Chapter 3

Evaluation of the Subjects’ Response to Antipsychotics Questionnaire

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Abstract

The present study reports on the development of a new self-administered instrument to assess patients’ responses to antipsychotic medication. The Subjects’ Response to Antipsychotics (SRA) Questionnaire is a 74-item instrument with eight scales (Recovery, Weight Gain, Sexual Anhedonia, Sedation, Affective Flattening, Extrapyramidal Symptoms, Diminished Sociability and Increased Sleep), and a total adverse responses score including additional items. Psychometric aspects were examined in a study of 320 inpatients and outpatients showing good internal consistency, reproducibility and external validity. Concordance with other instruments claiming to measure the subjective response is low, suggesting that the instruments measure different concepts. The SRA Questionnaire appears to be an acceptable and efficient way of measuring patients’ subjective responses to antipsychotic medication.

Keywords: antipsychotics, schizophrenia, side-effects, subjective response, medication, questionnaire
Evaluation of the Subjects’ Response to Antipsychotics Questionnaire

Introduction

Recently, there has been growing interest in the subjective response to antipsychotic medication (Hellewell, 2002; Karow and Naber, 2002; Voruganti and Awad, 2004). Subjective responses to antipsychotic medication have been associated with important clinical factors, such as medication compliance or non-compliance (Van Putten et al., 1981; Weiden et al., 1989; Naber et al., 1994; Agarwal et al., 1998; Garcia Cabeza et al., 2000), therapeutic effect (van Putten and May, 1978; Hogan et al., 1985; Hogan and Awad, 1992), quality of life (Naber et al., 1998), objective side-effects (Van Putten, 1974; Hogan and Awad, 1992) and suicidal behavior (Awad et al., 1995). However, subjective response is not an unambiguous concept. Existing concepts mostly include negative experiences and neglect positive ones (Awad, 1993; Naber, 1995). Therefore, the availability of a reliable and valid instrument is critical.

There are three instruments available for measuring the subjective response to antipsychotic medication: the Neuroleptic Dysphoria Scale (Van Putten and May, 1978), the Drugs Attitude Inventory (DAI) (Hogan et al., 1983) and the Subjective Well-Being on Neuroleptics (SWN) (Naber et al., 1994).

The first instrument, the Neuroleptic Dysphoria Scale, was developed by Van Putten and May (1978) and consists of four questions: (i) How does the medication agree with you? (ii) Did it make you feel calmer? (iii) Did it affect your thinking? (iv) Do you think this is the right medicine for you? The response to medication was graded on a euphoric-dysphoric continuum. Because of its simplicity, it is suitable for acutely psychotic patients. However, one drawback of this simplicity is the lack of specificity. Moreover, it has never been examined in terms of reliability and validity.

Hogan et al. (1983) constructed the DAI by collecting statements by schizophrenic patients about the medication. These statements reflected both subjective feelings and attitudes. Thirty items were found to discriminate significantly between compliant and non-compliant patients. The so-called DAI-30 has seven subscales: Subjective Positive, Subjective Negative, Health/Illness, Physician, Control, Prevention and Harm. Ten items, which produced a maximal group separation between compliant and non-compliant patients, form the DAI-10. Six items were drawn from the subjective scales and four items from the attitude scales. The internal reliability and test–retest reliability of the total DAI-30 score are good. However,
data on the subscales of the DAI-30 and the DAI-10 are lacking. Unfortunately, both instruments contaminate subjective response with attitude toward medication and knowledge about relapse prevention. Therefore, their construct validity can be questioned. The SWN was developed by Naber et al. (1994). Items were based on literature and clinical experience. The original 58 statements were reduced to 38 after an examination of item-scale correlations, variance and subjective importance. There are five subscales: Emotional Regulation, Self-Control, Mental Functioning, Social Integration and Physical Functioning. To improve the utility of the SWN for clinical settings, a short form of 20 items was developed with every subscale consisting of four items (Naber et al., 2001). Both versions have good reliability and are sensitive to medication change (Naber et al., 1994; De Haan et al., 2002). However, items often refer to more than one experience, making them difficult to interpret. Moreover, no relationship with antipsychotic medication is suggested in the wording of the items, which also may make the content validity of this instrument questionable. Although the instruments presented evaluate some aspects of the subjective response to antipsychotics, these are not necessarily the most relevant of the desired and undesired experiences of the patient. The experiences included in the existing questionnaires were not gathered from a consistent concept. The existing instruments have been composed from a ‘doctor’s perspective’ and do not represent the ‘patient’s point of view’, which is essential for measuring the experiences of the patient. The Subjects’ Response to Antipsychotics (SRA) Questionnaire was developed to understand the evaluation of the medication treatment from a broader perspective. It has been developed from a patient’s perspective and should help the patient and the physician to appraise desired and undesired effects of the medication. The concept of ‘Subjects’ Response to Antipsychotics’ is defined as: ‘all responses to changes in mental, physical and social domains attributed by the patient to his/her current antipsychotic medication’. The items of this new instrument are based on an explorative study done by Wolters et al. (2003). The purpose of this study conducted among 77 patients was to collect as many desired and undesired experiences attributed by patients to their treatment with antipsychotic medication as possible. A total of 760 responses were collected in an open, semistructured interview and converted into 74 statements. The wording of these statements was designed to reflect the original responses as closely as possible. This resulted in the SRA Questionnaire, a 74-item self-report questionnaire, scored on a three-
point scale (No, Yes to a certain degree, Yes to a high degree). Below, we report on the psychometric qualities of the SRA Questionnaire.

**Methods**

The psychometric characteristics of the SRA Questionnaire with respect to its internal structure, internal consistency, reproducibility and construct validity were examined in a population of inpatients and outpatients.

**Patients**

Inclusion criteria were a diagnosis within the schizophrenia spectrum (schizophrenia or schizoaffective disorder according to DSM-IV criteria) and treatment with antipsychotic medication for at least 6 weeks. Exclusion criteria were the use of lithium or antidepressive medication. Inpatients and outpatients from eight mental health institutions in the Netherlands, who satisfied the inclusion criteria, were asked to participate. All patients provided their written informed consent.

**Materials**

The self-administered survey material included the SRA Questionnaire, DAI-10 and the SWN. In addition, sociodemographic data were collected.

**Validation of the SRA Questionnaire**

**Internal Structure of the SRA Questionnaire**

Clinical experts constructed a priori scales. By correlating each item with its scale, corrected for overlap, item-internal consistency was assessed. A correlation of 0.40 is recommended as support for item-internal consistency (McHorney et al., 1994). Item-discriminant validity was assessed by determining the extent to which items correlated more with the scale that they were hypothesized to represent than with other scales. Hypothesized clusters of items are supported when correlations between items and their hypothesized scale (corrected for overlap) are higher than with other scales. If necessary, scales were adapted.
Internal consistency of scale scores

Internal consistency was calculated for all scales using Cronbach’s alpha (Cronbach, 1951) with a coefficient of at least 0.70 taken as acceptable (Cicchetti, 1994).

Reproducibility

The first 105 patients were retested after 1 week. Test–retest reliability of the SRA Questionnaire was calculated by Pearson’s $r$ correlation between scale scores on the two assessments.

Construct validity

The construct validity was examined by comparing the SRA Questionnaire to the SWN and the DAI-10. Another aspect of construct validity was examined by testing theoretical predictions based on literature regarding the association of the scales of the SRA Questionnaire with known side-effects of antipsychotic agents. Only participants using one antipsychotic drug were taken into account. In testing the differences between the drugs, classic antipsychotics are considered as one class of medication. An analysis of variance was first performed to test the expectations. If significant, post-hoc comparisons with the protected Fisher’s $t$-test were performed.

Results

Demographics

Three hundred and twenty patients agreed to participate in the study (234 men and 86 women). Their mean ± SD age was 35 ± 11.5 years. At inclusion, 74.5% were using atypical antipsychotic medication and 25.5% used classical antipsychotic medication (Table 1).

Table 1. Current antipsychotic medication (%) ($n = 320$)

<table>
<thead>
<tr>
<th>Antipsychotic medication</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical antipsychotics</td>
<td>29.6</td>
</tr>
<tr>
<td>Risperidone</td>
<td>24.9</td>
</tr>
<tr>
<td>Clozapine</td>
<td>22.9</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>19.0</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>9.5</td>
</tr>
</tbody>
</table>
Seventeen patients were using two different antipsychotic medications. Other comedication was used by 126 patients (mainly benzodiazepines, \( n = 72 \)). Sixty percent of patients had used antipsychotic medication for more than 2 years during their lifetimes. The majority of patients had used the currently prescribed antipsychotic medication for less than 2 years. Current and lifetime duration of the use of antipsychotic are presented in Table 2. Oral antipsychotic medications were used by 82%, depot medication by 16%, and 2% had oral as well as depot antipsychotic medication.

Table 2. Duration of current and lifetime antipsychotic medication (%) \((n = 320)\)

<table>
<thead>
<tr>
<th></th>
<th>1–3 months</th>
<th>3–12 months</th>
<th>1–2 years</th>
<th>&gt; 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>25.6</td>
<td>16.1</td>
<td>16.8</td>
<td>41.5</td>
</tr>
<tr>
<td>Lifetime</td>
<td>11.8</td>
<td>11.8</td>
<td>14.6</td>
<td>61.8</td>
</tr>
</tbody>
</table>

Questionnaire

All patients were able to complete the questionnaires; most (90%) did not need assistance. The others needed some assistance from a test assistant. It took 15–20 min to complete the SRA Questionnaire.

Internal structure

Clinical experts categorized the items into subscales, based upon the known clinical relationship between the items. The following subscales were constructed: Recovery (24 items), Weight Gain (four items), Sexual Anhedonia (three items), Sedation (six items), Affective Flattening (three items), Extrapyramidal Symptoms (five items), Diminished Sociability (six items) and Increased Sleep (three items). The questionnaire is reproduced in the appendix. The Total Adverse Responses subscale is the sum score of all subscales except Recovery and the 18 miscellaneous items. Although it is noted that not all patients appraise the same effects as undesired (Wolters et al., 2003), in general, patients consider the effects of the Total Adverse Responses scale as undesired. The means of all the subscales are given in Table 3. Item-scale correlations showed that all items achieved the 0.40 standard for item-internal consistency except item 7 (0.38), item 8 (0.39) and item 33 (0.39). The correlation of the items with their ‘own’ subscale appeared higher compared to the other subscales.
Most subscales intercorrelated significantly but moderately (0.13 ± 0.59). The subscale Recovery did not correlate significantly with the subscales Sedation ($r = 0.06$), Affective Flattening ($r = -0.02$), EPS ($r = 0.04$) and Diminished Sociability ($r = -0.03$).

**Reliability**

Chronbach’s alphas of the nine subscales were between 0.69 and 0.93 (Table 3). The deletion of a single item could not significantly increase the internal consistency of any of the subscales.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean ± SD</th>
<th>Internal consistency</th>
<th>Test–retest reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>41.7 ± 11.1</td>
<td>0.93</td>
<td>0.82</td>
</tr>
<tr>
<td>Weight Gain</td>
<td>7.0 ± 2.6</td>
<td>0.82</td>
<td>0.85</td>
</tr>
<tr>
<td>Sexual Anhedonia</td>
<td>4.4 ± 1.8</td>
<td>0.80</td>
<td>0.39</td>
</tr>
<tr>
<td>Sedation</td>
<td>9.9 ± 2.9</td>
<td>0.79</td>
<td>0.78</td>
</tr>
<tr>
<td>Affective Flattening</td>
<td>4.6 ± 1.7</td>
<td>0.79</td>
<td>0.60</td>
</tr>
<tr>
<td>Extrapyramidal Symptoms</td>
<td>7.0 ± 2.1</td>
<td>0.69</td>
<td>0.76</td>
</tr>
<tr>
<td>Diminished Sociability</td>
<td>8.5 ± 2.6</td>
<td>0.78</td>
<td>0.75</td>
</tr>
<tr>
<td>Increased Sleep</td>
<td>5.3 ± 1.9</td>
<td>0.75</td>
<td>0.83</td>
</tr>
<tr>
<td>Total Adverse Responses</td>
<td>72.4 ± 14.6</td>
<td>0.92</td>
<td>0.89</td>
</tr>
</tbody>
</table>

SRA-Questionnaire: Subjects’ Response to Antipsychotics Questionnaire

**Reproducibility**

The test–retest reliability coefficient was good for all subscales except the Sexual Anhedonia and Affective Flattening subscale, which were 0.39 and 0.60, respectively (Table 3).

**Congruent validity**

Moderate to low positive correlations were found between the SRA Questionnaire subscales and the subscales of the SWN. The subscale Weight Gain did not correlate significantly with any subscale of the SWN. The DAI-10 score was not or only weakly correlated with the SRA Questionnaire scores with the exception of the Recovery subscale ($r = 0.50; P < 0.01$).
Correlations between subscales of the SRA Questionnaire and subscales of the SWN and DAI-10 are given in table 4.

**Differences between antipsychotic drugs**

The literature does not suggest a clear pattern of superiority for any of the atypical antipsychotic drugs (Geddes et al., 2000; Tandon and Jibson, 2003; Sprague et al., 2004; Tuunainen et al., 2004). Geddes et al. (2000) found no clear evidence that atypical antipsychotics are more effective than conventional antipsychotics. Therefore, on the SRA Questionnaire, we did not expect to find differences on the Recovery subscale. In accordance with the literature, we did not find a significant difference between the various agents ($F = 1.53; P = 0.20$).

Atypical antipsychotics differ in their effect on weight gain. Clozapine and olanzapine are considered to have a strong effect on weight gain (Allison et al., 1999) whereas risperidone and conventional antipsychotics are considered to have a modest effect (Brecher and Geller, 1997; Allison et al., 1999). Studies on quetiapine suggest that it induces no weight gain (Brecher et al., 2000). Therefore, on the SRA Questionnaire, our expectation was the following order of scores on the Weight Gain subscale: lowest for quetiapine, followed by classic antipsychotics and risperidone, with the highest scores for olanzapine and Clozapine. In accordance with our expectations, we found significant differences between the agents ($F = 5.36; P = 0.00$).

Recent studies show that risperidone and classic antipsychotics most strongly induce sexual side-effects, followed by clozapine and olanzapine, and the least with quetiapine (Assalian et al., 2000; Knegtering et al., 2003). Therefore, on the SRA Questionnaire regarding the Sexual Anhedonia subscale, we expected the highest score for risperidone and classic antipsychotics, followed by clozapine and olanzapine, and the lowest score for quetiapine. However, we did not find significant differences between the antipsychotic medications ($F = 0.96; P = 0.43$).

A side-effect profile published by Jibson and Tandon (1998) shows that clozapine has a strong sedative effect, quetiapine and olanzapine have intermediate effects, and risperidone has no sedative effect. Classical antipsychotics have varied sedative effects. Therefore, with respect to the Sedation subscale, we anticipated the lowest score for risperidone, medium scores for olanzapine and quetiapine, and the highest for clozapine. By contrast to our
<table>
<thead>
<tr>
<th>Subscales SRA</th>
<th>SWN Mental</th>
<th>SWN Social</th>
<th>SWN Emotional</th>
<th>SWN Physical</th>
<th>SWN Self-Control</th>
<th>DAI-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>0.17**</td>
<td>0.26**</td>
<td>0.26**</td>
<td>0.27**</td>
<td>0.18**</td>
<td>0.50**</td>
</tr>
<tr>
<td>Weight Gain</td>
<td>−0.01</td>
<td>−0.02</td>
<td>−0.06</td>
<td>−0.08</td>
<td>−0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>Sexual Anhedonia</td>
<td>−0.19**</td>
<td>−0.12*</td>
<td>−0.15*</td>
<td>−0.13*</td>
<td>−0.09</td>
<td>−0.06</td>
</tr>
<tr>
<td>Sedation</td>
<td>−0.29**</td>
<td>−0.26**</td>
<td>−0.21**</td>
<td>−0.34**</td>
<td>−0.27**</td>
<td>−0.35**</td>
</tr>
<tr>
<td>Affective Flattening</td>
<td>−0.23**</td>
<td>−0.15*</td>
<td>−0.33**</td>
<td>−0.22**</td>
<td>−0.24**</td>
<td>−0.14*</td>
</tr>
<tr>
<td>Extrapyramidal Symptoms</td>
<td>−0.13*</td>
<td>−0.18**</td>
<td>−0.09</td>
<td>−0.20**</td>
<td>−0.14*</td>
<td>−0.23*</td>
</tr>
<tr>
<td>Diminished Sociability</td>
<td>−0.28**</td>
<td>−0.31**</td>
<td>−0.22**</td>
<td>−0.29**</td>
<td>−0.27**</td>
<td>−0.31**</td>
</tr>
<tr>
<td>Increased Sleep</td>
<td>−0.21**</td>
<td>−0.13*</td>
<td>−0.18**</td>
<td>−0.21**</td>
<td>−0.11</td>
<td>−0.09</td>
</tr>
<tr>
<td>Total Adverse Responses</td>
<td>−0.31**</td>
<td>−0.29**</td>
<td>−0.26**</td>
<td>−0.32**</td>
<td>−0.31**</td>
<td>−0.30**</td>
</tr>
</tbody>
</table>

SRA-Questionnaire, Subjects’ Response to Antipsychotics Questionnaire; SWN, Subjective Wellbeing on Neuroleptics; DAI-10, Drugs Attitude Inventory 10-items version.

*P < 0.05; **P < 0.01.
expectation, no significant differences were found between the antipsychotics ($F = 1.03; P = 0.40$).

There are no good comparative studies on the influence of antipsychotics on sleep. Based on the literature of sedative properties, the following order of increased sleep was hypothesized: the lowest score for risperidone, medium scores for olanzapine and quetiapine, and the highest score for clozapine. In accordance with this hypothesis, a significant difference between the medications ($F = 5.55; P = 0.00$) was found. Risperidone and classic antipsychotics show a dose-related increase in EPS (Owens, 1994; Peuskens, 1995). Olanzapine and, to a greater extent, quetiapine and clozapine, are only rarely associated with EPS. We hypothesized that risperidone and classic antipsychotics would show the highest score on the EPS subscale. This was indeed the case ($F = 7.11; P = 0.00$).

No specific literature is available on Diminished Sociability, Affective Flattening and Total Adverse Responses, and therefore no hypothesis was formulated for these subscales. No significant differences between the antipsychotic medications on the subscale Diminished Sociability ($F = 0.45; P = 0.77$) and Total Adverse Responses ($F = 1.68; P = 0.16$) could be detected. However, there was a significant difference on the subscale Affective Flattening ($F = 3.89; P = 0.00$; two-tailed). Classic antipsychotic medication appeared to be associated with more affective flattening than Risperidone.

Significant differences between antipsychotic medications on the subscales of the SRA Questionnaire are given in table 5.
Table 5. Significant differences between classical and atypical antipsychotic medications on subscales of the SRA-Questionnaire

<table>
<thead>
<tr>
<th>SRA-sub scales</th>
<th>ANOVA</th>
<th>Fishers protected t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>$F = 1.53; P = 0.20$</td>
<td>NA</td>
</tr>
<tr>
<td>Weight Gain</td>
<td>$F = 5.36; P = 0.00$</td>
<td>Olanzapine &gt; Risperidone, Quetiapine*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risperidone, Olanzapine*, Clozapine** &gt; Classical antipsychotics</td>
</tr>
<tr>
<td>Sexual Anhedonia</td>
<td>$F = 0.96; P = 0.43$</td>
<td>NA</td>
</tr>
<tr>
<td>Sedation</td>
<td>$F = 1.03; P = 0.40$</td>
<td>NA</td>
</tr>
<tr>
<td>Affective Flattening</td>
<td>$F = 3.89; P = 0.00$</td>
<td>Classical &gt; Risperidone*</td>
</tr>
<tr>
<td>Extra Pyramidal Symptoms</td>
<td>$F = 7.11; P = 0.00$</td>
<td>Risperidone &gt; Clozapine, Olanzapine, Quetiapine*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Classical &gt; Olanzapine, Clozapine*, quetiapine**</td>
</tr>
<tr>
<td>Diminished Sociability</td>
<td>$F = 0.45; P = 0.77$</td>
<td>NA</td>
</tr>
<tr>
<td>Increased Sleep</td>
<td>$F = 5.55; P = 0.00$</td>
<td>Clozapine &gt; Olanzapine, Quetiapine, classical antipsychotics*, Risperidone**</td>
</tr>
<tr>
<td>Total Adverse Responses</td>
<td>$F = 1.68; P = 0.16$</td>
<td>NA</td>
</tr>
</tbody>
</table>

SRA-Questionnaire: Subjects' Response to Antipsychotics Questionnaire.
* $P < 0.05$, ** $P < 0.01$. 

* denotes significant difference at $P < 0.05$ level.
** denotes significant difference at $P < 0.01$ level.
Discussion

With the increased interest in patients’ opinion about treatment effects, there is a need to evaluate their experiences with antipsychotic medication by means of a valid and reliable instrument. The present study reports on the development and psychometric characteristics of the SRA Questionnaire.

Categorization of the items into eight subscales is based on the well-known effects of antipsychotic medication. However, items that could not be placed in a subscale were not removed from the questionnaire because patients have reported these items to be important (Wolters et al., 2003). Therefore, the miscellaneous items also have validity for the concept of the subjects’ response to antipsychotics.

Internal consistency was fair to high for all subscales. Test–retest reliability ranged from moderate to high, except for Sexual Anhedonia. The means on this subscale at both assessments did not differ significantly (4.4 and 4.6, respectively). Patients were also consistent in their response 1 week later (internal consistency is 0.76). It appears that patients are generally consistent in responding to the questions in the Sexual Anhedonia subscale, but differ in their answers on different occasions. This could be due to a sense of shame surrounding sexuality.

Concerning the external validation of the SRA, most hypotheses derived from the literature were globally confirmed by the answers given by the patients. The ratings on the subscales Recovery, Increased Sleep, Extrapyramidal Symptoms and Weight Gain were in line with the literature. Sexual Anhedonia and Sedation were not. Although this was not a formal test of differences between atypical agents, our findings generally support the validity of the SRA Questionnaire.

Although the DAI-10 and SWN claim to measure the subjective aspects of treatment with antipsychotic medication, there are only moderate or weak correlations between these instruments and the subscales of the SRA Questionnaire. The DAI-10 has six items measuring subjective responses to the medication. These items are limited to a few general psychological and activation items. The DAI-10 also measures the attitude to antipsychotic medication with four items. The DAI-30 covers a broader spectrum but lacks the items Sexual Anhedonia, Weight Gain, Diminished Sociability and Increased Sleep. Moreover, several of its subscales (Health/Illness, Physician, Control, Prevention and Harm) describe
responses that do not appear to be subjective responses to antipsychotic medication but conclusions drawn from these responses. Therefore, both versions of the DAI appear to evaluate basically another heterogeneous concept.

The subscales of the SWN agree, to varying extents, with our subscales. However, items describing psychotic symptoms (e.g. 'I sense my environment to be changed, strange and threatening') or depersonalization (e.g. 'I do not feel as though my body really belongs to me') are not included in the itemset of the SRA Questionnaire. In our opinion, psychopathological items do not belong in such a subscale. The SWN lacks items of weight gain, extrapyramidal symptoms and increased sleep. Items in both versions of the SWN show great resemblance to Quality of Life, which is supported by high correlations with Quality of Life instruments (Naber, 1995). Furthermore, there is no attribution to medication in the wording of the items. Therefore, the SWN appears primarily to be a Quality of Life instrument, clearly measuring a different concept in comparison to the SRA Questionnaire.

The DAI-10, SWN and Neuroleptic Dysphoria Scale have no separate subscale for desired responses. Desired as well as undesired responses are grouped together in subscales. The SRA Questionnaire has a subscale, Recovery, which measures desired responses. These responses are only modestly correlated with the undesired responses subscales of the SRA Questionnaire, which supports the idea of desired effects as an independent factor.

It can be concluded that the SWN, DAI and SRA Questionnaire measure subjective aspects of the medication treatment. However, the concepts and operationalization of the instruments are different, resulting in different instruments measuring distinct subjective aspects of medication treatment.

The SRA Questionnaire has been developed on the basis of the experiences of patients, including the desired as well as undesired effects of antipsychotics. It was designed as a research tool and, in clinical practice, to assist in evaluating the effects of antipsychotics from the perspective of the patient.

The SRA Questionnaire appears to be a valid and reliable instrument and to be apparently useful in clinical practice. The SRA Questionnaire can help to systematically monitor and adjust treatment with antipsychotic medication to find the optimal dosage and type of antipsychotic medication for an individual patient.
Acknowledgements

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