Placement of dementia sufferers in residential and nursing home care

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Abstract

Background: few UK studies have examined the associations of residential or nursing home placement in dementia sufferers.

Method: 124 patients with mild to moderate dementia (according to the Diagnostic and Statistical Manual of Mental Disorders, third edition, revised) and in contact with clinical services were evaluated with a detailed standardized assessment and followed-up at monthly intervals for 1 year.

Results: 25 (21.6%) of the 116 patients living at home were admitted to residential or nursing home care during the follow-up year. Institutional placement was associated with greater severity of cognitive impairment, severity of parkinsonism and the failure of carers to adopt active coping strategies.

Conclusion: an intervention to improve coping skills in carers may decrease the rates of residential and nursing home placement.

Keywords: carers, dementia, nursing homes, placement, residential homes

Introduction

Several studies have considered factors associated with residential and nursing home placements of people with dementia, particularly in the USA [1, 2], Scandinavia [3] and continental Europe [4]. Few studies have however been conducted in the UK. There has been great variability in the proportion of patients requiring institutional placement, ranging from 75% of patients over 1 year [3] to 15% over 3 years [2]. This probably reflects the diversity between different samples in the severity of dementia and the type of service provision.

The focus of individual studies has also varied: some have considered patient factors [1], whilst others have focused more upon carer variables [5]. Most studies have found an association between placement in care and both the severity of cognitive impairment [1, 4, 6, 7] and greater dependency in activities of daily living [1, 4, 6, 7]. Those not replicating these findings have tended to study less severely impaired patients [2]. Some have suggested the importance of psychiatric symptoms [2], behavioural problems such as aggression [6] and carer psychiatric morbidity [5]. None has assessed a range of patient and carer factors. In addition, important areas such as the type of coping strategies adopted by carers, the level of service provision and physical disorders which may confer additional disability have not been adequately investigated.

The current study examines a range of patient and carer variables as potential associations of residential or nursing home placement in 116 dementia sufferers followed prospectively for 1 year.

Methods

The case notes of consecutive referrals to four old age psychiatry services in the West Midlands and a memory clinic in Bristol were reviewed. All patients of 65 years of age or over who fulfilled CAMDEX criteria for mild or moderate dementia [8] and had an informant in contact at least once a week were selected. All those who fulfilled the entry criteria were contacted together with their carer and asked if they would like to participate in the study. Patients were recruited from April 1993 until August 1993. A baseline patient assessment was completed which included a geriatric mental state (GMS) schedule [9] and history and aetiology schedule
approached agreed to participate in the study, of whom
Whitney test or odds ratios with 95% confidence
One hundred and twenty-five (90%) of the 139 patients
regression analysis using a stepwise technique to look
intervals were utilized. All variables with an odds ratio
score, taking neuroleptics, the type of relative caring
The CAMCOG schedule was repeated at 1
place of residence) was available from the GMS/HAS
was attending day care, and demographic data (including
All patients and carers were followed-up at monthly
and the number of patients transferred to residential or nursing home care documented. Only patients who completed at least 3 months of the follow-up period were included in the analysis. The CAMCOG schedule was repeated at 1 year. The following variables were evaluated as potential associations of transfer to residential and nursing home care: severity of parkinsonism, baseline CAMCOG score, deterioration of CAMCOG score over 1 year, female gender, presence of psychotic symptoms, mean age, RDC major depression in patients, type of dementia, living alone, problem behaviour score, taking neuroleptics, the type of relative caring for the patient, RDC major or minor depression in carers, social support available to carers, carer age, carer gender and carer coping strategies. The Mann–Whitney U test or odds ratios with 95% confidence intervals were utilized. All variables with an odds ratio >2 or a probability of <0.1 were entered into a logistic regression analysis using a stepwise technique to look at the individual contribution of each variable. All statistics were undertaken with SPSS package [21].

Results
One hundred and twenty-five (90%) of the 139 patients approached agreed to participate in the study, of whom 124 fulfilled the DSM-III-R criteria for dementia. One hundred and sixteen patients were followed-up for at least 3 months and were not in residential or nursing home care at the start of the study. Eighty-four of the patients were female and 31 male, their mean age was 79.8 and their mean CAMCOG score was 45.2. Sixty-three were living with relatives and 53 were living alone. Twelve (10%) had severe parkinsonism. Eighty-three (72%) received a diagnosis of NINCDS ADRDA probable or possible Alzheimer's disease, 17 (15%) had a study diagnosis of vascular dementia, 12 (10%) met McKeith and co-workers' criteria for a diagnosis of senile dementia of Lewy body type and four (3%) could not be diagnosed using the operationalized criteria. Twenty-five (21.6%) of these patients were admitted to permanent residential or nursing home care during the 1 year of follow-up.

A lower baseline CAMCOG score (Mann–Whitney U test z = 2.06, P = 0.04) was significantly associated with admission to residential or nursing home care. Patients transferred to residential care had a mean score of 37.7 compared with a mean of 47.3 for patients remaining in their original homes. The severity of parkinsonian symptoms as measured by the scale of Yahr et al. [15] (Mann–Whitney U test z = 2.33, P = 0.02) was also significantly associated with admission to care. Patients taking neuroleptics did not have significantly higher scores on the scale of Yahr et al. (Mann–Whitney U test z = 0.15, P = 0.88).

Lower scores on the management of situations subscale for trying to find ways of keeping one's relative busy were significantly associated with admission to residential or nursing-home care (Mann–Whitney U test z = 2.30, P = 0.02). Of the other variables, only receiving day care (odds ratio 2.19, 95% confidence interval 0.89, 5.37) met the study criteria for logistic regression analysis. None of the other variables were significant. The results are shown in Table 1.

In the logistic regression analysis only a lower baseline CAMCOG score (Wald 10.96, P = 0.0009) and reduced use of the coping strategy 'keeping a relative busy' (Wald 7.34, P = 0.007) were significant associations. None of the other variables attained statistical significance (parkinsonian symptoms, Wald 3.10, P = 0.08; type of relative, Wald 4.15, P = 0.39; day care, Wald 3.66, P = 0.06).

Discussion
Participation rates were high and the participants should therefore be representative of patients with mild to moderate dementia in contact with clinical services. Several cognitive and non-cognitive symptoms were examined in the patients using standardized methods and psychiatric morbidity was assessed in their carers. The range of data is broader than previous studies, although the length of follow-up is limited to
Residential and nursing-home placement of dementia sufferers

Table 1. Potential associations of admission in residential or nursing-home care

<table>
<thead>
<tr>
<th>Patient factors</th>
<th>Admitted (n = 25)</th>
<th>Not admitted (n = 91)</th>
<th>OR (95% CI)</th>
<th>Mann-Whitney U</th>
<th>z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living alone</td>
<td>11 (44%)</td>
<td>42 (46%)</td>
<td>0.93 (0.38-2.27)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Baseline CAMCOG</td>
<td>37.7</td>
<td>47.3</td>
<td>-</td>
<td>2.06</td>
<td>0.04a</td>
<td></td>
</tr>
<tr>
<td>CAMCOG deterioration over 1 year</td>
<td>19.7</td>
<td>13.4</td>
<td>-</td>
<td>1.20</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>Female gender</td>
<td>80 (80%)</td>
<td>64 (70%)</td>
<td>1.69 (0.57-4.95)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Psychotic symptoms</td>
<td>16 (64%)</td>
<td>59 (65%)</td>
<td>0.96 (0.38-2.47)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RDC major depression</td>
<td>6 (24%)</td>
<td>23 (25%)</td>
<td>0.93 (0.33-2.61)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alzheimer's disease vs other dementias</td>
<td>18 (72%)</td>
<td>65 (71%)</td>
<td>1.0 (0.4-2.9)</td>
<td>2.33</td>
<td>0.02a</td>
<td></td>
</tr>
<tr>
<td>Severity of parkinsonism</td>
<td>4.6</td>
<td>2.5</td>
<td>-</td>
<td>0.15</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Problem behaviour score</td>
<td>25.4</td>
<td>24.1</td>
<td>-</td>
<td>0.15</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Taking neuroleptics</td>
<td>5 (20%)</td>
<td>19 (21%)</td>
<td>1.6 (0.5-5.1)</td>
<td>0.15</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Carer factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital partner</td>
<td>2 (8%)</td>
<td>15 (16%)</td>
<td>0.49 (0.13-1.90)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td>63.6</td>
<td>65.3</td>
<td>-</td>
<td>0.23</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Female gender</td>
<td>13 (52%)</td>
<td>56 (62%)</td>
<td>0.68 (0.28-1.65)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RDC depression</td>
<td>5 (20%)</td>
<td>26 (29%)</td>
<td>0.6 (0.2-1.8)</td>
<td>0.23</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Coping strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keeping relative busy</td>
<td>1.8</td>
<td>2.3</td>
<td>-</td>
<td>2.30</td>
<td>0.02a</td>
<td></td>
</tr>
<tr>
<td>Directing relative's behaviour</td>
<td>2.4</td>
<td>2.6</td>
<td>-</td>
<td>0.84</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Prioritizing</td>
<td>2.4</td>
<td>2.3</td>
<td>-</td>
<td>0.64</td>
<td>0.52</td>
<td></td>
</tr>
<tr>
<td>Learning about the illness</td>
<td>2.4</td>
<td>2.2</td>
<td>-</td>
<td>0.80</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Reduction of expectations</td>
<td>7.8</td>
<td>8.4</td>
<td>-</td>
<td>1.31</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Making positive comparisons</td>
<td>7.2</td>
<td>7.7</td>
<td>-</td>
<td>0.65</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>Consistent larger sense of illness</td>
<td>6.4</td>
<td>6.8</td>
<td>-</td>
<td>0.93</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Service factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day care</td>
<td>12 (48%)</td>
<td>27 (29.7%)</td>
<td>2.2 (0.9-5.4)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

CAMCOG, CI, confidence interval; OR, odds ratio; RDC, research diagnostic criteria.

*Statistically significant.

1 year and some potentially important variables such as physical illness in carers and systems of service delivery were not studied. Long-stay hospital beds were available for dementia care in both centres, although none of the study participants was admitted to these facilities during the study.

Twenty-two percent of the dementia sufferers were admitted to residential or nursing-home care during the year of follow-up. The strongest association was with the severity of baseline cognitive impairment as measured by the CAMCOG schedule. This is consistent with most previous work [1, 4, 7]. Previous reports have suggested an association between psychiatric symptoms [2] or behaviour problems [6] in patients and placement in care. These phenomena were evaluated in detail in the current study and there was no evidence to support an association. An association was seen between the severity of parkinsonian symptoms and institutionalization. This is an association not examined previously, although it is possible that even the mild parkinsonism identified in the current study could contribute to the level of physical disability. This association merits further investigation.

Although there was no association between placement in care and psychiatric morbidity in carers, an association was seen with the reduced use of active coping strategies. Patients were more likely to be placed in care if their carers did not actively take steps to direct and manage their behaviour. It has been shown that the failure to adopt active coping strategies is associated with increased psychiatric morbidity in carers [22], and it is perhaps not surprising that the absence of active coping styles is also associated with a greater likelihood of patient admission to residential or nursing-home care.

The trend towards an association between attending day care and admission to residential or nursing-home facilities is consistent with previous work [5], which
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also failed to demonstrate any benefit from day care in preventing admission to institutional placements, and with the work of Levin et al. [23] suggesting a paradoxical association between increased service provision and an increased likelihood of placement in permanent care.

Although some key variables do appear to be associated with admission to residential or nursing-home care, it may be dangerous to infer causality. For example, more distressed patients may be more likely to attend day care and depressed carers may be less likely to adopt active coping strategies. Nevertheless, most of our findings are consistent with previous work, and there may be opportunities for therapeutic intervention.

In summary, the current results support previous work in identifying the severity of cognitive impairment as the main factor associated with placement in care. Severe parkinsonian symptoms may also be contributory. The type of coping strategies utilized by carers may be important. Coping strategies are amenable to modification and should be one of the foci of any intervention package for maintaining demented patients at home.

Acknowledgement

We thank the Medical Research Council for their support.

Key points

- In a cohort of 116 dementia patients, 22% were admitted to residential or nursing-home care over 1 year.
- Residential or nursing-home placement was associated with more severe cognitive impairment and more severe parkinsonism.
- Patients receiving day care were twice as likely to be admitted to residential or nursing-home facilities.
- Patients were more likely to be admitted to institutional placements if their carers did not adopt active coping strategies.
- Some residential and nursing-home placements are potentially preventable.

References


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