Cognitive Behavior Therapy for Schizophrenia and Psychosis: Current Status and Future Directions

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Abstract

Cognitive behavior therapy (CBT) is an empirically based psychological treatment, which has a strong evidence base in a range of psychological disorders and, more recently, has also been applied to more serious disorders such as schizophrenia and psychoses (CBTp). This review outlines the background to this development and the theoretical bases to CBTp. There is good evidence from a considerable number of clinical trials that CBTp has a consistent clinical benefit when used in addition to standard care. There is, however, some variation in the outcomes of these clinical trials which may be due, in part, to the variation in methodological rigor of the trials. There is evidence that smaller, albeit still significant, effect sizes are found in methodologically more robust clinical trials. This is consistent with results found in other branches of medicine and healthcare. The different clinical strategies and outcomes found with various phases of the illness are outlined. There are considerable clinical and research challenges posed by issues of: 1) risk; 2) treating serious comorbidity; and, 3) treating conditions that limit recovery. These clinical problems are being addressed by a second wave of clinical developments. Lastly, the perennial problem of dissemination and translation of research into clinical practice is discussed.

Key Words: Cognitive Behavior Therapy, Schizophrenia, Psychosis, Psychological Treatment

Introduction

Cognitive behavior therapy (CBT) is an empirically based psychological treatment which has a strong evidence base in the treatment of anxiety, emotional and affective disorders (1, 2) and also, more recently, has been applied to more serious disorders such as schizophrenia. There have been a number of factors that have caused this latter development. In spite of advances in pharmacological treatment, recovery is frequently incomplete and many patients continue to experience persistent psychotic symptoms with exacerbations frequently occurring in those who achieve remission (3, 4). Medication adherence is often poor, leading to further adverse outcomes (5). Furthermore, traditional forms of psychotherapy appear to have little or no benefit (6). The use of adjunct CBT (CBTp) to reduce residual symptoms in schizophrenia was the original impetus to the translation of CBT from the treatment of affective disorders to schizophrenia and psychosis. This initially occurred in the United Kingdom (U.K.), where the majority of CBTp clinical trials have taken place. This occurred for a number of reasons: the U.K. National Health Service (NHS) provided clinicians, mainly clinical psychologists, with the breadth of experience to transfer their skills to treating schizophrenia; the treatment of severe mental illness became a clinical and research priority; and, the NHS also provided access to clini-

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Clinical Implications

Cognitive behavioral treatments of psychotic disorders have developed from the incomplete effectiveness of pharmacological treatment and the emerging success of cognitive behavioral therapy (CBT) in treating a wide range of psychological disorders and psychiatric conditions. CBTp for psychosis can be thought of as having completed its first wave, in which there is compelling evidence that treatment with CBTp, in addition to standard care, is superior on a range of outcomes than standard care alone. A second wave of developments can be seen to be emerging in which CBTp is being developed from both a pragmatic and theoretical perspective to be targeted toward more specific problems such as comorbid conditions, and the associated problems such as suicide risk. There will no doubt be further developments in other areas such as life style conditions and comorbid physical illnesses. CBTp has resulted in significant improvements in many, but not all, patients suffering from psychotic disorders. Further treatment developments and refinements will continue and a significant challenge lies in how these novel treatments can be best made accessible to those who would benefit from them.

cal populations, priority and research infrastructure. There is also a strong tradition within U.K. CBT for individualized assessments or case formulations determining individually tailored treatment strategies (see for example, [2, 7]), which lend themselves well to the treatment of complex disorders.

Other than a few published case studies, most notably Beck (8), there had been very little interest in directly treating psychotic symptoms through cognitive behavioral means until the late 1980s. Prior to this, psychotic symptoms had largely been considered behaviors to be extinguished through behavioral methods (e.g., 9). It was generally thought that discussion of a patient's symptoms and psychotic experiences with them would lead to deterioration in their mental state. Later evidence that many patients used naturally occurring coping strategies to decrease their symptoms and their emotional consequences (10), along with the general expansion of CBT to develop clinical techniques dealing with cognitive distortions and interpretative biases, facilitated the development of a clinical methodology whereby hallucinations and delusions became legitimate clinical targets (4).

Theoretical Models

Recently, cognitive models of the positive symptoms of psychosis have been developed in tandem with advances in cognitive behavioral treatments (e.g., 4, 11-14). Garety and colleagues' model (11) focused on various social and cognitive factors that influence the development and maintenance of symptoms such as delusions and hallucinations. The model draws on a biopsychosocial vulnerability framework thought to be triggered by stressful life events. The authors suggest that it is not the symptoms per se that are problematic, but rather the interpretation or *appraisal* of symptoms that causes significant emotional distress. Emotional changes and low self-esteem are thought to influence patients' appraisals as well as basic cognitive processing biases. The authors suggest that deficits in information processing might trigger anomalous experiences and, rather than attribute such experiences as internally generated, psychotic patients tend to attribute them to external factors or entities, thus resulting in the expression of positive symptoms. These factors, in combination with reasoning biases, dysfunctional self/world schemas and an adverse social environment, are thought to play a significant role in overall symptom formation and maintenance.

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Morrison's (13, 15) theoretical position made comparisons between psychotic and anxiety disorders and viewed hallucinations and delusions as cognitive intrusions that enter a person's awareness. These intrusions are misinterpreted and give rise to a psychotic experience, and are thought to be maintained by a combination of safety behaviors (including selective attention), plans for processing, faulty metacognitive processes and social knowledge, as well as mood and physiology. At the core of the model is the cultural unacceptability of the *interpretation* of the intrusion.

Tarrier's (4, 14, 16) coping and recovery model bears many similarities to other models, although it refers more to the maintenance of symptoms rather than their genesis. The basic tenet is the recovery model in which patients are actively coping with a potentially persistent illness and strange and disturbing experiences, which may well change many aspects of their lives and be associated with comorbid dis-

orders, such as depression and anxiety, and emotional reactions. The various behavioral and cognitive coping strategies may ameliorate or exacerbate their symptoms. The model assumes that the experience of hallucinations and delusions is a dynamic interaction between internal and external factors which are important both in the origins and maintenance of symptoms. Internal factors may be either biological or psychological, can be inherited or acquired, and serve to increase an individual's vulnerability to develop psychosis and for it to persist. Risk is further increased through exposure to demanding environmental stressors. Defective information processing mechanisms, such as source monitoring deficits in hallucinations and probabilistic reasoning biases in delusions, in combination with dysfunctions in the regulation of the arousal system, result in perceptual and cognitive disturbances manifest as psychotic symptoms. Once a psychotic symptom is activated, there is a process of primary and secondary appraisal in which the individual attempts to interpret and give meaning to these experiences and react to their consequences. Typically, the interpretation given to psychotic experiences results in feelings of threat to physical or psychological integrity or social standing and subsequent avoidant and safety behavior. The short-term consequences of appraising psychotic experiences involve emotional, behavioral and cognitive elements. Secondary effects such as low mood, low self-esteem, anxiety in social situations, substance abuse and the effect of trauma may further compound the situation. The important aspect of this model is that the complex cognitive, behavioral and emotional reaction to psychotic experience will feed back through a number of possible routes and increase the probability that the psychotic experience will be maintained and recur. Thus, emotional reactions maintain high levels of arousal which narrow and focus attention on threat-related stimuli and cue escape and safety behaviors. Behavior becomes consistent with, and strengthens, delusional beliefs, and information is selected, filtered and processed so as to confirm and support such belief structures. There is considerable individual variation in the nature of belief structures and behavioral repertoires, emphasizing the clinical importance of individualized assessment or formulation. As applied to treatment, the model emphasizes coping with symptoms rather than curing them, intervening to modify cognitive processes (such as attention and executive regulation), as well as cognitive content and behavior.

Evaluation

There have now been a number of systematic reviews of CBTp (e.g., 17-23). In the most recent of these, Wykes et al. (23) reviewed outcome data from thirty-four clinical studies. Six separate meta-analyses were performed upon the target symptom of the trial and upon positive symptoms, negative symptoms, functioning, mood and hopelessness where the data were available. There were overall beneficial effects for the target symptom (33 studies; effect size=0.400 [95% confidence interval 0.252–0.548]) as well as significant effects for positive symptoms (32 studies; 0.372 [CI 0.228–0.516]), negative symptoms (23 studies; 0.437 [CI 0.171–0.704]), social functioning (15 studies; 0.378 [CI 0.154–0.602]), mood (13 studies; 0.363 [CI 0.079–0.647]) and social anxiety (2 studies; 0.353 [CI na]). However, there was no significant change in hopelessness (4 studies; -0.19 [CI -.547–0.166]). This is an important failure of generic CBTp, as hopelessness is a frequently found precursor of suicide risk (24). Wykes et al. (23) reported that improvements in one outcome domain were correlated with improvements in others. Twenty-five studies involved the treatment of community-based chronic patients with persistent symptoms, reflecting the initial impetus for the development of CBT as an adjunct treatment when pharmacological treatment and care management resulted in incomplete recovery. Seven studies were with acutely ill patients and aimed to speed recovery, and one study with chronic inpatients and one on a mixed sample. The majority (27 studies, 79%) of the trials involved individual CBT with group CBT being less frequently evaluated. There was no evidence of any difference in effect size between individual and group CBT. Overall, in 33 trials a total of 1,964 patients were included; the numbers were smaller depending on the actual symptoms assessed. The average number of patients in each trial was 58.2 but there was considerable range (11–353). Attrition rates were not considered excessive, with the median loss to follow-up being 14.5%. There did not appear to be any significant effect of publication bias that was influencing the results. The great majority of studies were from the U.K. (20 studies), although there was an increasing number from North America (6) and Europe (5). The location of a clinical trial may be influential due to the background healthcare system (25). There are significant differences between healthcare and infrastructure in the U.K. and the United States (U.S.), which may well influence recruitment, sampling and attrition. Where healthcare is funded on a reimbursement basis, recruitment may be biased toward certain subgroups that, for whatever reason, have no access to private healthcare. The provision of different services to different income groups mitigates against representativeness of trial populations in the U.S., Australia and some European countries (25-27).

Since the publication of the most recent meta-analysis, a further large multi-centered trial of CBTp has reported its results (28). This study was primarily designed to test the effectiveness of CBTp and family interventions in reducing relapse in patients who had recently relapsed with nonaffec-

tive psychosis. The results were disappointing in that neither CBTp nor family intervention had a significant effect on rates of remission or relapse or in day-in-hospital at 12 or 24 months follow-up. There were improvements on some secondary outcomes in that CBTp showed a beneficial effect on depression at 24 months, and CBTp showed significant improvements in delusional distress and social functioning in patients in contact with carers. This was a very robustly executed clinical trial in which the therapists were well trained and carefully supervised and whose competence was monitored throughout and confirmed by independent assessors. The analysis of CBTp was adequately powered; however, the analysis of family intervention was underpowered due to recruitment and consent difficulties. Of general note from this study was that the outcomes for patients were disappointing irrespective of treatment allocation. Full remission from the index relapse was infrequent, especially in those who had no or little contact with carers or family.

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Variation in Results

There is considerable variability in the results from clinical trials. Investigation of this variability may shed light on clinical and methodological issues. There are a number of possible sources of variability.

Methodological Factors

Flaws in design and experimental control can inflate estimates of treatment benefits and compromise interpretation of results and policy decisions. Across all aspects of medicine and healthcare the quality of clinical trial methodology is related to the effect size of outcome, with poorer methodology being associated with elevated effect sizes (29-31). This aspect has rarely been investigated in psychological treatments. Tarrier and Wykes (21) devised an instrument to assess the methodological quality of clinical trials evaluating psychological treatments: the Clinical Trial Assessment Measure (CTAM). The maximum score for the CTAM is 100 and has good reliability and validity (21). In the initial analysis of nineteen clinical trials, there was a significant negative correlation between the trial effect size and the CTAM score (21). In a later analysis of 33 studies, the mean score was 61.2 (standard deviation=18.1), with a median of 56 and a range of 27 to 100 (23). The majority of trials of CBTp had random allocation and assessment was independent of treatment. However, few reports adequately described the process of assessor blinding, probably the most important methodological issue. Over half of the studies did not use a statistical method that was judged to take account satisfactorily of attrition and missing data. Methodological criteria have evolved over time, with later trials showing higher CTAM scores, and an increased quality in allocation policy (i.e., independence from the research team and true random allocation). Trials with larger sample sizes have better CTAM scores, which probably reflect the likelihood of larger investments by funding organizations to improve the quality of CBTp trials. The conclusion to be drawn from the assessment of methodological quality is that, in line with other areas of medical and healthcare, an improvement in methodology is associated with a decrease in the effect size of clinical benefit. This occurs as the influence of bias is reduced. Notwithstanding this effect, meta-analysis supports the clinical benefit of CBTp in treating schizophrenia.

Phases of Illness

Schizophrenia is a disorder that has a number of phases, such as prodromal, acute, remission, partial remission, relapse and residual symptoms. These different phases present different clinical pictures and result in different aims and procedures for CBTp. It is perhaps unrealistic and inappropriate only to evaluate all CBTp trials together without more detailed consideration of the phase of the illness and the clinical aims of the intervention. Although it is reasonable to have a primary analysis of all CBTp, secondary analyses should consider heterogeneity. Four main different intervention aims can all be identified as an adjunct to medication: 1) symptom reduction in partially remitted patient; 2) relapse prevention; 3) acute treatment; and, 4) prevention of psychosis development.

The original aim of CBTp and its most prevalent application has been in the reduction of residual psychotic symptoms that are not responding further to medication. In this aim, there is robust evidence that it is successful (23, 32). The evidence that CBTp significantly reduces relapse is much more disappointing. Prior to the publication of the recent Garety et al. 2008 trial (28), the data on relapse prevention indicated that generic CBTp made little impact on subsequent relapse rates, but that CBT clinically dedicated to relapse prevention did result in a significant decrease in relapse rates. This was exemplified in the relapse prevention study of Gumley and colleagues (33). Treatment was in two phases: participants were initially treated with CBTp and taught to monitor their early signs of relapse. Targeted CBTp was initiated if early signs of relapse emerged. However, the recent results reported by Garety and colleagues (28) call this conclusion into question as their treatment was primarily focused on relapse prevention. The content analysis of

the taped recorded therapy sessions indicated that the CBTp did adhere to protocol (34). Prior to the publication of the Garety et al. 2008 study (28), the difference in mean relapse rates between intervention and control groups for generic CBTp was 1.5%, but for CBT dedicated to relapse prevention the difference was 21% in favor of the intervention; this latter difference fell to 9.3% when the Garety et al. results (28) were included. A possible reason for the disappointing results in some relapse prevention studies is that they have not utilized the two-phase-treatment approach developed by Gumley and colleagues (33), and this approach may be essential for effective relapse prevention.

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There have been a few attempts to utilize CBTp to speed recovery in acutely ill patients. The results here have been equivocal. The initial study by Drury et al. (35, 36) reported speeded recovery by 25 to 50%. But these results were not confirmed by Haddock et al. (37). Both these studies were with small samples and the initial study by Drury et al. had a number of methodological weaknesses. The large multicentered SoCRATES study of over 300 recent onset and acutely ill schizophrenic patients found some evidence, albeit modest, of speeded recovery and symptom reduction over 18-month follow-up (38, 39). In an innovative preliminary study, Morrison et al. (40) attempted to use CBTp to prevent the emergence of a psychotic illness in those deemed so at risk. There was a significant reduction in the number of patients who developed psychoses amongst those who received CBTp. A larger multi-centered study (the EDIE 2 trial) is currently ongoing to establish whether these results can be replicated in a methodologically more robust trial.

In conclusion, the evidence indicates that different phases of the illness need different intervention approaches and may respond differently to CBTp treatment. There is good evidence for symptom reduction in chronic patients with persistent symptoms, which is the area that has received the most vigorous evaluation. There is disappointing evidence for relapse prevention and equivocal evidence for speeding recovery in acutely ill patients. This is an encouraging development in the prevention of psychosis, but it is too early to know whether this will be replicated.

Clinical Variation, Risk, Serious Comorbidity and Limiting Conditions

There has been increasing interest in the variation in clinical problems and comorbidity that are associated with schizophrenia and psychotic disorders (32). The multiple effects of a psychotic disorder on the individual, which results in variable and complex clinical presentations, argue for a diversity of psychological treatment methods. These associated problems include: 1) factors related to risk and safety, specifically suicide risk; 2) serious comorbidity such as posttraumatic stress disorder (PTSD) and substance use disorders; and, 3) factors or conditions that limit recovery, such as social anxiety and low self-esteem.

Issues of Risk and Safety: Suicide Behavior

Bleuler (41) described the clinical importance of suicide risk: *"The most serious of all schizophrenic symptoms is the suicide drive."* Suicide risk and behavior in psychotic patients is a significant and serious clinical and social problem. Approximately 4 to 10% of patients suffering from schizophrenia will eventually kill themselves (42, 43). Suicide ideation and attempts are common, with over half of all such patients having a history of attempted suicide or having significant suicidal ideation at any one time (24, 44-46). Suicidal ideation and planning are important steps that lead to an attempt of self-harm that may result in death, with previous unsuccessful suicide attempts increasing risk for later successful suicide (47). Research on identifying risk factors and characteristics of suicidal risk in schizophrenic patients such as demographic and comorbid factors (e.g., age, gender, depression, substance abuse) are too general to have clinically meaningful predictive value (48). Furthermore, generic CBTp does not appear to reduce hopelessness, an important precursor of suicide behavior, although group CBTp may be more promising (49), nor does it appear to significantly reduce suicide behavior (50). Tarrier and colleagues have developed a research strategy to develop a CBT intervention to reduce the occurrence of suicide behavior and, therefore, risk in vulnerable individuals. Theoretical models to understand the psychological architecture underlying suicide behavior in schizophrenia have now been developed (48, 51). Specifically, the Schematic Appraisal Model of Suicide (SAMS) has three main components: negative information processing biases, the presence of suicide schema, and an appraisal system (51). It is postulated that information is processed with a negative bias so that appraisals—evaluative judgments about the past, present, future and agency (self-efficacy and actions of others)—are perceived as negative, defeating, entrapping and pointless. Such interpretations of situations and events result in the development of suicide behavior as a potential

escape in the form of a suicide schema. It is proposed that in vulnerable individuals, suicide risk will increase through the emergence of suicidal ideation, which is part of a feed-forward loop arising from increasingly elaborate suicide schema together with poor access to successful problem solving. The differential activation theory elaborates the role of schema, and suggests that suicide behavior is triggered by activation of patterns of learned associations of mood, thoughts and bodily sensations with which thoughts and intentions of suicide have become associated as an escape plan. Repeated activation of suicidal ideation will result in further elaboration, and the increasing potential for a wider range of mood states and contexts to activate suicidal schema. There is emerging evidence from empirical investigations to support the components of this model (52-54). On the basis of these theoretical developments, a cognitive behavioral preventative treatment to reduce suicide behavior has been developed (55) and is currently undergoing clinical trial.

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Serious Comorbidity

Comorbid Posttraumatic Stress Disorder and Psychological Trauma

There is evidence that exposure to traumatic events in those suffering schizophrenia and severe mental illness is high, exceeding that of the general population. Estimates of 94 to 98% of individuals with severe mental illness (SMI) report at least one traumatic event (56, 57). Those diagnosed with serious mental illness are not only more likely to be exposed to traumatic events, but it is reported that they are also more likely to suffer from PTSD as a result of this exposure, with estimates of between 28 to 53% of schizophrenic patients suffering comorbid PTSD (56-58). PTSD in SMI is reported to be associated with poorer functioning and greater use of health services (57) and with involuntary admission to hospital (58). However, controversy remains as to the reliability and validity of trauma reports in those who suffer severe disturbances of mental state (59), and estimates of the prevalence of comorbid PTSD may reduce if psychosis-related traumas are excluded (60). There has been considerable research into the cognitive behavioral treatment of PTSD in nonpsychotic patients, and a number of methods have been shown to be efficacious (61). Mueser and colleagues (62) have developed a CBT treatment approach for comorbid PTSD in those suffering from severe mental illness. A clinical trial demonstrated a significant reduction in PTSD symptoms in those who received treatment compared to controls (63).

Alcohol and Substance Abuse (Dual Diagnosis)

Drug and alcohol abuse represent a significant and increasing clinical problem in schizophrenia, being associated with a range of negative outcomes, including increased suicide risk. Barrowclough and colleagues (64, 65) carried out a successful treatment consisting of a combination of CBTp, motivational interviewing and family intervention that resulted in clinical improvements and a reduction of substance use, which were sustained at follow-up and were cost effective. Currently, a large, multi-center trial of motivational cognitive behavioral therapy with these dual diagnosis patients (the MIDAS Trial [66]) is coming to completion.

Conditions Limiting Recovery

Social Anxiety

A central characteristic of social anxiety is a desire to convey a favorable impression to others, but accompanied by an intense insecurity about being able to achieve this. There is a strongly held belief by the person that they are in imminent danger of acting in an unacceptable or embarrassing manner, which will result in catastrophic consequences in terms of rejection, loss of status and humiliation in the face of others (67, 68). The perception of "social danger" results in a shift to internally focused attention and a preoccupation with somatic sensations and negative thoughts about performance and negative evaluation by others. Safety behavior becomes established to avoid the anticipated catastrophe, but only serves to maintain the problem. The internal focus of attention and preoccupation with the internalized image of the social self requires considerable processing capacity, limiting that available for a more accurate appraisal of the external situation. This may be amplified in schizophrenia in which there may be further restricted processing capacity.

There are a number of reasons why those who suffer from schizophrenia may be vulnerable to developing social anxiety (69). Psychotic experience can result in difficulty understanding the social world, both in precise analysis of social stimuli and in appropriate response, and socially awkward behavior may result. Cognitive biases resulting from delusional thought, such as persecutory delusions or delusions of reference, may result in the misattribution of the behavior of others. Paranoid delusions may take the form of a persistent fear of negative evaluation. High levels of autonomic arousal commonly reported in schizophrenic patients (70) may predispose the patient to anxiety in social situations or to the internal focus of attention. People suffering

from schizophrenia frequently have poor tolerance of social situations and a tendency toward social withdrawal.

Effective cognitive behavioral treatments are available for social phobia (71), but little is known as to whether these treatments would be effective with schizophrenic and psychotic patients; or, whether social anxiety in psychotic patients is qualitatively the same as in social phobia. Kingsep and colleagues (72) carried out a group CBT treatment specifically targeted at the symptoms of social anxiety in schizophrenic patients. Compared to the control group who did not receive this group treatment, there were significant benefits across an array of outcome measures, including measures of social anxiety, general psychopathology and depression and quality of life. Benefits for the treatment group were maintained at two-month follow-up. Patient satisfaction with the treatment was good.

Low Self-Esteem

Self-esteem is a complex concept, and there is evidence that there may be two distinct and independent dimensions: a positive evaluation of the self and a negative evaluation of the self (72). Interestingly, there were strong associations between a positive evaluation of the self and negative symptoms of schizophrenia, and between a negative evaluation of the self and positive symptoms of schizophrenia (73). Hall and Tarrier have demonstrated that it is possible to improve positive self-esteem through cognitive strategies to reduce negative evaluations of self-worth (74-76). Large scale evaluation of these methods has yet to be carried out.

Dissemination and Research into Clinical Practice

There is the perennial and complex issue of how to translate clinical research results into clinical practice. There are many blocks to this process, including not so much the problem of establishing new empirically supported treatments, but how to abandon established ineffective practices. One solution is to develop policy guidelines on what treatments should be used based on the evidence to support them; for example, the U.K. National Institute for Health and Clinical Excellence clinical guidelines. However, guidelines can only be formulated from the empirical results of research, and research projects do have practical and duration limitations. For example, CBTp clinical trials usually have clinical contact with each patient of between three to nine months, whereas mental health services would frequently have much longer contact and so CBTp could, in a clinical context, be delivered over a much longer time period should clinical need indicate. A further prevalent issue is how to ensure that a novel treatment is accessible to the maximum number of people who need it. Training and dissemination of psychological treatments and improving the skill base of the mental health workforce has proved a much more complex issue than was first envisaged, with frequent unforeseen difficulties (77). The hope that CBTp would become widely available through providing brief training to less well-qualified and skilled staff is not borne out by experience. The cost of CBTp being delivered by well-trained and experienced psychologists should not preclude the adoption of CBTp into mental health services. To make an analogy with surgical services, the fact that organ transplants can only be carried out by experienced and skilled surgeons is not advanced as a reason to restrict transplant surgery, but more so that more well-trained surgeons need to be made available. In mental health services, cheap and ineffective alternatives should not be a viable option to useful, valued, effective but more expensive ones (23).

Conclusions

Cognitive behavioral treatments of psychotic disorders have developed from the incomplete effectiveness of pharmacological treatment and the emerging success of CBT in treating a wide range of psychological disorders and psychiatric conditions. CBTp for psychosis can be thought of as having completed its first wave, in which there is compelling evidence that treatment with CBTp, in addition to standard care, is superior on a range of outcomes than standard care alone. A second wave of developments can be seen to be emerging in which CBTp is being developed from both a pragmatic and theoretical perspective to be targeted toward more specific problems such as comorbid conditions, and the associated problems such as suicide risk. There will no doubt be further developments in other areas such as life style conditions and comorbid physical illnesses. CBTp has resulted in significant improvements in many, but not all, patients suffering from psychotic disorders. Further treatment developments and refinements will continue and a significant challenge lies in how these novel treatments can be best made accessible to those who would benefit from them.

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