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Abstract: Cognitive therapy for psychosis (CBTp), schizophrenia and psychotic symptoms has advanced rapidly over the past two decades and is having an increasing influence on clinical practice. Research has focused on symptoms, e.g. paranoia, negative symptoms and hallucinations, and stages of the disorder, e.g. early intervention and persistent symptoms. It has used a range of approaches, e.g. brief or lengthier interventions for individual and groups, and in different cultural settings. Recent meta-analyses of studies demonstrate that CBTp has benefits over and above medication and treatment as usual with moderate effect sizes. This is less with active controls, e.g. supportive therapy or befriending, but a consistent finding across studies.

Depression in psychosis, people on clozapine and those who are not taking medication, are areas where research is occurring but further research is needed, e.g. for both younger and older patients, late onset psychosis, learning disability, forensic patients and with substance abuse.

International treatment guidelines and initiatives, especially for first episode psychosis, are spreading the availability of CBTp but it still remains unavailable to most patients experiencing distressing and disabling persistent symptoms of psychosis.

Suggested Reviewers:

***Conflict of Interest**

Conflict of interest

Both authors have received research grants, fees for workshops and royalties for books about cognitive therapy of psychosis.

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*Cover Letter

UNIVERSITY OF Southampton
School of Medicine

Professor Nasrallah

Editor

Schizophrenia Research

8th September 2017

Dear Dr Nasrullah,

Ms. Ref. No.: SCHRES-D-17-00575

Re: **Cognitive Therapy of Psychosis: research and implementation.**

This is a cover letter to accompany a resubmission of the above document which has been revised in accordance with your reviewers' comments.

The original submission is not on my site so I have entered it as a new submission. It was previously submitted on our behalf by Paul Grant of the Beck Institute which may have confused matters.

Thank you for reconsidering it.

Yours sincerely

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Research into cognitive therapy for psychosis has developed and evolved in the past three decades to cover most symptoms and phases of psychosis and a range of different cultures. Cognitive Behavior Therapy (CBT) is a time-sensitive, structured, present-oriented psychotherapy directed toward solving current problems and teaching clients skills to modify dysfunctional thinking and behaviour. It has been adapted for psychotic symptoms, e.g. paranoia, negative symptoms and hallucinations, and stages of the disorder, e.g. early intervention and persistent symptoms. The initial work focused on patients who had persistent symptoms (Burns et al., 2014) and demonstrated durable positive benefits over befriending, supportive therapy and treatment as usual: positive symptoms (Hedges' g=.47) and for general symptoms (Hedges' g=.52). There have been more than 20 meta-analyses conducted with a range of inclusion criteria and outcomes compared and consequent varying disparities in homogeneity of samples and fidelity of therapy. However these have generally concluded that a consistent albeit small benefit (effect size -0.33 in overall symptoms, -0.25 positive symptoms and -0.13 in negative symptoms) is found even where a wide range of diverse indications and CBT approaches are assembled (Jauhar et al., 2014).

Predictors of good outcome include female gender (Brabban et al., 2009) and lower levels of delusional conviction (Brabban et al., 2009; Garety et al., 1997; Naeem et al., 2008; O'Keeffe et al., 2016) in early studies and briefer interventions although this may not be the case for standard (16-20 session) courses (Naeem et al., 2008). The therapeutic relationship (Goldsmith et al., 2015) and use of normalising approaches (Dudley et al., 2007) may also be influential on outcome.

CBTp has been expanded to early intervention (Stafford et al., 2013), early psychosis (Tarrier et al., 2004) and for older patients (Kingdon et al., 2008). The RAISE study (Kane et al., 2016) also used psychosocial interventions derived from CBT for psychosis. The intervention was based on Mueser's Illness Management and Recovery programme which provided a brief symptom focused psycho-educational approach (Mueser et al., 2015).

CBTp has been shown to be effective in patients who are using illegal drugs at low to moderate levels (Naeem et al., 2005) but the combination of motivational interviewing and CBT was less successful in patients using higher levels of alcohol and drugs (Barrowclough et al., 2010). Substance use did decrease over two years but this did not impact on hospitalization rates, symptoms or functional outcomes. Patients in secure accommodation with challenging behaviour have also been found to benefit (Haddock et al., 2009).

More controversially, the issue of whether patients should be offered a choice of medication or CBTp is emerging particularly as the negative effects of long-term medication are being increasingly recognised (Murray, 2017). A first step in this direction has been taken by Morrison and colleagues who have recently used CBTP in patients who were refusing to take medication (Morrison et al., 2014). An effect size of 0.46 was found and there was a high level of patient acceptability. Some patients did restart medication (4% in each group) but use over the study period was similar in both groups.

Evidence base for specific symptoms

Distress associated with hallucinations has reduced (Pontillo et al., 2016) especially from command hallucinations. Birchwood (Birchwood et al., 2014) and colleagues adapted CBT for this focus and found this reduced compliance with voices. Delusions (Freeman et al, 2015), anxiety (Naeem et al., 2006) and depression (Sensky et al., 2000) in psychosis have also improved. Benefits have been seen for negative symptoms in CBTp studies compared to treatment as usual but with one exception (Sensky et al., 2000) not against active controls (Lasalvia et al., 2017). Beck and colleagues however have successfully reduced negative symptoms (Grant et al., 2012) using techniques to improve self-defeating attitudes linked to graded activity scheduling. This was an extensive and active treatment involving around fifty sessions for each patient.

Evidence base for brief and targeted CBTp

In the UK, the Improving Access for Psychological Therapy programme has expanded availability of CBT to 17% of all patients with depression and anxiety and this will increase to 25% over the next five years. 'High intensity' (usually 16 session CBT) and 'low intensity' (a range of approaches including problem-solving and brief interventions) approached have been used to maximise availability. Similar approaches have been proposed for psychosis and a small number of studies have explored this successfully e.g. combined individual CBTp and family work (Turkington et al., 2006) (Guo et al., 2017), guided self-help (Naeem et al., 2016) and a worry intervention for paranoia (Freeman et al., 2015). However there have been no studies yet comparing standard with brief intervention (Naeem et al., 2015a).

Cultural aspects

Successful studies of CBTp and psychosis have taken place in countries in the developing world including Pakistan (Naeem et al., 2015b) and in China (Li et al., 2015). There has also been investigation of use of adapted CBT for people from minority ethnic groups in the UK and a successful study undertaken incorporating a range of necessary adaptations in theory e.g. religious and cultural beliefs, and practice, e.g. use of idiom and metaphor (Rathod et al., 2013).

The interface with cognitive remediation

Cognitive remediation (CR) is distinct from CBTp and has developed a research base of its own(Wykes et al., 2011). The interventions have been compared but no difference in primary outcome (negative symptoms) was found(Klingberg et al., 2011) although CR may reduce the duration of CBTp required (Drake et al., 2014). Cognitive Adaptation Training (CAT) a treatment using environmental supports including signs, alarms, checklists and the organization of belongings did improve negative symptoms (Velligan et al., 2015) but there was no additive effect with CBTp.

New directions

CBTp is evolving rapidly to improve efficacy in a broader range of patients, expand indications, improve implementation and incorporate supplementary including group (Landa et al, 2016) approaches. Metacognitive Therapy (MCT) is derived from Wells and Matthew's self–regulatory executive function (S-REF) information-processing model of psychological disturbances (Adrian and Andrew, 1994). In MCT the three focuses are perseverative

thinking, dysfunctional attentional strategies, and unhelpful coping strategies that can all be involved in psychosis. Therefore, metacognitive processes such as worry, rumination, thought suppression and attention to threat are among the targets for therapeutic change in psychosis. Moritz and colleagues have successfully developed a program, also described as MCT, but differing in being based on addressing the cognitive biases found in those with a diagnosis of schizophrenia (Moritz et al., 2014). The 'Thinking Well' program for paranoia is also showing promising results (Weller et al, 2015).

Chadwick and colleagues have adapted mindfulness for people who experience psychosis (Chadwick, 2014). Modifications for work with psychosis include psychoeducation regarding the process of mindfulness, normalizing of the ubiquity of distressing thoughts/experiences and specifically paranoia and auditory hallucinations, graded and shorter guided practices, and increased time for the patient and therapist to process the experience and reinforce more adaptive shifts. They have recently evaluated outcomes of patients with distressing hallucinations who attended mindfulness groups and found an reduction in voice-related distress although not in other dimensions (Chadwick et al., 2016).

Early studies of 'Acceptance and Commitment Therapy' (ACT) produced encouraging results (Bach and Hayes, 2002; Gaudiano and Herbert, 2006) and these have recently been followed by Shawyer and colleagues (Shawyer et al., 2017). They compared 'Acceptance-based' CBTp with befriending for command hallucinations and found some improvement in positive symptoms. A pilot study of ACT for depression in psychosis has also showed promising results (Gumley et al., 2017).

The nature of psychotic experience frequently includes negative images which lend themselves to therapeutic approaches and these have been incorporated into CBTp to a lesser or greater extent (as described previously). Leff and colleagues have taken this a step further by using computer imagery to collaboratively develop an Avatar that is designed to resemble and sound like the 'voice' through which the therapist speaks and can inter-act in more positive ways. The initial study(Leff et al., 2013) provided evidence that where patients were able to engage with this approach, it could be very successful and a further more definitive trial is now underway. Prolonged exposure (PE) therapy and eye movement desensitization and reprocessing (EMDR) therapy has also been successful in patients with psychotic disorders and comorbid PTSD (van den Berg et al., 2015).

Compassion focused therapy (CFT) evolved from within the cognitive behavioral tradition drawing on neuroscience and evolutionary psychology as well as Eastern philosophies. CFT is a highly empathic and caring approach to suffering, shame and self-criticism that is well-suited to the critical, demanding and often frightening experiences of paranoia and voices. CFT focuses on the development and enhancement of compassion for self and others. Strategies for those with psychosis include the development and use of the image of the ideal nurturer to counter the impact of denigrating hallucinations or writing of a self-compassionate letter and the 'two-chair' technique to directly address the patient's 'inner bully.' (Braehler et al., 2013; Tai and Turkington, 2009)

Implementation

CBT for psychosis has been recommended by international treatment guidelines for many

years (Gaebel et al., 2005) but its implementation in most countries has been very poor. There are however now numerous descriptions of services internationally adapting CBTp to their own circumstances; one specific example involved case managers who were successfully taught 'high yield' i.e. focused, CBT techniques (Turkington et al., 2014). The RAISE study promoting use of psychosocial approaches to early intervention in the US is also now leading to first episode programmes being developed.

In England, the National Institute of Health and Social Excellence (NICE) guidelines have strongly promoted implementation such that there was a recent debate on whether CBT for psychosis had been 'oversold' (McKenna and Kingdon, 2014). Implementation has been better but it is still by no means universally available. These guidelines now form the basis for the UK government setting an access and waiting time standard (England., 2016.) in England of a maximum of two weeks from the point that psychosis is suspected by any mental health professional to the patient being assessed by a service that is capable of providing the range of empirically supported treatments, including CBTp, that are known to be effective in patients with psychosis. The target to achieve is 50% of patients and this is being exceeded by every service in the UK with most services reaching 80%. However the availability of a full range of treatments is not necessarily being achieved for all those who require them by most services – a government-led self-assessment process has been used to monitor progress with this. Psychosis pathways are also being developed and implemented in many services for all patients with psychosis which define what intervention should occur at what time (Rathod et al., 2016).

Conclusions

Cognitive therapy for psychosis has now been subject to many research studies in the UK, Europe, Asia and Australasia and increasingly the USA. These studies have varied in focus, intervention and methodology. There continue to be new developments addressing specific issues that present with psychosis and the 'third wave' of cognitive therapies are beginning to provide further alternatives. Further research is underway into clozapine resistant patients (Pyle et al., 2016) and imagery approaches to depression (Steel et al., 2015). The interaction, choices and potential synergies between medications, family and social interventions and CBTp, is however still far from being fully explored and understood.

Cognitive therapy for psychosis has spread internationally because of its inclusion in empirically supported treatment guidelines, publications and subsequent training events offered by the practitioners who have developed and researched it. There has been no advertising budget or promotional organisations to reach psychiatrists, psychologists and other mental health practitioners or the patient, carer and general public. There are still very few accredited training schemes internationally which can ensure that the interventions offered are those which have been shown to be effective. Nevertheless many practitioners with relevant generic skills have striven and continue to strive to develop their practice to provide this form of effective care to their patients.

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