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Practical Implications of Metacognitively Oriented Psychotherapy in Psychosis

Findings From a Pilot Study

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Abstract: In preparation for a multicenter randomized controlled trial, a pilot study was conducted investigating the feasibility and acceptance of a shortened version (12 vs. 40 sessions) of an individual metacognitive psychotherapy (Metacognitive Reflection and Insight Therapy [MERIT]). Twelve participants with a diagnosis of schizophrenia were offered 12 sessions of MERIT. Effect sizes were calculated for changes from baseline to treatment end for metacognitive capacity measured by the Metacognition Assessment Scale—Abbreviated. Nine of twelve patients finished treatment. However, nonsignificant moderate to large effect sizes were obtained on the primary outcome measure. This study is among the first to suggest that patients with schizophrenia will accept metacognitive therapy and evidence improvements in metacognitive capacity. Despite limitations typical to a pilot study, including a small sample size and lack of a control group, sufficient evidence of efficacy was obtained to warrant further investigation.

Key Words: Psychosis, schizophrenia, metacognition, psychotherapy, recovery
(*J Nerv Ment Dis* 2016;204: 713–716)

Metacognitive capacity is one set of psychological processes hypothesized to play a role in how well persons are able to understand and respond to psychiatric challenges (Lysaker et al., 2011). Metacognition was originally used within the educational literature and has been applied to numerous fields of study, including attachment, psychopathology, human development, and cognitive psychology. It can be understood as a spectrum of activities that range from reflection about discrete mental experiences, such as recognizing a specific thought or emotion, to the synthesis of those experiences into integrated representations of self and others as unique agents in the world (Lysaker et al., 2014a, 2014b, 2015; Lysaker and Dimaggio, 2014). Semerari et al. (2003) suggest that metacognitive activities can be distinguished from one another on the basis of their focus on the self, the others, the larger world, and the use of that knowledge to respond to psychosocial challenges. Stable deficits in metacognition have been found in early and late phases of psychotic disorders (Hamm et al., 2012; Vohs et al., 2013) and negatively affect functional outcomes (*cf.* Lysaker et al., 2015).

Accordingly, several interventions have been developed to assist persons with schizophrenia develop or recapture metacognitive

capacity. Because these are all founded on the same theoretical basis, there is a methodological overlap between methodologies including concern with narrative and intersubjective processes (*cf.* Hamm et al., 2013). Examples of these interventions can be found in case studies (*e.g.*, Buck and George, in press; Hamm and Firmin, in press; Hillis et al., 2015; Leonhardt et al., in press; Lysaker and Gumley, 2010; Lysaker et al., 2007a, 2007b; Salvatore et al., 2009; Vohs and Leonhardt, in press) and include a group approach focused on social skills training (Ottavi et al., 2014). An open trial of a comparable metacognitive approach has also been published (Bargenquast and Schweitzer, 2014). Based on these studies, a protocol-based intervention was developed by Lysaker and colleagues, named Metacognitive Reflection and Insight Therapy (MERIT) (van Donkersgoed et al., 2014). MERIT distinguishes itself from comparable interventions such as Metacognitive Interpersonal Therapy for Personality Disorder (Dimaggio et al., 2015) by its explicit recovery orientation, including its emphasis on avoiding stigma, and focus on processes rather than detailed procedures that should be present in each session.

As a precursor to a randomized controlled trial (RCT) for MERIT (van Donkersgoed et al., 2014), we have conducted a pilot study to answer four questions to prepare for an RCT. Specifically, we sought to investigate a) whether new therapists could be trained in MERIT and what the required level of posttraining supervision would be. Secondary data were gathered to b) estimate the magnitude of clinical gains and thus determine the needed sample size for an RCT, c) determine what the acceptance rate of the therapy would be, and d) determine whether the intended test battery and its administration was feasible.

Case study work (Lysaker et al., 2007a), along with clinical experience with the methodology, indicated that the first fluctuations in metacognitive capacity should not be expected in a shorter time frame than 3 months. As such, the therapy length for the purpose of this pilot study was reduced from 40 to 12 sessions.

METHODS

Therapists and Training

In order to answer our first question regarding the feasibility of training therapists in MERIT, three Dutch therapists (SJ, RD, and MP) were trained by the author of the treatment manual (PL) in a 5-day training program. Training consisted of 1 day of theoretical work, focused on the construct of metacognition and the use of the Metacognition Assessment Scale—Abbreviated (MAS-A) (Semerari et al., 2003). This knowledge was tested during a MAS-A consensus meeting the second day using “gold standard” transcripts developed specifically for the training, which are included in both the English MAS-A manual and the Dutch translation. The third, fourth, and fifth days consisted of an expansive discussion of each of the eight MERIT elements, basic casework, and role-play. Sufficient grasp of the therapy method was assessed by performance during this role-play. Throughout the study, two therapists (SJ and RD)

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conducted therapy sessions under supervision of MP. In addition, weekly supervision was conducted via (internet) telephony with PL.

Therapy Protocol: MERIT

Developed specifically for psychotic disorders, MERIT seeks to assist persons in raising metacognitive capacity through mutual reflection on patient narratives of life events. Concretely, during each session therapists follow eight basic elements. The first element is the therapists' constant awareness of the agenda of the patient. Agenda here refers to the hopes, wishes, desires plans, and purpose the patient brings to the session, both in the longer and shorter term. Patients may have multiple agendas that may continuously evolve during and between sessions (Hillis et al., 2015). The second element involves the therapists respectfully offering their reflections on patient's thoughts at appropriate moments during the session by offering to provide the participant with their thoughts, without falling into the pitfall of adopting a role or attitude that negates the patient's position. The third element involves eliciting a narrative episode, and the fourth element involves arriving at a mutually agreed upon psychological problem that the patient is facing. The fifth element of MERIT is reflection on interpersonal processes that occur in the session. Element six is reflection on the progress occurring within and between sessions, with the therapist asking participants about their experience of the session. The seventh element prescribed that interventions that stimulate reflections about the self and others are tailored to the participant's level of metacognitive functioning, as measured by the MAS-A. The eighth element prescribed that interventions that stimulate reflections about mastery are tailored to the participant's level of metacognitive functioning, as measured by the MAS-A. The eight elements, their theoretical basis (Lysaker et al., 2014a), and the study protocol for the randomized controlled trial (van Donkersgoed et al., 2014) are discussed elsewhere. The method includes the Therapist Metacognitive Adherence Scale, a method for ongoing therapist self-assessment of their adherence for all of the eight elements.

Participants

In order to answer research question 2 regarding clinical gains so as to inform the sample size required for a randomized controlled trial, and research question 3 pertaining to the acceptance rate of the therapy, 12 participants were recruited at two mental healthcare institutes in the Netherlands: GGZ Friesland and GGZ Drenthe.

Caseloads were screened for persons with a *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision*, diagnosis of schizophrenia, the ability to give informed consent, age 18 years and above, and no change in medication in the past 30 days. Participants were excluded if there was presence of acute, severe psychotic symptoms, defined as an average score of 4 or higher on items of the positive symptoms scale of the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987), and if there was mention in the electronic patient file of a comorbid neurological disorder, severe substance dependence, or an IQ of 70 or below. The case managers of the resulting patients were then asked to answer four screening questions on metacognition. These screening questions were primarily intended as a general indicator of low metacognitive function and consisted simply of a rewording of the MAS-A (Lysaker et al., 2005a) into a self-report using a 10-point scale (e.g., "Indicate to what extent the client is able to think about his/her thoughts"). Participants who presented with impaired metacognitive abilities were invited to participate. The sample was predominantly male ($n = 9$ vs. $n = 3$), with a mean age of 40.8 years (SD, 13.8 years), a median education level of vocational education, and an average estimated premorbid IQ of 105.7 (SD, 4.6).

METHODS

In order to assess clinical gains, as per research question 2, metacognition was assessed using the MAS-A. The MAS-A is an adaptation

of the original Metacognition Assessment Scale (Semerari et al., 2003) created in collaboration with that scale's authors to assess metacognition within personal narratives. The MAS-A contains four subscales: self-reflectivity, understanding the other's mind, decentration, and mastery. For each subscale, higher ratings reflect the presence of greater capacities for the formation of complex representations of the self and others. The MAS-A has consistently demonstrated good psychometric properties (Lysaker et al., 2005a, 2014b). For this study, MAS-A ratings were made pre- and posttherapy on the basis of the Indiana Psychiatric Illness Interview (IPII) (Lysaker et al., 2002). IPII interviews were conducted before and after therapy. MAS-A assessments were performed by independent raters blind to condition (pre- or posttherapy). All raters held at minimum a Bachelor's Degree in Psychology and had successfully completed a 4-hour MAS-A training session delivered by SJ and subsequently attended three consensus meetings as part of the training.

In line with our final question regarding the feasibility of the battery, additional secondary outcome measures were included. No analysis of these data will be conducted, however, given the limited sample size: symptoms (PANSS), theory of mind (Faux Pas Task; Baron-Cohen et al., 1999), insight (Beck Cognitive Insight Scale; Beck et al., 2004), empathy (Interpersonal Reactivity Index; Davis, 1983), depression (Quick Inventory of Depressive Symptomatology; Rush et al., 2003), internalized stigma (Internalized Stigma of Mental Illness; Boyd Ritsher et al., 2003), quality of life (Manchester Short Assessment of Quality of Life; Priebe et al., 1999), and social functioning (Personal and Social Performance Scale; Nasrallah et al., 2008). Furthermore, the therapist offered a general impression of functioning (Clinical Global Impression—Schizophrenia; Haro et al., 2003).

Analysis

Statistical analyses were performed using SPSS version 2.22 and G*Power 3.0. Following guidelines for a pilot study as specified by Arain et al. (2010), data gathering was performed mainly to test the study design and gain clinical impressions of the methodology and process of the trial. As such, only an effect size calculation (Cohen's d) was performed on the main outcome measure. Results on secondary outcome measures are made available upon request.

RESULTS AND DISCUSSION

This pilot study sought to examine the feasibility of a multicenter randomized controlled trial to investigate the effects of a newly developed metacognitive psychotherapy: MERIT. Our first question was to determine whether new therapists could be trained in MERIT and what levels of posttraining supervision are required. Both supervisors and therapists felt that the method had been transferred successfully. Use of the adherence measure (Therapist Metacognitive Adherence Scale) was helpful, both as a fidelity check and to guide therapists in identifying which elements of the therapy they had difficulty with and they could subsequently discuss in supervision. Pertaining to the required levels of supervision, therapists found active participation in supervision essential to their successful application of MERIT. Although weekly supervision would be an ideal, this may not be feasible in many public healthcare settings. A pragmatic consensus between supervisors and therapists was reached that bi-weekly supervision either face to face or virtually appears to be the minimum requirement.

Our second goal was to estimate the magnitude of clinical gains and thus determine the needed sample size for an RCT. The following (nonstatistically significant) effect sizes were obtained: self-reflectivity, 0.65; understanding the other's mind, 0; decentration, 0.23; and mastery, 0.58 (total, 0.85). The effect size for the total score (0.85) was entered in the program G*Power, resulting in a required sample size of 50 when $\alpha = 0.05$ and 81 when $\alpha = 0.01$ (two sided).

TABLE 1. Relevant Outcomes

	T0: Mean (SD) N = 12	T1: Mean (SD) N = 9	t	p	d
Primary outcomes					
Metacognition: self	3.375 (0.829)	3.778 (0.441)	−1.455	0.184	−0.647
Metacognition: other	2.333 (1.030)	2.333 (0.791)	0.000	1	0.000
Metacognition: decentration	1.2083 (0.689)	1.0556 (0.682)	0.603	0.563	0.225
Metacognition: mastery	2.792 (1.196)	3.444 (1.722)	−1.313	0.226	−0.575
Metacognition: total	9.409 (2.528)	10.611 (3.190)	−1.104	0.302	−0.853

In spite of the reduced length of therapy (12 vs. 40 sessions), our data, as revealed in Table 1, suggest a pattern of improvement, which is consistent with previous case studies that documented similar improvement in metacognition (e.g., Lysaker et al., 2005b, 2007a) as well as a pilot study with a comparable protocol (Bargenquast and Schweitzer, 2014). Participants' metacognitive capacity for self-reflectivity and mastery specifically appeared to improve rather swiftly, whereas understanding the other's mind and decentration lagged behind, with the latter hypothesized to only improve after improvement in the other domains. Gains in self-reflectivity indicated that, on average, participants developed the ability to distinguish between different cognitive operations and to start naming emotional experience in a nuanced manner. Gains in mastery suggest participants moved from a state in which they had virtually no ability to think about how to respond to psychological challenges other than by gross avoidance to a position in which they could use metacognitive knowledge to either seek support or selectively avoid situations that were distressing.

It is a common finding that randomized controlled trials tend to yield a smaller effect size than pilot studies preceding them. As such, for the randomized controlled trial, only an effect size of 0.5 was used ($\alpha = 0.05$, power = 0.80) instead of our obtained effect size of 0.85. Meta-analysis of 74 studies involving participants with psychotic disorders who had agreed to participate in psychosocial interventions found that with 25.58 weeks of intervention on average, 13% of participants dropped out (Villeneuve et al., 2010). Combining our more conservative estimate of an effect size of 0.5, and setting the expected dropout rate at 25%, a final sample size of 120 is set for the planned multicenter randomized controlled trial. Given the limited sample size, no further interpretation of these data was ventured.

We thirdly sought to determine at what rates patient would accept and participate in MERIT and whether the intended test battery and its administration was feasible? Here we found that the dropout was 3 (25%) of 12, which was comparable with a pilot study into metacognitive training (eight sessions; dropout, 28%) (Favrod et al., 2011). Reasons for dropping out were relocation out of the treatment area, clinical deterioration, and a patient's decision that he or she did not need the treatment. For most patients, it proved an initial challenge to understand the deviation from their experience in therapies, which were often directive and did not actively position them to direct their own recovery. Patients reported having experienced the contact as demanding but empowering. The fourth goal was to test the feasibility of the test battery. Computer administration of questionnaires proved efficient, particularly in ensuring there were no missing data. On both the Faux Pas Test as well as the Dutch National Adult Reading Test, difficulties were encountered in ensuring sufficiently similar scoring between administrators. For the randomized controlled trial, additional documentation was developed and distributed to ensure (student) raters would produce reliable scores.

In summary, results gathered from this pilot study are positive: both the methodology of the therapy protocol and the data gathering appear promising. This study, although pilot in nature, is among the first to suggest that patients with schizophrenia will accept metacognitive therapy and evidence improvements in metacognitive capacity. As such,

a randomized controlled trial is currently being performed (van Donkersgoed et al., 2014). Of note, there were limitations. Most notably, the sample size is insufficient and no control group was used. The duration of the treatment was brief, and results are needed from the ongoing trial to assess issues of dose and response. Finally, we did not assess relevant formal objective and subjective outcomes outside of metacognition, and thus, future work is needed such as the ongoing trial to better understand whether changes in metacognition translate readily into improved outcomes in general.

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DISCLOSURE

The authors declare no conflict of interest.

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