

## LETTER TO THE EDITOR

# The implementation of cognitive behavioural therapy for psychosis (CBTp) in a forensic setting: lessons learned and future directions

Kyrsten M. Grimes<sup>1</sup>, Peter Sheridan<sup>2</sup>

<sup>1</sup> *University of Toronto Scarborough, Department of Psychological Clinical Science, Toronto, Canada*

<sup>2</sup> *St. Joseph's Healthcare Hamilton, Forensic Psychiatry Program, Hamilton, Canada*

*Dear Editor,*

Schizophrenia is a debilitating psychotic illness that affects approximately 1% of the population. Within the Canadian forensic psychiatric system, patients are detained under a provincial Review Board after being found not criminally responsible (NCR) on account of a mental disorder. Here, the prevalence rate of schizophrenia is 53% [1]. Even with the use of psychotropic medication, it is estimated that approximately only 25% of patients fully recover from the illness [2]. The presence of active psychotic symptoms increases the risk of violent behaviour [3]. Thus, psychological interventions have been developed to be employed in conjunction with medication to assist in managing or even reducing symptomatology.

It is well established that schizophrenia is associated with deficits in metacognition. This refers to cognitive abilities that allow individuals to think about their own thinking. Patients with schizophrenia have a greater tendency to jump to conclusions [4-6], be more resistant to changing their beliefs when presented with disconfirmatory evidence [7-9], and have difficulty interpreting and understanding other people's mental states [10,11]. These deficits are thought to contribute to the development of positive symptomatology [12-15]. Thus, addressing the role these beliefs play in the development of hallucinations and delusions may lead to changes in the ways patients think about their symptoms and perhaps even lead to a reduction in the symptoms themselves.

Cognitive behavioural therapy for psychosis (CBTp) is a widely implemented psychological intervention for the treatment of schizophrenia-spectrum disorders. The primary goal of CBTp is to assist patients in objectively evaluating their delusional beliefs and hallucinatory experiences. This allows patients to think about their experiences more flexibly so that they may attribute them to symptoms of their illness, rather than maintaining the belief that these experiences are true depictions of reality [16]. Meta-analytic studies have found that CBTp is effective in reducing positive symptomatology, with small to medium effect sizes [17].

### Implications for forensic settings

Numerous protocols have been established for delivering CBTp [16,18,19]. Given the prevalence of schizophrenia within forensic settings, it is important to establish the validity of these protocols within this context. Forensic settings introduce a host of challenges that make the implementation of CBTp more difficult. Schizophrenia is associated with neurocognitive deficits [20], but some research suggests that violent patients with schizophrenia present with greater neurocognitive impairments than do non-violent patients with schizophrenia. O'Reilly et al. compared violent and non-violent forensic inpatients with schizophrenia. Violent patients performed more poorly than did non-violent patients on various measures of neurocognition, with moderate to large effect sizes. These findings suggest that forensic patients with schizophrenia with a history of violence may have more severe neurocognitive deficits than do those without a history of violence [21]. This is particularly relevant when working with pa-

tients who have been found NCR, as the offenses are often violent in nature.

In addition to the above, comorbidity is quite common in this population, including co-occurring personality disorders and substance use disorders [1]. There is evidence to suggest that personality disorders are associated with deficits in metacognition [22,23], though there are conflicting findings [24,25]. Thus, patients with comorbid schizophrenia and a personality disorder may be particularly impaired in metacognition when compared to patients with schizophrenia alone.

Taken together, forensic patients may not only have greater difficulty understanding the material taught in CBTp but also experience more severe deficits in metacognition than do general psychiatric patients. It is possible that forensic patients may be less responsive to CBTp because of these factors, highlighting the need for further research in this area.

### **Adapting CBTp for forensic settings**

As part of the Forensic Psychiatry Program at St. Joseph's Healthcare Hamilton, we implemented an 11-week, group CBTp protocol for inpatients and outpatients found NCR. In order to be referred to this group, patients must have a primary diagnosis of a psychotic disorder or have exhibited positive symptoms either in the past or currently. The protocol was based on the CBTp manual authored by Wright et al. but adapted for an 11-week, group format [26]. Topics covered included identification of values and what interferes with accomplishing valued goals, psychoeducation about psychosis and conceptualizing the development of mental illness, emotion regulation, managing negative symptoms (with a focus on behavioural activation), coping with distressing thoughts and delusional beliefs, and coping with hearing voices.

The following adaptations were made. The number of sessions dedicated to each topic was reduced. While it would have been undoubtedly beneficial to spend more time on individual topics, this needed to be balanced with the patients' tolerance for the duration of the group. The case

conceptualization stage was significantly simplified by structuring these sessions according to the Metacognitive Training Program (MCT) to accommodate a group-level format [27]. Lastly, a greater amount of time was dedicated to teaching the CBT model than what was originally recommended in the manual.

Patients were generally open and receptive to the content and provided positive feedback about the group at its completion. The primary reason for drop-out was decompensation and low motivation to engage in treatment.

### **Lessons learned**

After the implementation of the group, there are a number of recommendations that can be made. Firstly, it is recommended that the structure of the group be modified. The first half of the group focused on fundamental concepts (e.g., psychoeducation, emotion regulation, thinking styles) and did not specifically address managing psychotic symptoms. This led to confusion among patients as to the overarching purpose of the group. Further, to reduce the number of sessions, less time was spent on these fundamental topics than was needed. Patients had difficulty understanding the content, which affected their ability to understand the material taught in later sessions that built on these concepts.

Given the above limitations, it is recommended that CBTp be offered in two parts. Part one would consist of more general concepts taught in CBT, including psychoeducation about illness, emotion regulation, the roles of fear and avoidance, and problematic thinking styles. Part two would consist of concepts specific to CBTp, whereby patients use the knowledge and skills obtained in part one and apply them to managing their positive and negative symptoms, such as disputing delusional beliefs, coping with voices, and increasing behavioural activation. Additionally, addressing values and how symptoms interfere with valued goals would be better addressed in part two, when patients have a greater understanding of what their symptoms are.

Dividing the material in this way offers several advantages over the original format. First, the purposes of the groups will be clearer to the patients: Part one would focus on understanding and managing one's illness and improving cognitive flexibility, while part two would emphasize managing specific symptoms. This also allows for a greater amount of time to be allocated to each topic without overwhelming the patients, which may lead to a greater understanding of the content and more therapeutic gains. Additionally, this format may aid in retaining those who have low motivation for treatment, as the goals of the group would be clearer.

In addition to this structural change, there are several general changes that are recommended. The vocabulary and concepts taught in the group need to be simplified, as patients had difficulty understanding the material. It may be helpful to teach patients about problematic thinking styles in a more explicit format. Recent research into psychosocial interventions for schizophrenia has become increasingly focused on targeting cognitive biases, rather than symptoms directly. MCT, a standardized protocol designed to be delivered in individual and group formats, teaches patients to become more aware of and correct cognitive biases [27]. Findings generally support that MCT reduces cognitive biases, but there are mixed findings with respect to its effect on symptomatology [28-32]. Thus, it may be effective to have patients first complete MCT followed by CBTp, which may lead to a greater reduction in both cognitive biases and symptomatology.

There are several limitations that are important to highlight. Because this was not a clinical trial or formal program evaluation, patient characteristics were not collected for the purpose of analysis. As a result, it cannot be stated definitively that the patients who participated in this group exhibited the same clinical characteristics described in previous research with forensic psychiatric samples (e.g., comorbid diagnoses, neurocognitive deficits). As such, it is possible that the above recommendations are beneficial in both forensic and non-forensic settings. Indeed, any adaptations that improve patients' abilities to understand the material are likely to be effective regardless of the setting. Additionally, clinical outcomes were not measured, and there was no comparison group. As a result, statements regarding treatment efficacy cannot be made. Rather, the purpose of this paper was to conduct a qualitative evaluation of the CBTp program offered at SJHH.

In conclusion, it is feasible to implement CBTp in a forensic setting. Several adaptations need to be made to accommodate this population's level of functioning, motivation, and tolerance for psychosocial interventions, however. Future research should consider delivering CBTp using a phased process, whereby patients first learn fundamental concepts associated with CBT more generally, which can later be followed by strategies that address specific symptoms of psychosis.

## References

1. Latimer J, Lawrence A. *The Review Board Systems in Canada: Overview of Results from the Mentally Disordered Accused Data Collection Study*. Ottawa, Canada: Department of Justice Canada; 2006.
2. Langlois KA, Samokhvalov AV, Rehm J. *Health State Descriptions for Canadians: Mental Illnesses*. Ottawa, Ontario, Canada: Statistics Canada; 2012.
3. Monahan J, Steadman HJ, Silver E, Appelbaum PS, Robbins PC, Mulvey EP, et al. *Rethinking Risk Assessment: The MacArthur Study of Mental Disorder and Violence*. New York, NY: Oxford University Press; 2001.
4. Falcone MA, Murray RM, Wiffen BDR, O'Connor JA, Russo M, Koliakou A, et al. Jumping to conclusions, neuropsychological functioning, and delusional beliefs in first episode psychosis. *Schizophr Bull* 2015;41(2):411-18.
5. Krug A, Cabanis M, Pyka M, Pauly K, Kellermann T, Walter H, et al. Attenuated prefrontal activation during decision-making under uncertainty in schizophrenia: a multi-center fMRI study. *Schizophr Res* 2014;152(1):176-83.

6. Moritz S, Balzan RP, Bohn F, Veckenstedt R, Kolbeck K, Bierbrodt J, et al. Subjective versus objective cognition: evidence for poor metacognitive monitoring in schizophrenia. *Schizophr Res* 2016;178(1-3):74-9.
7. Balzan R, Delfabbro P, Galletly C, Woodward T. Confirmation biases across the psychosis continuum: the contribution of hypersalient evidence-hypothesis matches. *British J Clin Psychol* 2013;52(1):53-69.
8. Riccaboni R, Fresi F, Bosia M, Buonocore M, Leiba N, Smeraldi E, et al. Patterns of evidence integration in schizophrenia and delusion. *Psychiatry Res* 2012;200(2-3):108-14.
9. Moritz S, Veckenstedt R, Hottenrott B, Woodward TS, Randjbar S, Lincoln TM. Different sides of the same coin? Intercorrelations of cognitive biases in schizophrenia. *Cogn Neuro-psychiatry* 2010;15(4):406-21.
10. Savla GN, Vella L, Armstrong CC, Penn DL, Twamley EW. Deficits in domains of social cognition in schizophrenia: A meta-analysis of the empirical evidence. *Schizophr Bull* 2013;39(5):979-92.
11. Mehta UM, Thirthalli J, Naveen Kumar C, Keshav Kumar J, Keshavan MS, Gangadhar BN. Schizophrenia patients experience substantial social cognition deficits across multiple domains in remission. *Asian J Psychiatry* 2013;6(4):324.
12. Freeman D, Startup H, Dunn G, Černis E, Wingham G, Pugh K, et al. The interaction of affective with psychotic processes: a test of the effects of worrying on working memory, jumping to conclusions, and anomalies of experience in patients with persecutory delusions. *J Psych Res* 2013;47(12):1837-42.
13. Juárez-Ramos V, Rubio JL, Delpero C, Mioni G, Stablum F, Gómez-Milán E. Jumping to conclusions bias, BADE and feedback sensitivity in schizophrenia and schizotypy. *Conscious Cogn* 2014;26:133-44.
14. Brookwell ML, Bentall RP, Varese F. Externalizing biases and hallucinations in source-monitoring, self-monitoring and signal detection studies: a meta-analytic review. *Psychol Med* 2013;43(12):2465.
15. Catalan A, Simons CJP, Bustamante S, Olazabal N, Ruiz E, Gonzalez de Artaza M, et al. Data gathering bias: trait vulnerability to psychotic symptoms? *PLoS One* 2015;10(7): e0132442.
16. Kingdon DG, Turkington D. *Cognitive Therapy of Schizophrenia: Guide to Individualized Evidence-Based Treatment*. New York, Guilford; 2005.
17. Jauhar S, McKenna PJ, Radu J, Fung E, Salvador R, Laws KR. Cognitive-behavioral therapy for the symptoms of schizophrenia: a systematic review and meta-analysis with examination of potential bias. *Br J Psychiatry* 2014;204:20-9.
18. Chadwick PDJ, Birchwood M, Trower P. *Cognitive Therapy for Delusions, Voices and Paranoia*. New York: Wiley; 1996.
19. Fowler D, Garety P, Kuipers E. *Cognitive Behavior Therapy for Psychosis: Theory and Practice*. New York, Wiley; 1995.
20. Heinrichs RW, Zakzanis KK. Neurocognitive deficit in schizophrenia: A quantitative review of the evidence. *Neuropsychology* 1998;12(3):426-45.
21. O'Reilly K, Donohoe G, Coyle C, O'Sullivan D, Rowe A, Losty M, et al. Prospective cohort study of the relationship between neurocognition, social cognition and violence in forensic patients with schizophrenia and schizoaffective disorder. *BMC Psychiatry* 2015;15(1):155.
22. Jusyte A, Schönenberg M. Impaired social cognition in violent offenders: Perceptual deficit or cognitive bias? *Eur Arch Psy Clin N* 2016;267(3):257.
23. Moritz S, Schilling L, Wingenfeld K, Kother U, Wittekind C, Terfehr K, et al. Psychotic-like cognitive biases in borderline personality disorder. *J Behav Ther Exp Psychiatry* 2011;42(3):349-54.
24. Harris ST, Picchioni MM. A review of the role of empathy in violence risk in mental disorders. *Aggress Violent Behav* 2013;18(2):335-42.
25. Shamay-Tsoory SG, Harari H, Aharon-Peretz J, Levkovitz Y. The role of the orbitofrontal cortex in affective theory of mind deficits in criminal offenders with psychopathic tendencies. *Cortex* 2010;46(5):668-77.
26. Wright NP, Turkington D, Kelly OP, Davies D, Jacobs AM, Hopton J, et al. *Treating Psychosis: A Clinician's Guide to Integrating Acceptance and Commitment Therapy, Compassion-Focused Therapy, and Mindfulness Approaches within the Cognitive Behavioral Therapy Tradition*. Oakland, CA: New Harbinger Publications; 2014.
27. Moritz S, Woodward TS, Hauschildt M, Metacognition Study Group. *Metacognitive Training for Psychosis (Version 6.2)*. VanHam Campus Press; 2015.
28. Aghotor J, Pfueller U, Moritz S, Weisbrod M, Roesch-Ely D. Metacognitive training for patients with schizophrenia (MCT): Feasibility and preliminary evidence for its efficacy. *J Behav Ther Exp Psychiatry* 2010;41(3):207-11.
29. Ochoa S, López-Carrilero R, Barrigón ML, Pousa E, Barajas A, Lorente-Rovira E, et al. Randomized control trial to assess the efficacy of metacognitive training compared with a psycho-educational group in people with a recent-onset psychosis. *Psychol Med* 2017;1-12.
30. Buonocore M, Bosia M, Riccaboni R, Bechi M, Spangaro M, Piantanida M, et al. Combined

neurocognitive and metacognitive rehabilitation in schizophrenia: effects on bias against disconfirmatory evidence. *Eur Psychiatry* 2015; 30(5):615-21.

31. Moritz S, Kerstan A, Veckenstedt R, Randjbar S, Vitzthum F, Schmidt C, et al. Further evidence for the efficacy of a metacognitive group training in schizophrenia. *Behav Res Therapy* 2011;49(3):151-7.
32. Rocha NBF, Queirós C. Metacognitive and social cognition training (MSCT) in schizophrenia: a preliminary efficacy study. *Schizophr Res* 2013;150(1):64-8.

*Corresponding author*

Kyrsten Grimes, Department of Psychological Clinical Science, University of Toronto Scarborough, 1265 Military Trail, Toronto, ON M1C 1A4, Canada - email: [kyrsten.grimes@mail.utoronto.ca](mailto:kyrsten.grimes@mail.utoronto.ca)