A time limited, nurse led intervention reduced hospital readmissions in patients with asthma and a history of frequent admissions


Q Does a time limited, nurse led intervention reduce hospital readmissions in patients with asthma and a history of frequent admissions?

METHODS

- **Design**: randomised controlled trial.
- **Allocation**: concealed.*
- **Blinding**: unblinded.
- **Follow up period**: 1 year.
- **Setting**: Barnes-Jewish Hospital, St Louis, Missouri, USA.
- **Patients**: 96 patients 18–65 years of age (mean age 36 y, 83% women, 82% African-American) who were admitted to hospital with asthma exacerbation, had physician diagnosed asthma for >12 months, forced expiratory volume in 1 second to forced vital capacity ratio >80%, and >1 hospital admission in the previous 12 months.
- **Intervention**: a 6 month, limited, nurse led intervention (suggestions to the primary physician to simplify or consolidate current regimens; completion of daily Asthma Care flow sheets; asthma education; psychosocial support and screening for counselling; follow up through telephone contact, home visits, and primary physician visits; individualised asthma self management plan; consultation with social service professionals to facilitate discharge planning) (n = 50) or usual care by a primary care physician (n = 46).
- **Outcomes**: hospital readmissions for asthma within 1 year. Secondary outcomes included cumulative number of days in hospital, emergency department (ED) visits, asthma specific quality of life, and total healthcare costs.
- **Patient follow up**: 100% (intention to treat analysis).

*Information provided by author.

MAIN RESULTS

 Fewer patients in the intervention group than in the usual care group had >2 readmissions (table). Patients in the intervention group had fewer asthma specific readmissions (21 v 42, p = 0.04) and fewer days in hospital for asthma (53 v 129 d, p = 0.04). The intervention had lower total healthcare costs (US$5726 v $12 188 per patient, p = 0.03). The groups did not differ for ED visits (93 v 64, p = 0.52) or asthma specific quality of life.

CONCLUSION

A time limited, nurse led intervention reduced asthma readmissions, hospital days, and total healthcare costs more than usual care in patients with asthma and a history of frequent admissions.

See commentary on next page.

**Limited nurse focused (LNF) intervention v usual care (UC) for asthma**

<table>
<thead>
<tr>
<th>Outcomes at 1 year</th>
<th>LNF</th>
<th>UC</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;2 readmissions</td>
<td>14%</td>
<td>33%</td>
<td>57% (7 to 81)</td>
<td>6 (3 to 58)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.*

For correspondence: Dr M Castro, Washington University School of Medicine, St Louis, MO, USA. castrom@msnotes.wustl.edu

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