Reviewer's report

Title: The use of opioids at the end of life: a survey of experienced barriers in pain management and knowledge level of physicians

Version: 2 Date: 7 May 2010

Reviewer: Alysa Fairchild

Reviewer's report:

General
Thank-you for the opportunity to review this manuscript, which is according to the authors the first study in the Netherlands to survey knowledge on use of opioids in palliative care. Comments, questions and suggestions follow.

Major Compulsory Revisions

- Introduction, para 1: Although of course physician knowledge is essential to satisfactory pain control, it is not sufficient to ensure this. There are many reasons why pain may be undertreated, reviewed for example in Fairchild A, Curr Opin Support Pall Care 4:11-15, 2010. This should be amended to reflect that this is a challenging issue with many potential contributing factors, not solely physician knowledge.

- Introduction, para 2/3: I like the themes that guidelines alone are often not sufficient to change practice, and that despite the literature, often physicians continue to believe myths about pain control which can result in undertreatment of pain and therefore needless patient suffering. An additional myth that the authors point out, which is not often seen in the literature, is that of higher doses of opioids negatively impacting survival.

- Introduction: In order to help readers, especially international readers, place these results in context, I would suggest adding to the Introduction a description about the logistics of Palliative Care delivery in the Netherlands. Please include:
  a) whether patients at the end of life tend to be cared for by general practitioners, elderly care physicians or palliative care specialists in the community, or clinical specialists in acute care hospitals or other settings?
  b) the proportions of non-sudden deaths occurring at home versus acute care hospital versus hospice versus long term care
  c) what palliative resources are available in the community, for example, hospice, home visits by specialized nurses; you mention a "regional team" in Results, para 8 but do not describe this
  d) is euthanasia legal? which type of physician is able to legally perform this, if so? are there allowed methods or locations? what proportion of patients opt for this?
  e) are elderly care physicians what we would call geriatricians? are they
restricted to practicing in one location, such as nursing homes? Are they specially trained in palliative care and act as palliative care physicians?

- General: In order to increase ease of interpretability by readers, the questionnaire instrument must be available for viewing as an appendix.

- Methods, Random Samples:
  a) If the additions to the Introduction above are made, this would assist in informing readers why medical and surgical specialists were included in the sampling frame. This would not be the common experience in Canada, as, for example, patients who are able tend to be transferred to the care of their general practitioner in the community near the end of life.
  b) I feel strongly that medical (or "clinical") specialists like cardiologists and neurologists should not be grouped together with surgical specialists. Previous literature would suggest that these two groups of practitioners have significantly different attitudes, beliefs and practices about opioids and should be analyzed separately. Depending on the job description of elderly care physicians (requested above), consideration could be given to grouping these physicians with general practitioners for analysis.
  b) Was permission needed to access the physician names and contact information?
  c) How was the random sample actually generated? What was the entire sampling frame prior to sampling ie 1044/____?
  d) How did the authors ensure that the random sample was representative of all physicians practicing in the Netherlands as stated?

- Methods/Data collection: The details about response rates (from "In total 1044..." to "...43 clinical specialists" should be moved to the Results.

- Methods/Analysis: This section should probably be reviewed by a statistician as I do not believe that significance can be determined based on 95% confidence intervals alone and I am unsure as to whether the linear regression analysis is correctly described. Were statistical tests one- or two-tailed? Were enough of them performed that Bonferroni correction needed to be considered? (Results/Linear regression analysis is quite difficult to interpret. Would there be other ways of presenting this data?)

- Methods/Analysis: Results of statistical tests must be included in the text, either in the Tables or text of Results; excluding them for "readability" purposes is incorrect. This is a major way that any reader will determine importance of results. Also, the second sentence referencing Table 3 should be a footnote to that Table rather than being in this section.

- General: The text in many places can be edited for brevity and conciseness. Having the questionnaire itself available will also decrease the amount of descriptive text included. For example, the Results/Side Effects para could read: "Most commonly observed opioid side effects were constipation (observed by
86%), nausea (33%), drowsiness (30%), delirium (9%). Although less than __% overall reported ever observing life-threatening respiratory depression, it was observed by __% of clinical specialists. __% of general practitioners/elderly care physicians had never observed this possible side effect.

-Results: Generally, data in Tables should stand alone without additional descriptive text. Results in Tables should not be repeated in the text and a significant proportion of the Results section is repetitive. I would remove: Knowledge Statements - lines 4-13, Attitudes concerning pain - lines 1-3, 12-14, Attitudes and Experiences - lines 3-4, 9-14, 17-19, Education - lines 6-7. The authors can then remove "(not in Table)" where it appears throughout.

-Results/Non-response analysis: This data would be more concisely presented in a Table with statistical analysis included. "Relatively more often" is an unclear descriptor. Statistical tests appear to have been done on this data and the actual results must be included (p=___).

-Results: It appears as though respondents were asked whether they were involved in treating patients at the end of life (Table 1, Number of non-sudden deaths while being treating physician). For the 3% of respondents who were not involved in this in 2008, were their answers excluded from analysis? This should be stated.

-Results/Linear regression analysis: Move the first sentence to the Results section.

-The Discussion needs to be edited for brevity/tightened up significantly, especially para one. For example: "Physicians whose answer is considered wrong in this study may have good reasons to think their answer is correct, and they may be proven right after a decade of further study, although that is difficult to imagine for most knowledge statements in this study." Or "In practice, only an overdose of opioids could possibly hasten the end of life, but even then hastening death is not likely, but there is an increased risk of side effects."

-Discussion, last para: How do the authors know that participating physicians assessed their knowledge higher than non-participating physicians? Also, please add other well-known limitations of survey studies in general, and this one in particular. Eg use of a non-validated survey instrument.

-Conclusion, last sentence. The fact that physicians consider patient attitudes and aspects of physician-patient communication the most important barriers to adequate pain relief was not shown anywhere in the Results as far as I can find.

-Table 1, 5: The average grade after completing the questionnaire should be included in both of these tables, and the proportion of physicians that lowered their grade after completing the questionnaire (Table 5) should either be deleted completely or put into the text.

-Tables 2-5: If statistical tests were used on this data, the results should be included in the tables.
-Table 5: What would be the basis of the subdivision of knowledge categories? Why were 10 correct answers divided from 11 correct answers?

-Abstract should of course be amended based on changes made to the text. The Methods section needs to be expanded in the Abstract. I would change the word "basal" in the Abstract Results to "basic" if that is what the authors mean. I would change "expected effects of opioids on the end of life" in the last sentence of the Abstract Conclusion to "expected effects of opioids on survival".

Minor Essential Revisions

-Title: I am not sure what 'experienced barriers' in pain management means and this should be clarified. A suggestion might be: "The use of opioids at the end of life: The knowledge level of Dutch physicians as a potential barrier to effective pain management".

-Methods: Please re-order for clarity the sections as follows: (a) developing the questionnaire, (b) sampling frame (ie random samples), (c) data collection, (d) analysis.

-Table 1: Please use age divided into categories or average age but both are not needed. Similarly for pre-test grade, use average or divide into categories but not both.

Discretionary Revisions

-Results: The linear regression analysis results could be put in a Table for easier interpretation. If not, the Results paragraph needs to be reworded as it is currently very difficult to understand. (Statistician to review proper presentation of these results).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.