Implementation trial of a wellness self-management program for individuals with severe mental illness in an Italian Day Hospital setting: a pilot study

Summary

Objectives
The Wellness Self-Management (WSM) is an adaptation and expansion of Illness Management and Recovery (IMR), an internationally recognized best practice. In order to validate the Italian version of WSM our goals included the translation from English to Italian of the WSM workbook and the implementation of an abbreviated WSM program in an Italian day hospital setting.

Methods: In a randomized controlled trial 14 patients with a diagnosis of severe mental illness were recruited and randomly assigned to two groups. Seven individuals received an abbreviated version of WSM, while the controls received Treatment as Usual. Groups did not differ for age, education, cognitive functioning and symptomatology. All patients received weekly planned treatment in the day hospital setting. After treatment, group differences on change scores were tested using ANOVA.

Results
Compared to controls, at immediate post-intervention, WSM participants reported significant improvement in processing speed, psychopathology, neurocognitive and personal resources and real-life functioning.

Conclusions
These results offer promising preliminary evidence that the use of an abbreviated Italian translation of the WSM workbook provides an effective complement to current mental health treatment.

Key words
Self-Management • Illness management • Recovery • Psychiatric rehabilitation

Introduction
Despite the existence of adequate, evidence-based treatments for adults with serious mental illness, these practices are rarely implemented and sustained in real-world settings. Recently there have been increased efforts to explore new strategies to bring recovery-oriented best practices to real-world settings. One example in the United States was the Substance Abuse and Mental Health Services Administration (SAMHSA) national best practices implementation project initiated in 2001 with eight States.

In 2002-2005, the New York State (NYS) Office of Mental Health (OMH) took part in this project. One practice selected by OMH to implement in NYS was Illness Management and Recovery (IMR) and stakeholders reported that IMR added value to the quality of services. Stakeholders also proposed ways in which IMR could be expanded and adapted to increase its widespread usability and sustainability, especially in groups. Subse-
quently, a NYS operated facility and ten NYC-based behavioral health agencies field tested and evaluated adaptations to IMR based on stakeholders’ observations and experiences. Along with input from a consumer advocacy group and an expert in cultural adaptations, this led to significant adaptations and additions to the practice and ultimately to a new name: Wellness Self-Management (WSM) 4. The WSM curriculum was expanded to 57 topic areas that provided information and strategies designed to assist individuals to better understand and manage symptoms, understand the importance of physical health, cope more effectively with stress, engage in wellness supporting activities, build confidence and inspire hope for recovery. The expanded program was also formatted to align with a practical group facilitation model. Subsequently, WSM was implemented in over 100 behavioral health agencies across NYS and the findings were encouraging: participants and WSM group leaders reported significant progress with respect to consumer identified goal areas. WSM groups were well attended, group leaders generally implemented the group with fidelity and most practitioners employed the workbook at a satisfactory level 4. Although the WSM workbook has been translated into Spanish, Chinese and Korean, an Italian version was not available. Our interest in developing and implementing an Italian version of WSM is due to its focus on self-management of symptoms and wellness, content of the lessons, and initial promising findings 7. Another important consideration is the user-friendly nature of WSM for practitioners and mental health consumers due to the very structured, detailed, yet flexible workbook based on the principles of adult education.

Objectives
In order to validate the Italian version of WSM our goals included the translation from English to Italian of the WSM workbook and the implementation of an abbreviated WSM program in an Italian day hospital setting. The abbreviated program represented a subset of lessons that most closely aligned with high priority client problem areas and the outcome variables under study.

Materials and methods
Subjects
Fourteen patients were recruited and randomly assigned to two groups. Group 1, which received WSM, consisted of 7 outpatients (3 males and 4 females) with average age of 37 years (SD = 13.2) and average schooling of 12.7 years (SD = 4.1). Group 2, which received Treatment as Usual (TAU), consisted of 7 outpatients (2 males and 5 females) with average age of 40 years (SD = 13.6) and average schooling of 13.3 years (SD = 3.6). Inclusion criteria were: (1) between 18 and 65 years of age; (2) diagnosis of severe mental illness-depressive syndromes with psychotic features, bipolar disorder with psychotic features, schizophrenic syndromes; (3) attending day hospital treatment, and (4) capacity to provide informed consent. Exclusion criteria were: (1) a primary diagnosis of mental retardation; (2) dementia or organic brain disorders, and (3) moderate or severe cognitive impairment. All patients received weekly planned treatment in the day hospital setting, were regularly visited by the staff psychiatrist and continued their pharmacotherapy.

Implementation of the study
The study included the following phases: 1) the translation of the entire Wellness Self-Management workbook made by a team coordinated by an expert professor in psychiatric rehabilitation of the Second University of Naples and included two psychiatrists and six psychiatric rehabilitation technicians. During this phase, in addition to the literal translation from English into Italian, it was carefully adapted to the socio-cultural context in its use of terminology and content, to ensure an optimal Italian version; 2) practitioner training for WSM treatment; 3) baseline assessment of psychopathology, neurocognitive functions, disability, self-esteem, resilience, recovery style, participation and involvement in care; 4) the abbreviated WSM intervention which consisted of one weekly session of two hours for 4 weeks, according to a group format, with 3-4 patients, a psychiatrist and a psychiatric rehabilitation technician; 5) post treatment evaluation.

Practitioner training
Practitioner training consisted of six lessons: main objectives of WSM treatment (lesson 1), WSM implementation (lesson 2), workbook topics to be covered (lesson 3), and practice in simulated treatment (lessons 4-6). After the training, the implementation of the intervention was led by a psychiatrist and a psychiatric rehabilitation technician at the Division of Psychiatry of the University Hospital “San Giovanni di Dio e Ruggi d’Aragona” of Salerno.

Assessment
All patients were assessed at baseline with the following tools:

Neurocognitive assessment
• The Trail Making Test Part A (TMT-A), a tool consisting of 25 circles distributed over a sheet of paper and the circles are numbered 1-25. The patient
should draw lines to connect the numbers in ascending order. The task must be completed in 300 seconds.

- **The Symbol Coding (BACS SC)** consists of digit-symbol pairs (e.g. 1/-, 2/-, ..., 7/Δ, 8/Δ, 9/=) followed by a list of digits. Under each digit the subject writes down the corresponding symbol as fast as possible. The number of correct symbols within the allotted time is measured. The time to complete the task is 90 seconds.

- **The Category fluency**, a neuropsychological test in which participants have to say as many words as possible from the category “animals” in a given time (60 seconds).

**Psychopathology**

- **Positive And Negative Syndrome Scale (PANSS)** was used to rate symptom severity. Scores for the dimensions “disorganization” and “positive symptoms” were calculated based on the consensus 5-factor solution proposed by Wallwork et al.

- **Negative symptomatology** were assessed by **Brief Negative Symptom Scale (BNSS)** which includes 13 items, rated from 0 (normal) to 6 (most impaired), and five negative symptoms domains: anhedonia, asociality, avolition, blunted affect and alogia. The Italian version of the scale was validated as part of the Italian Network for Research on Psychoses activities. In line with previous research domains evaluated by the scale loaded on two factors: “avolition”, consisting of anhedonia, asociality and avolition, and “poor emotional expression”, including blunted affect and alogia.

**Resources of the person**

- **The Self-Esteem Rating Scale (SERS)** is a 40-item self-rating scale with scores in the range -120 to 120, with higher scores denoting higher and more positive self-esteem.

- **To evaluate the resilience** has been used the **Resilience Scale for Adult (RSA)**, a self-administered scale consisting of 33 items that examine intra- and inter-personal protective factors thought to facilitate adaptation when facing psychosocial adversity. Items are organized in six factors: perception of self, perception of the future, structured style, social competence, family cohesion, and social resources.

- **Recovery Style Questionnaire (RSQ)** has been used to evaluate the impact of recovery style on the prognosis and on the involvement with psychiatric services. The RSQ identifies two main recovery styles: “sealing-over,” in which the subject minimizes and tends to remove the recent psychotic episode, and “integration,” in which there is a continuity between psychotic and pre/post-psychotic experiences.

- **Patient Activation Measure (PAM-13)**, for the level of active participation in the care and management of their own health, consists of 13 items measuring patients’ self-reported knowledge, motivation, and skills for health management.

**Functioning**

- **The evaluation of the level of disability** has been made by the **WHO Disability Assessment Schedule 2.0 (WHODAS 2.0)** using the Complex scoring, a more fine-grained analyses possible, according to the suggestion of the authors.

- **Services Engagement Scale (SES)**, an instrument including 14 items, rated on a 4-point Likert scale (with higher scores reflecting greater levels of difficulty engaging with services), was used to explore patients’ relationship with mental health services.

**Level of satisfaction**

To evaluate the level of satisfaction in patients, the **Client Satisfaction Questionnaire-8 (CSQ-8)**, was employed with scores ranging between 8 and 32, with higher score indicating greater satisfaction.

**The wellness self-management treatment**

To start the implementation of the WSM program in Italy we organized two groups, one group composed of 3 patients and a second with 4 patients. Both groups were facilitated by a psychiatrist and a psychiatric rehabilitation technician. The WSM intervention was divided into four weekly meetings of two hours, that included selected lessons based on the goals of the participants. For the first meeting, we selected the following lessons: “What Is Your Role in the Program?”, “Understanding Positive and Negative Thinking”, “Getting to Know Each Other” and “Understanding Barriers that Get in the Way of Achieving Goals”. We used these lessons to engage patients in discussing the importance of active participation in treatment, strengths and positive thinking and how the group setting helps people to obtain peer support and share personally meaningful topics. For the second meeting, after a brief discussion about the lessons of the previous session, we chose “Visions of Recovery”, “What Helps Recovery?”,” “What Hinders Recovery?” and “Choosing Your Own Recovery Strategies”. During these lessons we introduced the recovery concept, different recovery strategies and their effectiveness. For the third meeting, after a brief review of the previous lesson’s main points, we selected: “Symptoms of Mental Illness”, “Understanding the Causes of Mental Illness”, and “Coping with the Stigma of Having a Mental Illness Diagnosis”. These topic areas focused on increasing each patients understanding of
psychiatric symptomatology and its causes, the stress-vulnerability model, stigma and its impact in a patient’s life. For the final meeting, we selected: “Identifying Your Personal Signs of Stress”, “How to Prevent Stress in the First Place” and “Coping with Stress: What Works? What Doesn’t”? The main goal of these lessons was to engage clients in recognizing personal signs of a crisis and discussing ways to prevent a relapse by learning effective coping strategies. All subjects receiving WSM continued to receive pharmacotherapy in a day hospital setting.

**Treatment as usual**
People randomized to TAU received pharmacotherapy in a day hospital setting (as did the WSM group) and were involved in leisure activities (Ceramics, Music Workshops, Theater Workshops, Sport) or psychotherapy once a week.

**Statistical data analysis**
For all neurocognitive tests (TMT, Symbol-coding sub-

test of BACS and tests of category verbal fluency) T-
scores were calculated by the MCCB Computer Scor-
ing Program for the Italian version of MCCB.

As to psychopathological indices the PANSS scores for positive dimension (sum of the scores on Delusions, Hallucinatory Behavior, Grandiosity, Unusual thought content) and disorganization (sum of the scores on Conceptual Disorganization, Poor Attention and Difficulty in Abstraction) were calculated according to Wallwork et al. 11, while the negative dimensions, “Avolition” (anhedonia, asociality and avolition) and “Expressive deficit” (blunted affect and alogia) were calculated from BNSS scores, according to previously published factor analyses 12-14. For the functioning evaluation, WHO DAS 2.0 scoring was calculated using the complex score according to Ustun et al. 19.

Group differences on pre-post change scores were tested using one-way ANOVA with group as between factor. For all statistical tests the level of significance was set at p < 0.05. As this was an explorative study on the WSM intervention a correction for multiple comparisons was not applied.

**Results**
Baseline demographic and clinical characteristics are reported in Table I.

At the baseline, there was no significant difference between groups in all analyzed variables.

**Effects on neurocognition**
After one month of treatment, WSM patients improved significantly more than TAU patients in verbal fluency. No difference was found for the other neuropsychological variables as shown in Table II.

**Effects on psychopathology**
A significant difference between the two groups was observed in PANSS disorganization domain, in Expressive deficit BNSS factor and Avolition, with WSM improving significantly more than TAU group. No difference was found for other psychopathological dimensions (Table III).

**Effects on resources of the person**
Recovery Style Questionnaire (RSQ) results show that

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**TABLE I. Baseline assessments in the two groups.**

<table>
<thead>
<tr>
<th></th>
<th>WSM</th>
<th>TAU</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37 ± 13.2</td>
<td>40 ± 13.6</td>
<td>N.S.</td>
</tr>
<tr>
<td>Education</td>
<td>12.7 ± 4.1</td>
<td>13.3 ± 3.7</td>
<td>N.S.</td>
</tr>
<tr>
<td>Sex (% males)</td>
<td>42</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Marital status (% married)</td>
<td>14</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Processing speed (mean score)</td>
<td>30.8</td>
<td>35.88</td>
<td>N.S.</td>
</tr>
<tr>
<td>PANSS Positive</td>
<td>7.71 ± 3.64</td>
<td>10 ± 5.18</td>
<td>N.S.</td>
</tr>
<tr>
<td>PANSS Disorganization</td>
<td>9.43 ± 3.2</td>
<td>9.67 ± 2.58</td>
<td>N.S.</td>
</tr>
<tr>
<td>BNSS Expressive deficit</td>
<td>20.43 ± 8.77</td>
<td>23.16 ± 11.3</td>
<td>N.S.</td>
</tr>
<tr>
<td>BNSS Avolition</td>
<td>30.29 ± 14.1</td>
<td>25.5 ± 12.76</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

WSM: Wellness Self Management; TAU: Treatment as usual; PANSS: Positive And Negative Syndrome Scale; BNSS: Brief Negative Symptom Scale

**TABLE II. Neurocognition (Processing speed) pre and post intervention scores in the two groups.**

<table>
<thead>
<tr>
<th></th>
<th>WSM Pre</th>
<th>Post</th>
<th>TAU Pre</th>
<th>Post</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMT</td>
<td>46.28 ± 11.54</td>
<td>50.57 ± 9.18</td>
<td>37.66 ± 7.63</td>
<td>39.83 ± 8.13</td>
<td>1.71</td>
<td>0.23</td>
</tr>
<tr>
<td>Symbol coding (BACS)</td>
<td>35.28 ± 6.04</td>
<td>39.28 ± 5.52</td>
<td>33.16 ± 10.1</td>
<td>35.5 ± 8.5</td>
<td>1.66</td>
<td>0.22</td>
</tr>
<tr>
<td>Verbal fluency</td>
<td>34.85 ± 2.73</td>
<td>42.85 ± 2.79</td>
<td>36.83 ± 11.37</td>
<td>41 ± 7.2</td>
<td>4.49</td>
<td>0.22</td>
</tr>
</tbody>
</table>

WSM: Wellness Self-Management; TAU: Treatment As Usual; TMT: Trial Making Test; BACS: Brief Assessment of Cognition in Schizophrenia
Furthermore, WSM participants improved significantly more than TAU on services engagement measured by the SES (Table V).

**Effects on functioning**
WSM patients improved significantly more than TAU subjects in terms of psychosocial functioning. In fact, participants of WSM group improved significantly more in WHO DAS global score. Especially, a significant effect has emerged for the WHO DAS dimensions cognition, life activities and participation as illustrated in Table V.

**Level of satisfaction**
The average score reported on CSQ was 29 (SD 1.8) indicating high satisfaction.

**Drop-outs**
WSM group hasn’t had any drop-out, while TAU group has had 1 drop-out.

**Discussion and conclusions**
The study represents the first attempt at using WSM in Italy and it is also the first attempt to assess the effec-

100% of WSM patients switched from an intermediate recovery style to an integrate one, while only 14% of TAU patients switched from an intermediate recovery style to an integrate one. Furthermore, WSM group improved significantly more than TAU group on self-esteem RSA domain and in SERS. There was no difference in patient activation measure (Table IV).

**TABLE III. Psychopathology pre and post intervention scores.**

<table>
<thead>
<tr>
<th></th>
<th>WSM Pre</th>
<th>Post</th>
<th>TAU Pre</th>
<th>Post</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANSS Positive</td>
<td>7.71 ± 3.64</td>
<td>4.86 ± 0.9</td>
<td>10 ± 5.18</td>
<td>8.17 ± 3.71</td>
<td>0.57</td>
<td>0.47</td>
</tr>
<tr>
<td>PANSS Disorganization</td>
<td>9.43 ± 3.2</td>
<td>5.14 ± 1.46</td>
<td>9.67 ± 2.58</td>
<td>7.67 ± 2.42</td>
<td>7.93</td>
<td>≤ .0.02</td>
</tr>
<tr>
<td>BNSS Expressive deficit</td>
<td>20.43 ± 8.77</td>
<td>3.29 ± 1.98</td>
<td>23.16 ± 11.3</td>
<td>16 ± 8.37</td>
<td>11.3</td>
<td>≤ .0.01</td>
</tr>
<tr>
<td>BNSS Avolition</td>
<td>30.28 ± 14.1</td>
<td>6.71 ± 6.68</td>
<td>25.5 ± 12.75</td>
<td>19.5 ± 9.99</td>
<td>12.7</td>
<td>≤ .0.005</td>
</tr>
</tbody>
</table>

WSM: Wellness Self-Management; TAU: Treatment As Usual; PANSS: Positive And Negative Syndrome Scale; BNSS: Brief Negative Symptom Scale

**TABLE IV. Pre and post intervention scores on personal resource scales in the two groups.**

<table>
<thead>
<tr>
<th></th>
<th>WSM Pre</th>
<th>Post</th>
<th>TAU Pre</th>
<th>Post</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERS</td>
<td>-2.71 ± 43.4</td>
<td>56.14 ± 35.89</td>
<td>5.71 ± 33.98</td>
<td>26.67 ± 26.9</td>
<td>5.06</td>
<td>≤ .0.05</td>
</tr>
<tr>
<td>Self Esteem (RSA)</td>
<td>14.29 ± 3.81</td>
<td>23.14 ± 3.8</td>
<td>15.83 ± 6.97</td>
<td>17.33 ± 6.71</td>
<td>5.06</td>
<td>≤ .0.01</td>
</tr>
<tr>
<td>PAM</td>
<td>36.57 ± 6.85</td>
<td>50 ± 1.91</td>
<td>34 ± 3.69</td>
<td>40.83 ± 7.44</td>
<td>3.84</td>
<td>0.076</td>
</tr>
</tbody>
</table>

WSM: Wellness Self-Management; TAU: Treatment As Usual; SERS: Self-esteem Rating Scale; RSA: Resilience Scale for Adult; PAM: Patient Activation Measure

**TABLE V. Pre and post intervention scores on functioning and services engagement.**

<table>
<thead>
<tr>
<th></th>
<th>WSM Pre</th>
<th>Post</th>
<th>TAU Pre</th>
<th>Post</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO DAS 2.0 total</td>
<td>40.9 ± 19.98</td>
<td>16.4 ± 11.25</td>
<td>41.29 ± 14.11</td>
<td>29.44 ± 11.9</td>
<td>7.35</td>
<td>≤ .0.05</td>
</tr>
<tr>
<td>WHO Cognition</td>
<td>41.67 ± 24.89</td>
<td>14.29 ± 9.58</td>
<td>37.5 ± 22.82</td>
<td>28.07 ± 19.6</td>
<td>6.03</td>
<td>≤ .0.05</td>
</tr>
<tr>
<td>WHO Mobility</td>
<td>17.14 ± 23.95</td>
<td>8.57 ± 18.64</td>
<td>38.33 ± 27.5</td>
<td>30.83 ± 24.17</td>
<td>0.86</td>
<td>0.77</td>
</tr>
<tr>
<td>WHO Self-Care</td>
<td>33.04 ± 34.56</td>
<td>16.96 ± 19.37</td>
<td>32.29 ± 22.16</td>
<td>20.86 ± 15.35</td>
<td>1.95</td>
<td>0.67</td>
</tr>
<tr>
<td>WHO Interaction</td>
<td>50.71 ± 24.57</td>
<td>26.43 ± 21.16</td>
<td>54.17 ± 31.69</td>
<td>41.67 ± 24.63</td>
<td>3.92</td>
<td>0.073</td>
</tr>
<tr>
<td>WHO Life activities</td>
<td>34.98 ± 26.02</td>
<td>8.84 ± 9.35</td>
<td>32.82 ± 18.62</td>
<td>48.75 ± 10</td>
<td>7.06</td>
<td>≤ .0.05</td>
</tr>
<tr>
<td>WHO Participation</td>
<td>57.15 ± 9.84</td>
<td>19.7 ± 9.82</td>
<td>52.61 ± 6.68</td>
<td>41.65 ± 3.56</td>
<td>9.98</td>
<td>≤ .0.01</td>
</tr>
<tr>
<td>SES</td>
<td>14.29 ± 6.82</td>
<td>1.43 ± 1.51</td>
<td>7.57 ± 3.5</td>
<td>4.67 ± 2.58</td>
<td>12.95</td>
<td>≤ .0.01</td>
</tr>
</tbody>
</table>

WSM: Wellness Self-Management; TAU: Treatment As Usual; WHO DAS 2.0: WHO Disability Assessment Schedule 2.0; SES: Services Engagement Scale
tiveness of WSM on neurocognition, psychopathology, personal resources and functioning. The WSM program successfully engaged patients as demonstrated by no dropouts and a high level of satisfaction. The most logical comparison could be made between WSM and studies that showed the feasibility of IMR which reported levels of dropouts, on average, around 24% 22. The higher level of dropouts for IMR may be due to the length of the program (from 6 to 12 months). Due to the differing lengths of the two interventions and the small sample size of the present study, we cannot directly compare the drop-out rates. However, this pilot study suggests that the Italian version of WSM is well received and suitable in a day-hospital setting. The efficacy of the Italian version of WSM was demonstrated in that most of the outcome parameters under study (neurocognition, psychopathology, resources of the person, functioning) improved with time. Compared to TAU, WSM is particularly effective in improving self-esteem, service engagement, neurocognition, negative symptoms and disorganization, resulting in a significant improvement of functioning in everyday life. These results are consistent with studies in the literature regarding IMR that found positive effects on psychiatric symptoms 23 24. The current study suggests additional benefits related to improved neurocognition, self-esteem and service engagement. In addition, our study took into account the effectiveness of WSM on variables such as neurocognition and real-world functioning. Our preliminary data show that WSM can improve cognitive functioning of participants with respect to TAU. This is not an unexpected result, in fact research suggests that enriched psychosocial settings and behavioral interventions may improve neurocognitive functioning 25 26. Therefore, the relevance of our findings is related to several studies implicating that neurocognitive dysfunction is a core feature of severe mental illness, relatively independent of symptomatic state 27 29. Neurocognitive dysfunction is considered a better predictor of functional outcome than any other measure of psychopathology 30 32, and may prevent functional recovery and interfere with the clients' ability to fully benefit from psychosocial interventions 33 35. The data shows that participants in the WSM group demonstrated improved functioning in daily life after treatment, as compared with the TAU group. This finding is of particular importance as the TAU included individual psychotherapy which was highly structured and personalized. It is possible that the WSM focus on self-management of symptoms and wellness promotes active participation in treatment. This is also suggested by the significant better engagement with services observed for this group with respect to the TAU group. Lastly, it is known that IMR has resulted in lower hospitalization rates post-treatment of the participants 36 37; this variable was not investigated in this study due to the absence of a follow-up and small sample size, but it is possible that the improvement in real-world functioning, resources of the person, psychopathological indices and neurocognition might have a favorable impact on future hospitalization 22. This hypothesis has to be tested in future studies. These preliminary results suggest the effectiveness of WSM in encouraging the recovery of patients with severe mental illness, but the absence of a follow-up and the small number of subjects does not allow a determination of the duration and the generalization of the effects. In conclusion, considering the high level of satisfaction of participants and practitioners with WSM treatment and its significant benefits for patients, we note that the implementation of the WSM treatment in the first Italian setting is feasible and promotes meaningful clinical outcomes. Our approach – using an abbreviated version of the WSM workbook in four group sessions over one month in a day hospital – seems to be sufficient to engage and benefit patients. Future research would benefit by expanding the sample size and planning a follow-up.

Conflict of interest
None.

References
9. Nuechterlein KH, Green MF, Kern RS, et al. The MATRICS consensus cognitive...
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Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. Schizophr Bull 1987;13:261-76.


Keefe RS, Fenton WS. How should DSM-V criteria for schizophrenia include cognitive impairment? Schizophr Bull 2007;33:912-20.


