Identifying and quantifying opioid medication errors in adult palliative care and oncology settings: a systematic review.

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Background

- Opioids are high risk medicines used routinely in palliative care and oncology settings to manage cancer pain and other symptoms at the end of life.
- Opioids are often implicated in medication errors causing patient harm, yet little is known about the scope and impact of opioid errors in adult palliative care and oncology settings.

Objectives

1. Determine the incidence of reported opioid medication errors in adult palliative care and oncology settings.
2. Identify which types of opioid medication errors are most frequently reported in these settings.
3. Determine the impact of opioid medication errors on adult palliative care and oncology patients.

Data sources

Five databases (MEDLINE, Embase, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Cochrane Library, Scopus) and the grey literature were searched from 1980 to August, 2014.

Empirical studies published in English, reporting data on opioid medication error incidence, types or impact on patients, within adult palliative care and/or oncology services were included.

Results

This is the first review to systematically identify reported opioid errors in adult palliative care and oncology settings. Of 133 potential studies, five studies met the eligibility criteria for this review. Studies reported patient data from the clinical setting (n=3), the home care setting (n=1) and palliative care clinicians' perceptions of medication error (n=1). 'Errors' in the clinical setting were primarily defined as deviations from local and national prescribing guidelines and identified via chart audit. Scope of clinical audits included opioid prescribing errors in patients with cancer pain, morphine prescribing errors in oncology inpatients, and dosage errors with transdermal fentanyl in newly admitted palliative care inpatients.

1. Error incidence

- Difficult to generalise due to varying audit periods and differing focus of error audit in each study.
- Deviations from prescribing guidelines identified in 63% to 81% of patients in the clinical setting.
- Opioid administration errors by non-professional caregivers identified in 49% of patients.

2. Error type

- Deviations from opioid prescribing guidelines the predominant error type reported in the clinical setting:
  - no 'as needed' (PRN) analgesia ordered
  - incorrect dosing intervals
  - no pre-emptive prescribing to treat opioid side effects
- No studies reporting opioid administration errors in the clinical setting were identified.

3. Patient impact

- None of the studies explicitly reported the degree of patient harm resulting from opioid errors.
- Studies emphasised:
  - the importance of timely and adequate pain management in patients with cancer pain
  - that effective pain management may be compromised if prescribing guidelines are not adhered to

Implications for clinical practice and future research

Opioid error incidence reporting, error types and patient impact in palliative care and oncology settings are under-explored areas of patient safety. Defining, identifying and quantifying error reporting practices in these settings will benefit future quality and safety initiatives. Exploring clinicians' perceptions of opioid error type and frequency in their clinical practice will also provide valuable insight into the complexity of opioid errors from the clinician's perspective.

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