Nurse-led vs. conventional physician-led follow-up for patients with cancer: systematic review


CRD summary
The review concluded that patients with cancer appeared satisfied with nurse-led follow-up. Further research was required before equivalence with physician-led follow-up could be assured for survival, recurrence, patient well-being and cost-effectiveness. The authors' conclusion appears reasonable given the small number of included studies, most of which were of poor quality.

Authors' objectives
To evaluate the effectiveness and cost-effectiveness of nurse-led follow-up for patients with cancer.

Searching
Nineteen databases including MEDLINE, EMBASE, CINAHL, PsycINFO, AMED, BIOSIS Previews, The Cochrane Library, DARE, Health Technology Assessment Database, NHS EED and SIGLE were searched from inception to February 2007 for relevant studies in any language. Search terms were reported. Bibliographies of retrieved systematic reviews and studies were scanned and five conference proceedings were searched for additional studies.

Study selection
Studies of any type or economic evaluations that compared nurse-led follow-up with conventional physician-led hospital follow-up of patients of any age who had received treatment for any cancer at any disease stage were eligible for inclusion. Nurse-led follow-up could be conducted in either primary or secondary care. Only studies that evaluated the follow-up of patients who no longer received active treatment (or who were considered to be free of active disease if they were receiving treatment until disease progression) were eligible for inclusion.

Interventions in the included studies included patient-initiated nurse-led follow-up or telephone-based nurse-led follow-up. Outcomes assessed included survival, recurrence, psychological morbidity, patient satisfaction and quality of life. Measurement tools used to measure psychological morbidity and quality of life varied between studies. Participants in the included studies had been treated for breast, prostate and lung cancer.

Two reviewers independently assessed studies for inclusion. Disagreements were resolved by discussion or in consultation with a third reviewer.

Assessment of study quality
Validity of primary studies was assessed using a modified Downs and Black checklist (maximum score of 34). Assessment of economic evaluations was conducted using a modified Drummond and Jefferson checklist. Validity was assessed independently by two reviewers. Disagreements were resolved by discussion or in consultation with a third reviewer.

Data extraction
Data were extracted by one reviewer and independently checked by a second reviewer.

Methods of synthesis
A narrative synthesis was conducted because of clinical differences between studies and variation in reporting of data.

Results of the review
Four randomised controlled trials (RCTs) were included in the review (n=927). Total quality scores for the RCTs ranged from 17 to 30. All four RCTs adequately reported the method of random allocation. Only two RCTs reported allocation concealment for patients and clinicians. No studies reported blinding of assessment of main outcome measures. Follow-up ranged from one to five years.
There were no statistically significant differences in survival (two RCTs, n=466), recurrence rate (two RCTs, n=325) or psychological morbidity (three RCTs, n=725) between nurse-led follow-up and physician-led follow-up for patients with cancer.

There were mixed results for health-related quality of life. One RCT (n=202) reported better emotional functioning (p=0.03) and less peripheral neuropathy (p=0.05) at 12 months for nurse-led follow-up compared to conventional hospital follow-up. Another RCT (n=61) reported no difference between groups.

There were mixed results for patient satisfaction. Two RCTs (n=263) reported a statistically significant difference for patient satisfaction for nurse-led follow-up compared to physician-led follow-up. Two RCTs (n=664) reported no significant differences between groups. Patients with lung cancer were reported to be more satisfied with nurse-led telephone follow-up and more patients were able to die at home (one RCT, n=202). Patients with breast cancer found patient-initiated follow-up to be convenient, but reported conventional hospital follow-up as more reassuring (one RCT, n=61).

Results were also reported for use of resources.

**Cost information**

One RCT (n=400) reported that the total cost per patient at five years was lower in the nurse group than in the conventional physician group for patients with prostate cancer (costs per patient per year was 17,033 Swedish krona for nurse group and 19,454 krona for physician follow-up group (difference was 2,421 Krona with no level of variance reported).

One RCT (n=202) reported similar costs of care between groups for lung cancer patients. Median cost per patient at 12 months was £697 (interquartile range £227 to £2,319) for nurse-led follow-up and £745 (interquartile range £298 to £2,363) for conventional physician-led follow-up. However, as accurate recording of time spent with patients by nurses and physicians was not possible the actual cost of the intervention was not considered.

**Authors' conclusions**

Patients appeared satisfied with nurse-led follow-up. Further research is required before equivalence with physician-led follow-up could be assured for survival, recurrence, patient well-being and cost-effectiveness.

**CRD commentary**

Inclusion criteria were clearly defined for study design, intervention and participants, but were not defined for outcomes. Several relevant sources were searched and efforts were made to reduce the potential of language and publication bias. Appropriate methods were used to reduce reviewer error and bias in the selection of studies, assessment of validity and extraction of data. Validity was assessed using appropriate methods and results of the assessment reported. A narrative synthesis was appropriate given the differences between studies. The authors reported limitations of the study, including a small number of mostly poor-quality studies and small sample sizes and duration of follow-up that were insufficient to detect any difference in survival or recurrence rates. The authors' conclusion that further studies were needed to compare nurse-led follow-up with conventional physician-led care appears reasonable given the small number of included studies, most of which were of poor quality.

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

**Practice:** The authors stated that nurse-led follow-up of patients with cancer was feasible, but should include an evaluation of outcomes.

**Research:** The authors stated that further RCTs with rigorous methodology and reporting were required to evaluate the different modalities of nurse-led follow-up as alternatives to conventional hospital follow-up. Future studies should include a sufficient duration of follow-up to enable comparison of recurrence rates and include evaluation of patient quality of life, psychological assessment and satisfaction with cancer-specific measurement tools. Further studies should include a well-conducted and well-reported full economic analysis.
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