp. [mp=title, subject heading word, abstract, instrumentation]
19. exp Professional Practice, Evidence-Based/
20. evidence-based.mp.
21. exp algorithms/ or algorithm\$.mp.
22. innovation diffusion.mp. [mp=title, subject heading word, abstract, instrumentation]
23. technology transfer.mp. [mp=title, subject heading word, abstract, instrumentation]

24. research dissemination.mp. [mp=title, subject heading word, abstract, instrumentation]
25. research utilization.mp. [mp=title, subject heading word, abstract, instrumentation]
26. research uptake.mp. [mp=title, subject heading word, abstract, instrumentation]
27. decision-making.mp. [mp=title, subject heading word, abstract, instrumentation]
28. or/12-27
29. 11 and 28
30. limit 10 to "pain and pain management"
31. limit 4 to oncologic care
32. 30 or 31
33. 28 and 32
34. 29 or 33

Searching other resources

We will search research websites related to oncology, pain management, including NCIC, Canadian Cancer Society, Canadian Strategy for Cancer Control, American Cancer Society, American Society of Clinical Oncology, European Association for Palliative Care, and others.

We will conduct manual searches of reference lists of the identified papers, looking for relevant information to meet the objectives of this paper. In addition, each selected study will be tracked through the Scopus database in order to access all studies that referenced the original study.

Data collection and analysis

Study identification

Four authors will screen the titles and abstracts of studies identified by the search strategy for potentially relevant studies. If the author identifies an abstract of a published research article that potentially meets the inclusion criteria, or if there is inadequate information to make a decision, a copy of the article will be retrieved for screening. Two authors will independently screen the full text of retrieved articles. The lead author (GC) will complete a final screen on all retrieved articles for inclusion or exclusion.

Quality Assessment

Two independent authors will complete assessments of quality (risk of bias) on each study identified for inclusion during article screening, using the criteria developed by the EPOC group. Each study will be assigned an overall rating of high, moderate or low risk of bias based on the following criteria:

- concealment of allocation;
- blinded or objective assessment of primary outcome(s);
- completeness of follow-up (mainly related to follow up of professionals); and

- no important concerns in relation to baseline measures, reliable primary outcomes or protection against contamination.

We will assign the following ratings:

- low risk of bias if the first three criteria are scored as done, and there are no important concerns related to the last three criteria;
- moderate risk of bias if one or two criteria are scored as not clear or not done; and
- high risk of bias if more than two criteria are scored as not clear or not done (Higgins 2008).

Any discrepancies in quality ratings will be resolved by discussion. If consensus is difficult, the lead investigator will act as an arbitrator and make the final decision. Inter-rater reliability for this phase of the review will be measured before consensus is achieved using the kappa statistic.

Data Extraction

For each part of the review, two authors will independently extract data using the EPOC Data Collection Checklist (see Editorial Information under Group Details for Methods Used in Reviews). Data will be extracted on study design (i.e. randomised controlled trials, controlled before and after designs), study objectives, participants (i.e. nurses, physicians, other health care professionals, cancer patients, and their family caregivers), instrument reliability and validity, knowledge translation interventions, sample size, statistical power, primary and secondary study findings (i.e. pain relief, knowledge uptake, quality of life), and statistical tests used and associated statistical or clinical significance. Authors of original studies will be contacted for clarification or missing information.

Data Analysis

We will synthesise the data extracted from the studies and an analysis will be performed based on the following topics:

1. effects of knowledge transfer interventions targeted at healthcare professionals; and
2. effects of knowledge transfer interventions targeted at cancer patients or family caregivers.

Findings from this review will also be summarised according to methodological quality of the studies and strength of the evidence, study design, and knowledge translation intervention. In addition, methodological issues of the studies will be assessed and discussed. If a group of studies, such as categories 1 and 2 above, is amenable to meta analysis, outcomes measures and results will be grouped, evaluated for heterogeneity and if possible, pooled. If the same continuous outcome variable is used across studies, a weighted mean difference score will be calculated. If different outcome measures are used across studies, standardised mean differences will be calculated for each study and compared. Otherwise, standardised mean differences for individual studies will be calculated and

compared. In the case of dichotomous outcomes, relative risks will be calculated. Ninety-five percent confidence intervals will be calculated for all point estimates. In the presence of clinical heterogeneity in the study population or intervention, a random-effects model will be used to combine data. If there is relative homogeneity, a fixed-effects model will be used. If combining outcome data is not possible, narrative, descriptive and qualitative summaries will be completed (Shepperd 2007).

Methods for reanalysis

If unit of analysis errors are identified in the cluster trials and controlled before and after studies, a re-analysis will be performed using the information on the size or number of clusters and the value of the intra-cluster correlation coefficient (when obtained). Thus, an approximately correct analysis can be performed. Sensitivity analyses will be used to assess the effects of incorporating these corrected analyses in our analysis (Shepperd 2007).

Assessment of heterogeneity

We will control for potential sources of heterogeneity by categorizing the studies by type of intervention, study population, and intervention characteristics such as frequency, intensity, and length. Data from studies that have heterogeneous populations will not be pooled. Heterogeneity between studies will be tested using the Cochran Q test and any variability in estimates of effect due to heterogeneity will be assessed with the I^2 statistic (Shepperd 2007). We will contact expert practitioners and researchers in the field of cancer pain research during the course of our review for feedback and advice at key junctures such as the search strategy, preliminary results, and implications of final results.

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* Indicates the major publication for the study

HISTORY

Protocol first published: Issue 4, 2008

DECLARATIONS OF INTEREST

None Known

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- No sources of support supplied

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