

# Cognitive Behavioural Therapy for Obsessive Compulsive Symptoms Affected by Past Psychotic Experience of Schizophrenia: A Case Report

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**Abstract.** Obsessive-compulsive symptoms (OCS) have been observed in a substantial proportion of patients with schizophrenia. Although several studies have investigated the comorbidity associated with OCS in schizophrenia, few case studies are available regarding cognitive behavioural therapy (CBT) for the treatment of OCS of patients within this group. This paper describes a case report in which OCS emerged gradually after the remission of positive symptoms of schizophrenia. The CBT involved psycho education and case formulation, cognitive restructuring, exposure and response prevention (EPR), and behavioural experiments. Improvement in the compulsive behaviours led to a greater insight regarding the relationship between OCS and past experience of positive symptoms (e.g. hallucinations). The cognitive characteristics of the patient were discussed in light of current cognitive models of OCD.

*Keywords:* Obsessive-compulsive disorder, schizophrenia, cognitive behavioural therapy.

## Introduction

Obsessive-compulsive symptoms (OCS) have been observed in a substantial proportion of patients with schizophrenia. Approximately one-third of the patients with schizophrenia manifest OCS, and 10–25% of patients with schizophrenia fulfil the diagnostic criteria for obsessive-compulsive disorder (e.g. Lysker, Kriscinda and Davis, 2006). It has been suggested that these patients may have a subtype of schizophrenia with distinct psychophysiology,

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treatment response, and clinical course. However, few case reports are available regarding cognitive behavioural therapy (CBT) for the treatment of OCS in patients with schizophrenia. The present study shows a case study involving the application of CBT for OCS that gradually developed after the remission of the positive symptoms of schizophrenia. We employed CBT as the patient did not improve in OCS through medication.

CBT involved a 50-minute individual therapy including the measurement of Yale-Brown Obsessive Compulsive Scale (YBOCS; Goodman et al., 1989). Nineteen sessions were conducted on a weekly basis and within hospital premises and, as standard in CBT, between-session homework was collaboratively designed.

## Case presentation

### *Patient profile*

The patient was a 26-year-old male who developed schizophrenia when he was 20 years old. In the acute phase, he had not only visual and auditory hallucinations, but also insertion of thoughts. As his positive symptoms improved through medication, checking compulsions gradually emerged. In addition to repeated checking, he sought reassurance. His obsessive-compulsive problem had prevented him from holding onto a job or attending school and community programs. Medication (fluvoxamine 150 mg, lorazepam 1.5 mg, risperidone 2 mg, and quetiapine 100 mg) was at a stable dose prior to and throughout CBT sessions.

### *Psycho-education of the CBT model of OCD and formulation*

The patient was first given the psycho-education according to cognitive behavioural theory and the model for OCD. Next, he was asked to make a list of the things that took much of his time. He listed situations such as: (1) Checking whether the tap is turned off properly; (2) Checking whether the door of the fridge is fully closed; (3) Checking whether the cap of the plastic bottle is fully closed; (4) Checking whether the cap of the electric shaver is on; (5) Checking whether the towel is falling off the towel bar; (6) Checking whether things are falling off the table; (7) Checking whether something has been left on the table or floor.

Finally, both the therapist and the patient collaboratively developed his case formulation based on his experience. That is, when he experienced intrusive thoughts such as "I'm not sure that things were completed or done", his beliefs (overestimation of that and intolerance of uncertainty) were activated, and he interpreted that it was very bad and unbearable to leave things uncertain. This interpretation led him to discomfort, checking, and reassurance seeking. These behaviours in turn reinforced his beliefs, depriving him of disconfirmation.

### *Cognitive restructuring and behavioural experiments*

Cognitive restructuring and behavioural experiments were applied to situations that took up much of his time, and exposure and response prevention was designed as homework. This study presents three situations in detail.

*Tap.* When he felt a strong urge to check the tap repeatedly, he typically interpreted the situation in the following way: (1) He felt uncertain whether the tap was turned off adequately; (2) He thought that the sink would be filled with water and that the water would overflow onto the floor; (3) He also thought that running water would cost a lot of money overnight. In

order to challenge his beliefs, we examined the probability and awfulness of his worry through discussion and behavioural experiment.

As he did not know how the tap closes, we illustrated how it turns off. He understood that the tap does not turn on by itself once it is closed, and that little water would flow when the tap was not turned adequately. Next, we went to the sink, left the tap open, and examined if the water overflows onto the floor. Finally, he was instructed to leave the tap slightly on as if left on accidentally, and the water was collected into a vessel. The total quantity of water in the vessel was examined, and we estimated the overnight cost of wasting water. These behavioural experiments led him to alternative explanations: (1) Water would never overflow onto the floor; (2) It would not cost a fortune even if he accidentally left the tap slightly on; (3) He need not check the tap repeatedly.

*Door.* When he felt a strong urge to check the door of the fridge, he typically employed the following interpretation and reassurance seeking: (1) He felt uncertain whether the door was properly closed, which he considered unbearable; (2) He thought it would be very bad to leave the door open; (3) He repeatedly slammed the door so that he could hear the closing sound; (4) He also sought reassurance from his mother.

In order to challenge his beliefs, we examined the probability and awfulness of his worry through discussion and behavioural experiment. First, we discussed how doors close. As he didn't know how the door closes, we placed paper clips close to the door of the fridge to show that the clips stick to the door. The patient learned that the inside of a fridge has a magnet that causes the door to close even if it is left slightly open. He also learned that the door never opens by itself once closed. These practical demonstrations led him to alternative explanations: (1) Doors never open once they are closed; (2) It would not be bad even if doors are slightly open; (3) There was no need to seek reassurance.

*Things on the table.* With regard to his worry that things might fall off the table, we gave him a basic lecture on physics (e.g. gravity, friction) to illustrate how things remained in their original position, and that they would not move without the application of an external power. The patient learned how unlikely it is that things fall down and, even if they do, it is not disastrous.

When we asked how he felt that something is left on the table, he told us that he felt as though something like a marble could have been left on the table. Then he remembered that he had seen something twinkling, and he had had strange thought insertions during the acute phase of schizophrenia. He believed that these experiences made him less confident about his perception, judgment, and memory. Then we added the relationship between his past psychotic episode and his belief (need for certainty) to his formulation.

In order to prove his perception, judgement and memory were not impaired, the therapists customized and performed simple visual tests and calculations. This insight led him to a better understanding of his problem, and it seemed to the therapist that the patient's strong desire for certainty had been modified.

## Results

Over 18 sessions, the patient's Y-BOCS score decreased from 31 to 11. There was no deterioration with regard to schizophrenia and OCD symptoms during the CBT sessions; at 2 years follow-up, he has had no relapse.

## Discussion

The present study showed a case study of CBT for treatment of OCS that gradually developed after the remission of positive symptoms of schizophrenia. The cognitive restructuring and behavioural experiments were intended to challenge his beliefs; intolerance of uncertainty and overestimation of threat. His beliefs were modified through examination of how likely his worry would happen (probability) and how awful if it did happen (awfulness). As a result, his intrusive thoughts were no longer distressing and repetitive, and there was no need for him to check and seek reassurance. In addition, CBT led the patient to have greater insight into the relationship between OCS and his past experience of positive symptoms of schizophrenia. This insight helped both therapists and the patient to work on his problem more effectively.

Through cognitive restructuring and behavioural experiments, therapists provided information to the patient, most of which he had been unaware of. The information was new to him, possibly due to the “lack of real world knowledge” (Kingdon and Turkington, 1994). Patients with schizophrenia sometimes miss the chance to know something they would otherwise learn through day-to-day living, because of the long hospitalization and withdrawal from daily routine. However, careful attention needs to be paid so as not to provide reassurance when patients repeatedly ask the same question.

Memory phenomena associated with OCD have received much attention in recent literature. It is proposed that the more they check, the less vivid and detailed the memory becomes (e.g. Radomsky, Gilchrist and Dussault, 2006), as quality of the memory changes from something more episodic (i.e. “remembering”) to something more semantic (i.e. “knowing”). The patient also seemed uncertain about his memory, as repeated checking was decreasing the vividness and detail of his memory. However, his decreased confidence with regard to his perceptions, judgement, and memory was also caused by the experience of positive symptoms of schizophrenia, suggesting the possibility that his memory was impaired during the acute phase of schizophrenia. Therefore the visual test and calculations had to be performed to prove his cognitive functions were recovered, otherwise he would have been unsure of his memory, even if he stopped checking and his memory remained vivid and detailed. We therefore need to be careful to perform such visual test and calculations as it can be used as a reassurance if the memory function of the patient is normal.

According to the elevated evidence requirement model (EER; Wahl and Salkovskis, 2008), patients with OCD use greater numbers of criteria in the decision to stop their actions, and they consider subjective criteria (e.g. feeling “just right” or satisfied) as more important than objective criteria (e.g. whether the door looks as if it were locked). The patient of this study repeatedly slammed doors and windows so that he could hear the loud sound. This can be interpreted that he tried to use a greater number of objective criteria until his subjective criteria were met. Additionally, he was trying to make objective criteria were *certainly* met by amplifying his sensory perception, partly because he was unconfident of his perceptions, judgement, and memory.

The present study has certain limitations and several important future directions. First, since we were unable to obtain the baseline data, it was not completely clear that the improvement was due to CBT. Second, we were unable to obtain data other than that of Y-BOCS. The rating of anxiety, depression and faulty beliefs would be helpful for further understanding of the case. Finally, since the study was limited to the stable schizophrenia outpatient, an understanding regarding the obsessive-compulsive problems in the acute phase of schizophrenia remain

unclear. In conclusion, the present study shows a case study of CBT for treatment of obsessive-compulsive problem affected by the past experience of positive symptoms of schizophrenia.

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