The care needs of older patients with bipolar disorder

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Objectives: With aging, bipolar disorder evolves into a more complex illness, with increasing cognitive impairment, somatic comorbidity, and polypharmacy. To tailor treatment of these patients, it is important to study their needs, as having more unmet needs is a strong predictor of a lower quality of life.
Method: Seventy-eight Dutch patients with bipolar I or II disorder aged 60 years and older in contact with mental health services were interviewed using the Camberwell Assessment of Need in the Elderly (CANE) to assess met and unmet needs, both from a patient and a staff perspective.
Results: Patients (mean age 68 years, range 61−98) reported a mean of 4.3 needs compared to 4.4 reported by staff, of which 0.8 were unmet according to patients and 0.5 according to staff. Patients frequently rated company and daytime activities as unmet needs. More current mood symptoms were associated with a higher total number of needs. Less social participation was associated with a higher total number of needs and more unmet needs.
Conclusion: Older bipolar patients report fewer needs and unmet needs compared to older patients with depression, schizophrenia, and dementia. A plausible explanation is that older bipolar patients had higher Global Assessment of Functioning scores, were better socially integrated, and had fewer actual mood symptoms, all of which correlated with the number of needs in this study. The results emphasize the necessity to assess the needs of bipolar patients with special attention to social functioning, as it is suggested that staff fail to recognize or anticipate these needs.

Keywords: bipolar; older; CANE; need assessment

Introduction

To date, 10%−25% of bipolar patients are older than 60 (Sajatovic, Blow, Ignacio, & Kales, 2005) and their absolute number will increase substantially in the coming years due to aging of the total population. Research on older bipolar patients is sparse and most existing knowledge is derived from studies in younger adults. However, bipolar disorder among the elderly is more complex with increasing cognitive decline (Schouws, Stek, Comijs, & Beekman*,* 2010), somatic comorbidities (Lala & Sajatovic, 2012), and polypharmacy (Dols et al., 2014). In addition, older bipolar patients receive less social support (Beyer et al.*,* 2003) and are more dependent on informal care (Keith, Brodie, & Leff*,* 1971). To tailor the treatment of older bipolar patients and to optimize their general well-being, their needs should be studied. Needs assessments help to highlight specific areas on which health and social services can concentrate their efforts (Reynolds et al.*,* 2000). Meeting unmet needs may lead to a substantial decrease in health expenses (Slade, Leese, Taylor, & Thornicroft*,* 1999) and is regarded as an essential condition to improve health, well-being and quality of life of older people (Field, Walker, & Orrell*,* 2002). Disagreement between patients and staff on needs may influence compliance (Stobbe et al.*,* 2013) and hence the

experienced quality of treatment (Hancock, Reynolds, Woods, Thornicroft, & Orrell, 2003; Slade et al.*,* 1999). Therefore a needs assessment preferably includes views from the patient and the professional caretaker (staff). Reports on needs of older bipolar patients by patients and staff are currently lacking. Studies in older psychiatric patients show that the number of needs is associated with the level of psychiatric and social functioning (Hancock et al.*,* 2003; Houtjes, van, Deeg, & Beekman, 2011; Kaiser et al.*,* 2010; Meesters et al.*,* 2013; Passos, Sequeira, & Fernandes*,* 2012; Sultan, Claasen, & Stansfeld, 2011; van der Roest et al.*,* 2008; Walters, Iliffe, Tai, & Orrell*,* 2000), quality of life (Bengtsson-Tops & Hansson 1999; Slade et al.*,* 1999) and motivation for treatment (Stobbe et al.*,* 2015).

Our aim was to investigate the needs of patients with bipolar disorder aged 60 years and over from the patient's and staff's perspective, using the Camberwell Assessment of Need for the Elderly (CANE) (Reynolds et al.*,* 2000). We examined the number of needs, to what extent they were met, and how they related to several patient characteristics. We hypothesized that patients who report more needs, both met and unmet, have more mood and cognitive symptoms, a lower quality of life, and are less socially integrated.

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Methods

Study sample

We identified all patients aged 60 years and older who were in contact with mental health services between 1 January and 31 December 2012, through a search of the computerized patient record system of the mental health institution GGZ inGeest, which offers outpatient and inpatient mental health services in two districts in Amsterdam, The Netherlands.

Patients were included if they met the selection criteria of having bipolar I disorder, bipolar II disorder or bipolar disorder not otherwise specified (NOS) diagnostical and statistical manual of mental disorders IV text revised (DSM-IV−TR (American Psychiatric Association, 2000)). Exclusion criteria were the inability to provide written informed consent due to inability to communicate, intellectual disability (IQ below 70), poor cognition (Mini Mental State Examination (MMSE) < 18 (Folstein, Folstein, & McHugh, 1975)), or current compulsory admission. The study was approved by the Medical Ethics Committee of VU University Medical Center, Amsterdam, The Netherlands.

Medical records of 139 potential participants were screened for exclusion criteria by a psychiatrist in accordance with local regulations before contacting patients to request consent. Eligible patients were asked by their psychiatrist to provide written informed consent for participation in the study. Inclusion diagnosis and additional psychiatric diagnoses were confirmed through the Mini-International Neuropsychiatric Interview Plus (MINI) (Sheehan et al., 1998). The psychiatrist who was treating the patient during the study period administered the MINI.

Of a total of 139 patients screened, 25 were excluded (Figure 1). Of the 114 eligible patients, 78 (fully participating) were able and willing to provide written informed

consent and another 23 (partially participating) patients restricted consent to a review of their medical records.

To assess the needs we used the CANE (Reynolds et al., 2000) as it is commonly employed (Hancock et al., 2003; Houtjes et al., 2011; Iliffe et al., 2004; Kaiser et al., 2010; Meesters et al., 2013; Passos et al., 2012; Sultan et al., 2011; van der Roest et al., 2008; Walters et al., 2000) to assess the separate points of view of patients and staff and reveal unknown differences. The caregiver's perspective in the CANE was not included as the majority of patients did not consent for a caregiver's interview.

Measurements

Demographic data (Table 1) were derived from patients' medical records and confirmed during the interviews. The age of onset was obtained from the MINI interview. The duration of illness was calculated as the number of years since the first mood episode fulfilling DSM-IV criteria. The Global Assessment of Functioning (GAF) scores (American Psychiatric Association, 2000) were reported by the patient's psychiatrist.

The Young Mania Rating Scale (YMRS) (Young, Biggs, Ziegler, & Meyer, 1978) and the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) were used to evaluate mood symptoms. The YMRS consists of 11 items and is based on clinical observations and the patient's subjective report of the last 48 hours, measuring manic symptoms on a scale from 0 to 60. A score ≥7 is considered indicative of clinically relevant (hypo)mania. The CES-D measures the presence of depressive symptoms during the previous week, with a scoring range of 0−60. A score ≥16 is considered indicative of clinically relevant depression in the general population. Patients with scores below the threshold on both
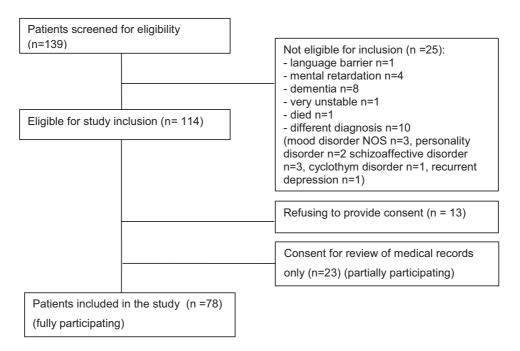

Figure 1.   Flow diagram of the study.

Table 1. Characteristics of the patient sample ($N = 78$).

Demographic data	
Age, means (SD), years/range	68.5 (7.8) 60–98
Gender, male (%)	40 (51)
Marital status, actual partner (%)	44 (56)
Parental status, has children (%)	55 (70)
Residence, *n* (%)	
Independent	69 (88)
Dependent	9 (11)
Hospitalized at time of study	0
Education, *n* (%)	
Low	9 (11)
Middle	26 (33)
High	43 (55)
Currently working	21% now, 2,4% never
Income, monthly[1] *n* (%)	
<€ 800	15 (19)
€800–1200	12 (15)
>€1200	49(63)
Clinical data	
DSM-IV	
Bipolar-I (%)	42 (54)
Bipolar-II (%)	36 (46)
Age of onset	
Early (<50 years) (%)	63 (81)
Late (50+) (%)	15 (19)
First episode depression (SD) [2]	32.8 years of age (14.5)
First episode mania (SD)	39.9 (16.4)
Duration of illness, mean (SD), years	35.1 (14.3)
Symptomatic remission (%)	47 (60)
GAFp (SD)	65.0 (11.2)
CES-D mean (SD) median (25%–75%)	11.80 (10.3) 8 (3–17.5)
GARS mean (SD) median 25%–75%)[3]	23.01 (8.74) 19 (18–24)
MMSE mean (SD), median (25%–75%)	27.73 (2.06) 28 (26–29)
YMRS mean (SD) median (25%–75%)	4.90 (6.2) 3 (1–6)
Social domain	
Network size, *n* (%)	
0–1 person	6 (8)
2–5 person	32 (41)
6 or more person	40 (52)
Has informal carer. Yes (%)	46 (59)
Has confidant/supportive person. Yes (%) besides partner[3]	64 (82)
Social Participation Scale score, mean (SD)[3]	11.5 (3.3) 12 (9.5–14)
Quality of life	
MANSA total score, mean (SD)	61.9 (8.2) 5.2 per item

[1]2 case missing
[2]11 case missing
[3]1 case missing
Note: GAFp, Global Assessment of Functioning; CES-D, Center for Epidemiologic Studies Depression Scale; GARS, Groningen Activity Restriction Scale; MMSE, Mini Mental State Examination; YMRS, Young Mania Rating Scale; MANSA, Manchester Short Assessment of Quality of Life;

the YMRS and the CES-D were considered to be in symptomatic remission.

The MMSE (Folstein et al.*, 1975) was used to screen for cognitive impairment.

Self-reported limitations in activities of daily living were evaluated through the Groningen Activity Restriction Scale (GARS) (Kempen, Miedema, Ormel, & Molenaar*, 1996), which includes 11 activities of daily living (ADL) items and 7 instrumental activities of daily living (IADL) items. Scores were dichotomized into independent performance versus performance only with someone's help, resulting in a total score ranging from 18 (independent for all items) to 36 (dependent for all items).

Social integration was defined by network size and social participation. To assess the size of their social network, patients were asked to estimate the number of persons, outside of their household, with whom they had regular and meaningful contact. In addition, they were asked if they had an unpaid informal carer for at least one hour per week. Information was gathered on the presence of persons in their proximity, besides their partner, who they experienced as being emotionally or materially supportive. Self-report of involvement in 11 social activities (e.g., visiting others, going to church) was measured through the Social Participation Scale (Depla, de Graaf, van Busschbach, & Heeren, 2003), with scores ranging from 0 (no activities) to 22 (regular participation in all activities).

Quality of life was evaluated with the Manchester Short Assessment of Quality of Life (MANSA) (Priebe, Huxley, Knight, & Evans, 1999), which rates patient satisfaction with various aspects of life (e.g., daily activities and physical health). The MANSA score is the mean of the 12 individual item scores, ranging from 1 (very dissatisfied) to 7 (very satisfied).

Needs for care were assessed with the Dutch version (Dröes, Van Hout, & Van Der Ploeg, 2004) of the CANE (Reynolds et al., 2000) by interviewing both the patient and a staff member who knew the patient well. A total of 15 staff members were interviewed as a number of the participating patients shared the same staff member. The CANE is a semi-structured interview, based on the Camberwell Assessment of Need (CAN) and adapted for the elderly, that covers 24 areas (Table 2) of the four domains of environmental, physical, psychological, and social needs, and has good validity and reliability (Reynolds et al., 2000; van der Roest et al., 2008). Each of the 24 items can be rated on a 3-point scale: 0, 'no problem', i.e. no need; 1, 'no/moderate problem because of continuing intervention', i.e. met need; and 2, 'current serious problem, irrespective of any on-going intervention', i.e. unmet need. The few cases where patients ($N = 21$; 1.1%) or staff ($N = 31$; 1.6%) indicated that they did not know whether a need in a certain item existed the need was assigned 'no need' as no need was evident, to rate needs conservatively.

Statistical analysis

Data were analyzed using the Statistical Package of the Social Sciences (SPSS, version 20.0; SPSS Inc., Chicago, IL). A significance level of 5% was applied.

Differences between fully participating and partly participating patients were analyzed with (χ^2) statistics for categorical variables and a Mann−Whitney U tests for age, as age was considered not to be distributed normally.

The frequency distributions of met and unmet needs, according to patient and staff, were determined. Comparisons between the total number of needs as rated by the patient and staff were performed with the Wilcoxon matched pairs signed-rank test, because the data were ordinal and skewed. To evaluate agreement on the presence of a need between patient and staff, Cohen Kappa coefficients (κ) were calculated. κ values between $0-0.20$ indicate poor agreement, $0.21-0.40$ fair, $0.41-0.60$ moderate, $0.61-0.80$ good, and $0.81-1.00$ very good agreement. The percent agreement calculation was also documented, by dividing the number of cases in which both patients and staff agreed that there was a met or an unmet need by the total number of needs.

Correlations between the patients' characteristics and the number of needs were tested using the Spearman's rank-order test. A Spearman's rank correlation coefficient (rho) can vary between $+1$ and -1 (a perfect positive or negative correlation between the ranking of the two variables). There is no correlation with a coefficient of zero.

Results

Demographic and clinical characteristics

The mean age of fully participating patients was 68.9 years (SD = 7.8, range $61-98$) and 51.3% were male (Table 1). Our sample had a balanced representation of bipolar I and II patients, predominantly with an onset of illness before age 50. Relevant current mood symptoms were present in 31 patients (40%), 14 with (hypo)manic symptoms (YMRS $\geq$ 7) and 21 with depressive symptoms (CES-D $\geq$ 16), including 3 patients with scores above threshold on both scales. Only a few patients had a very small network size (8%).

Assessment of needs

Patients reported a mean total needs of 4.31 (SD 3.48, range $0-17$) which was similar to the total number of needs rated by staff (4.44 needs, SD 3.56, range $0-14$, Wilcoxon $z = -0.359$, $N = 78$, $p = 0.720$, Table 2). The mean number of met needs rated by patients (mean 3.50, SD 2.81, range $0-14$) and staff (mean 3.95, SD 3.18, range $0-12$) were also comparable (Wilcoxon $z = -1.702$, $n = 78$, $p = 0.089$, Table 2). The mean number of unmet needs, however, was rated significantly higher by patients (0.81, SD 1.23, range $0-6$) than by staff (0.49, SD 0.91, range $0-4$, Wilcoxon $z = -2.497$, $n = 78$, $p = 0.013$).

No unmet needs were reported by 56.4% ($n = 44$) of the patients and by 69.2% ($n = 54$) of staff. According to the patients, 19% of their reported needs were unmet while according to staff this was 11%. Patients rated the proportion of their needs as unmet considerably higher in the psychological (22%) and social (35%) domains, as compared with staff (9% and 16%). In the other domains the ratings were comparable between patients and staff (12 versus 16% and 10 versus 8%) (Table 2). With regard to individual needs, household skills, physical health, medication and psychological distress were the most frequently rated met needs, both by patients and staff. The most frequently reported unmet needs rated by both patients and staff were company and daytime activities.

The percent agreement calculation between patients and staff was high (84.1%), with the lowest for company (62.8%), followed by medication (62.9%), physical health

Table 2. Ratings of need in individual CANE areas and total number of needs, according to patient and staff.

Needs domains	Patient: met needs, N (%)	Staff: met need, N (%)	Patient: unmet need, N (%)	Staff: unmet need, N (%)	Agreement (%)	Kappa
Enviromental						
Accommodation	11 (14)	14(18)	2(2.6)	1(1.3)	88.4	0.617
Household skills	30 (38)	26(33)	1(1.3)	1(1.3)	85.9	0.705
Food	15(19)	14(18)	2(2.6)	3(3.8)	96.1	0.891
Money	8(10)	8(10)	3(3.8)	2(2.6)	92.3	0.679
Benefits	8(10)	5(6.4)	3(3.8)	1(1.3)	91.0	0.551
Caring for others	4(5.1)	5(6.4)	3(3.8)	2(2.6)	92.4	0.540
Total Enviromental	*76*	*72*	*14*	*10*		*0.664*
Physical						
Physical health	27 (35)	30(38)	5(6.4)	4(5.1)	65.6	0.541
Medication	25(32)	30(38)	1(1.3)	1(1.3)	62.9	0.217
Eyesight/hearing	16(20)	8(10)	5(6.4)	2(2.6)	80.8	0.435
Mobility	15(19)	15(19)	0(0.0)	1(1.3)	92.3	0.760
Self-care	8 (10)	11(14)	0 (0.0)	1 (1.3)	92.3	0.660
Continence	12(15)	6(7.7)	1(1.3)	0(0)	88.5	0.473
Total physical	*103*	*100*	*12*	*9*		*0.514*
Psychological						
Psychological distress	20(25)	23(29)	4(5.1)	0 (0)	73.1	0.383
Memory	11(14)	17(22)	3(3.8)	0 (0)	79.5	0.374
Behavior	4(5.1)	4(5.1)	0(0)	3(3.8)	88.5	0.138[1]
Alcohol	6(7.7)	12(15)	3(3.8)	3(3.8)	87.2	0.529
Deliberate self-harm	2(2.6)	3(3.8)	1(1.3)	0(0)	94.9	0.311
Accidental self-harm	5(6.4)	3(3.8)	1(1.3)	1(1.3)	91.0	0.262
Psychotic symptoms	6(7.7)	11(14)	3(3.8)	0(0)	82.0	0.217
Total psychological	*54*	*73*	*15*	*7*		*0.316*
Social						
Company	8(10)	19(24)	10(13)	4(5.1)	62.8	0.127[1]
Intimate relationships	1(1.3)	10(13)	3(3.8)	3(3.8)	82.1	0.130
Daytime activities	13 (17)	19(24)	5(6.4)	5(6.4)	75.9	0.454
Information	15(19)	12(15)	3(3.8)	0(0)	78.2	0.318
Abuse/neglect	3(3.8)	3(3.8)	1(1,3)	0(0)	94.9	0.406
Total social	*40*	*63*	*22*	*12*		*0.287*
Total						
Mean (SD)	3.50 (2.81)	3.95 (3.18)	0.81 (1.23)	0.49 (0.91)	84.1	0.45 (0.21)
Range	0−14	0−12	0−6	0−4		0.13−0.90

Note: $N = 78$.
In italics are domain results.
Kappa values between 0−0.20 indicate poor agreement, 0.21−0.40 fair, 0.41−0.60 moderate, 0.61−0.80 good, and 0.81−1.00 very good agreement.
[1]$p = >0.05$, meaning kappa is not significant different from 0.

(65.6%), psychological distress (73.1%) and daytime activities (75.9%). The Cohen's kappa coefficient agreement between patients and staff rating was moderate (mean κ 0.45, SD = 0.21). Poor agreement between patient and staff was found for needs regarding behavior, intimate relationships, and company ($\kappa < 0.2$).

Correlations between needs and patient characteristics
The level of psychic functioning (Global Assessment of Functioning (GAFp)) showed a negative correlation with the total number of needs rated by patients ($r = -0.41$) and staff ($r = -0.47$), and hence patients with less overall psychic functioning showed more total needs. Patients with current mood symptoms had a higher total number of needs: for depressive symptoms (CES-D), both according to the patients ($r = 0.42$) and their staff ($r = 0.24$), and for mania symptoms (YMRS) only according to the patients ($r = 0.24$). Patients with worse cognitive functioning (MMSE) had a higher total number of needs, according to both the patients ($r = -0.46$) and staff ($r = -0.34$).

Table 3. Spearman's correlations of patient characteristics with total numbers of unmet and total amount of needs, according to patients and staff ($N = 78$).

Variable	Patient		Staff	
	Unmet rho p	Total rho p	Unmet rho p	Total rho p
Clinical				
Age	0.016 $p = 0.886$	0.166 $p = 0.145$	0.161 $p = 0.158$	**0.297 $p = 0.008$**
MMSE	−0.163 $p = 0.154$	**−0.461 $p < 0.001$**	−0.129 $p = 0.260$	**−0.336 $p = 0.003$**
GAFp	**−0.244 $p = 0.031$**	**−0.412 $p < 0.001$**	−0.120 $p = 0.293$	**−0.468 $p < 0.001$**
CES-D	0.181 $p = 0.112$	**0.420 $p < 0.001$**	0.049 $p = 0.671$	**0.240 $p = 0.034$**
YMRS	0.142 $p = 0.216$	**0.235 $p = 0.038$**	0.062 $p = 0.588$	0.153 $p = 0.181$
Social				
Network size	**−0.260 $p = 0.021$**	**−0.292 $p = 0.009$**	−0.128 $p = 0.266$	**−0.246 $p = 0.030$**
Social participation	**−0.269 $p = 0.017$**	**−0.307 $p = 0.006$**	**−0.332 $p = 0.003$**	**−0.365 $p = 0.001$**
MANSA	**−0.334 $p = 0.003$**	**−0.494 $P < 0.001$**	**−0.257 $p = 0.024$**	**−0.343 $p = 0.002$**

Note: In bold are the correlations that are statistically significant.
MMSE, Mini Mental State Examination; GAFp, Global Assessment of Functioning; CES-D, Center for Epidemiologic Studies Depression Scale; YMRS, Young Mania Rating Scale; MANSA, Manchester Short Assessment of Quality of Life.

Age was positively correlated with the total number of needs reported by staff ($r = 0.30$), but not with the total number of needs reported by the patients ($r = 0.17$). Social participation was negatively correlated with the total number of needs ($r = -0.31$, $r = -0.37$) and unmet needs ($r = -0.27$, $r = -0.33$) reported by both patients and staff. Quality of life (MANSA) was negatively correlated with the number of total needs ($r = -0.49$, $r = -0.34$) and unmet needs ($r = -0.33$, $r = -0.26$) reported by both patients and staff. Thus patients with less social participation or quality of life had more total needs and unmet needs. Patients with a smaller network size had more total needs according to patients ($r = -0.29$) and staff ($r = -0.25$), and unmet needs according to patients ($r = -0.26$).

All these correlations were statistically significant ($p < 0.05$, Table 3).

Discussion

Our cohort of older patients with bipolar disorder had most of their needs in the items of household skills, physical health, and medication. This is in accordance with the literature on older patients and their needs using the CANE (Arvidsson 2001; Hancock et al., 2003; Meesters et al., 2013; Walters et al., 2000). These needs were acknowledged by the staff and mostly met. However, a number of unmet needs were underestimated by staff, especially in the social domain, resulting in one out of five reported needs rated as unmet. These findings are in line with the Cohen's Kappa, all of the good to very good strength items ($k > 0.6$) were situated in environmental and physical domains, whereas most of the psychological or social items had a poor to fair strength ($k < 0.4$). Although the absolute number of unmet needs was low, it does require the attention of staff since unmet needs impair quality of life (Field et al., 2002; Stein, Luppa, König, & Riedel-Heller 2014), change the motivation for treatment (Stobbe et al., 2015) and raise the number of

contacts with professional carers (Goossens, Knoppert-van der Klein, Kroon, & van Achterberg, 2007). Knowing these unmet needs allows for a well-informed decision to either invest in countering the identified unmet needs or not. We compared our data with two studies on the needs of older patients with schizophrenia (mean age 69) (Meesters et al., 2013) or unipolar depressive disorder (mean age 72) (Houtjes et al., 2011). The schizophrenia patients reported a higher number of both total needs (7.57 versus 4.31 in our study) and unmet needs (1.46 versus 0.81 in our study). This may be explained by the fact that older patients with bipolar disorder had higher mean GAF scores (65 versus 48.2), fewer depressive symptoms (CES-D score 8 versus 15), a larger social network and higher social participation score (11.5 versus 9.2), and a better quality of life (MANSA 5.2 versus 4.8). Fewer psychiatric symptoms and better social functioning corresponded with a lower number of unmet needs in both studies. The older patients with unipolar depressive disorder had even more unmet needs (2.3) (Houtjes et al., 2011), possibly because of higher rates of depressive symptoms.

These studies on older patients with depression and schizophrenia underscore our hypothesis that patients with more psychiatric symptoms report more needs. This is not surprising, however, it is important to point out that symptoms and needs may be interrelated; symptoms may require help and therefore induce needs, but unmet needs may induce symptoms. Patients in our bipolar sample had fewer current psychiatric symptoms and less social impairment. This may be explained by the fact that bipolar patients, especially when using lithium as a long-term maintenance treatment, are recommended to remain in psychiatric care even when stable, thus enabling us to include both euthymic and symptomatic patients. Another aspect could be that bipolar patients only episodically have severe symptoms. Differences in accessibility and structure of healthcare could not explain our findings in older patients, as all studies were situated in the

Netherlands. A study using the Camberwell Assessment of Need Short Appraisal Schedule (CANSAS) in younger adults with severe mental illness reported similar findings as our study. The subgroup of patients with bipolar disorder had significantly higher recovery and higher empowerment scores than the subgroup of patients with schizophrenia or depressive disorder and fewer needs unmet (Lloyd, King, & Moore, 2010).

Studies on the needs of patients with dementia using the CANE reported a higher number of needs, respectively, 10.3 and 10.2 (Kaiser et al., 2010; van der Roest et al., 2008). Lower cognitive functioning (mean MMSE 20 and <18, respectively) could explain the higher number of total needs in these studies, in line with our findings. Presumably, people with lower cognitive functioning usually have higher physical and functional dependency and need for support with activities of daily living. The findings among residential home individuals (van der Ploeg et al., 2013) further support this as individuals diagnosed with dementia reported more needs compared to individuals without dementia in the same setting.

Other studies in mixed older psychiatric populations (Hancock et al., 2003; Passos et al., 2012; Slade et al., 1999; Sultan et al., 2011) reported more needs and more unmet needs than our study. As patients with bipolar disorder were a minority in these studies, factors other than psychiatric diagnoses could explain these differences. Although the number of needs, and particularly unmet needs, was higher in a study including patients 75 years of age and older (mean age 81.5) attending a general practitioners office (GPO) (Walters et al., 2000), there was no correlation between the number of needs with age in our and other studies (Lloyd et al., 2010). A study of Stein, Luppa, König, and Riedel-Heller (2014) among older patients (mean 80 years, range 68−98) from GPO without severe illness or dementia (mean MMSE 27), support our findings as their needs were less than in our study with, respectively, 2.51 needs and 0.25 unmet needs. This suggests that age is not a major contributor to the needs, however, the literature is contradictive on this matter.

In our study the number of unmet needs correlated with a lower quality of life and poorer social participation. Company and daytime activities were the most frequently reported unmet needs by both patients and staff. This suggests that efforts aimed at improving social functioning of older patients with bipolar disorder are warranted and may result in better quality of life and fewer needs. As these results were also found in a study of relatively healthy elderly primary care patients (Stein, Luppa, König, & Riedel-Heller, 2014), the findings appear to be independent of diagnosis and suggest a key role for social and emotional support. Generally, staff are aware that patients with more psychiatric symptoms have more needs. As psychiatric symptoms are usually the core focus of treatment, the staff may anticipate these specific needs. Needs regarding social functioning may be equally important from the patients' view but appear to be noticed or fulfilled less by staff. Good social functioning is important for quality of life (Valtorta & Hanratty, 2012) in general,

not just for psychiatric patients. One can debate whether social functioning of psychiatric patients is the sole responsibility of mental health organizations or a joint responsibility with public health organizations and politics.

The results of our study should be considered in the light of several strengths and limitations. To the best of our knowledge, for the first time, the met and unmet needs of older bipolar patients from the perspective of the patients and staff were systematically investigated. A strength of the study is that only one patient was excluded from the study because of severe psychiatric symptoms. Although we found no significant differences between the fully participating ($N = 78$) and partially participating ($N = 23$) patients in demographic and clinical characteristics, the patients participating in the CANE had higher GAF score (65 (SD = 11.15) versus 58 (SD 9.94) for patients not participating in the interviews (Mann−Whitney U test ($Z = -2.671$, $p = 0.008$) (data not shown)). This is a possible limitation, as we found a negative correlation with the total number of needs.

In our study, we only included patients using specialized mental health services. Stable older patients with bipolar disorder may be treated by their family doctor or psychiatrist in a private practice (ten Have, Vollebergh, Bijl, & Nolen, 2002), and these patients probably have less complex disorders with fewer needs. On the other end of the spectrum, patients who refuse care are likely to be the most seriously ill. Despite these limitations, it must be noted that our findings are probably indicative for the large majority of older bipolar patients, as our institution is the sole mental health institution in these two districts and there are no financial barriers to receive health care.

Conclusions

Current mood symptoms, smaller network size, less social participation and lower cognitive functioning were associated with a higher number of needs reported by both patients and staff. It is striking that only social functioning correlated with unmet needs. A plausible explanation is that staff are aware of the correlations between needs and psychiatric symptoms but seem to fail to recognize or anticipate on needs in social functioning. Even though one can dispute if the social domain is the primary territory of psychiatric care, it seems indisputable that unmet needs in social functioning affect psychiatric health. It is therefore recommended that, psychiatric services acknowledge the patient's needs in the social domain and evaluate if aid in this domain can be provided.

References

American Psychiatric Association. (2000). *American psychiatric association: Diagnostic and statistical manual of mental disorders* (4th ed.). Text Revision (DSM IV-TR) edn, Washington, DC: American Psychiatric Press.

Arvidsson, H. (2001). Needs assessed by patients and staff in a Swedish sample of severely mentally ill subjects. *Nordic Journal of Psychiatry, 55*(5), 311−317

Bengtsson-Tops, A., & Hansson, L. (1999). Clinical and social needs of schizophrenic outpatients living in the community: The relationship between needs and subjective quality of life. *Social Psychiatry and Psychiatric Epidemiology, 34*(10), 513−518.

Beyer, J.L., Kuchibhatla, M., Looney, C., Engstrom, E., Cassidy, F., & Krishnan, K.R. (2003). Social support in elderly patients with bipolar disorder. *Bipolar Disorders, 5*(1), 22−27.

Depla, M.F., de Graaf, R., van Busschbach, J.T., & Heeren, T.J. (2003). Community integration of elderly mentally ill persons in psychiatric hospitals and two types of residences. *Psychiatric Services, 54*(5), 730−735.

Dols, A., Rhebergen, D., Beekman, A., Kupka, R., Sajatovic, M., & Stek, M.L. (2014). Psychiatric and medical comorbidities: Results from a Bipolar Elderly Cohort Study. *American Journal of Geriatric Psychiatry, 22*(11), 1066−1074.

Dröes, R., Van Hout, H., & Van Der Ploeg, E. (2004). The Dutch version of the Camberwell Assessment of Need for the Elderly (CANE). Revised Version (IV). Available from: http://assets.nkop.nl/docs/723ee048-ac1a-412d-8196-62e828a231db.pdf

Field, E.M., Walker, M.H., & Orrell, M.W. (2002). Social networks and health of older people living in sheltered housing. *Aging & Mental Health, 6*(4), 372−386.

Folstein, M.F., Folstein, S.E., & McHugh, P.R. (1975). 'Mini-mental state'. A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research, 12*(3), 189−198.

Goossens, P.J., Knoppert-van der Klein EA, Kroon, H., & van Achterberg, T. (2007). Self-reported care needs of outpatients with a bipolar disorder in the Netherlands. *Journal of Psychiatric and Mental Health Nursing, 14*(6), 549−557.

Hancock, G.A., Reynolds, T., Woods, B., Thornicroft, G., & Orrell, M. (2003). The needs of older people with mental health problems according to the user, the carer, and the staff. *International Journal of Geriatric Psychiatry, 18*(9), 803−811.

Houtjes, W., van, M.B., Deeg, D.J., & Beekman, A.T. (2011). Unmet needs of outpatients with late-life depression; a comparison of patient, staff and carer perceptions. *Journal of Affective Disorders, 134*(1−3), 242−248.

Iliffe, S., Lenihan, P., Orrell, M., Walters, K., Drennan, V., & Tai, S.S. (2004). The development of a short instrument to identify common unmet needs in older people in general practice. *British Journal of General Practice, 54*(509), 914−918.

Kaiser, G., Unger, A., Marquart, B., Weiss, M., Freidl, M., & Wancata, J. (2010). The German language version of the Camberwell Assessment of Need for the Elderly (CANE) among dementia patients. *Neuropsychiatrie, 24*(3), 182−189.

Keith, H., Brodie, H., & Leff, M. (1971). Bipolar depression − a comparative study of patient characteristics. *American Journal of Psychiatry, 127*(8), 1086−1090.

Kempen, G.I., Miedema, I., Ormel, J., & Molenaar, W. (1996). The assessment of disability with the Groningen Activity Restriction Scale. Conceptual framework and psychometric properties. *Social Science and Medicine, 43*(11), 1601−1610.

Lala, S.V., & Sajatovic, M. (2012). Medical and psychiatric comorbidities among elderly individuals with bipolar disorder: A literature review. *Journal of Geriatric Psychiatry and Neurology, 25*(1), 20−25.

Lloyd, C., King, R., & Moore, L. (2010). Subjective and objective indicators of recovery in severe mental illness: A cross-sectional study. *International Journal of Social Psychiatry, 56*(3), 220−229.

Meesters, P.D., Comijs, H.C., Droes, R.M., de Haan, L., Smit, J. H., Eikelenboom, P., Beekman, A.T., & Stek, M.L. (2013). The care needs of elderly patients with schizophrenia spectrum disorders. *American Journal of Geriatric Psychiatry, 21*(2), 129−137.

Passos, J., Sequeira, C., & Fernandes, L. (2012). The needs of older people with mental health problems: A particular focus on dementia patients and their carers. *International Journal of Alzheimer's Disease, 2012*(638267), 1−7.

Priebe, S., Huxley, P., Knight, S., & Evans, S. (1999). Application and results of the Manchester Short Assessment of Quality of Life (MANSA). *International Journal of Social Psychiatry, 45*(1), 7−12.

Radloff, L. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385−401.

Reynolds, T., Thornicroft, G., Abas, M., Woods, B., Hoe, J., Leese, M., & Orrell, M. (2000). Camberwell Assessment of Need for the Elderly (CANE). Development, validity and reliability. *British Journal of Psychiatry, 176*, 444−452.

Sajatovic, M., Blow, F.C., Ignacio, R.V., & Kales, H.C. (2005). New-onset bipolar disorder in later life. *American Journal of Geriatric Psychiatry, 13*(4), 282−289.

Schouws, S.N., Stek, M.L., Comijs, H.C., & Beekman, A.T. (2010). Risk factors for cognitive impairment in elderly bipolar patients. *Journal of Affective Disorders, 125*(1−3), 330−335.

Sheehan, D.V., Lecrubier, Y., Sheehan, K.H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G.C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *Journal of Clinical Psychiatry, 59*(Suppl 20), 22−33.

Slade, M., Leese, M., Taylor, R., & Thornicroft, G. (1999). The association between needs and quality of life in an epidemiologically representative sample of people with psychosis. *Acta Psychiatrica Scandinavica, 100*(2), 149−157.

Stein, J., Luppa, M., König, H.H., & Riedel-Heller, S.G. (2014). Assessing met and unmet needs in the oldest-old and psychometric properties of the German version of the Camberwell Assessment of Need for the Elderly (CANE) − a pilot study. *International Psychogeriatrics, 26*(2), 285−295.

Stobbe, J., Wierdsma, A.I., Kok, R.M., Kroon, H., Depla, M., & Mulder, C.L. (2015). Decrease in unmet needs contributes to improved motivation for treatment in elderly patients with severe mental illness. *Social Psychiatry and Psychiatric Epidemiology, 50*(1), 125−132.

Stobbe, J., Wierdsma, A.I., Kok, R.M., Kroon, H., Depla, M., Roosenschoon, B.J., & Mulder, C.L. (2013). Lack of motivation for treatment associated with greater care needs and psychosocial problems. *Aging & Mental Health, 17*(8), 1052−1058.

Sultan, S., Claasen, D., & Stansfeld, S. (2011). Older people with long-term mental illness. A survey in a community rehabilitation service using the Camberwell Assessment of Need for

the Elderly (CANE). *British Journal of Medical Practitioners*, *4*(4), a438−438.

ten Have, M., Vollebergh, W., Bijl, R., & Nolen, W.A. (2002). Bipolar disorder in the general population in the Netherlands (prevalence, consequences and care utilisation): Results from The Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Journal of Affective Disorders, 68*(2−3), 203−213.

Valtorta, N., & Hanratty, B. (2012). Loneliness, isolation and the health of older adults: Do we need a new research agenda? *Journal of the Royal Society of Medicine, 105*, 518−522.

van der Ploeg, E.S., Bax, D., Boorsma, M., Nijpels, G., & van Hout, H.P. (2013). A cross-sectional study to compare care needs of individuals with and without dementia in residential homes in the Netherlands. *BMC Geriatrics, 13*, 51. doi: 10.1186/1471-2318-13-51.

van der Roest, H.G., Meiland, F.J., van Hout, H.P., Jonker, C., & Droes, R.M. (2008). Validity and reliability of the Dutch version of the Camberwell Assessment of Need for the Elderly in community-dwelling people with dementia. *International Psychogeriatrics, 20*(6), 1273−1290.

Walters, K., Iliffe, S., Tai, S.S., & Orrell, M. (2000). Assessing needs from patient, carer and professional perspectives: The Camberwell Assessment of need for Elderly people in primary care. *Age and Ageing, 29*(6), 505−510.

Young, R.C., Biggs, J.T., Ziegler, V.E., & Meyer, D.A. (1978). A rating scale for mania: Reliability, validity and sensitivity. *British Journal of Psychiatry, 133*, 429−435.