Cognitive Behaviour Therapy and Early Intervention

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There is a worldwide movement of early intervention for psychosis. This paper reviews the role of cognitive behaviour therapy for first-episode individuals as part of a comprehensive treatment and also for those at clinical high-risk.

One of the most important recent developments in schizophrenia research and treatment is the concept of early intervention and prevention. Recent research has targeted either the late pre-onset or early post-onset phases of schizophrenia. Since it has been suggested that delays to treatment impede recovery and may impact outcome (Addington, van Mastrigt, & Addington, 2004), the goal of post-onset studies is to detect and treat schizophrenia close to the onset in order to minimize the duration of untreated psychosis. Pre-onset studies are more controversial because the development of a disorder is only a probability and these studies are dealing with the future risk of schizophrenia. Premorbidly, risk may be evident in genetic heritage, but in these genetic high-risk studies the risk of converting to psychosis is relatively low (approximately 10 % to 20 %) (Cornblatt & Obuchowski, 1997). In the prodromal phase of schizophrenia the formation of symptoms and disability has already begun and may actually provide enough predictive power for the disorder to be tested as a new diagnostic threshold (McGlashan, 1996; McGlashan & Johannessen, 1996).

Intervention at the First-Episode

The aims of early intervention are to reduce the delay in accessing treatment and to offer optimal treatment in the early, most critical years following onset (Birchwood, Todd, & Jackson, 1998; McGorry, 2001). Hopefully, this can be accomplished through specialized, comprehensive programs that target a first-episode of psychosis in order to reduce relapse and enhance recovery (Edwards & McGorry, 2002). Many young people experiencing a first-episode of psychosis will achieve remission from positive symptoms within the first year, with varying patterns of recovery (Addington, Leriger, & Addington, 2003). However, a significant proportion continues to experience disabling positive and negative symptoms, at times making working and self-support difficult (Addington, Young, & Addington, 2003).

A combination of pharmacotherapy and psychological intervention is considered paramount in achieving optimal recovery outcome in individuals with psychosis (Lehmann et al., 2003). One psychological intervention that has received much attention is cognitive behaviour therapy (CBT) for psychosis. Outcome trials of CBT for psychosis are promising, and several recent reviews and meta-analyses support the effectiveness of CBT for psychosis in individuals experiencing a more chronic course of illness (Tarrier & Wykes, 2004; Turkington, Kingdon, & Weiden, 2006). The focus of this paper is on the use of CBT for individuals in the early stages of psychosis. CBT for those with a more chronic course of schizophrenia and other psychotic disorders is addressed in more detail elsewhere in this issue.

Rationale for CBT in First-Episode Psychosis

Even in the case of "best practice", there are significant limitations to biological interventions that may impact recovery. First, in the first year of treatment, approximately 60 % of first-episode individuals are non-adherent to medication and as many as 40 % are non-adherent in the first six months of treatment alone (Coldham, Addington & Addington, 2002). More than 60 % have intermittent periods of non-adherence (Mojtabai et al., 2002). Even with proper adherence to medication, relapse is often a problem within the first year (Addington, Addington, & Patton, 2006). Second, functional recovery remains a challenge. Significant symptomatic improvement is not matched by improvement in functional recovery (i.e., social, vocational and school functioning; interpersonal relationships) (Addington, Young, & Addington, 2003; Tohen et al., 2000). Third, there is good evidence supporting the effectiveness of CBT in treating depression, anxiety and substance misuse disorders – all of which have a high comorbidity in first-episode psychosis (Add-ington & Addington, 2007; Iqbal, Birchwood, Chadwick, & Trower, 2000).

CBT Trials for First-Episode Psychosis

There has been little published evaluating CBT in the early phase of psychosis. In an early study Drury, Birchwood, Cochrane, and MacMillan (1996) reported that, in a small sample with acute, recent-onset psychosis, those who received CBT compared to treatment as usual (TAU) had reduced positive symptoms and decreased time to recovery. In the five-year follow-up (Drury, Birchwood, & Cochrane, 2000) the only significant difference between the treatment groups was that the CBT group had an increased sense of perceived control over their illness. Limitations to this study included small sample size, experimenter bias, the multi-modal CBT treatment, and that not all subjects were first-episode.

Jackson and colleagues (1998, 2001), in a sample of 80 first-episode patients, used Cognitively Oriented Psychotherapy for Early Psychosis (COPE), aimed at promoting adjustment to psychosis. At one-year follow-up, those who received COPE compared to a historical control and those who had refused to participate in groups differed only on a measure of integration versus sealing over (Jackson et al., 2001). In a subsequent non-randomized COPE intervention study with 91 first-episode subjects, Jackson and colleagues (2005) found no differences between the groups on all outcome measures. Study limitations included alternate subject assignment and poor measurement of non-compliance to medication.

One of the most methodologically rigor-ous, randomized controlled trials (RCT) was the SoCRATES study in the UK (Lewis et al., 2002a). This trial had a large representative sample (n = 315; 83 % first-episode), and compared a five week, ten session treatment package of CBT plus routine care (RC) to supportive therapy (ST) plus RC and to RC alone during the acute phase of the psychotic illness (Lewis et al., 2002a; Tarrier et al., 2004). At 70 days there were trends towards faster improvement of positive symptoms in the CBT group compared to ST and RC (Lewis et al., 2002). By 18 months, both the CBT and ST groups demonstrated significant advantages over RC, but there were no significant differences between the impact of CBT and ST on symptoms, relapse or rehospitalization (Tarrier et al., 2004). The one exception was that auditory hallucinations responded better to CBT relative to ST. Thus, CBT was more effective than RC, but never significantly better than ST. The major limitation of this study was that there was most likely an insufficient time period for the CBT to have had an impact. A high recovery rate in the acute phase under RC is to be expected, since up to 85 % of patients recover from a first-episode under a standardized drug regime (Loebel,

Lieberman, Alvir, & Mayerhoff, 1992). In this context, there is limited room for CBT to impact positive symptoms at the acute phase.

Further research is needed to determine the impact of CBT in first-episode samples. A more detailed evaluation of what works, for whom, and under what conditions CBT may work best is needed (Lecomte & Lecomte, 2002). Uncovering the mechanisms through which treatments work is likely to lead to more evidence-based and effective therapies. Nonetheless, the limited evidence does suggest that CBT is at least an appropriate intervention at the first-episode.

Intervention at the Pre-psychotic Phase

More recently, the early intervention field has considered the possibilities of intervening with those at high-risk of psychosis, that is those who may be putatively prodromal for psychosis. One recent strategy has been the detection of attenuated or subthreshold psychotic symptoms, which are suggestive of imminent psychosis. Yung and McGorry (1996) have defined criteria for three groups that identify those at clinical high-risk for developing a psychotic disorder in the near future. The criteria are a mix of recent-onset functional decline plus genetic risk, or recent-onset subthreshold or brief-threshold psychotic symptoms. Using these new criteria, the risk of converting to psychosis increases from 10 % to 20 % in the genetic high-risk group to approximately 40 % to 60 % by one year, as reported in several studies (Miller et al., 2002; Yung et al., 2003). The reliability of these criteria has been excellent, and studies using these criteria support the view that prodromal persons are symptomatic and at high and imminent risk for psychosis (Schaffner & McGorry, 2001).

There are few published studies to date addressing intervention in an ultra-high-risk group. The first study, completed by McGorry and colleagues in Melbourne, randomized 59 "ultra-high-risk" subjects to six months of active treatment (risperidone 1–3 mg/day plus a modified CBT) or to a needs-based intervention (McGorry et al., 2002). By treatment end, significantly fewer individuals in the active treatment group had progressed to a first-episode of psychosis (9.7 % vs 36 %). No significant differences were noted six months post-treatment, as more of the active treatment group converted to psychosis (19 % vs 36 %). Limitations of this study included the non-blinding of subjects and raters to group assignment, the uncertainty of the relative contribution of medication over CBT, and the failure to control for medication adherence. Despite these limitations, the McGorry trial was undoubtedly a landmark study.

The second trial was a more rigorous randomized, double-blinded, parallel study of 60 help-seeking prodromal subjects comparing the efficacy of a low-dose antipsychotic (olanzapine) vs placebo in preventing or delaying the onset of psychosis (McGlashan et al., 2003; Miller et al., 2003). At one-year follow-up, 16 % of olanzapine-treated subjects converted to psychosis compared with 35 % of placebo-treated subjects, plus olanzapine was associated with significantly greater symptomatic improvement in prodromal symptoms than the placebo (McGlashan et al., 2006). Although not statistically significant, interpretation of the findings is likely limited by the small sample size.

The third published trial was the Early Detection and Intervention Evaluation (EDIE), a single-blinded, randomized trial of CBT with individuals at high-risk for psychosis (Morrison et al., 2004). Fifty-eight participants were randomized to either CBT for the first six months, or to monitoring. All received monthly monitoring for 12 months. CBT significantly reduced the likelihood of progression to psychosis as defined on the Positive and Negative Syndrome Scale (PANSS) (Kay, Fiszbein, & Opler, 1987) over 12 months, the likelihood of antipsychotic medication use and of meeting criteria for a DSM-IV diagnosis of a psychotic disorder. CBT also improved positive symptoms in the sample. It is

noteworthy that 95 % of subjects consented to participate in this trial, suggesting an interest in and willingness to engage in a psychological therapy.

Recent work by the Cologne group has examined CBT for clinical high-risk subjects as part of a comprehensive psychosocial treatment program (Bechdolf et al., 2005). Preliminary results are promising as in this small sample there were significant improvements in prodromal symptoms, social adjustment, depression and anxiety. None of the subjects converted to psychosis in an eight-month naturalistic follow-up study.

Rationale for CBT for those at Clinical High-Risk

These reports of trials attempting to prevent or delay onset, with one exception, have involved medications – mainly antipsychotics. Medication seems to alleviate the early symptoms in those who may be prodromal for schizophrenic psychosis and possibly even delay the onset. Subjects entering medication trials (McGorry et al., 2002; Miller et al., 2003) are usually in the late pre-onset period as reflected by their high rate of attenuated psychotic symptoms, poor level of functioning and high rates of conversion to psychosis. The feasibility, safety, and ethics of early intervention research needs to be seriously considered. Clinical trials using medication with prodromal subjects have generated a great deal of controversy and debate (Bentall & Morrison, 2002). Despite offering substantial advantages over the traditional first generation medications, there are medical risks associated with the newer antipsychotics such as weight gain and diabetes. This is of particular concern with the false positive cases.

These issues have led to a logical case for considering the application of psychological treatment approaches for psychotic symptoms in the emergent phase of psychotic disorders. Bentall and Morrison (2002) suggest that the evaluation of psychological treatment approaches in this early phase of psychotic disorders would be a more acceptable and a much safer first step in the development of preventive interventions, which might in itself reduce or avoid the need for drug treatment. Furthermore, since these subjects are help-seeking they may benefit from a psychological intervention even if they are false positives (i.e., not at risk of psychosis).

There are different phases to the prodromal period of schizophrenic psychosis. Different treatments, including both pharmacotherapy and psychological interventions, may be appropriate and effective at different times during this period. Antipsychotics might be expected to be important in the later phases of the prodrome when attenuated psychotic symptoms are clearly evident and the individual is potentially on the cusp of a conversion. Psychological interventions might be expected to be most promising at earlier and less symptomatic stages of the prodrome. In fact, in the early stages of the prodromal period the presenting symptoms are not only less severe but also less specific. These individuals present with a wider constellation of concerns. They need and want to understand their perceptual difficulties, to manage the stress, depression, anxiety, sleep disturbance and decline in functioning, and to be supported through this difficult period of their lives (Addington, 2003; Yung et al., 2003). These symptoms and concerns may be more modifiable with a psychological intervention than with medication.

There are several arguments to support why CBT may be a beneficial psychological intervention for this clinical high-risk group (French & Morrison, 2004). First, CBT is likely to help with both the attenuated and brief intermittent psychotic symptoms. CBT has demonstrated effectiveness for those with schizophrenia to cope with psychotic symptoms and to reduce associated distress (Pilling et al., 2002; Sensky et al., 2000; Tarrier et al., 1998) and risk of relapse (Gumley, O'Grady, McNay, Reilly,

Power, & Norrie, 2003). Second, a CBT approach is a valuable intervention for depression, anxiety and the non-specific emotional problems that are often observed during the prodromal period (Addington et al., 2005; Yung et al., 2003). Increased problems with metacognitions and self-schemas, which are psychological processes typically targeted during CBT, have been observed in those at clinical high-risk (Morrison, 2002). CBT approaches have also been useful in addressing substance use, which is believed to be a common and important contributing factor in the development of psychosis in those at risk (van Os, Bak, Hanssen, Bijl, de Graaf, & Verdoux, 2002). Third, CBT interventions fit very well in a stress-vulnerability model and may be an invaluable therapy to teach subjects the types of coping strategies that may offer protection against environmental stresses that risk conversion (McGorry, 1995; Roberts, 1991). Thus, CBT is the model of psychological intervention that holds the greatest promise for being effective in: (i) addressing the range of symptoms and concerns present in this putatively prodromal period, and (ii) teaching potentially effective strategies to protect against the impact of environmental stressors that may contribute to the emergence of psychosis.

The Use of CBT in Early Psychosis

CBT for those at clinical high-risk tends to occur in research settings. Current models of CBT for this group have been well described in the excellent text by French and Morrison (2004) and in relevant chapters by Phillips (2005), Patterson, Skeate, and Birchwood (2005), Bowe, French, and Morrison (2005), Francey and Jackson (2005) and Gumley (2005).

For those experiencing a first-episode of psychosis, comprehensive early intervention programs are being developed throughout the world (Edwards & McGorry, 2002). Typically, services include ongoing optimum pharmacotherapy and psychiatric and case management, plus a range of psychosocial treatments that encompass psychoeducation, individual CBT, phase-of-illness specific groups, vocational services and a family component (Addington & Addington, 2001; Addington & Burnett, 2004).

The focus of CBT for psychosis is the subjective experience of the psychosis and the collaborative attempt at understanding that experience (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001). Hallucinations and delusions are placed on a continuum with normal beliefs, and perceptions are explored and understood in the context of the individual's social, cultural and psychological world (French & Morrison, 2004). Psychotic symptoms can be seen to mirror everyday concerns such as fear of being excluded, unworthy, ridiculed or harmed. Psychoeducation and normalization are used to help facilitate adjustment, particularly in young individuals.

CBT for early psychosis must accommodate critical developmental tasks that are unique to the young individual. Understanding overwhelming and disorganized psychotic phenomena – while facilitating individuation and self-identity, and minimizing disruption to psychological, vocational and social trajectories – is central to the process of recovery in young adults with a first-episode of psychosis. The social impact of the onset of a first-episode of psychosis is substantial, particularly for the young adult who has newly formed and critical peer, work and intimate relationships. Individual therapy with a young person in the early phase of the disorder should facilitate these developmental tasks (Jackson et al., 2001).

Goals of CBT in Early Psychosis

The goals of CBT include addressing not only the symptoms of the illness and the anomalous experiences, but also the impact of the illness on an individual. For both first-episode patients and, at

times, for clinical high-risk individuals this may include isolation from families and friends, damage to social and working relationships, depression and demoralization and an increased risk of self-harm, aggression and substance abuse. Pertinent goals of CBT, for both first-episode of psychosis patients and clinical high-risk groups include: reducing distress and disability associated with psychotic and subclinical psychotic phenomena; increasing insight into the psychotic disorder and the anomalous experiences; improving mood and self-esteem; as well as assisting in improving social, vocational and community functioning.

A Modular Approach to CBT for Early Psychosis

To address the needs of those individuals experiencing a first-episode of psychosis, Addington and Gleeson present a modular approach (2005). These modules include engagement, education, addressing adaptation, treating coexisting anxiety or depression, coping strategies, relapse prevention, and treating positive and negative symptoms. These approaches are guided by a wide range of texts and manuals of empirically supported treatment models that offer both unique and complementary perspectives of CBT for psychosis (e.g., Chadwick, Birchwood, & Trower, 1996; Fowler, Garety, & Kuipers, 1995; Kingdon, & Turkington, 2005; Morrison, 2002; Nelson, 1997). A manual drawn from the work of several of the above texts, *STOPP: Systematic Treatment of Persistent Psychosis: A psychological approach to facilitating recovery in young people with first-episode psychosis* (Herrmann-Doig et al., 2003), is the only manual that has a specific focus on CBT for first-episode psychosis.

One advantage of this modular approach is that there is a range of interventions to meet the wide range of problems and needs of first-episode clients. Although it may be possible for CBT to be effective at the different phases of illness – acute inpatient, acute outpatient, in recovery, in remission and in prolonged recovery – it is recommended that CBT be introduced to first-episode patients once medication, stabilization and symptom remission has begun in order to enhance the goal and expectation of optimum recovery. Typically, the length of treatment is approximately 20 sessions over six months. We provide a more detailed overview of these modules elsewhere (Addington & Gleeson, 2005)

Engagement, Assessment and Formulation Phase

In this phase the formation of the therapeutic alliance, assessments, and the development of a formulation of the presenting problems occurs. Engagement occurs not only between therapist and client, but also between client and therapy by socializing the client to the cognitive model. Development of an individualized formulation starts from the first session. This allows the therapist and client to develop a shared understanding of the key elements that contributed to the development and maintenance of the psychotic symptoms as well as other presenting problems. This process occurs in conjunction with any assessment and is ongoing throughout the course of the therapy. Assessment of the background to the psychotic illness places the psychotic episode in a specific biological, psychological and social context which is integral to the formulation and helps the client make sense of the links among these components. This formulation guides the direction of the therapy, such as the selection of interventions and length and frequency of sessions.

Psychoeducation

In the early stage of CBT therapy, it is important that the young person has some understanding of the concept of psychosis and what it means for him or her. This includes symptoms, diagnoses, theories of

psychosis, individual explanatory models of psychosis, impact of substance use, medications, warning signs, nature of recovery, and agencies and personnel involved in treatment. Such knowledge helps with the process of normalization, which in turn may help decatastrophize various fears such as, "I may be going mad."

Adaptation to Psychosis

Changed perceptions of well-being and one's sense of self, combined with the potentially enduring traumatic nature of a psychotic episode itself, may play a significant role in the individual's capacity to recover (Jackson, Edwards, McGovry & Hubert, 1999). Thus, in this module the focus is on the individual and addresses his or her understanding of the psychosis, the impact of psychosis on the self, and adaptation to the psychosis. Taking stock of strengths and limitations, expanding coping skills, and making realistic future plans assists these young people in realizing their potential, despite psychosis. Self-esteem is enhanced by having them distance themselves from the negative aspects of their environment and focusing on strengths and accomplishments. Examples of interventions in this module may include challenging social fears, increasing competence and improving self-esteem. With these newfound strengths and skills, these young people can then begin to implement change to improve their functioning. The hope is that these changes will also be self-reinforcing.

Treatment of Secondary Morbidity

Secondary morbidity results from a failure to adapt and typically may include depression, anxiety and substance abuse. In this phase individuals learn about the nature of the secondary condition. Typical interventions include cognitive restructuring where underlying beliefs and assumptions are examined, challenged and replaced with more appropriate and rational beliefs and assumptions. This can be supplemented by group-based interventions for anxiety management or substance use.

Coping Strategies

Coping strategies are designed to help with positive and negative symptoms and with the functional and emotional problems that arise from the symptoms. First the positive symptoms that will be targeted need to be identified. Available strategies include Coping Strategy Enhancement (Tarrier, 1992), assertiveness training and diary recording of mastery and pleasure. Specific behavioural and cognitive strategies are available to help patients work towards improved functional outcome, despite symptoms.

CBT can be used to help clients who may require a more structured behavioural approach, for example those presenting negative symptoms and poor social functioning. Interventions for negative symptoms typically include behavioural tasks such as behavioural self-monitoring, paced activity scheduling, assertiveness training, diary recording of mastery and pleasure, and graded task assignments. Young people experiencing negative symptoms often engage in very few pleasurable activities, which may serve to maintain negative affective states and thus contribute to the persistence of negative symptoms. Cognitive targets include personal interactions and perceptions of others and the self (i.e., if others are perceived as "too demanding," and if the self is perceived as "a failure") that may contribute to low self-efficacy and hopelessness.

Relapse Prevention

A range of interventions and general principles derived from CBT have been described to address relapse prevention. These include monitoring for early warning signs of relapse, and cognitive restructuring of enduring self-schema that may be associated with elevated risk of relapse.

Techniques to Address Delusions and Beliefs About Voices

Specific techniques have been well described in the literature for addressing positive symptoms. For example, when working with auditory hallucinations, one technique is to conduct a collaborative critical analysis of beliefs about the origin and nature of the voice(s), which can then be followed by the use of voice diaries, reattribution of the cause of the voices, and generation of possible coping strategies.

Interventions for delusions can include identifying precipitating and maintenance factors, modifying distressing appraisal of the symptoms and generating alternative hypotheses for abnormal beliefs (Turkington et al., 2006). It is possible to engage young people with psychosis in a collaborative fashion and to systematically explore the logical and empirical bases for their delusions (Chadwick et al., 1990). When helping clients with delusional beliefs, it is better to avoid direct confrontation since confrontation can strengthen rather than weaken the conviction of beliefs. Clients should be encouraged to use behavioural experiments to help discover disconfirming evidence. In this way, alternative hypotheses are generated and schemas analyzed to attain a collaborative understanding of the development of the distorted beliefs. Peripheral evidence and beliefs are addressed before more central beliefs, in order to minimize psychological reactance (Chadwick et al., 1996). In this way, disabling emotional disturbances can be reduced.

Summary

This paper has reviewed the use of CBT for early intervention for both those experiencing a first-episode of psychosis and for those at clinical high-risk of psychosis. Although there are several studies supporting the effectiveness of CBT for psychosis, there are few published outcome studies of CBT for first-episode patients. Those that have been published have methodological problems. Results from studies of the use of CBT for those at clinical high-risk are promising. Replications of larger studies are now under way in the UK, Canada and Australia. Since CBT appears to be an appropriate therapy to meet some of the diverse needs of these young people it is important to do further research to determine what aspects of CBT work, for whom, and under what conditions this therapy may work best. It is only by uncovering the mechanisms through which CBT works that we will obtain more evidence-based and effective therapies.

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There is a worldwide movement of early intervention for psychosis. This began with a focus on individuals experiencing a first-episode of psychosis and has now expanded to include those who appear to be at clinical high-risk for psychosis. This paper reviews the role of cognitive behaviour therapy for first-episode individuals as part of a comprehensive treatment and also for those at clinical high-risk where the goal is to reduce concerns and delay, or even prevent conversion. Since CBT

appears to be an appropriate therapy to meet some of the diverse needs of these young people it is important to do further research to determine what aspects of CBT work, for whom, and under what conditions this therapy may work best.

Keywords: schizophrenia, psychosis, first-episode, cognitive behaviour therapy, prodrome, early intervention

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