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## Brief report

## Evaluating the CANSAS self-report (CANSAS-P) as a screening instrument for care needs in people with psychotic and affective disorders

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## ABSTRACT

We examined agreement between the CANSAS self-report version (CANSAS-P) and the Camberwell Assessment of Need (CAN) interview in 200 long-term patients with affective and psychotic disorders. Intra-class correlations were fair to good for unmet needs. Overall, more unmet needs were reported on the CANSAS-P than in the CAN interview. No differences were found for patients with psychotic versus affective disorders. We conclude from this that the CANSAS-P is a promising screening instrument to detect unmet needs in people with severe mental illnesses.

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## 1. Introduction

Since its introduction in the 1990s, the original Camberwell Assessment of Need (CAN) (Phelan et al., 1995) has been supplemented with a shortened version (CANSAS; (Andresen et al., 2000)) and versions adapted for specific groups of patients (e.g. Reynolds et al., 2000; Thomas et al., 2008; Xenitidis et al., 2000). Recently, the CAN family has also been extended with a self-report version: CANSAS-P (Slade et al., 2005; Trauer et al., 2008). This instrument could be a promising screening tool for Routine Outcome Measurement (ROM) in people with severe mental illnesses (SMI), as the self-report format is more (cost) efficient and avoids biases due to patient-examiner interaction (Young et al., 2003). To our knowledge, only one study has investigated psychometric properties of the CANSAS-P (Trauer et al., 2008). This study found reasonable to good test-retest reliability, and equivalent numbers of unmet needs for the CANSAS and the CANSAS-P in an Australian sample (Trauer et al., 2008). In this paper, we present the results of a study in a larger, Dutch community institution sample in which we compare the agreement between the patient-rated CANSAS-P scores with patient-reported but interviewer-rated CAN scores. We distinguish between psychotic and affective disorders, as obstacles have been recognized in completion of self-report measures in patients with psychotic disorders (Eisen et al., 1999). Moreover, it has been argued that there is a possible tendency for them

to under-report care needs in self-report instruments (de Weert-van Oene et al., 2009).

## 2. Method

## 2.1. Study subjects

Patients were recruited from three mental health care institutions in the Netherlands in August 2008. Data was collected from November 2008 to July 2009. The sample population consisted of out patients that had been treated for more than two years for a psychotic or an affective disorder, and were aged between 19 and 64 years. Of the 2636 eligible patients, a random sample of 665 patients was drawn. Of these patients, 227 (34%) consented to participate, and 200 completed the study. Their mean age was 47 years ( $SD = 10$ ). Eighty-one patients were male (41%), 32% ( $n = 63$ ) were diagnosed with a psychotic disorder and 68% ( $n = 137$ ) with an affective disorder. The study was approved by the medical ethics committee of the Leiden University Medical Center. After full description of the study to the participants, informed consent was obtained.

## 2.2. Measurements

Patients completed the CANSAS-P prior to the CAN interview. The reliability of the original, English version of the CAN has proven to be acceptable (Phelan et al., 1995; McCrone et al., 2000). The CAN interview was administered by trained interviewers. The CANSAS-P (Trauer et al., 2008; Dutch translation) is a patient-rated, self-report version of the CANSAS (Andresen et al., 2000). Similar to the CAN, the need for 22 items is rated on a three-point scale (no need, met need, unmet need). However, added is the response option "I don't want to answer" (Trauer et al., 2008). Test-retest reliability of the CANSAS-P was found to be reasonably good (Trauer et al., 2008).

## 2.3. Statistical analysis

Outcome measures used were: met needs, unmet needs, no needs and unrated items.

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To measure the agreement between CAN and CANSAS-P we used Cohen's Kappa (Cohen, 1960) and intra-class correlation (ICC; two-way mixed; absolute agreement, single measure (Shrout and Fleiss, 1979)). Kappas compare agreement on each domain of need (accommodation, looking after the home, etc.), while ICCs compare agreement on the number in each need category (i.e. no need, met need, etc.). Kappas (unweighted) were interpreted according to the Landis and Koch classification, where agreement effects are classified as poor ( $\kappa < 0.00$ ), slight ( $\kappa = 0.00-0.20$ ), fair ( $\kappa = 0.21-0.40$ ), moderate ( $\kappa = 0.41-0.60$ ), substantial ( $\kappa = 0.61-0.80$ ), and almost perfect ( $\kappa = 0.81-1.00$ ) (Landis and Koch, 1977). ICCs were calculated and interpreted according to Cicchetti (ICC > 0.74 is excellent, ICC between 0.60 and 0.74 are good, ICC between 0.40 and 0.59 are fair and ICC < 0.40 is poor) (Cicchetti, 1994). ICC differences between patients with affective and psychotic disorders were examined using power estimation: based on the sample size combined with the ICCs calculated in the statistical analysis and a predetermined alpha, a power level can be estimated and compared to a predetermined power level. We used a power of 0.80 and alpha of 0.05, 2-tailed as the criterion.

All statistical analyses were performed using SPSS software for Windows 16.0 (SPSS Inc., Chicago, IL, USA).

### 3. Results

We found moderate agreement between CAN and CANSAS-P scores for the domains accommodation, looking after the home, daytime activities, psychotic symptoms, psychological distress, safety to self, alcohol, drugs, intimate relationships, sexual expression, basic education, telephone, transport, money and benefits ( $\kappa$  ranging from 0.41 to 0.56). Fair agreement was found for the following 6 domains: food, self care, physical health, information, company and childcare ( $\kappa$  ranging from 0.25 to 0.37). The remaining domain, safety to others, had slight agreement ( $\kappa = 0.20$ ).

The ICCs (see Table 1) showed fair to good agreement on unmet needs and no needs, but poor to fair on met needs, and poor on unrated items. Furthermore, we found a slight tendency towards lower ICCs for patients with psychotic disorders than for patients with affective disorders. These differences were not significant (power < 0.50 in all cases). In addition, there was no significant difference in number of unmet needs between patients with psychotic and patients with affective disorders for the CAN ( $M = 1.59$  versus  $M = 1.65$ ;  $p = 0.79$ ) as well as CANSAS-P ( $M = 2.37$  versus  $M = 2.24$ ;  $p = 0.72$ ).

More unmet needs and fewer met needs were reported on the CANSAS-P than in the CAN interview ( $t = -4.20$ ,  $df = 199$ ,  $p < 0.000$ ). Table 1 also shows more unrated items reported on the CANSAS-P.

On the CANSAS-P, 33.5% of the patients scored one or more domains as unrated ("I don't want to answer"), compared to 11% who scored unrated ("unknown") on the CAN. Most unrated items on the CANSAS-P were rated as "no need" on the CAN. Nevertheless, 13.9% and 9.2% were rated on the CAN as unmet need and met need respectively.

### 4. Discussion

We found a satisfactory agreement between the CAN and CANSAS-P on two-thirds of the need domains, and lower agreement on one third. We found an overall acceptable agreement of CAN and CANSAS-P on need categories no needs and unmet needs, and lower agreement on met needs.

Our findings replicated Trauer et al.'s findings (2008) in that they found a good agreement of CANSAS and CANSAS-P on no needs and

unmet needs and lower agreement on met needs. Lower agreement levels for met needs were also found by Trauer et al. (2008) in test-retest results of the CANSAS-P. A possible explanation for this finding is a slight difference in the response category: in the CANSAS-P the response category for a met need is 'I receive sufficient care', while in the CAN interview it is 'no problem/limited problem because of ongoing intervention'.

Second, similar to Trauer et al. (2008), we found a considerable number of unrated domains on the CANSAS-P. Comparison of the unrated items on the CANSAS-P with the responses on the CAN on the same domains showed that most of the unrated items were scored as "no need" on the CAN. This seems to indicate that domains appearing to be unproblematic on the CAN might in fact be problematic. After all, the most sensible explanation for choosing the response 'I don't want to answer' over 'no problem' is that patients do experience problems, but they find it difficult to talk about. Therefore, the CANSAS-P seems to be able to detect problems the CAN might tend to overlook. Furthermore, consistent to Trauer et al. (2008), most unrated scores were found on the domains "sexual expression" and "intimate relationships". This was irrespective of sex, as an additional analysis showed. Patients seem to consider these issues as too private to answer. The fact that 23 patients did rate these domains on the CAN, but not on the CANSAS-P, indicates that a self-report format provides patients more room to keep answers to themselves. Providing a more explicit opportunity for patients not to disclose information about sexuality and intimacy seems to make sense, considering the fact that unmet needs in these areas are often hard to meet by health care services.

Between people with psychotic versus people with affective disorders, there were no statistical differences on the agreement between CAN and CANSAS-P on need category. Again, this outcome was irrespective of sex, as an additional analysis showed. Nevertheless, the finding that the agreement was fair to poor for the psychosis group, while good to fair for the affective group, might still be of clinical relevance.

Remarkably, in the present study, the CANSAS-P detected significantly more unmet needs than the CAN. Although the difference was small (0.65), it may be clinically relevant considering that the mean number was rather small as well (around two). Furthermore, it means that the patients in this study do not underreport care needs. Together this might indicate that the self-report format, not affected by patient-examiner interaction, allows patients to express themselves more freely. This could mean that an interviewer effect is at issue here, which might shed a new light on the reliability of the CAN interview.

Taking this together, we conclude that the CANSAS-P is a promising instrument for screening care needs, for patients with psychotic disorders, as well as affective disorders. Compared to the CAN, the CANSAS-P seems to be more user friendly and more sensitive in detecting problems in care needs. As such, this instrument is a valuable contribution to the field of routine outcome measurement, where clinical observation currently is the dominant research method. Future research should focus more on the specific function and effect of self-report measures in ROM research.

**Table 1**

Intra-class correlations between CAN and CANSAS-P, paired *t*-tests and power estimation of ICC differences between psychotic versus affective disorders.

	No need	Met need	Unmet need	Unrated
CAN <i>M</i> ( <i>SD</i> )	17.41 (3.37)	2.83 (2.26)	1.63 (2.12)	0.14 (0.41)
CANSAS-P <i>M</i> ( <i>SD</i> )	16.66 (3.95)	2.23 (2.24)	2.28 (3.12)	0.65 (1.32)
<i>M</i> ( <i>SD</i> ) <i>t</i> ( <i>df</i> ; <i>p</i> )	3.81 (199; 0.000)	3.40 (199; 0.001)	-4.20 (199; 0.000)	-5.55 (199; 0.000)
Whole sample ( <i>n</i> = 200): ICC	0.70	0.39	0.64	0.10
Psychotic ( <i>n</i> = 63): ICC	0.59	0.26	0.52	0.11
Affective ( <i>n</i> = 137): ICC	0.74	0.42	0.70	0.10
Power estimation psychotic versus affective ICC	0.42	0.22	0.47	0.5

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The authors report no competing interests.

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