The unmet needs of referrals to old age psychiatry liaison services
Nierozpoznawane potrzeby pacjentów w wieku podeszłym kierowanych do konsultacji psychiatrycznych

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**Keywords:** need assessment, elderly, psychiatric services
**Słowa kluczowe:** ocena potrzeb, osoby w wieku podeszłym, opieka psychiatryczna

**Summary**

**Background.** Psychiatric disorder is common amongst elderly patients in medical and surgical wards but frequently goes underdiagnosed. This group of patients also presents with needs that are complex and varied and which, therefore, can be difficult to identify. The aim of this study was to identify met and unmet needs of patients referred to old age liaison psychiatric services.

**Material and Methods.** Patients over the age of 65 referred for psychiatric liaison assessments from medical and surgical wards were assessed using the Camberwell Assessment of Need for the Elderly (CANE).

**Results.** Needs were assessed in 117 liaison referrals. The mean of total number of needs was 7.18, and of these 2.72 were met needs (SD 2.5, range 0-11) and 4.46 were unmet needs (SD 2.9, range 0-15). The most common unmet needs were memory (49.6%), psychological distress (46.2%), mobility (44.4%), and looking after home (43.6%). Men had significantly more unmet needs than women.

**Conclusions.** The CANE questionnaire addresses many different areas of need and is able to identify unmet needs that might otherwise go undetected. The CANE could be used therefore as part of the routine assessment of liaison psychiatric elderly patients on medical and surgical wards. Using the CANE may reduce the likelihood of readmission to hospital, the need for continuing care post discharge and improve quality of life.

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Streszczenie
Założenia. Zaburzenia psychiczne często występujące wśród starszych pacjentów nierzadko pozostają niediagnozowane na oddziałach wewnętrznych i chirurgicznych.
Ta grupa chorych posiada również specyficzne, trudne w ocenie wielopłaszczyznowe potrzeby. Celem artykułu było zidentyfikowanie zauważanych oraz pomijanych potrzeb pacjentów przekazywanych na oddziały psychiatryczne.

Materiał i metoda. Do badania zakwalifikowani zostali chorzy powyżej 65. roku życia, przekazani do oddziału psychiatrycznego z oddziałów internistycznych i chirurgicznych.
Przesłanki przekazania pacjenta były określone przy użyciu Kwestionariusza CANE (Camberwell Assessment of Need for the Elderly – Kwestionariusz Oceny Potrzeb Osób Starszych).

Wyniki. Przebadano 117 podopiecznych przekazanych na oddziały chirurgiczne. Średnia wszystkich potrzeb wyniosła 7.18, z czego 2.72 stanowiły potrzeby rozpoznane (SD 2.5 rozpiętość 0 – 11), a 4.46 nie rozpoznane (2.9, rozpiętość 0 – 15). Do najczęściej nie rozpoznawanych problemów należały: zaburzenia pamięci (49.6%), psychiczny distress (46.2%), unieruchomienie (44.4%) oraz tęsknota za domem (43.6%). Znacząco wyższy współczynnik nie diagnozowanych potrzeb stwierdzono wśród mężczyzn.

Wnioski. Kwestionariusz CANE obejmuje kompleksowo potrzeby osób w wieku podeszłym i pozwala indentyfikować te potrzeby, które często pozostają niezauważone. W związku z tym kwestionariusz CANE może być używany jako rutynowy test w grupie pacjentów w wieku podeszłym wykazujących zaburzenia psychiczne na oddziałach wewnętrznych i chirurgicznych. Wykorzystanie tego narzędzia może doprowadzić do ograniczenia powtórnych hospitalizacji i ułatwienia opieki medycznej nad pacjentem po wypisie.

Introduction
People over 65 account for the majority of general hospital in-patients and although psychiatric disorders are common, they frequently go undetected [1]. Rates of psychiatric disorders amongst medical patients vary from 27% to 65% [2-6]. In older people, rates for prevalence of psychiatric disorder have been reported as 38.7% on medical wards and 33% on surgical wards [7]. Dementia and affective disorders are the most common diagnoses in the elderly in-patient population [8]. Rates of dementia are around 20% with the majority of these patients being on medical wards [6, 9].

Psychiatric illness extends hospital stay, and increases mortality and dependency [5, 10-12]. Patients with a combination of physical illness and mental disorder present clinicians with difficulties in diagnosis and therefore potential problems in care and management. Models of geriatric liaison services often rely upon physician referrals. General physicians are accurate in their diagnoses for depression and dementia [13]. However, only between 3% and 8% of those patients with a psychiatric disorder are being referred for psychiatric input [6, 14]. Reasons for this under referral are difficult to ascertain. Physicians may be reluctant to diagnose new onset psychiatric illness for fear of stigmatisation or the patient may have biological symptoms of either depression or dementia (e.g. loss of energy or poor appetite) attributed to a physical cause [15]. For those who do receive a psychiatric consultation, there is evidence of a significant improvement in their confusion, anxiety, depression, abnormal behaviour and functional ability (compared with those who do not) and a higher proportion are subsequently discharged home [16]. Psychiatric liaison input can also reduce costs by decreasing the number of days in hospital and lessening the need for statutory care services [17]. Advice and input from geriatric psychiatric services to medical services can provide assistance in the management and treatment of acute confusional states, a common occurrence in the elderly [18]. Despite this, there have been no studies which adequately describe the range of met and unmet needs in patients referred to old age liaison psychiatry services. Such studies would provide information on how we can ensure improvements in outcome. There is also evidence that a standardised approach is highly effective in identifying which needs are unmet [19]. Research has also shown that the assessment of individual needs, particularly
unmet needs, is strongly related to patient outcome in terms of measures such as health and quality of life [20]. A pilot study by Bhat et al. [21] used the Camberwell Assessment of Needs for the Elderly (CANE) in old age liaison psychiatric patients. Around a third of unmet needs were psychiatric but many unmet needs were for social or physical problems. The CANE was able to identify a large number of unmet needs in these patients that had not been previously recognised by ward staff. Based on the pilot study, we hypothesised that the needs of people referred for psychiatric input on medical and surgical wards for older people would be complex. We expected most physical needs to be met by the ward. We also expected that many patients would have unmet needs in the areas of memory, psychological distress and psychotic symptoms.

Aims
- To characterise the met and unmet needs of referrals for psychiatric liaison assessments in people over the age of 65.
- To identify factors associated with increased unmet needs.

Material and methods
Patients were recruited from Barking Hospital, King George's Hospital, Whipps Cross Hospital and St. Thomas’ Hospitals in London. The ward doctor made the referrals via fax in the form of a letter or by telephone. Information was gathered from the medical notes, the medical team looking after the patient, nursing staff and wherever possible a relative/friend/carer of the patient. The relevant Local Research Ethics Committees gave ethical approval for the study. Consent or assent was gained from the patients. Caregivers were also approached for their consent. The inclusion criteria were consecutive patients over the age of 65 referred for psychiatric liaison assessments from medical and surgical wards. The exclusion criteria were inability to comply with the study assessment due to difficulties with communication (eg. impaired level of consciousness, impaired language skills, poor english).

The assessment
Demographic details were collected and a psychiatric assessment was carried out including a full history and mental state examination. The Camberwell Assessment of Needs of the Elderly (CANE) [19] was carried out. The CANE covers 24 areas of need (e.g. memory, psychological distress, physical health, mobility and daytime activities). Needs are rated as no need/ met need/ unmet need for each area. The CANE has good validity and reliability and can be easily used by a wide range of professionals without formal training [22]. It has separate ratings for the rater, user, staff and carer’s views. A summary of met and unmet needs can help define possible interventions and care plans. In this study the clinicians (psychiatrists) assessment of needs was used. Three months later, the patients were followed up to gather information on outcome and the status of the identified unmet needs at baseline, in order to look for any change in unmet needs at follow-up.

Data Analysis
SPSS 11.5 was used to enter the data and perform the statistical analysis. In order to look for possible associations, categorical data were grouped by: living alone vs. living with others; married vs. not married (single, widowed, divorced and separated); and by having a carer or not. Bonferroni correction was applied to these comparisons, setting the alpha level on 0.01. Multiple linear regression was used to predict unmet needs.

Results
Of the 117 participants there were 58 (49.6%) males and 59 (50.4%) females. The mean age was 81.05 (SD 6.9, range 66 – 95). The majority (58:56.3%) were widowed, 19 (18.4%) were single, 20 (19.4%) were married, and 6 (5.8%) were divorced or separated. Seventy-four (67.3%) participants lived alone, 22 (20.0%) lived with a partner, 7 (6.4%) lived with other relatives, and 7 (6.4%) lived with others. Thirty-eight (43.2%) subjects did not have a carer. Many participants (49:43.0%) had a diagnosis of dementia (6 with comorbid depression), 38 (33.3%) had depression, 10 (8.8%) delirium, 4 (3.5%) schizophrenia, 3 (2.6%) stroke, 7 (5.4%) another psychiatric diagnosis and 3 (2.6%) had
no psychiatric diagnosis. Some participants had missing data in one or more areas. The characteristics of the sample by gender are showed in Table 1. Of the 74 subjects who lived alone, 39 (52.7%) were men and 35 (47.3%) were women. Of the 30 participants who lived with others, 25 (83.3%) had an identified carer ($\chi^2 = 11.9, p < 0.01$).

**Tab. 1.** Characteristics of the sample at baseline

<table>
<thead>
<tr>
<th></th>
<th>Male n=58</th>
<th>Female n=59</th>
<th>Total n=117</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age</td>
<td>80.2 (sd 7.4)</td>
<td>81.8 (sd 6.5)</td>
<td>81.0 (sd 6.9)</td>
</tr>
<tr>
<td>Living Alone</td>
<td>39 (73.6%)</td>
<td>35 (62.5%)</td>
<td>74 (67.9%)</td>
</tr>
<tr>
<td>Married</td>
<td>8 (16%)</td>
<td>12 (22.6%)</td>
<td>20 (19.4%)</td>
</tr>
<tr>
<td>Has a carer</td>
<td>25 (61%)</td>
<td>25 (53.2%)</td>
<td>50 (56.8%)</td>
</tr>
</tbody>
</table>

**Needs**

The mean of total number of needs was 7.18, and of these 2.72 were met needs (SD 2.5, range 0-11) and 4.46 were unmet needs (SD 2.9, range 0-15). In total, 840 needs were identified, and 318 (37.9%) were met and 522 (62.1%) unmet. The frequency of CANE met and unmet needs by area are showed on Table 2. The most frequent met needs were physical health (59%), self-care (24.8%), and food (24.8%). The most common unmet needs were memory (49.6%), psychological distress (46.2%), and looking after home (43.6%). Men had significantly more unmet needs ($M = 5.0, SD 2.7$) than women ($M = 3.9, SD 2.9$) $[t (115) = 2.1, p < 0.05]$ overall and had significantly more unmet needs than women for accommodation ($\chi^2 = 8.8, p < 0.01$). People who had no carer had more unmet needs ($M = 5.2, SD 3.2$) than people who had a carer ($M = 4.5, SD 3.0$) but this difference was not significant $[t (86) = 1.0, p = 0.32]$. People with dementia had significantly more total needs ($M = 8.2, SD 4.1$) than people with depression ($M = 6.3, SD 3.5$) $[F (2,114) = 3.5, p < 0.05]$ but not significantly more unmet needs ($M = 4.8, SD 2.8$) than people with depression ($M = 4.3, SD 3.4$) $[t (79) = 0.7, p = 0.46]$. People with dementia had significantly more unmet needs than people with depression for accidental self harm ($\chi^2 = 6.7, p < 0.01$). People living alone had more unmet needs ($M = 4.7, SD 2.6$) than people living with others ($M = 4.0, SD 3.6$) but this was not significant $[t (107) = 1.3, p = 0.20]$. People living alone had significantly more unmet needs for food ($\chi^2 = 6.3, p < 0.01$), daytime activities ($\chi^2 = 14.7, p < 0.01$), and psychotic symptoms ($\chi^2 = 5.0, p < 0.01$).

A one-way analysis of variance was conducted to compare unmet needs between four groups of people with dementia: men living alone/with others and women living alone/with others. Men living alone had a mean of 6.6 (SD 1.8) unmet needs compared to men living with others ($M = 4.9, SD 3.7$). Women living alone had a mean of 4.9 (SD 3.1) unmet needs compared to women living with others ($M = 3.1, SD 2.3$). The ANOVA indicated that men with dementia living alone had significantly more unmet needs than women with dementia living with others $[F (3, 42) = 3.7, p < 0.05]$. A multiple linear regression analysis was carried out to determine which factors were the best predictors of unmet needs. Total unmet need was used as the dependent variable, and age, diagnosis, gender, living situation and having a carer were the independent variables. The regression model was not significant ($F = 0.6, p > 0.05; R^2 = 0.05$).
**Tab. 2.** Frequency (%) of CANE met and unmet needs at baseline

<table>
<thead>
<tr>
<th>(n = 117)</th>
<th>Met Needs (%)</th>
<th>Unmet Needs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>5 (4.3)</td>
<td>42 (35.9)</td>
</tr>
<tr>
<td>Looking after home</td>
<td>22 (18.8)</td>
<td>51 (43.6)</td>
</tr>
<tr>
<td>Food</td>
<td>29 (24.8)</td>
<td>23 (19.7)</td>
</tr>
<tr>
<td>Self-Care</td>
<td>29 (24.8)</td>
<td>38 (32.5)</td>
</tr>
<tr>
<td>Caring for another</td>
<td>2 (1.7)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>Daytime Activities</td>
<td>9 (7.7)</td>
<td>25 (21.4)</td>
</tr>
<tr>
<td>Memory</td>
<td>18 (15.4)</td>
<td>58 (49.6)</td>
</tr>
<tr>
<td>Eyesight/Hearing</td>
<td>10 (8.5)</td>
<td>8 (6.8)</td>
</tr>
<tr>
<td>Mobility</td>
<td>17 (14.5)</td>
<td>52 (44.4)</td>
</tr>
<tr>
<td>Continence</td>
<td>14 (12)</td>
<td>19 (16.2)</td>
</tr>
<tr>
<td>Physical Health</td>
<td>69 (59)</td>
<td>24 (20.5)</td>
</tr>
<tr>
<td>Drugs</td>
<td>18 (15.4)</td>
<td>10 (8.5)</td>
</tr>
<tr>
<td>Psychotic Symptoms</td>
<td>1 (0.9)</td>
<td>18 (15.4)</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>13 (11.1)</td>
<td>54 (46.2)</td>
</tr>
<tr>
<td>Information</td>
<td>16 (13.7)</td>
<td>6 (5.1)</td>
</tr>
<tr>
<td>Deliberate Self-Harm</td>
<td>3 (2.6)</td>
<td>8 (6.8)</td>
</tr>
<tr>
<td>Accidental Self-Harm</td>
<td>9 (7.7)</td>
<td>32 (27.4)</td>
</tr>
<tr>
<td>Abuse/Neglect</td>
<td>0 (0.0)</td>
<td>6 (5.1)</td>
</tr>
<tr>
<td>Behaviour</td>
<td>4 (3.4)</td>
<td>10 (8.5)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>1 (0.9)</td>
<td>3 (2.6)</td>
</tr>
<tr>
<td>Company</td>
<td>7 (6.0)</td>
<td>20 (17.1)</td>
</tr>
<tr>
<td>Intimate Relationships</td>
<td>3 (2.6)</td>
<td>7 (6.0)</td>
</tr>
<tr>
<td>Money</td>
<td>15 (12.8)</td>
<td>6 (5.1)</td>
</tr>
<tr>
<td>Benefits</td>
<td>7 (6.0)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>2.72 (2.5)</td>
<td>4.46 (2.9)</td>
</tr>
</tbody>
</table>
Follow-up
At follow-up 57 (48.7%) patients had been discharged home, 8 (6.8%) were still in-patients, 21 (17.9%) had died, and 31 (26.5%) were lost to follow-up. Data on unmet needs at follow-up was available for 64 patients.

At three months follow-up there was major reductions in previous unmet needs in: accommodation, looking after home, food, self-care, daytime activities, memory, mobility, continence, physical health, psychological distress, accidental self-harm, and company (Table 3).

Tab. 3. Frequency (%) of most common CANE unmet needs at baseline and follow-up
Tabela 3. Występowanie (%) najczęściej diagnozowanych przy użyciu kwestionariusza CANE potrzeb w badaniu pierwszorazowym i powtórzonym

<table>
<thead>
<tr>
<th>(n = 64)</th>
<th>Baseline (%)</th>
<th>Follow-up (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>29 (45.3)</td>
<td>8 (12.5)</td>
</tr>
<tr>
<td>Looking after home</td>
<td>28 (43.8)</td>
<td>8 (12.5)</td>
</tr>
<tr>
<td>Food</td>
<td>14 (21.9)</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td>Self-Care</td>
<td>19 (29.7)</td>
<td>7 (10.9)</td>
</tr>
<tr>
<td>Daytime Activities</td>
<td>16 (25)</td>
<td>3 (4.7)</td>
</tr>
<tr>
<td>Memory</td>
<td>28 (43.8)</td>
<td>10 (15.6)</td>
</tr>
<tr>
<td>Mobility</td>
<td>29 (45.3)</td>
<td>6 (9.4)</td>
</tr>
<tr>
<td>Continence</td>
<td>13 (20.3)</td>
<td>5 (7.8)</td>
</tr>
<tr>
<td>Physical Health</td>
<td>13 (20.3)</td>
<td>4 (6.3)</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>36 (56.3)</td>
<td>9 (14.1)</td>
</tr>
<tr>
<td>Accidental Self-Harm</td>
<td>15 (23.4)</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td>Company</td>
<td>11 (17.2)</td>
<td>4 (6.3)</td>
</tr>
</tbody>
</table>

In order to look for predictors of outcomes at follow-up, data were divided in three groups: people at home, people in hospital and people dead. ANOVA was carried out to look for differences in outcomes by age \( [F(2, 81) = 0.2, p = 0.8] \) and number of unmet needs \( [F(2, 83) = 0.7, p < 0.47] \), and Chi-square to look for differences by gender \( (\chi^2 = 0.4, p=0.5) \) and diagnosis \( (\chi^2 = 0.9, p = 0.3) \). The analyses showed no significant differences between the groups.

Discussion
This is the first study to provide an in-depth assessment of met and unmet needs in referrals to old age liaison psychiatry services. This population had high numbers of unmet needs and, as we had hypothesised, needs for these patients were complex. Physical health needs were generally met, particularly sensory needs, drugs and physical health. In contrast, there was a very high rate of unmet needs for mobility problems. Those needs that could be reasonably easily addressed by virtue of being an in-patient were also met such as self-care and information. As predicted, unmet needs were high.
in areas of psychological distress, memory and psychotic symptoms. Accommodation was also a frequent
unmet need as well as lacking appropriate care at home. Particularly vulnerable were those patients
who had experienced a recent deterioration in functioning and who had previously lived alone but who
now required more supported accommodation. This group had no appropriate activities to do during
the day, and were also at risk for loneliness and, interestingly, psychotic symptoms. As there is such
a high level of unmet need for accommodation as well as psychiatric illness, old age psychiatrists can
be of help in liaising with other services and identifying appropriate placements for people with com-
plex difficulties as well as treating behavioural and psychological symptoms. Unmet needs for company
daytime activities were common and were not being adequately addressed on the ward. Liaison
services can facilitate access to eg day centres so reducing isolation. Men with dementia living alone
had high levels of unmet needs and may be more likely to get admitted to general hospital wards.
Previous studies have found that people with dementia living alone are more likely to be at risk in the
following areas: nutrition, money management, medication management, hygiene and falls [23-25].
They also are in high risk of social isolation [26]. These factors must be considered as part of the care
plan for discharge as this group may require specific services in order to met their needs and prevent
a future admission to hospital.

No factors at baseline were found to predict outcome at follow-up in terms of discharge, continued
in-patient stay or mortality. There was a consistent pattern of reduced unmet needs at follow-up.
However, the follow-up was generally by telephone and some unmet needs may have been missed,
particularly those needs which were lesser priorities or less troublesome.

The needs of older patients, who require general hospital in-patient care, are often chronic, progressive,
and complex. The clinical care therefore that is provided should encapsulate a wide field of specialities.
Multidisciplinary teams where both psychiatric and medical conditions are assessed and treated may
improve outcome and reduce costs [27]. The CANE may be useful in 3 ways: to identify individual met
and unmet needs and detect areas of risk; to inform care packages; and to highlight areas requiring
resource allocation including gaps in services, and training needs.

There are some limitations to this study. Accurate information could be difficult to obtain for some
patients due to the nature of their physical illness or mental state. For these patients it was necessary
to clarify information from relatives or carers (in addition to hospital staff). However, sometimes such
people were not available. Since researchers at follow-up looked only for change in previous unmet
needs, nothing can be said of new unmet needs occurring within the three months follow-up period.

Conclusion

Patients that are referred to psychiatric liaison teams have complex needs that are social, psychiatric
and medical in nature. Routine use of structured instruments such as the CANE in the context of a liaison
assessment would provide a broad appraisal of the needs of patients and identify unmet needs that
might otherwise go undiscovered. The CANE would also provide a benchmark against which outcome
of care plans can be measured. Standardised needs assessment may possibly reduce the likelihood
of readmission to hospital and help support discharge home, and may improve quality of life.

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