

Metacognitive Training for Delusion in Treatment-Resistant Schizophrenia: A Case Report

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Abstract

Metacognitive training for patients with schizophrenia (MCT) is a novel form of psychotherapy that aims to promote insight into the relationship between metacognitive deficits and psychotic symptoms, especially delusions. MCT has been found to be effective in reducing the delusional conviction and other positive symptoms in patients with schizophrenia. However, we are not aware of any research in which MCT has been used specifically to manage treatment-resistant schizophrenia patients. We report the case of a patient with treatment-resistant schizophrenia who responded to MCT. Her persecutory and referential delusions improved with a course of twelve sessions of therapy. Further, the improvement in delusions had a positive impact on her psychosocial functioning. A follow-up after two months of therapy revealed sustained improvement.

Key Words: Metacognitive Training, Treatment Resistant, Schizophrenia

Introduction

One of the defining criteria for a delusion is an individual's fixedness to the delusional beliefs (1). It has been argued that deficits in "metacognition" could be a part of the reasons for the rigidity of these beliefs (2). Metacognition refers to "thinking about thinking" or monitoring one's

own cognition. An impaired metacognitive capacity, therefore, will negatively affect one's ability to evaluate one's own beliefs and opinions. According to the "two-deficit" model of delusion, anomalous experiences coupled with the failure of the cognitive system that people use to generate, evaluate and adopt beliefs can be responsible for the formation of delusions, especially bizarre delusions (3, 4). Research has indicated that persons with schizophrenia may have metacognitive deficits (5, 6), which can lead to various obstacles to recovery (7, 8). Therefore, it is important that they are helped to recover and effectively use their metacognitive capacities.

Metacognitive training for patients with schizophrenia (MCT) is a novel therapeutic approach (9-11). It targets the metacognitive deficits observed in persons with schizophrenia. The primary aim of this therapy is to facilitate insight into the underlying biases in thinking and reasoning that are associated with the positive symptoms of psychoses, espe-

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cially delusions. MCT was originally developed to be used in a group setting. The group members engage in a discussion about the origin of delusional beliefs and ways to approach these beliefs in a “rational” manner. For example, an individual can develop an understanding that he is prone to draw wrong conclusions about a situation or a person due to insufficient information and learn that there needs to be flexibility in forming any opinion about events and people (10).

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A major challenge with the group MCT approach is that a therapist cannot focus on any one member’s specific delusions. As a result, the therapist may have difficulties in ascertaining whether a patient has integrated the acquired knowledge about cognitive errors in tackling his or her delusional beliefs. In this background, a variant of MCT (known as MCT plus)—meant to be used in individual therapy sessions—has recently been developed (12). Research has shown that MCT is effective in reducing the degree of delusional conviction in schizophrenia patients (11-15). We are not aware of any research concerning the efficacy of MCT in patients with treatment-resistant schizophrenia. In this context, we report the case of a patient with treatment-resistant schizophrenia who underwent MCT, and there was reduction in the delusional convictions as well as improvement in interpersonal relationships and social functioning. For this patient, the standard group setting MCT was modified for its use in individual therapy sessions.

Case Report

A 34-year-old single graduate female from an urban middle socioeconomic background presented with a ten-year history of delusion of persecution that she might be assaulted by her family members and neighbors, delusion of reference, thought broadcasting, and auditory hallucinations (second- and third-person). The patient had no significant family psychiatric history and she was premorbidly well adjusted. Her mother had diabetes mellitus and cardiomegaly, and her father had hypertension.

A DSM-IV diagnosis of Paranoid Schizophrenia was formulated and she was started on risperidone (4 mg/day), which was increased up to 10 mg/day over the next eight months. She showed some improvement in her symptoms of thought broadcast and auditory hallucinations, but the delu-

sions of persecution and reference, involving her family and neighbors, persisted. These persecutory beliefs remained stable despite treatment with another antipsychotic medication, olanzapine (up to a dose of 30 mg/day) for a period of five months. In view of a poor response to two antipsychotic trials, she was hospitalized and started on clozapine (up to 400 mg/day). She also received a total of fifteen treatments with modified (bi-frontal) electroconvulsive therapy (ECT) in view of her persistent symptoms and significant agitation. A standard protocol of ECT was followed, and the stimuli parameters included brief-pulse square-wave stimulation with constant current at 800 mA, 125 bidirectional pulses per second with pulse width of 1.5 milliseconds; duration of train was altered to adjust the stimulus dose. The supra-threshold stimulus dose was 180 millcoulombs.

After six months of clozapine treatment, she developed myoclonic jerks and an episode of generalized tonic-clonic seizure. As a result, clozapine was discontinued. Subsequently, she was put on oral haloperidol (starting at 10 mg/day, up to 30 mg/day), along with restarting of ECT, initially thrice weekly and then maintenance at a frequency of twice per week. ECT had to be subsequently discontinued, as she developed cognitive dysfunctions in the form of impaired immediate memory and verbal recall. Given the severity of her symptoms, she was restarted on clozapine (titrated up to 500 mg/day) along with divalproex sodium (1 gram/day) and haloperidol (10 mg/day). As there was no significant improvement with this combination, during the course of the next two and a half years clozapine was augmented with ziprasidone (160 mg/day for eight months) and injection haloperidol decanoate (50–100 mg monthly). However, she continued to have persecutory beliefs that people had ill intentions toward her, and that she might be assaulted. She also continued to believe that people said negative things about her which she thought she could decipher from their gestures and postures. She remained fearful and agitated, and often acted out on these beliefs by picking fights with people who she thought were responsible for her difficulties.

At this point, psychotherapy was started using the MCT format. The severity of her psychopathology was assessed with the Positive and Negative Syndrome Scale (PANSS) (16) and the Brown’s Assessment of Beliefs Scale (BABS) (17). The latter was administered to assess her conviction concerning her ideas and the possibility of her accepting alternative explanations. She scored 22 on positive symptoms, 11 on negative symptoms and 31 on the general psychopathology scales of the PANSS, and scored 19 on the BABS (from a total possible score of 24).

The MCT was conducted within the broad cognitive behavioral therapy for psychosis framework and specific

MCT modules were used to facilitate discussions between the patient and the therapist. A total of twelve therapy sessions, each lasting for 45–50 minutes spread over a period of two months, was conducted. Therapy started with efforts to establish rapport with the patient. The therapist took a non-judgmental approach, so that the patient felt neither confronted nor validated regarding her beliefs. Initially, the patient was hesitant to discuss her beliefs, but when she understood that discussing the issues related to beliefs did not necessarily mean that one was right or wrong, she became more forthcoming. The next few sessions were targeted toward facilitating her insight into cognitive mechanisms of delusion formation. In this phase, MCT interactive modules helped her understand how jumping to conclusions without proper evidence could lead to a greater possibility of arriving at a wrong or premature conclusion, how one-sided causal explanations of an event might lead to faulty attributions, why there was a need for understanding the whole context of an event before forming any opinion about the event, how emotions could be misinterpreted, how memory for an event could get distorted, and so forth.

The observed reduction in hostility, improvement in social interactions, and interest in various activities indicate that the benefits of MCT are not restricted to improvement in psychopathology alone.

Once she gained some understanding of these issues, the therapist gently inquired if she could relate these errors in thinking to some of her own experiences and beliefs, and whether there was a need for discussing them. Once she agreed to further explore her own experiences and thinking, the therapist then directed the discussions toward finding evidences for her beliefs, chances of misattribution of certain events, faulty causal inferences, and premature jumping to conclusions. She gradually started to identify the gaps in her beliefs and the need to question them. She was also encouraged to maintain a thought diary to monitor the occurrences of her thoughts about being persecuted, disconfirmatory or alternative cognitions she could generate, and how she felt about them. With this approach, her conviction in the beliefs started decreasing and she started questioning her paranoid cognitions by generating possible realistic counter thoughts.

Her inclination to counter delusional beliefs is reflected in an incident she narrated in a session. She said she had seen one of her neighbors standing in the corridor of an

apartment building talking to someone the previous day, and during the conversation the neighbor had also looked toward the patient once or twice. She initially felt that this neighbor was talking about her, but she was able to immediately consider an alternate possibility—that she could be misinterpreting the situation, and that it was possible that they were talking about something else. She was able to convince herself that she did not need to think the neighbor was talking about her just because she had looked toward her. These changes in her thinking started to reflect in her behavior as well. Her hostility toward the family members and neighbors decreased, and the quality of her interactions improved. She started showing an interest in getting involved in other social and volunteering activities, and began to help one of her relatives in the school she was running. Additionally, she expressed a desire to enroll in a computer course. As she had reported difficulties in concentration and memory, she was given some cognitive remediation tasks to routinely practice. When the patient came for follow-up after two months of the therapy, both she and her family reported satisfaction about her progress and noted that her improvements had been sustained. The PANSS and BABS were re-administered at this follow-up and she scored lower on all the scales (PANSS positive symptom scale: 10; PANSS negative symptom scale: 9; PANSS general psychopathology scale: 14; BABS total: 12, with conviction on beliefs score: 2).

Discussion

MCT is an intervention program in which patients with schizophrenia are guided through a discussion about the cognitive errors that can contribute to the genesis and maintenance of delusional beliefs, based on the extensive body of cognitive psychology literature on this topic. This information is presented along with vignettes on the need and ways for developing alternative perspectives about an event, person or situation. The present report highlights the beneficial effect of the use of MCT modules and principles in an individual therapy setting. The observed reduction in hostility, improvement in social interactions, and interest in various activities indicate that the benefits of MCT are not restricted to improvement in psychopathology alone. It is worth mentioning that a score of 12 on the BABS on the follow-up assessment indicates that the patient's conviction in her delusional beliefs had not completely disappeared and that she did not fully accept the ideas that challenged her delusional beliefs. However, the observed reduction in her delusional conviction and the onset of positive behavioral changes (as manifested by improved interpersonal interaction and interest in other activities) points to a greater willingness to engage in challenging her beliefs and changing her behaviors. This observation was supported by the fact that the improve-

ments in her level of functioning were maintained even two months after the therapy, without further contact with the therapist.

This case report highlights the possible role of MCT in the treatment of refractory delusions in patients with treatment-resistant schizophrenia. Further, it underscores the fact that in a debilitating illness like schizophrenia there is need for a comprehensive approach to treatment. In fact, there are other similar non-pharmacological interventions (such as Social Cognition and Interaction Training [SCIT] that target social cognitions, social functioning and so forth) (18-20). These therapeutic techniques, either in combination with MCT or alone, need to be considered to improve the overall functioning of the patients with treatment-resistant schizophrenia.

A relatively short duration of follow-up limits the generalizability of the findings. Studies with larger sample size would be needed to validate the findings. Another limitation of the study is that no formal assessment tool was used to assess the social functioning of the patient. Last, but not least, it is important to consider a possible synergistic interaction between medications and MCT in contributing to the observed positive outcome.

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