Is there evidence that palliative care teams alter end-of-life experiences of patients and their caregivers?


CRD summary
This review evaluated the effectiveness of palliative care and hospice care teams compared with conventional care. The authors found only a small positive effect on patient outcomes. The authors used a quantitative synthesis despite the presence of clinical and statistical heterogeneity, so the results should be interpreted with caution.

Authors' objectives
To evaluate the effectiveness of palliative care and hospice care teams (PCHCT).

Searching
MEDLINE, CINAHL, Cancerlit, PsycINFO, EMBASE, PallCare Index, the Cochrane EPOC Register of trials, SIGLE, ASSIA and the Science Citation Index were searched to 1999; updates to 2000 were conducted in MEDLINE, CINAHL, and PsycINFO. The search terms were reported. This was supplemented by handsearches of a number of journals and the checking of bibliographies. Non-English language papers were translated.

Study selection
Study designs of evaluations included in the review
Controlled, but not necessarily randomised, studies were eligible for the review. Most of the included studies were retrospective or observational or cross-sectional studies.

Specific interventions included in the review
Studies comparing palliative care or hospice teams with conventional care were eligible for the review. The conventional care control could be concurrent or historical. The intervention team had to comprise a minimum of two health care workers, at least one of whom had specialist training or worked primarily in palliative or hospice care. The care models in the included studies were primarily in-patient, home care plus in-patient, home care, home plus hospital, and hospital care.

Participants included in the review
Studies of patients with progressive life-threatening illness or their caregivers (family, friends, significant others) were reviewed. The included studies were conducted in urban or suburban areas in Europe, USA, Canada, Australia and Argentina. All were of care at home, a hospital or a hospice; none were of day care.

Outcomes assessed in the review
The outcomes of interest were pain and symptom control, quality of life and death, patient and family satisfaction or morbidity pre- and post-bereavement.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
Studies were classified according to a hierarchy of evidence, with grading for factors that could introduce bias within each classification. Grade I evidence corresponded to a randomised controlled trial (RCT) or review; grade II, a controlled but non-randomised study with confounding accounted for; and grade III, retrospective or observational or cross-sectional studies. Two reviewers classified and graded the studies and then cross-checked the results under supervision.
Data extraction
Two reviewers extracted the data from the studies and then cross-checked the results under supervision. In order to describe the differences between the two groups in terms of standardised units, the effect size of each reported outcome was calculated by dividing the estimated mean difference or difference in proportions by the sample standard deviation.

Methods of synthesis
How were the studies combined?
The studies were combined using meta-analysis and meta-regression. The meta-regression explored the effect of PCHCT on patient and caregiver outcomes. In any individual analysis only one outcome per study was used. The outcome was selected using a hierarchy agreed by the authors.

Publication bias and heterogeneity were evaluated using funnel plots.

How were differences between studies investigated?
Heterogeneity was explored in the meta-analysis using the chi-squared test; the meta-regression also investigated possible causes of heterogeneity. Data were also included in a meta-synthesis, in which the findings were compared with those from other reviews.

Results of the review
Forty-four studies (n not reported) were included.

Most of the studies were graded II; those that were II or I had significant methodological flaws. Funnel plots indicated slight publication bias.

The meta-regression (26 studies) found a slight positive effect (0.1) of PCHCTs on patient outcomes, which was independent of team make-up, patient diagnosis, country or study design. The meta-analysis (19 studies) demonstrated a small benefit of PCHCTs on patient pain (13 studies; odds ratio, OR 0.38, 95% confidence interval, CI: 0.23, 0.64) and other symptoms (9 studies; OR 0.51, 95% CI: 0.30, 0.88), and a non significant trend towards benefits for satisfaction and therapeutic interventions. Data on home deaths were equivocal.

The meta-synthesis (all studies) found wide variations in the type of service delivered by each team. The evidence of benefit was strongest for home care.

Cost information
Fourteen studies provided some economic analysis; only one study provided a full economic cost-benefit evaluation. Overall, the results were heterogeneous and lacked important methodological detail. There was some evidence to suggest substitution effects between hospital and home care reducing the number of in-patient days, and hence reducing the costs.

Authors’ conclusions
This quantitative analysis of the effectiveness of PCHCT found only a small positive effect. This may have been due to methodological difficulties associated with the tools used to detect change and the lack of RCTs.

CRD commentary
The inclusion and exclusion criteria for this review were well defined and the literature search was comprehensive. In addition, the reviewers explored the possibility of publication bias using funnel plots. A quality assessment was performed and the results were recorded, although they were not used in the analyses. In the review, the results were transformed using standardised effect sizes and combined using meta-regression, meta-analysis and meta-synthesis. Given the diversity of the interventions and populations, and the statistical heterogeneity identified, it is questionable that a quantitative synthesis of effect sizes was appropriate. Such an analysis is unusual in reviews of this kind.
However, to attempt to quantify the effect of PCHCT in palliative care was one of the objectives of the review. Given these limitations, the results should be interpreted with interest but caution. The review was useful in drawing attention to the lack of reliable studies in this area.

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

Practice: The authors stated that the analyses lend support to the funding and development of palliative care teams as a way to improve care and to possibly reduce the costs.

Research: The authors stated that studies comparing different team models are required.

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