

Cognitive-behavioural Therapy of Psychosis: an Overview and 3 Case Studies From Hong Kong

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Abstract

This article reviews the current evidence regarding cognitive-behavioural therapy for psychosis. There is promising evidence that cognitive-behavioural therapy is an effective treatment option in reducing psychotic symptoms in medication-resistant schizophrenia. However, there is less evidence for its effectiveness in first-episode psychosis. Three case studies are presented to illustrate some of the techniques that could be applied to cognitive-behavioural therapy for psychosis in Hong Kong Chinese psychotic patients. We conclude that more rigorous local research in this field is urgently needed before its widespread adoption in Hong Kong.

Key words: Cognitive therapy; Hong Kong; Psychotic disorders, Schizophrenia, Case report

Background

Psychoanalysis was used as the mainstay of treatment of schizophrenia in asylum patients, until the 1950s, when a sudden change in the prevailing attitude about the treatment of schizophrenia saw the introduction of electro-convulsive therapy and chlorpromazine into clinical practice. The biological predominance in the treatment of schizophrenia was consolidated with the results of the Boston Psychotherapy Study, which contrasted 2 forms of psychotherapy — supportive and investigative — and found no advantage for either.¹

However, during the past decade, there has been a resurgence of interest in the psychological management of schizophrenia. Some treatment strategies aim to reduce distress or intensity of resistant psychotic symptoms (cognitive-behavioural treatment), while others focus on relapse prevention (family intervention, personal therapy). In a recent meta-analysis of 106 studies, psychosocial treatment of schizophrenia had an effect size of 0.39 [95% confidence interval, 0.32 to 0.44], meaning that a typical patient in the experimental group was better off than 65% of control patients.² Control patients in the meta-analysis were those not receiving any psychosocial intervention.

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Submitted: 29 August 2002; **Accepted:** 21 February 2003

Relapse frequencies were also 20% lower for patients who received psychosocial treatment in addition to standard treatment compared with standard treatment alone.

Cognitive Therapy for Psychosis

Collaborative Empiricism

Beck reported use of cognitive strategies in challenging beliefs in his deluded patients in the 1950s,³ however, this was not pursued as his mainstream interest. It was not until recently that interest revived in the use of cognitive-behavioural strategies in the treatment of psychosis. According to Alford and Beck, cognitive therapy for delusion is similar to cognitive therapy for depressive disorders in emphasising collaborative empiricism and development of therapist-patient trusting relationship.⁴ They also discussed the importance of challenging the validity of delusional beliefs and behavioural experiments.

Challenging of Delusions

Lowe and Chadwick used belief modification and reality testing to challenge delusions.⁵ Belief modification and reality testing involve helping patients to sensitively question the evidence underlying their beliefs and to set up behavioural experiments to test the reality of the evidence for their beliefs. Socratic questioning is used to gather contradictory evidence. This technique has to be used in a collaborative relationship as confrontation per se increases conviction in delusional beliefs.⁶

Normalisation Strategy

Kingdon and Turkington⁷ argued that, as psychotic symptoms could be found in healthy persons⁸ and psychotic symptoms could be induced in healthy people in states of sensory deprivation, normalising techniques could be employed to

reduce the sense of helplessness and stigmatisation in psychotic patients. Fowler et al also advocate such a normalising approach.⁹ Reducing hopelessness and demoralisation is important as both have been found to be associated with suicidal attempts in patients suffering from schizophrenia.¹⁰

Strengthening Coping Strategies to Psychotic Symptoms

Tarrier et al introduced ‘coping strategy enhancement’ (CSE) as a cognitive-behavioural intervention for identifying and strengthening current effective coping strategies of psychotic symptoms as well as teaching additional effective coping strategies.¹¹ The effects of CSE are relatively short term and last for about 3 months. Fowler et al also emphasised the importance of active participation of the individual in effective strategies for regulation of their relapse risk and social disability, apart from reducing distress of delusion and modifying dysfunctional schemas.⁹

Coping with Voices

Kingdon and Turkington used rational responding, a technique that involves helping the patient to accurately identify the content of their voices and associated cognition, to generate alternative cognitive responses.¹² Diaries can be used to identify thought content and to prompt patients to generate appropriate responses. Chadwick et al emphasised the importance of the analysis of the ‘ABC’ (antecedents, beliefs, and consequences) of voices as a guide to treatment targets.¹³ They argued that voices could be seen as an activating event/antecedent (A), so that it was the belief (B) about the voices that led to distress as an emotional consequence (C). Voices were classified according to the omnipotent and malevolent nature of the voice content.¹³ Omnipotent but malevolent voices would lead to fear, anxiety, and resistance, while benevolent voices would lead to elation and engagement. The beliefs associated with the nature of voices can be challenged through monitoring exercises and behavioural experiments. Distraction techniques such as reading aloud, mental arithmetic, and listening to interesting passages have all been shown to be effective in reducing the severity of hallucinations.¹⁴

Coping with Negative Symptoms and Non-adherence

Negative symptoms may be addressed by detailed assessment of the areas where the patient wishes to change behaviour. Short-term goal setting may also enable patients to achieve long-term goals by breaking them into smaller steps.¹⁵ Activity scheduling and detailed planning of the activities can help the patient to make steady progress.¹⁶ Depressive symptoms, anxiety symptoms, low self-esteem, hopelessness and suicidal thinking may be treated with cognitive-behavioural strategies.¹⁷

Non-adherence to Medication

Kemp et al devised a cognitive intervention to enhance medication compliance, known as compliance therapy.¹⁸ The intervention used some of the principles of motivational

interviewing (MI), a technique first developed to treat substance abuse.¹⁹ Compliance therapy utilises key principles of MI: reflective listening, avoidance of blame, and exploration of the pros and cons of alternative courses of action. There are several adaptations to make this technique suitable for psychotic patients: a more flexible session length, a more active therapeutic stance, an increased educational component, and cognitive approaches to tackle delusions, especially those regarding medication.

Evidence Supporting a Cognitive-behavioural Therapy Approach to Psychosis

Treatment-resistant Symptoms

The first controlled trial on cognitive-behavioural therapy (CBT) was carried out for treating persistent hallucinations and delusions in 27 patients who were taking medication but continued to experience these symptoms. Tarrier et al compared 2 different cognitive-behavioural approaches, CSE and problem solving skills, for treating delusions and hallucinations.¹¹ Both approaches reduced anxiety and delusions compared with a waiting list control, with CSE showing evidence of superiority over problem-solving. However, treatments were less effective for auditory hallucinations.

Kuipers et al reported the results of a randomised controlled trial on medication-resistant psychosis comparing CBT (n = 28) with case management (n = 32).²⁰ Fifty three patients (88%) provided adequate data for estimation of linear trend in the Brief Psychiatric Rating Scale (BPRS) during 9 months of therapy. Patients in the CBT group had greater improvement in the BPRS than those in the control group (p = 0.009). The BPRS items showing the greatest improvement were the 2 items measuring delusions and the item assessing hallucinations. 50% of the CBT group was clear responders versus 31% of the control group (p = 0.012). After a further 9-month period, 65% of the CBT group versus 17% of the control group showed reliable improvement, supporting the argument that CBT promoted a specific change, not just an attention effect.²¹ In Kuiper et al’s trial, the control group also showed reduced symptoms, suggesting specific and non-specific effects of CBT treatment.

A subsequent paper on the predictors of outcome suggested that the factor of “reaction to hypothetical contradiction” is important in predicting response to CBT.²² This suggests that CBT acts on the belief system and exploits the existing uncertainty. Cost-effectiveness analysis of the 1997 trial, found that the extra cost of CBT was compensated for by the reduction in psychiatric inpatient days and requirement for day care.²¹ However, the difference did not reach statistical significance (psychiatric inpatient days, p = 0.472; day care attendance, p = 0.453). Kuipers et al attributed this lack of statistical significance to the small size of the sample.²¹ The major limitations of the study included lack of blindness in the assessment of outcome

and the absence of a second comparison group for evaluation of non-specific effects of increased contact with therapists.

Tarrier et al randomised patients with chronic drug-resistant symptoms to CBT ($n = 24$), supportive counselling ($n = 21$), or routine treatment ($n = 27$).²³ CBT comprised 3 interventions: CSE aimed at strengthening specific methods of coping with psychotic symptoms; problem solving training; and relapse prevention. The CBT was of short duration — 20 hours delivered over 10 weeks — and seemed deliberately aimed at symptom reduction rather than at fundamental cognitive modification. Counseling was provided to the supportive counseling group as a control treatment, with no requirement for matching of total session-hours. Using intention-to-treat analysis, CBT showed a definite advantage in the number and intensity of psychotic symptoms. Of the CBT group, 33% showed major clinical change ($> 50\%$ change in symptoms) compared with 15% in the control group. Prediction of improvement included allocation to CBT and short duration of illness. No improvement in relapse rate or use of neuroleptics was found. As in the trial of Kuipers et al, modest benefit in the active control group suggests non-specific effects of CBT.²⁰

In agreement with Kuipers et al,²¹ a subsequent 12-month follow-up study by the Manchester group²⁴ confirmed the durability of the specific effects of CBT on positive symptoms. Again, relapse rate, defined as re-hospitalisation for a clinical deterioration that resulted in functional impairment and hospitalisation for more than 5 days, was not different between routine care and CBT groups. The authors postulated that patients failed to continue using their strategies when their symptoms abated, leading to disuse and inability to mobilise these strategies upon relapse. Tarrier et al reported a 2-year follow-up of the original cohort of the 1998 trial and found no differences between supportive care and CBT in positive symptoms, negative symptoms, and clinical improvement.²⁵ However, the routine care group fared significantly worse compared with the supportive care and the CBT groups.

In perhaps the most methodologically rigorous randomised controlled trial of manualised CBT developed, particularly for schizophrenia versus non-specific befriending, CBT and befriending resulted in significant reduction in positive and negative symptoms.²⁶ At 9-month follow-up, patients who had received CBT continued to improve while those in the befriending group did not. It would be interesting to observe the sustainability of the benefit in any subsequent follow-up study, as the study of Tarrier et al found no sustained effect at 2 years.²⁵

In the largest randomised controlled trial to date ($n = 422$), Turkington et al found that CBT conducted by community psychiatric nurses after an intensive 10-week training course was effective in promoting insight [$p = 0.015$; number needed to treat (NNT) = 10], improving overall symptomatology ($p < 0.001$; NNT = 13) and depression ($p = 0.003$; NNT = 9) in a representative community sample of patients suffering from chronic schizophrenia.²⁷ There was high patient and carer satisfaction with the CBT service.

A major problem was a high dropout rate in the Afro-Caribbean and Black African subjects, suggesting that ethnic awareness is important in engagement and acceptance of CBT.

These latter randomised trials have convincingly demonstrated the effectiveness of CBT in treatment-resistant psychotic symptoms. A reduction of BPRS score by 25% to 30% in both trials suggests that the effectiveness of CBT approaches that of clozapine in the treatment of resistant psychosis. Further trials comparing the 2 treatment approaches will be of interest to clinicians and fund holders in deciding the algorithm of care. Another area of research interest will be the effect of therapists' experience on the effectiveness of CBT. This is a very important issue if CBT is to be disseminated widely in routine clinical practice.

Acutely Psychotic Inpatients

Rather than focusing on treatment-resistant psychotic patients, Drury et al evaluated cognitive therapy (CT; individual work, group sessions, and family sessions) to acutely psychotic patients.²⁸ They reported that this would speed the time to recovery of symptoms by 25% to 50% compared with the control group (recreational activities and support). The duration of hospitalisation was also reduced by 50% compared with the control group. These benefits were maintained in terms of lower relapse rates for the CT group. The results in this study indicate that greater attention should be given to patients in the early stage of their illness and that applying CT at an acute stage is not only possible but also beneficial in terms of reducing the number of relapses. Unfortunately, there is no cost-effectiveness analysis for this study. Drury et al reported a 5-year outcome of this study, showing that there was no significant improvement in relapse rate, positive symptoms or insight between the 2 groups, although the CT group did show significantly greater perceived "control over illness" than the control group.²⁹ For individuals who had experienced a maximum of 1 relapse in the follow-up period, self-reported residual delusional beliefs and observer-rated delusions and hallucinations were significantly less frequent.

Kemp et al conducted a randomised controlled trial of 47 acute inpatients (25 patients received 6 sessions of compliance therapy and 22 patients received non-specific counseling of matched time), showing 40% improvement in insight and attitude towards medication after compliance therapy, compared with 10% improvement in controls (23% improvement in a 7-point compliance scale and 16.1% improvement in insight).¹⁸ Six-month follow-up results showed enduring improvement in the treatment group. At 6 months, global functioning improved with compliance therapy. However, this study was limited by the high rate of non-participation (30%) due to refusal, rapid discharge, and communication difficulties. An 18-month follow-up study shows that the improvement in insight, compliance, and attitudes to treatment were sustained in the compliance therapy group.³⁰ Compliance is, however, difficult to measure. Another paper by these authors found that

side effects of medication are a potential cause of poor compliance.¹⁸ Perhaps more importantly, they found that attitudes to medication, illness, and hospitalisation early in a psychotic episode relate to insight and compliance later on. This highlights the importance of early intervention in first-episode psychosis.

Early Intervention

Evidence is mounting that there is a crucial period of about 2 to 5 years after the onset of schizophrenia, during which time treatment may exert maximal impact in reducing disease severity and disabilities.^{31,32} Jackson et al developed a specific time-limited individual cognitive therapy for first-episode psychosis, cognitively-oriented psychotherapy for psychosis (COPE).³³ COPE aims at assisting patients in adjusting to the aftermath of psychosis, when the positive symptoms have subsided with drug treatment. Psycho-education and cognitive techniques are employed to challenge beliefs about self-stigmatisation and self-stereotypes. Secondary morbidities such as depression, suicidal thinking, and social anxiety are also dealt with cognitively. In a prospective open study (n = 51) comparing routine care, refusal group, and COPE, the COPE group had only one significant improvement and this was between the COPE and refusal groups on the integration/sealing over (I/SO) measure (p = 0.008).³⁴ I/SO evaluates individual adjustment to the illness and reflects the individual recovery style from psychiatric disorders. There was no difference between the 3 groups in terms of hospital admissions, community episodes, or time to inpatient readmissions. Work by the Manchester group produced a similarly discouraging result, with time to readmission even shorter with CBT.³⁵

Cochrane Meta-analysis

In a comprehensive meta-analysis by the Cochrane Library, results from 13 studies were pooled together, with encouraging conclusions.³⁶ The review concluded that CBT did not significantly reduce the rate of relapse and re-admission to hospital when compared to standard care (i.e. antipsychotic therapy). A significant advantage of CBT was noted in enhancement of discharge rate from hospital. Furthermore, an improvement in mental state has been demonstrated (defined as improvement of psychotic symptoms by at least 40% to 50% as measured by structured scales like the BPRS. CBT with focus on enhancing compliance also had some benefit in terms of fostering a positive attitude towards medication.

As in most meta-analyses, there is a major limitation relating to pooling of results from different studies with different definitions for the same term (in this review, relapse was defined in different ways in different studies). Furthermore, treatments under the rubric of CBT differ with regard to the focus of treatment (some on psychotic symptoms and some on compliance) and different duration of treatment (10 weeks to 9 months); important results might have been obscured as a result. Another major problem in this review is that the largest CBT study to date — the study

by Turkington et al employing community psychiatric nurses, as therapists,²⁷ was not included in this meta-analysis.

Application in Hong Kong: Case Reports

CBT for psychosis is a relatively new treatment strategy in Hong Kong. In order to demonstrate the feasibility of CBT for psychotic patients in Hong Kong, we report 3 patients treated by the authors.

Case 1

Miss F was a 35-year-old lady who heard a male ‘voice’ for almost 15 years. She did not know the identity of the voice and she treated him as an invisible person who followed her around for 15 years. The voice would comment on her daily activities and talked about obscenities. She was so upset by the voice that she attempted suicide once 5 years previously in order to ‘have a rest’. She usually combated the voice by shouting aloud or by listening to music. She was unemployed for almost 10 years as the voice was so loud and disturbing that she was unable to concentrate on tasks at hand. On the day of admission, she went into a hotel as she was convinced that the hotel manager was the voice bearer. Due to her disturbing behaviour, she was admitted into hospital compulsorily.

After admission, her condition improved with medication. Subjectively, she felt less irritable. After psycho-education sessions in the ward, she was able to isolate the voice as a ‘symptom’ of schizophrenia. However, the voice remained as loud and incessant as before, and did not reduce in intensity despite a trial of perphenazine and olanzapine at full dose for more than 6 months. Her rating on the Psychotic Symptom Rating Scale (PSYRATS³⁷) was 33, with a rating of 4 on frequency (continuous voice), duration (voices last for hours), location (outside head), beliefs (voices solely from external sources), and control (no control over the voices). A rating of 3 was given for amount of distress (majority are distressing), intensity of distress (voices are very distressing), and disruption of life.

The first 2 sessions concentrated on rapport development and the formation of a cognitive formulation. The patient was brought up in a broken family. Her mother passed away when she was only 8 years old. Her father suffered from schizophrenia and she described her father as unpredictable and distant emotionally. She left her family and lived with a man when she was 16. They lived together for a year and then he left her for another woman without explanation. She felt extremely depressed because of the sudden separation. She began to become very suspicious of men and started hearing a man’s voice talking about obscenities. She had feelings of hopelessness as she could not exert any control on when and what the voice spoke to her.

In order to foster a positive attitude to treatment, she was engaged in a behavioural experiment (collaborative empiricism). She was asked to rate the intensity and loudness of the voice along a continuum of 0 to 10 under 2 conditions: first when doing mental arithmetic and when asked to recall

a scene of a horror film. She was surprised to realise that the intensity and loudness of the voice could be ‘controlled’ by various means of manipulation. In this case, recall of the horror scene increased the voice and mental arithmetic decreased the voice. Furthermore, her previous coping strategies were reviewed so that adaptive ones (listening to music, talking to self) were strengthened, while maladaptive ones (self-harm, scolding aloud in public) were discouraged (coping strategy enhancement). Furthermore, she was assigned the homework of keeping a voice diary to record the content and the intensity of the voices with various activities over a week (prospective collection of evidence to challenge her attribution of voices to external and uncontrollable sources).

After 2 sessions, she began to recognise the pattern that the content of the voice was closely related to her thoughts at the time of a certain activity. For example, she would hear the voice saying ‘abalone’ when she was feeling hungry and was heading for the canteen. Furthermore, she recognised that the voices were louder when she was anxious (as when talking to strangers) and softer when she was relaxed (as when listening to light music). The effective strategies to lower the voice were identified and reinforced. By the sixth session, the patient was still hearing the voice but could use her coping strategies to reduce its intensity (coping strategy enhancement). Moreover, she started to accept that the voice was to a certain extent under her own control.

However, in her voice diaries, it became apparent that she was made very anxious by voices cursing her friends and talking about sexual obscenities. The content of the voice was treated as a triggering event and the underlying automatic thought (AT) was explored. Her AT was “I should not think about sexual obscenities. I am so sexually promiscuous”, “I should not curse my own friends. They will get hurt. This is evil”. Her cognitive distortions of will-action fusion and magical thinking were apparent.

In the next 4 sessions, education was provided to normalise her fear about deviant fantasies (normalisation strategy to reduce her sense of shame and helplessness). She was helped to reframe positively that fantasies served a useful function of enhancing our creativity (reframing technique). Furthermore, a probability calculation was made to assess the likelihood that her evil thoughts would be turned into action. The voice diaries were modified as dysfunctional thought records so that distressing voice content was recorded as triggering events and her associated cognitions as automatic thoughts. Furthermore, she was asked to make a prediction log on the likelihood that her evil thoughts would become reality (collaborative empiricism of mutual discovery).

In the next 3 sessions, she began to accept that her ‘evil’ thoughts were simply fantasies that were very unlikely to hurt others. She was also guided to recognise her underlying schema of excessive responsibility and fear of losing control (schema modification). Focus was changed to identification of her daily dysfunctional thoughts when she was anxious

or depressed. She was encouraged to rate the cost and benefits of maintaining a rigid routine in life (cost-benefit analysis) and provide rational responses to her ‘should’ statements. By the end of 13 weekly individual sessions, she still heard the voice talking about obscenities, but she was not distressed at all. Her PSYRATS dropped to 10, with a rating of zero on controllability, distress, disruption to life, and amount of negative content.

Case 2

Amy was a 17-year-old unemployed girl. She studied up to form 3 with poor academic results. She had conduct problems at school. Her personality was described as sensitive, introverted, self-centred, and impulsive. She had a 3-year history of abusing 3,4 methylenedioxymethamphetamine (MDMA), cough mixture, and ketamine, but was abstinent for 3 years. Around 3 years previously, she complained of hearing threatening voices from her friends. She felt depressed, anxious, and angry. She began to withdraw socially and thought about taking revenge on her friends. She also developed the delusion that strangers commented about her appearance in a negative way. She coped by wearing sunglasses, holding an umbrella, and avoiding going out or making direct eye contact with strangers. At times, she would be so frustrated that she would scold strangers for staring at her. Her psychiatrist diagnosed her as suffering from schizophrenia. Amy received high-dose depot fluphenazine injection for more than 12 months and was subsequently given risperidone 6 mg per day for more than 5 months. Because of her persistent symptoms, she was referred for CBT assessment.

At CBT assessment, Amy had persistent delusions of being stared at by others and experienced persistent auditory hallucinations of threatening content from her friends. She was still in great distress. Further exploration of her developmental history revealed that her peers at school used to tease her for having large eyes. Her family would displace their frustration over financial hardship onto the patient and blame her for causing misfortune. At adolescence, she described a traumatic experience in which she was beaten up by 7 girls. She also recalled being betrayed and humiliated by her best friend. Due to these repeated experiences of rejection, she developed the core beliefs that people were cunning and that she was bad. She set up the dysfunctional assumption that she had to be rich and beautiful in order to be well treated by others.

During the first 4 sessions, effort was made to gain her trust in the therapist and enhance her understanding about her illness (rapport building and psychoeducation). A booklet introducing the symptoms of schizophrenia was given to her. She then understood that other people also suffered from similar psychotic symptoms as she did (normalisation strategy). She was also reminded that the voices increased when she did not take the medication. She accepted that she might have auditory hallucination and delusion of reference, but the experiences were too real to be symptoms for her. Muller-Lyer illusion was used to explain how ordinary

people could be misled by their minds and something that looked real might not be real (normalising strategy). As a behavioural experiment, she was also asked to record the voices she heard with a tape-recorder. She recorded nothing and started to realise that the voices she heard did not really exist (collaborative empiricism with emphasis on examination of objective evidence).

The evidence for the belief that she was ugly and hence being watched was elicited, but it was found that only a few people had commented negatively on her appearance. Others said her appearance was fine; some even said that she was pretty. However, she believed only in the negative comments and tended to pay undue attention to them. Such bias was pointed out. What people would do if they saw someone ugly was discussed. She became more convinced that just being looked at did not mean that she was ugly. Other possible reasons for looking at her were discussed (alternative explanations for a certain action were carefully explored and analysed for their possibilities). She was also guided to think about the normal reaction of people seeing someone holding an umbrella and wearing sunglasses when there was no sunshine. In this way, she understood more how she attracted others' attention by her safety behaviour. She began to try out ordinary glasses instead of sunglasses and did not take an umbrella when she went out. She reported that fewer people looked at her. Later, she stated that she thought that she was ugly at some particular moments (e.g. when she did not wear make-up), but not all the time. Under such circumstances, she was acutely aware of being looked at and became anxious. A behavioural experiment was then set up. Her appearance before and after wearing make up was recorded with a video camera. Then, she checked by herself how different the images were, and found to her surprise that her appearances were not much different.

Even with medication, Amy developed strange ideas from time to time. In one of the sessions, she said Satan inserted some bad thoughts into her mind and that she was distressed by it. With behavioural analysis, it was found that she could ignore those thoughts by doing something she enjoyed. After discussion, she realised that the thoughts were not inserted by Satan; otherwise, they could not be expelled so easily. By the end of 10 weekly individual sessions, Amy had greatly reduced distress and intensity in her delusion that people were staring at her. She also realised that the voices were closely related to her negative view about herself in relation to her previous traumatic experiences. At the time of writing, the patient was receiving booster sessions of CBT once every 4 weeks. Targets were to deal with her dysfunctional assumptions about the over-riding importance of beauty and her schema of unlovability (schema modification).

Case 3

Mr L was a 39-year-old man who presented initially with persecutory delusions of being spied on and hearing voices of a threatening nature for 6 years. The onset was precipitated by an industrial accident resulting in a waist injury. Due to his claim for compensation for injury at work, his employer

had security guards follow him to substantiate his degree of functional loss from the accident. Initially, Mr L presented with agoraphobic symptoms, becoming anxious when trapped in crowded environments, including busy markets and noisy restaurants. Gradually, he became apprehensive at the sight of people in uniform. A few months later, Mr L also developed compulsive behaviour of washing hands. Later, Mr L developed the delusional belief that ordinary people in the streets would spy on him and persecute him. He also developed auditory hallucinations of male and female strangers criticising him as useless and worthless. His psychiatrist diagnosed him as suffering from schizophrenia with obsessive-compulsive features. He was treated initially with high-dose fluphenazine injection for more than 12 months, but had little improvement in his delusions of persecution and auditory hallucinations. He was then switched to oral trifluoperazine 60 mg per day for more than 6 months, with no sign of improvement. At the time of referral to CBT assessment, Mr L was taking chlorpromazine 600 mg per day for 12 months.

In the first assessment session for CBT, Mr L reported persistent symptoms of auditory hallucination and delusion of being spied on by people in the streets. He had realised that he had mental illness but was only partially accepting that the voices were auditory hallucinations. He would ruminate on the delusional thoughts, making him even more distressed. The PSYRATS score was 57. The patient rated himself as having no control over when the voices would occur. The voices and the delusional belief were extremely distressing.

Five weekly individual sessions and 6 weekly group sessions were given to this patient. The therapy aimed at changing the appraisal of the anomalous experiences from external source to a less distressing internal attribution, correcting biased reasoning, changing specific negative schemas of self and world, and changing his appraisal of psychosis from uncontrollable to more controllable.

The patient's delusional thoughts of others knowing of his mental illness were triggered by people glancing at him. He then experienced a physical sensation of restlessness, and apprehension so that he dared not look at others. He then developed the AT "I'm mad, others would know that I'm insane". Voices scolding him as useless and insane would then be triggered, and would make him even more anxious. Voices would also be triggered by sudden loud noises as the patient would experience physical arousal involving fear and restlessness. Explanation was given on how environmental stress could trigger anxiety symptoms. Discussion was also had on how his biased reasoning of inner sense of restlessness as evidence of his belief that "I am going insane" was not accurate (retribution technique). Evidence that people were spying on him and knowing his thoughts was also collected and examined so as to modify his delusional belief (collaborative empiricism and collection of objective evidence to challenge delusions).

The nature of voices as psychotic symptoms and their relationship to his negative appraisal of himself was

discussed. The derogatory content of the voices was made sensible by explaining how he perceived himself as worthless because of unemployment after onset of illness. Coping with voices was enhanced through self-instruction, deep breathing relaxation, cue cards, listening to the radio, and reading the newspaper to increase his sense of controllability in relation to the psychotic symptoms (coping strategy enhancement).

The score on Psychotic Symptom Rating Scales fell to 45 post-assessment. The patient still experienced restlessness, voices, and delusional beliefs. The patient rated himself as having some control over the voices when they occurred. The intensity of distress caused by voices and the delusional belief also changed, from extremely distressing to marked distress. The patient was still receiving CBT at the time of writing.

Conclusion

From the literature review, it can be concluded that cognitive-behavioural therapy is an effective treatment for psychotic symptoms, especially for medication-resistant psychosis. There is still limited evidence with regard to its applicability to first-episode psychosis, due in part to the limited evidence base and also to the possible modification in treatment techniques with due emphasis on the developmental issues at the time of onset of psychosis.

The 3 case studies illustrate several important principles. A detailed developmental analysis of the evolution of psychosis is important in order to understand the relationship between adverse childhood experiences, the specific meaning of the precipitating stress, and the content of the psychotic symptoms. This is very important in the development of a cognitive formulation as a hypothesis to guide the timing and type of intervention. Furthermore, collaborative empiricism is highly emphasised so that patients' idiosyncratic explanation of their bizarre experiences was treated as testable hypotheses and subjected to empirical tests (behavioural experiments and prospective data/prediction log). Normalising strategy is frequently used in the initial phases of treatment to reduce a sense of alienation and stigmatisation, which are commonly experienced by the patients throughout their illness history. Finally, coping strategies that are adaptive are reinforced while maladaptive ones are replaced with new coping strategies.

From our initial experience, CBT is an effective treatment for reducing the distress and intensity of psychotic symptoms. However, CBT is a treatment model developed in the West, where western concepts of empirical approach, collaboration, and individuality are highly emphasised. This issue was raised by Lin,³⁸ who argued that cognitive-behavioural therapy would need modification to adapt to the cultural basis of Chinese patients. However, from our own experience, the Socratic approach of empirical testing of the evidence for delusions and strengthening of coping strategies is acceptable to our local Hong Kong Chinese psychotic patients. Nevertheless, it could be argued that Hong Kong Chinese are much more westernised because of

past British colonisation. However, Azhar reported the successful application of cognitive therapy in the management of chronic psychotic patients in an open trial in Malaysia, where the study population was predominantly local Chinese and Malaysians.³⁹

Even in mainland China, there is some evidence that adaptation of CBT with Taoist principles can provide promising results in the treatment of psychiatric disorders. Zhang et al has shown the advantage of Taoist-oriented CBT in reducing anxiety symptoms and social functioning in Chinese patients with anxiety disorders.⁴⁰ Nevertheless, there is so far no published literature in English on the application of CBT in mainland Chinese psychotic patients. Further rigorous research on the application of CBT in Chinese psychotic patients is urgently needed before definitive conclusion can be drawn on its effectiveness in our local population.

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