Does palliative care improve outcomes for patients with incurable illness? A review of the evidence
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CRD summary
The authors concluded that available evidence confirmed palliative care services were associated with improvements in patients’ quality of life, family caregiver outcomes, patient and caregiver satisfaction with care, and the quality of care delivered at the end of life for patients with incurable illnesses. Due to multiple limitations in this review and the evidence, these conclusions may not be reliable.

Authors’ objectives
To review the efficacy of various palliative care interventions to improve patients’ quality of life, physical and psychological symptoms, satisfaction with care, family caregiver outcomes, health service use, and quality of end-of-life care.

Searching
PubMed was searched. Search terms and dates of searches were not reported. The bibliographies of five relevant systematic reviews were also searched.

Study selection
Randomised controlled trials (RCTs) of palliative care interventions and their effect on patients’ quality of life, physical and psychological symptoms, family caregiver outcomes, satisfaction with care, health-services utilisation, and end-of-life outcomes were eligible for inclusion.

Most trials included patients with cancer. A wide range of interventions were delivered in a variety of settings, including hospital, home and outpatients settings. About a third of interventions involved direct clinical care by palliative care specialists; most interventions were compared with usual or standard care. Many of the interventions were delivered by a palliative care team. Patient and caregiver outcome measures varied across the studies. Most trials were conducted in the USA; three were conducted in the UK. Included trials were published from 1982 to 2010.

The authors did not state how many reviewers were involved in selecting the studies or whether study selection was conducted in duplicate.

Assessment of study quality
Although issues on the quality of the trials (such as adequate power, attrition rates and contamination) were discussed, it was unclear whether trial quality was assessed systematically or how many reviewers were involved in the process.

Data extraction
Data on the outcomes of interest were extracted and reported narratively. Outcomes were classed based on whether a difference was found between the intervention and control groups.

The authors did not state whether data extraction was conducted in duplicate.

Methods of synthesis
The results were reported in a narrative synthesis, stratified by outcome type: patients’ quality of life; physical and psychological symptoms; family caregiver outcomes; patient and caregiver satisfaction with care; and health services use and end-of-life care outcomes.

Results of the review
Twenty-two RCTs (over 10,596 patients, range 69 to 4,804) were included in the review. Methodological issues were reported for all trials except one. Only four trials reported adequate power to detect a significant effect. Other common issues included contamination (12 RCTs) and crossover (three RCTs) between the trial arms, as well as attrition (seven...
Six out of 15 trials found a statistically significant difference in patient quality of life favouring palliative care interventions.

Of the 12 trials that assessed physical symptoms, two trials found a statistically significant difference favouring palliative care interventions, and two found a decrease in perceived distress regarding physical symptoms despite a lack of difference in actual symptom severity. Of the 12 studies that evaluated psychological outcomes, six showed a significant effect favouring palliative care interventions (four reported lower depression scores and two trials showed less anxiety).

Five out of six trials found a positive effect on family caregiver outcomes that was statistically significant.

Of the ten trials that reported on patient and caregiver satisfaction with care, seven reported significantly positive results favouring palliative care.

Nine out of 13 trials found a significant impact of palliative care interventions on health service use and/or end-of-life care outcomes.

**Authors' conclusions**
The available evidence confirmed that palliative care services were associated with improvements in patients’ quality of life, family caregiver outcomes, patient and caregiver satisfaction with care, and the quality of care delivered at the end of life.

**CRD commentary**
The review addressed a broad but clear question, which was supported by broadly defined eligibility criteria. The reporting of the searches was limited. However, the relatively limited number of sources searched and the lack of searches for unpublished studies, so some studies may have been missed. The authors did not state how many reviewers were involved in throughout the stages of the review; it was unclear whether quality assessment was performed in a systematic way, so there was a risk of reviewer error and bias. It appeared that the risk of trial selection was not assessed.

Methodological limitations were identified in nearly all the included trials. The range of interventions assessed suggested that the choice of a narrative synthesis (rather than a meta-analysis) was appropriate. Reporting of study characteristics was limited, and no study-level quantitative data (such as effect sizes) were reported, which made the interpretation of the results difficult.

Due to the multiple limitations of this review and the evidence, the authors' conclusions may not be reliable.

**Implications of the review for practice and research**

**Practice**: The authors did not state any implications for future practice.

**Research**: The authors stated that further research was necessary to validate and confirm whether aggressive care (chemotherapy within 14 days before death, no hospice care, or admission to hospice three days or less before death) delivered at the end of life negatively affected survival. They stated that future studies must include careful sample size calculations, which took into account challenges of attrition and missing data related to progressive illness and death.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.