

Development and Evaluation of a Patient-rated Version Of the Camberwell Assessment of Need Short Appraisal Schedule (CANSAS-P)

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ABSTRACT: The comprehensive assessment of patients with severe mental health problems includes the evaluation of needs, as this informs service planning, and levels of unmet need have been found to be associated with lower subjective quality of life. The Camberwell Assessment of Need is the most widely used instrument for this purpose. We report the development and evaluation of a new, patient-rated, short form (CANSAS-P). The CANSAS-P exhibited comparable detection of needs with its predecessor, better identification of domains that are problematic for patients to respond to, good test-retest reliability, especially for unmet needs, and generally positive evaluations by patients. We recommend the CANSAS-P as the needs assessment measure of choice for completion by patients.

KEY WORDS: needs assessment; Camberwell Assessment of Need; self-rating; quality of life.

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INTRODUCTION

The Camberwell Assessment of Need (CAN) is the most widely used instrument for the assessment of need in people with severe mental health problems (Evans, Greenhalgh, & Connelly, 2000). Originally developed in the 1990s (Phelan et al., 1995), it now exists in a variety of formats, one of which is the CAN Short Appraisal Schedule (CANSAS, Andresen, Caputi, & Oades, 2000). All forms provide for the rating of a set of 22 life domains according to whether they represent no need, a met need, or an unmet need.

The CAN and CANSAS have been widely used in recent years for the exploration of differences in perception between service recipients and providers (Hansson et al., 2001; Lasalvia, Ruggeri, Mazzi, & Dall'Agnola, 2000; Macpherson, Varah, Summerfield, & Slade, 2003; Slade, Phelan, Thornicroft, & Parkman, 1996; Slade, Phelan, & Thornicroft, 1998), feasibility and utility (Trauer & Tobias, 2004), evaluation of policy and service provision (Arvidsson, 2003; Ochoa et al., 2003; Ruggeri et al., 2004; Simons & Petsch, 2002), and the relationship between levels of unmet need and quality of life (Slade, Leese, Cahill, Thornicroft, & Kuipers, 2005; Wiersma, 2006). For consistency and brevity we will refer to service recipients henceforth as patients, but acknowledging that different preferences exist; the standard usage at Neami, where this study was conducted, is consumers.

The CANSAS separately assesses the patient's needs in two ways: the patient version is based on a structured interview of the patient in which the staff member elicits and records the views of the patient, and in the staff version the staff member rates their own views of the patient's needs. There are two shortcomings with this method: it involves staff time in eliciting the patient's ratings, and it potentially involves a filtering by staff of the patient's perspective. Ideally, each of the 22 domains should be assigned to one of the three rating categories of no need, met need and unmet need, but experience has shown that respondents, particularly patients, sometimes fail to rate one or more domains. On the CAN and the CANSAS there is a general class of non-response which can be regarded as missed ratings or unrated needs; these comprise responses of "don't know", as well as non-responses in the sense of an item being left blank, which may indicate either an unwillingness to respond to that item, or carelessness.

On the CANSAS, providing no response and responding "don't know" are coded the same. A study of needs using another instrument found

rates of non-response ranging from 0% in some domains to nearly 10% in others (Middleton, Regueira, & Bramley, 1996). Further analysis of the results presented by Trauer and Tobias (2004) showed that, of 191 patients who completed a CANSAS at time 1, 20% left one or more domains unrated. The domains attracting the greatest number of missed ratings were those of psychological distress, physical health, sexual expression, psychotic symptoms, and food. Possible reasons for missed ratings include being regarded by the patients as not applicable, or as sensitive and private. The former reason probably equates to no need, but the latter may well correspond to an unmet need, the identification of which is a prime purpose of the instrument.

In order to (a) give patients an opportunity to rate their needs without the intermediary of a staff member, and (b) to gain a better understanding of what non-response represents, a new patient-rated form of the CANSAS (CANSAS-P) was developed (Slade, Gillard, Kuipers, Leese, & Thornicroft, 2004; Slade, Leese, Gillard, Kuipers, & Thornicroft, 2006; Slade et al., 2006). The only change from the CANSAS is in the response format: in addition to the three standard choices a fourth – “I do not want to answer this question” – has been added. This study reports an evaluation of the CANSAS-P.

METHOD

The study was conducted at Neami, a community-based non-government organization that provides rehabilitation and support to people with psychiatric disabilities in the northern suburbs of Melbourne, Victoria, Australia. At the time, it provided day programs and home-based outreach to over 500 patients via four locality-based programs. In late 2000 Neami convened a working group to make recommendations to management concerning the introduction of routine outcome measurement within the service. There followed a period of consultation with patients, a consultative forum, and staff training. Key workers began offering the Behaviour and Symptom Identification Scale (BASIS-32, Eisen, 1996) to patients in March 2001 with the intention that this measure should be repeated at twelve month intervals. Six months later, in September 2001, the CANSAS was also introduced.

Orientation and training of staff at Neami includes instructions on how to use the CANSAS/CANSAS-P. The procedure for the patient version of the CANSAS involves the key worker asking the patient each question in turn and recording their response. The procedure for the CANSAS-P was for the key worker to explain the purpose of the CANSAS-P, including that completion was voluntary, the information was confidential, and that it would help to develop the patient's individual service plan. The rating system was also explained. The standard expectation of staff is that they should give the CANSAS-P to patients for them to fill out and usually sit with them to provide assistance in the form of clarification of questions and the rating system if required.

The present investigation of the CANSAS-P took place between December 2003 and November 2004, with staff continuing to complete the staff version of the CANSAS.

Neami patients were invited to participate in the research project by either completing the CANSAS-P twice in a two week period, or to complete the patient version of the CANSAS and the CANSAS-P. Patients signed a form giving their consent for their anonymous data to be used for the research, and a payment of \$10.00 was made for the two completions. Of those patients completing a CANSAS-P and a patient version of the CANSAS, half took the CANSAS-P first and half second. Staff completed the staff version of the CANSAS before asking patients to complete the patient version of the CANSAS or the CANSAS-P.

The overall acceptability of the CANSAS-P to patients was evaluated by means of a specially designed set of questions, and key workers were asked whether their patients had any difficulty in completing the CANSAS-P and, where relevant, to describe the difficulty.

RESULTS

Patient Characteristics

A total of 108 patients completed a CANSAS-P at some point in the study, 34 also completed the patient version of the CANSAS, 41 completed the CANSAS-P twice, and for 89 the staff version of the CANSAS was available. Of the 108, exactly half were men and half were women. The mean age was 38.4 years ($SD = 11.7$, range 18–65 years). Primary diagnoses were schizophrenia 69 (63.9%), depression 12 (11.1%), bipolar disorder 9 (8.3%), personality disorder 9 (8.3%), schizoaffective disorder 6 (5.6%), anxiety 2 (1.8%), and 1 (1.0%) had no diagnosis recorded. In addition to the primary diagnosis, 15 (13.9%) had a drug and/or alcohol problem, 6 (5.6%) had an intellectual disability, and 3 (2.8%) had an acquired brain injury. Forty-two patients (39.6%) were from non-English speaking backgrounds. The percentages of responses in each category to each item are presented in Table 1.

Comparison of CANSAS-P and Patient Version of the CANSAS

Thirty-four patients completed both the CANSAS-P and the patient version of the CANSAS. Nineteen completed the CANSAS-P first and the CANSAS second, while the other 15 completed them in the reverse order. The mean interval between the two assessments was 11.4 days ($SD = 6.6$, range 3–37). The upper part of Table 2 shows the distribution of responses on the two forms of the instrument and the agreement levels (intraclass correlations, ICC).

The differences in the numbers of needs rated as met or unmet between the two versions were not significant. However, there were significantly more domains rated as no need on the CANSAS and

TABLE 1
Percentage of Responses on CANSAS-P, by Item (*n* = 108)

	<i>No need</i>	<i>Met need</i>	<i>Unmet need</i>	<i>I don't want to answer</i>	<i>Blank</i>
Accommodation	55.6	34.3	10.2	0	0
Food	68.5	24.1	6.5	0.9	0
Household skills	61.1	32.4	5.6	0.9	0
Self-care	82.4	13.0	3.7	0.9	0
Daily activities	28.7	49.1	21.3	0.9	0
Physical health	48.1	24.1	22.2	4.6	0.9
Psychotic symptoms	33.3	45.4	16.7	2.8	1.8
Condition/treatment info	45.4	38.0	13.9	2.8	0
Psychological distress	27.8	38.9	31.5	1.8	0
Safety to self	67.6	19.4	9.3	3.7	0
Safety to others	84.3	6.5	3.7	5.6	0
Alcohol	82.4	10.2	3.7	3.7	0
Drugs	81.5	11.1	3.7	3.7	0
Company	38.0	30.6	30.6	0.9	0
Intimate relationships	52.8	11.1	17.6	18.5	0
Sexual expression	34.3	9.3	11.1	44.4	0.9
Child care	78.7	7.4	0	13.0	0.9
Basic education	72.2	14.8	10.2	2.8	0
Telephone	85.2	7.4	2.8	4.6	0
Transport	63.0	13.0	20.4	2.8	0.9
Money	56.5	25.0	16.7	0.9	0.9
Benefits	69.4	21.3	6.5	2.8	0

significantly more domains rated “I don’t want to answer” on the CANSAS-P. Agreement levels were high except for the small number of unrated needs, being at or near the “substantial” range (using the descriptors proposed by Landis and Koch (1977)). Of particular interest was that most (77%) of the responses that were rated “I don’t want to answer” on the CANSAS-P were rated no need on the CANSAS. Thus it seems that the low rates of “don’t knows” on the CANSAS was at the

TABLE 2

Comparison of Responses to (a) CANSAS-P and CANSAS (Upper) and (b) CANSAS-P at Two Time Points (Lower)

	<i>No need</i>	<i>Met need</i>	<i>Unmet need</i>	<i>Unrated</i>
CANSAS-P	13.23	4.85	2.79	1.12 ^a
CANSAS	14.41	4.15	3.06	0.38 ^b
$t_{(33)}$	2.08	1.71	0.55	3.33
p^c	.045	.096	.581	.002
ICC ^d	.70	.59	.65	.33
Time 1	12.76	4.44	3.32	1.49 ^a
Time 2	13.51	4.32	2.97	1.24 ^a
$t_{(40)}$	1.24	0.20	1.43	0.65
p^c	.224	.839	.160	.516
ICC ^d	.66	.36	.81	.43

^a "I don't want to answer".

^b "Don't know".

^c Two-tailed.

^d Intraclass correlation coefficient.

expense of domains that the CANSAS-P would detect as problematic to answer ("I don't want to answer") possibly being misidentified as domains of no need. The intraclass correlations show that while there is substantial agreement between the two forms on the three levels of need, there is little consistency in which domains are left unrated. There was no tendency for differences between the forms to increase with the length of the time interval, nor did the order of presentation make any difference.

Test-retest

Forty-one patients completed the CANSAS-P twice. The mean interval between the two assessments was 12.3 days (SD = 5.5, range 3–31). The lower part of Table 2 shows the distribution of responses on the two occasions.

There were no significant differences in ratings of any response category. There was high consistency in ratings of no need and unmet need, but the consistency for met needs and unrated needs were fair to moderate (Landis & Koch, 1977). There was no correlation between the different kinds of response and the time between ratings.

Informal feedback from key workers suggested that the distinction between no need and met need was sometimes difficult for them to grasp, or to explain to patients. We therefore examined the agreement level of their sum; the intraclass correlation was .72.

Agreement between Patient and Key Worker

In all, 108 patients completed a CANSAS-P at least once, and for 89 of these there was a corresponding staff version of the CANSAS completed by the key worker. In this section we look at the concordance between the needs assessments of the patient-key worker pairs. The agreement on number of unmet needs (ICC) of .61 was substantial, but lower for no needs, met needs and unrated needs (.45, .36 and .25 respectively).

We also looked at which needs tended to attract missed ratings (“I don’t want to answer” (CANSAS-P), “Don’t know” (staff version of the CANSAS), or left blank). Among both patients and key workers the most commonly omitted need was sexual expression, followed by intimate relationships. In every case for key workers, and all but one case for patients, when the rating on intimate relationships was missed the rating on sexual expression was missed also.

Evaluation of CANSAS-P

Each patient who completed a CANSAS-P was asked to answer nine evaluative questions on the occasion of their first or only presentation of the instrument. Responses were obtained from 95 to 100 patients (not all patients answered each question). The average response to each of the nine questions was positive. The most positive responses were to the statements “The CANSAS-P is useful for assessing my needs” and “I understood what the CANSAS was assessing”. The least positive responses were to the statements “The CANSAS-P rating instructions were easy to understand” and “It was difficult to rate my needs using the CANSAS-P”. The other five statements (“The language used in the CANSAS-P is difficult to understand”, “I liked the overall graphic design of the CANSAS-P”, “The CANSAS-P takes too long to complete”, “The CANSAS-P guidelines and instructions were difficult to understand”, and “It was easy to rate the severity of my needs using the CANSAS-P”), taking into account the directionality of the statements, produced intermediate, but still positive, responses.

We looked to see whether the nine items could be used as a single scale. A measure of internal consistency (Cronbach’s alpha) yielded a

value of .78, indicating a high degree of internal consistency. Consequently, an overall evaluation score was computed for each patient who had answered some or all of the nine questions. This score was the mean of the answered questions, with the scores on certain questions reversed. These scores could range between 1 (highly positive) and 6 (highly negative). Using the six levels of response, we found 11 were strongly positive, 35 positive, 36 mildly positive, 16 mildly negative, 2 negative and none strongly negative. Thus, 82 of the 100 respondents were positive to some degree, and 18 were negative.

Key workers were also asked to answer questions in relation to each of their patients who completed a CANSAS-P. The first question asked whether there were issues of difficulty for the patient in completing the CANSAS-P. When the answer was Yes the key worker was asked to indicate what the difficulty was from a list.

Of 93 such responses, 60 (64.5%) indicated no difficulty and 33 (35.5%) indicated that there was a difficulty. For the 33 patients whose key workers indicated some difficulty, the breakdown of reasons was: Non-English speaking background 6, Poor literacy skills 6, Low confidence filling out forms 6, Intellectual disability or acquired brain injury 8, Unable to concentrate long enough to complete the form 15, and Other 11. Some patients exhibited more than one difficulty. The most common difficulties were cognitive in nature: intellectual disability, acquired brain injury or limited concentration.

We compared the evaluation scores of those patients deemed by their key workers to have no difficulty with those deemed to have some difficulty in order to see whether there was a connection between the evaluations of the patients and the opinions of the key workers. Ninety-one patients were available for this comparison. The mean evaluation score of the 59 with no difficulty (2.42) was significantly lower than that of the 32 with difficulty (2.95) ($t_{(89)} = 2.74, p = .007$) showing that those patients deemed by their key worker to have difficulty had less positive evaluations of the CANSAS-P than those deemed to have no difficulty.

The relationships between the evaluations by patients and their sex, age, ethnicity, principal psychiatric diagnosis, drug & alcohol status, intellectual disability, and key worker were all non-significant.

DISCUSSION

In this study we investigated various aspects of CANSAS-P, a new patient-rated version of the CANSAS. Participants were patients with

long-term and severe mental health problems (mainly with a diagnosis of schizophrenia) and their key-workers. A strength of the study is that a large proportion of them (40%) came from non-English speaking backgrounds, since investigating the applicability of a patient completed measure will be particularly important with this group. A weakness, which we share with other studies of this kind, is that there was no obvious external criterion of need against which we could assess validity. Also, this study was conducted in a single service, which may limit its generality.

Comparing the CANSAS-P and the patient version of the CANSAS, we found that both forms detected equivalent numbers of met and unmet needs. Of particular interest was that the CANSAS-P produced more responses of “I don’t want to answer this question” than the CANSAS produced responses of “don’t know”. Most of the CANSAS-P “I don’t want to answer this question” responses were rated as no need on the CANSAS. Earlier we suggested that missed ratings on patient-completed forms are difficult to account for, one of the main explanations being not wanting to disclose about that domain. It appears that the provision of a response category to handle this reduces the extent of missed ratings. The fact that most of the “I don’t want to answer this question” responses on the CANSAS-P were rated “don’t know” on the CANSAS further suggests that it may be inadvisable to simply disregard missed responses.

The test-retest results showed that over an average interval of twelve days, there was reasonable to good stability in most of the need counts. Most importantly, the count of unmet needs, which has been associated with lower quality of life (Slade et al., 2004; Wiersma, 2006), was highly stable. It will be an interesting question for the future whether unmet need as assessed by the CANSAS-P bears a stronger relationship with quality of life than unmet need as assessed by earlier versions. While the test-retest reliability of no need and met need were below acceptable levels, their combined count was acceptably reliable. It is possible, therefore, that they are sometimes used interchangeably and indicate no problem in that domain. While the measurement properties are improved by combining them, this does not come without cost. The concept of met need is important in the care of persons with chronic and stable conditions, and in the evaluation of services to them. However this does not detract from the main focus of needs assessment, which is the identification of unmet need, particularly in light of evidence of a causal link between unmet need and quality of life (Slade, Leese, Cahill,

Thornicroft, & Kuipers, 2005). Future work could pilot a version of the CANSAS-P with the no need and met need categories combined, but with the awareness that any such change would raise issues of compatibility with previous versions of CAN. It is also possible that the visual layout of the form can create confusion between the response categories. The test-retest reliability of the "I don't want to answer" category on the CANSAS-P was also weak (0.43). This is not so surprising because the possible reasons for not wanting to answer are quite diverse, including not seeing the item as personally relevant, feeling the domain is too painful to think about, not wishing to disclose, and being unclear about the meaning of the domain. Thus the low reliability may reflect the heterogeneity of the category, and points to the need for further investigation and disaggregation of this response class.

We compared patients' (CANSAS-P) and key workers' (staff version of CANSAS) assessments of need. Agreement was best on unmet needs, and weaker for met and no needs. Sexual expression and intimate relationships were the most frequently unrated needs in both patients (male and female) and key workers. These two areas, along with physical health, psychological distress, and company, were also shown to have the lowest staff-patient agreement by Lasalvia et al. (2000).

One unique feature of our study was asking the patients to evaluate the instrument, and asking the key workers whether their patients experienced difficulties. On average, the patients evaluated the CANSAS-P well, particularly its usefulness for assessing their needs, and understanding what was being assessed, but there was a wide range of opinion. Key workers thought that about one third of their patients had some difficulty with the CANSAS-P, and the most common form of difficulty was cognitive in nature. Patients whose key workers thought they had some difficulty with the CANSAS-P expressed less positive evaluations of it. This highlights the need for providers to exercise clinical judgement when inviting patients to complete standardised measures.

Attention has been drawn to the need for appropriate outcome indicators which are also useable to improve services and programs (Schnapp, Hickey, & Bayles, 2006; Sowers, 2005), and the CANSAS-P has emerged well from this evaluation, exhibiting comparable detection of needs with its predecessor, better identification of domains that are problematic for patients to respond to, good test-retest reliability, especially for unmet needs, and generally positive evaluations by patients. For these reasons, we recommend it as the needs assessment measure of choice for completion by patients.

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