The neuropsychiatry of dementia: psychometrics, clinical implications and outcome
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CHAPTER 5

Reasons for psychiatric consultation referrals in Dutch nursing home patients with dementia. A comparison with normative data on prevalence of neuropsychiatric symptoms

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OBJECTIVE: To study psychiatric consultation referrals of nursing home patients with dementia and to compare referral reasons with normative data on prevalence of neuropsychiatric symptoms.

METHODS: This is part of a cross-sectional study of 787 patients residing in 14 nursing homes in the Netherlands. Nursing homes physicians (NHP) noted the primary reasons for psychiatric consultation according to the Neuropsychiatric Inventory items and two extra domains. Patients were subsequently assessed by an old-age psychiatrist. Eligible patients were those that had dementia. Reasons for referral were compared with independent data on prevalence of neuropsychiatric symptoms in nursing home patients with dementia.

RESULTS: A total of 325/787 (41.3%) patients had dementia. Agitation, disinhibition and aberrant motor behaviour were frequent reasons for referral (>25%). Psychotic symptoms, apathy and eating behaviour changes were infrequent reasons (<10%) for seeking consultation. Agitation and disinhibition were more often primary reasons for consultation than would have been expected based on normative prevalence estimates of these symptoms. In contrast, delusions, euphoria, apathy, irritability and eating behaviour changes were less often reasons for referral compared with prevalence estimates.

CONCLUSIONS: This study is the first to examine psychiatric consultation for dementia patients in Dutch nursing home. Large differences exist between referral reasons and normative data on symptom prevalence. Specialized mental health service was provided for the agitated and disinhibited patient in particular. Chances are that this is at the expense of the apathetic, retarded and quietly ‘not causing any trouble’ patient.

Key Words: Neuropsychiatric symptoms, dementia, nursing home, psychiatric consultation
INTRODUCTION

Nursing home staff may seek psychiatric consultation for a variety of reasons. Usually, there is a need for receiving diagnostic and medication recommendations, advice on nonpharmacologic management techniques, staff support, and dealing with staff stress and family conflicts.\textsuperscript{1} Reasons for consultation are distributed widely across diagnostic groups and may be relatively weak predictors of psychiatric diagnoses.\textsuperscript{2,3} Up until now no study examined primary reasons for psychiatric consultation in nursing home patients with dementia and compared referrals to normative data on prevalence estimates of neuropsychiatric symptoms.

Prevalence estimates of psychiatric symptoms in nursing home patients with dementia range from 76-94%\textsuperscript{4,5,6}. While age and impairment of Activities of Daily Living (ADL) predict not receiving treatment from a mental health professional,\textsuperscript{7} depression, psychosis and agitation are positively associated with having received treatment.\textsuperscript{2,7,8,3} Notably, nursing home staff often fails to recognize depression.\textsuperscript{9,3}

There is no comprehensive classification system for liaison psychiatry. Formal diagnostic classification systems already have been used in some studies undertaken in the General Hospital.\textsuperscript{10,11} However, these systems may not be useful for classifying nursing home referrals. Dementia patients referred to a mental health care specialist are very likely to have (neuro)psychiatric symptoms. Behavioural rating scales can be used for measuring these symptoms. One such a scale is the Neuropsychiatric Inventory (NPI),\textsuperscript{12} a well-known and widely used measure of neuropsychiatric symptoms in dementia.

This study evaluates psychiatric consultation referrals of Dutch nursing home patients with dementia. To our knowledge this is the first time reasons for psychiatric consultation were compared with independent prevalence estimates of neuropsychiatric symptoms in a large sample of nursing home patients.
CHAPTER 5

METHODS

Study Design
This is a cross-sectional study. Resident nursing home physicians (NHP) selected patients for whom they sought psychiatric consultation and systematically noted primary reasons for referral. Subsequently, an old-age psychiatrist clinically interviewed and diagnosed patients within the nursing home setting. Referral reasons for dementia patients were compared with patient characteristics and normative data on neuropsychiatric symptoms.

Participants
Fourteen nursing homes in the greater region of Amsterdam, The Netherlands were invited to participate. All accepted. The nursing homes had specialized psychogeriatric care units and somatic rehabilitation units. From June 1999 till September 2003 nursing homes were regularly visited once every 4 – 6 weeks by a senior old-age psychiatrist (MK) for routine psychiatric consultation services. NHP’s were already familiar with the psychiatric consultation model during a couple of years prior to the study. Dutch nursing homes employ physicians who have completed a two year specialist training program, including some aspects of geriatric medicine and psychiatry, to become a qualified NHP.

Eligible patients were those receiving regular nursing home care and having a diagnosis of dementia established after clinical interview by the consulting psychiatrist.

Procedures and Assessment
NHP’s were asked to state what the reasons for psychiatric referral were. Any of 12 neuropsychiatric symptoms as described in the NPI were used to elicit the referral reason. Several symptoms were allowed for. So, the NPI served as a checklist in this study and not as an interview based assessment. In addition, two optional items were included in the checklist based on our previous experience with the NPI in the nursing home setting: ‘Demanding behaviour’, defined as an inappropriate act (dependent, regressive behaviour) to get things done from the staff. The second item was ‘Other indication’, e.g. referral for neuropsychiatric assessment and advice on transferring patients from one setting to another. The original NPI requires an interview with a knowledgeable informant. The scale consists of 12 symptom domains: Delusions, Hallucinations, Agitation/Aggression, Depression, Anxiety, Euphoria, Apathy, Disinhibition, Irritability, Aberrant motor behaviours, Abnormal sleep and Eating behaviours.
Psychiatric assessment consisted of a clinical interview by an experienced old age psychiatrist who made a diagnosis of dementia based on all available information. Diagnosis by the research psychiatrist was deemed important as some patients enter the nursing home without a proper psychiatric assessment of dementia, or as dementia develops in some patients during nursing home stay without being diagnosed. Dementia subtype classification was done according to the NINCDS-ADRDA criteria for Alzheimer’s Disease (AD),\textsuperscript{14} NINDS-AIREN criteria for Vascular Dementia (VaD),\textsuperscript{15} criteria for Dementia with Lewy bodies and Dementia in Parkinson’s Disease (DLB/PDD),\textsuperscript{16} and criteria for Frontotemporal Dementia (FTD).\textsuperscript{17} The subgroup of ‘Other dementia’ consisted of patients with mixed AD/VaD type dementias.

**Neuropsychiatric symptoms reference data**

The WAALBED study provides normative data on prevalence of neuropsychiatric symptoms in nursing home patients with dementia.\textsuperscript{6} In short, the WAALBED study is set in the Eastern, Northern and Southern parts of the Netherlands. A total of 1322 resident patients aged 83 years (SD 8.1), male-female ratio 20/80, from 27 nursing homes were assessed with the NPI (Nursing Home version).\textsuperscript{6} Standard NPI-NH procedures were used. In this study we compared consultation referrals with independent normative data using conservative prevalence estimates (WAALBED NPI scores > 3: e.g. frequency 1 x severity 3).

**Statistical analysis**

Parametric or nonparametric tests were used where deemed appropriate. Chi-square test was used to examine the associations between referral reasons, patients characteristics and prevalence of neuropsychiatric symptoms in nursing home dementia patients. A goodness of fit analysis was performed based on percentage scores from the WAALBED data. Percentages were compared with outcomes in this study (Chi-square test). Data were analyzed with SPSS, version 10.
RESULTS

A total of 825 patients were consecutively referred for consultation. Of these, 38 patients were excluded from the analyses because of missing data and 462 were ineligible as no dementia was diagnosed upon clinical examination. Of the remaining 325 patients 2% were day care patients. The majority of patients were female (59.7%). Male patients were slightly younger than female patients; average age 80.5 (SD 7.5) and 83.2 (SD 7.5) respectively, t-test 3.2, df: 318, P=.002.

Dementia typology
Of the patients with dementia, 33% had Alzheimer’s disease, 20% Vascular Dementia, 6.5% Dementia with Lewy Bodies/Parkinson’s Disease Dementia, 6% Fronto-temporal dementia syndromes and 34.5% Other dementias, mostly of mixed degenerative and vascular aetiology.

Referral reasons
NHP often sought psychiatric consultation for patients with troublesome behaviours as indicated by frequent referrals for Agitation, Disinhibition and Aberrant motor behaviour (>25%). Depressive symptoms and anxiety were often reason for referral too. Psychotic symptoms, Euphoria, Apathy, Eating behaviour changes and Demanding behaviours were infrequent reasons (< 10%) for seeking consultation.

Correlates of Referrals
Disinhibited behaviour was more often reason for referral in younger patients compared with older patients (Chi² 10.0, df: 2, P = .007). Agitation was more often reason for referral in male patients compared with female patients OR 3.5 (CI: 2.2-5.6). Anxiety OR 1.9 (CI: 1.0-3.5), Aimless repetitive behaviour OR 2.9 (CI: 1.6-5.1) and Other indications OR 3.7 (CI: 1.5-9.1) were more often reason for referral in female patients compared with male patients.

Referrals and prevalence of neuropsychiatric symptoms in dementia
Reasons for referral were compared with independent prevalence data on neuropsychiatric symptoms in Dutch nursing home patients with dementia (table 1). Atotal of 7/12 NPI based primary reasons for psychiatric consultation differed significantly from WAALBED data: Agitation and Disinhibition were more often primary reasons for consultation compared to prevalence estimates. On the other hand, Delusions, Euphoria, Apathy, Irritability and Eating behaviour changes were infrequent reasons for
consultation compared to prevalence estimates.

Table 1. Reasons for psychiatric consultation in dementia patients (n=325) compared to prevalence estimates of neuropsychiatric symptoms in Dutch nursing home patients with dementia (n=1322)

<table>
<thead>
<tr>
<th>NPI items</th>
<th>Reasons Psychiatric consultation</th>
<th>Prevalence</th>
<th>NPI FxE score &gt; 3</th>
<th>Chi²</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delusions</td>
<td>6.8</td>
<td>14.6</td>
<td>160</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>7.4</td>
<td>7.6</td>
<td>0.0</td>
<td></td>
<td>0.884</td>
</tr>
<tr>
<td>Agitation/Agression</td>
<td>38.3</td>
<td>31.4</td>
<td>6.9</td>
<td></td>
<td>0.009</td>
</tr>
<tr>
<td>Depression</td>
<td>19.4</td>
<td>20.0</td>
<td>0.1</td>
<td></td>
<td>0.782</td>
</tr>
<tr>
<td>Anxiety</td>
<td>18.5</td>
<td>20.7</td>
<td>1.0</td>
<td></td>
<td>0.319</td>
</tr>
<tr>
<td>Euphoria</td>
<td>0.6</td>
<td>7.0</td>
<td>20.4</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Apathy</td>
<td>4.0</td>
<td>33.7</td>
<td>128.3</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>26.5</td>
<td>19.9</td>
<td>8.8</td>
<td></td>
<td>0.003</td>
</tr>
<tr>
<td>Irritability</td>
<td>13.9</td>
<td>33.6</td>
<td>56.8</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Aberrant motor</td>
<td>25.6</td>
<td>29.0</td>
<td>1.9</td>
<td></td>
<td>0.169</td>
</tr>
<tr>
<td>Abnorm. sleep</td>
<td>13.3</td>
<td>12.0</td>
<td>0.5</td>
<td></td>
<td>0.495</td>
</tr>
<tr>
<td>Eating abnorm.</td>
<td>3.1</td>
<td>23.7</td>
<td>76.4</td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td>Demand. beh.</td>
<td>4.0</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>Other indic.</td>
<td>10.8</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>

(percentages are shown in table)
DISCUSSION

This study examined psychiatric consultation in Dutch nursing homes patients with dementia and compared reasons for referral with prevalence estimates of neuropsychiatric symptoms. Agitation was the primary reason for calling in a consulting psychiatrist in almost 40% of patients, while hallucinations, delusions and also apathy made up less than 10%. Hence, although dementia is characterized by different neuropsychiatric symptoms, chances are high psychiatric services are provided for ‘difficult’ behaviours but low for other behaviours that are generally considered less troublesome.

These data are relevant for gaining a better understanding of the discrepancies that exist between actual prevalence of neuropsychiatric symptoms in nursing home patients and reasons for calling in psychiatric services, thereby highlighting the risk of underdiagnosis of potentially important neuropsychiatric symptoms. Findings are of particular importance considering the fact that most Dutch nursing homes employ resident physicians and psychologists. Apparently, not all disturbing behaviours are successfully managed by nursing home staff, nor are less disturbing behavioural changes brought to the attention of a consulting psychiatrist. So, many patients that may need specialized mental health care do not get it. Educating staff about the wide range of behavioural changes in dementia and about the importance of psychiatric expertise in diagnosing and treating so-called less troublesome behaviours may be warranted.

Our findings are consistent with observations made in other countries. In a study that included nursing home patients of which 36% had dementia, the most frequently observed reason for referral was behavioural problems (49%), followed by mood-related symptoms (35%), psychotic features (16%) and unexplained or problematic physical signs (12%). That study did not specify apathy as a separate behavioural change category. An Italian study in residential care facilities showed that psychiatric referrals were associated with symptoms of depression (17.2%), psychosis (14%), agitation (34.8%), aggression (23.5%) and sleep disturbances (6.8%). A large scale study showed that nursing home residents who stole, hurt themselves, exposed themselves or hallucinated were more likely to receiving specialist mental health services. Behaviours considered less disruptive (e.g. forgetting events, being drowsy, dull) were related to lower treatment rates. All of the above mentioned studies used different registration methods for psychiatric referrals. Differences between settings and methodologies used limit direct comparisons between studies. Nevertheless, our findings show a referral pattern similar to that found by others. Contrary to previous
The pattern of referrals in this study was very different from the picture that emerges from the WAALBED neuropsychiatric symptoms prevalence study. Differences between settings may explain diverging results to some extent. While our study included nursing home inpatients and a small percentage of day care patients, the WAALBED study included inpatients only. Though prevalence of neuropsychiatric symptoms may depend on the study sample, the inclusion of only a few day care patients in this study is unlikely to have had a major impact on results and can therefore not explain significant differences between studies. While in this study NHP’s referred patients for psychiatric consultation, licensed vocational nurses assessed neuropsychiatric symptoms in the WAALBED study. WAALBED outcomes are considered valid estimates of neuropsychiatric symptoms in dementia. No data on NPI based psychiatric referrals are available in the Netherlands. We found that disturbing behaviours are the primary reason for psychiatric consultation. Very few patients with primarily delusions, apathy, euphoria and changes in eating behaviour were referred compared to prevalence estimates. Apathy may be considered a nondisturbing behaviour in the nursing home setting. However, others have highlighted the importance of apathy as a predictor of the quality of the (marital) relationship between patient and caregiver. It is possible that nursing home staff interpret some behavioural changes as primary cognitive dysfunctions that do not need psychiatric treatment, e.g. delusions versus memory impairment and eating behaviour versus eating apraxia. Also, NHP’s may treat mild hallucinations themselves, again without referring the patient. Dutch nursing home physicians have some specialist training in both geriatric medicine and psychiatry. The national association of NHP’s published a ‘problem behaviours’ guideline. Therefore, referral patterns to consultant psychiatrists might differ importantly from referrals made by general practitioners in other countries. Overall, our results show that reasons for psychiatric referral and prevalence of neuropsychiatric symptoms differ. Future research should address the question why these differences exist.

This study has several limitations that need to be discussed. This is an observational study and it does not allow for conclusions on cause and effect. Secondly, selection bias may threaten validity of the results. Referring physicians used the NPI as a checklist and scored primary reasons for consultation. It means that they often chose symptoms that they felt needed attention most. It does not imply that other symptoms were not present at all. Although this procedure enabled us to mimic psychiatric consultation as it happens in everyday clinical practice, it also means that our data on referrals are
not exactly the same as estimates of actual symptom prevalence. Nevertheless, our findings are consistent with those of others,\textsuperscript{2,3,7,9,19} which may imply that by and large validity is not challenged.

Strong points of this study are the large number of patients included, the use of a standardized checklist for referral reasons based on a validated neuropsychiatric rating scale and the clinical assessment of each patient by an experienced old age psychiatrist.

This study is the first to examine psychiatric referrals in Dutch nursing home patients with dementia. It offers a clear picture of the most important reasons to call in a consulting psychiatrist. Large differences exist between referral reasons and estimated symptom prevalence. Agitation and disinhibition are much more likely to be the primary reason for referral compared to other symptoms such as apathy. The latter is probably under diagnosed and not brought to the attention of the consulting psychiatrist. To put it another way: the consulting psychiatrist may see a lot of patients but he certainly does not see all with neuropsychiatric symptoms. Chances are that this situation continues at the expense of the apathetic, retarded and quietly ‘not causing any trouble’ patient.
Reference List