A nurse case management intervention improved medical care given to older women with newly diagnosed breast cancer


Does a nurse case management intervention (NCMI) improve the medical care of community dwelling women ≥65 years of age with newly diagnosed breast cancer?

**METHODS**

- **Design:** cluster randomised controlled trial.
- **Allocation:** (concealed)*.
- **Blinding:** blinded (outcome assessors).
- **Follow up period:** 12 months of intervention.
- **Setting:** 13 community and 2 public hospitals in southeast Texas, USA.
- **Patients:** 335 community dwelling women ≥65 years of age (mean age 72 y) who had newly diagnosed breast cancer.
- **Intervention:** patients (in clusters at the level of the attending surgeon) were allocated in a stratified design (with surgeons stratified by total number at new patients with breast cancer seen in the previous year) to an NCMI for 12 months (n = 30 surgeons with 169 patients) or usual care (n = 30 surgeons with 166 patients). The NCMI included 40 hours of training for nurse case managers (NCMs) about cancer treatment and complications and aspects of case management including the National Cancer Institute guidelines. NCMs scheduled a home visit, usually within 24 hours of initial contact, for assessment, problem identification, and goal setting. NCM roles included educator, counsellor, advocate, and patient care coordinator. Contact with patients included 1 in-person assessment and monthly telephone calls.
- **Outcomes:** type and use of cancer specific treatments in the first 6 months after diagnosis, arm function on the affected side at 2 months after surgery, and patient satisfaction.
- **Patient follow up:** 100%

*Information provided by author.

**MAIN RESULTS**

More women in the NCMI group than in the usual care group received breast conserving surgery and radiation therapy (table).

<table>
<thead>
<tr>
<th>Outcomes at 12 months</th>
<th>NCMI</th>
<th>Usual care</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast conserving surgery†</td>
<td>29%</td>
<td>19%</td>
<td>52% (3 to 127)</td>
<td>11 (6 to 160)</td>
</tr>
<tr>
<td>Radiation therapy‡</td>
<td>36%</td>
<td>19%</td>
<td>87% (30 to 172)</td>
<td>6 (4 to 14)</td>
</tr>
<tr>
<td>Normal arm function‡</td>
<td>93%</td>
<td>84%</td>
<td>10% (2 to 20)</td>
<td>12 (7 to 55)</td>
</tr>
<tr>
<td>“Had a real choice” in treatment‡</td>
<td>82%</td>
<td>70%</td>
<td>18% (4 to 34)</td>
<td>9 (5 to 31)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary. RBI, NNT, and CI calculated from data in article.
†Treatment received <6 months after diagnosis.
‡Assessed 2 months after surgery.

Among women who received breast conserving surgery, more women in the NCMI group than in the usual care group received adjuvant radiation (78% v 45%, p = 0.001). At 2 months after surgery, more women in the NCMI group had normal arm function and reported that they felt they had a real choice in their treatment (table).

**CONCLUSION**

A nurse case management intervention improved the medical care of community dwelling women ≥65 years of age with newly diagnosed breast cancer.

**Commentary**

Case management has been suggested as a cost-effective way to provide quality care to high risk patient groups and improve selected patient outcomes. Employing nurses as case managers is not a new practice, but few studies have assessed the positive patient outcomes resulting from nurse case management. The study by Goodwin et al adds to the evidence of the effectiveness of NCMs in improving the medical care received by older women with breast cancer. As a cluster randomised trial, the study has several design strengths, including stratification of surgeons by patient volume and intention to treat analysis. Furthermore, surgeons’ offices cooperated in referring patients for participation, data collectors were blinded to group allocation, and no women were lost to follow up. The use of nurses as case managers improved the likelihood that women would be seen by a radiation oncologist and receive radiotherapy after breast conserving therapy. The NCMI group was more likely to have normal arm functioning early in the recovery period. This is noteworthy because arm function problems after surgery affect quality of life. Unfortunately, as with most evaluations of complex interventions, it is not possible to identify which aspects of case management were most effective in influencing medical care. The authors felt that social support for at risk women was particularly important.

Future research on NCMIs should address the relative effectiveness of various NCM roles on patient outcomes. Inclusion of other quality of life indicators in addition to arm movement would provide more evidence of the impact of NCMs on women’s day to day lives. Finally, qualitative research addressing both patients’ and NCMs’ experiences of case management could help us better understand what happens during this caregiving process.3