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INVITED ARTICLE

Cognitive behavioural therapy for psychosis: The end of the line or time for a new approach?

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Abstract

Purpose: Following its introduction in the early 1990s, cognitive behavioural therapy for psychosis (CBTp) has been evaluated in a large number of clinical trials and is now established as a recommended treatment in the UK National Health Service and elsewhere in the world. Meta-analyses, however, indicate modest effects compared to treatment as usual or comparison therapies such as supportive counselling. Here, we seek to identify factors impacting the effectiveness of CBTp, and avenues for future psychotherapy research that may improve outcomes.

Method: We outline two recent umbrella reviews and discuss factors likely to impact the effectiveness of CBTp.

Results: Modest effect sizes from meta-analyses mask heterogeneous outcomes, with some people benefiting and others possibly being harmed by therapy. Common factors such as the therapeutic alliance play an important role in determining outcomes but have been largely neglected by CBTp researchers. There is also the promise of improving outcomes by identifying and targeting the psychological mechanisms that either maintain psychotic symptoms (e.g. worry) or are causally implicated (e.g. trauma).

Conclusions: It is unlikely that everyone with psychosis will be equally responsive to the same therapeutic protocols. We need a new, personalised psychotherapy approach to CBTp research and practice, and can learn from research for anxiety and depression examining predictors of therapeutic response to inform treatment decisions. Precision psychological therapies informed by a combination of individual characteristics, common factors and a focus on specific mechanisms will require new research strategies and are likely to lead to improved outcomes for people with psychosis.

KEYWORDS
CBT, CBTp, common factors, meta-analysis, outcomes, psychosis, therapeutic harm, umbrella review

Practitioner Points

- Meta-analyses and umbrella reviews show modest effects for cognitive behavioural therapy for psychosis (CBTp) compared to treatment as usual and simpler (and less costly) comparison interventions
- Modest effect sizes mask heterogeneous outcomes—some people benefit and others may be harmed by therapy
- Outcomes are likely to be improved by targeting common factors, maintenance mechanisms (e.g. worry) and causal factors (e.g. trauma)
- A personalised psychotherapy approach to CBTp, informed by individual characteristics, common factors and a focus on specific mechanisms, requires new research strategies and will shape the field

INTRODUCTION

Cognitive behavioural therapy (CBTp) is now a frontline intervention for people with or vulnerable to psychosis in many Western countries. A great many trials have reported that CBTp leads to reductions in psychotic experiences and associated distress and disability. However, other trials have reported that CBTp may be no more effective than less complex (and less costly) interventions such as supportive counselling or good quality treatment as usual. A number of meta-analyses of these trials indicate modest benefits (e.g. Bighelli et al., 2018; McGlanaghy et al., 2021; Turner et al., 2014) though some reviewers disagree with this assessment (Jauhar et al., 2019). In this paper, we discuss two recent umbrella reviews that examine the impact of CBTp on (1) clinical, functioning and recovery outcomes for people with early psychosis and schizophrenia-related diagnoses, and (2) transition to psychosis in young people at high risk. We consider whether we should now look elsewhere to improve outcomes, or if therapeutic refinements are indicated given the broad range of experiences and mechanisms encompassed by the term psychosis.

CBTp developed in the 1990s following growing concern about the limitations of the then-current interventions for psychosis, and challenges to the assumption that 'schizophrenia' is a scientifically valid concept, given poor reliability, construct validity, predictive validity and aetiological specificity (Bentall et al., 1988). Taking a psychological approach, CBTp (Chadwick et al., 1996; Garety et al., 2001; Morrison, 2001) sought to conceptualise hallucinations and delusions within a cognitive framework, assuming that it is the meaning we attribute to experiences rather than the experiences themselves (whether internally or externally generated), that shape our emotional, cognitive and behavioural responses.

CBTp targets cognitive and behavioural processes assumed to contribute to the development and maintenance of distressing psychosis. In formulation-based CBT, we seek to foster a trusting relationship with the person and map out an individualised understanding (formulation) of these processes as a basis for therapeutic change. For example, if someone is avoiding feared situations due to interpersonal threat beliefs (paranoia), we might encourage a gradual re-engagement with valued relationships and activities, so they learn they are safe to do what's important to them, even when feeling anxious or low. If someone hears derogatory and commanding voices that trigger self-criticism and compliance, we

might support the person to learn to respond with kindness to the self and postponement of behavioural responses as a means of improving mood and self-efficacy, even when the voices persist.

When clinicians started routinely enquiring into the content and meaning attributed to psychotic experiences, it also became (more widely) recognised that people's beliefs about themselves and their relationships, typically rooted in early social learning, were often reflected in the nature of their psychosis (cf. Chadwick et al., 1996; Garety et al., 2001; Morrison, 2001). People who hear critical and demeaning voices may have learnt to believe that they are inadequate or worthless from childhood, and people with paranoia may have grown up in interpersonally threatening environments. These insights have been supported by epidemiological and clinical studies that strongly implicate childhood adversity in the aetiology of psychosis (e.g. Varese et al., 2012). Psychosocial vulnerability factors can be incorporated into CBTp formulations to make sense of relevant beliefs about self, others and the world, and addressed in therapy if indicated.

Based on encouraging early results, CBTp has become a recommended first-line treatment in the UK (NICE, 2014), Canada (Norman et al., 2017) and Australia and New Zealand (Galletly et al., 2016). In the UK, we are now working towards ensuring robust service systems that give people access to CBTp delivered by qualified clinicians (e.g. Rathod et al., 2016), and supported by an educational infrastructure that drives a sustainable training model. While many have benefitted from improved access to CBTp, ongoing economic pressures and systemic service issues continue to limit access to psychological therapies for psychosis in the UK and internationally (Burgess-Barr et al., 2023).

Recently, the early promise of CBTp has rightly been questioned given mixed and modest findings from many randomised controlled trials (RCTs). The number of RCTs for CBTp is such that we now have two umbrella reviews—comprehensive reviews of relevant meta-analyses which have in turn comprehensively reviewed the RCTs in the area. Helpfully, these umbrella reviews address the two main aims of CBTp as currently offered—to improve outcomes for people with psychosis, and to delay transition in vulnerable populations.

UMBRELLA REVIEWS OF CBTP

An umbrella review examines the data generated by published meta-analyses and is used to take a bird's eye view of the evidence in the field (Fusar-Poli & Radua, 2018). Two umbrella reviews[1] of interventions including CBTp for adults with or vulnerable to psychosis have now been completed: Solmi et al. (2023) and Fusar-Poli et al. (2019)—see Table 1.

Earlier this year, Solmi et al. (2023) completed an umbrella review of 83 meta-analyses (1,246 RCTs, 84,925 participants) examining the impact of psychosocial interventions (including CBTp) compared with treatment as usual and active controls, on symptom severity in adults with early psychosis and schizophrenia-related diagnoses. This is the first review of all available meta-analyses of CBTp. Given concerns about research rigour in some Chinese studies (Tong et al., 2018; Wu et al., 2009), the authors excluded 10 meta-analyses with >50% Chinese RCTs from the main analysis. Of the remaining meta-analyses, 13 examined CBTp for early or established psychosis, all of which were of low to medium quality and found small to medium effects for CBTp compared with treatment as usual and mixed and active controls, across a range of outcomes (symptoms and functioning), some of which were not maintained at follow-up (see Table 1). In the context of their wider review of psychosocial interventions, the authors conclude that early intervention for psychosis provision (which includes CBTp) is indicated for people with early psychosis and that CBTp is indicated for people with schizophrenia spectrum diagnoses, albeit with modest effects (Solmi et al., 2023).

[1]Leichsenring et al. (2023) also completed an umbrella review of psychodynamic psychotherapies for major mental health conditions in adults, including schizophrenia spectrum diagnoses.

TABLE 1 Summary of findings from published umbrella reviews.

Author	Date	Search dates	N meta-analyses/ RCTs/ participants	Sample/ sub-sample	Key outcomes	Relevant results
Solmi et al.	2023	Inception—11.2021	83/1246/84,925	Early psychosis[a]	*CBTp versus TAU*	*Meta-analytic estimates show small to medium effects for psychotic symptoms (at follow-up):*
					Positive symptoms	EoT: ns; FU: SMD = −0.6
					Negative symptoms	EoT: ns; FU: SMD = −0.45
					Relapse	EoT: ns; FU: ns
					Hospitalisation	EoT: not available; FU: ns
					CBTp versus active control	*Small effect for functioning (at end of treatment):*
					Functioning	EoT: Hedges $g = -0.34$; FU: not available
				Schizophrenia-related diagnoses[b]	*CBTp versus TAU*	*Small to medium effects for psychotic symptoms, quality of life and functioning and delayed relapse (at end of treatment):*
					Total symptoms	EoT: SMD = −0.38; FU: SMD = −0.19
					Positive symptoms	EoT: SMD = −0.29; FU: ns
					Negative symptoms	EoT: SMD = −0.31; FU: ns
					Depressive symptoms	EoT: ns; FU: ns
					Relapse	EoT: OR=0.45; FU: ns
					Hospitalisation	EoT: not available; FU: ns
					Quality of life	EoT: SMD = −0.42; FU: not available
					Global functioning	EoT: SMD = −0.63; FU: ns
					Social functioning	EoT: SMD = −0.68; FU: not available
					Acceptability	EoT: ns; FU: ns
					CBTp versus mixed control	*Small effects for total and positive symptoms (at end of treatment and follow-up) and functioning (at end of treatment):*
					Total symptoms	EoT: $g = -0.33$; FU: $g = -0.46$
					Positive symptoms	EoT: $g = -0.25$; FU: $g = -0.33$
					Negative symptoms	EoT: $g = -0.13$; FU: ns
					Quality of life	EoT: ns; FU: not available
					Global functioning	EoT: $g = -0.25$; FU: ns
					CBTp versus active control	*Small effects for total and positive symptoms (at follow-up)*
					Total symptoms	EoT: ns; FU: SMD: −0.24
					Positive symptoms	EoT: ns; FU: SMD: −0.27
					Negative symptoms	EoT: ns; FU: SMD: −0.17
					Depressive symptoms	EoT: ns; FU: ns
					Relapse	EoT: ns; FU: ns
					Hospitalisation	EoT: not available; FU: ns
					Global functioning	EoT: ns; FU: ns
					Social functioning	EoT: not available; FU: ns
					Acceptability	EoT: ns; FU: not available

TABLE 1 (Continued)

Author	Date	Search dates	N meta-analyses/ RCTs/ participants	Sample/ sub-sample	Key outcomes	Relevant results
Fusar-Poli et al.	2019	Inception—01.2019	7/20/(not stated)	Young people at high risk for psychosis[c]	*Intervention versus TAU/ placebo/active control*	*Aggregate network/pairwise meta-analyses show no evidence to favour psychological (including CBTp), pharmacological or control interventions*
					Transition to psychosis	
					Acceptability	
					Severity psychosis (positive and negative symptoms), distress	
					Depression	
					General functioning, social functioning, quality of life	

Abbreviations: CBTp, cognitive behaviour therapy for psychosis; EoT, end of treatment; FU, follow-up; OR, odds ratio; SMD, standardised mean difference; TAU, treatment as usual.

[a]Meta-analyses: Bighelli et al. (2021), Bird et al. (2010), Frawley et al. (2021).

[b]Meta-analyses: Barnicot et al. (2020), Bighelli et al. (2018), Bighelli et al. (2021), Burns et al. (2014), Jauhar et al. (2014), Jones et al. (2004, 2018), Laws et al. (2018), Sarin et al. (2011), Velthorst et al. (2015), Zimmermann et al. (2005).

[c]Meta-analyses (some draw on the same datasets): Davies et al. (2018a, 2018b), Devoe et al. (2018, 2018a, 2018b, 2019), Hutton & Taylor (2014), Schmidt et al. (2015), Stafford et al. (2013).

Fusar-Poli et al. (2019) reviewed seven meta-analyses (20 RCTs, number of participants not stated) examining the impact of psychological, pharmacological and control interventions on the transition to psychosis in young high-risk individuals. All were assessed as high quality. This is the first umbrella review to pool all available meta-analyses of CBTp in high-risk populations. The review found no evidence to favour CBTp or any other psychological or pharmacological intervention over any other or any control condition, in terms of transition to psychosis or any other outcome (see Table 1). While disheartening, the authors highlight the value of reviews that fail to show clinical benefits and remind us that the absence of evidence is not evidence of absence (cf. Altman & Bland, 1995).

Importantly, the large confidence intervals found in several meta-analyses raise questions about how sure we can be that CBTp has just small to medium effects for all people with psychosis (cf. Solmi et al., 2023), and is not effective in delaying the transition to psychosis in any vulnerable young people (cf. Fusar-Poli et al., 2019). Modest or null findings may be due to heterogeneity of the population, questionable representativeness of study samples and variation in apparently similar interventions (and controls) offered (Fusar-Poli et al., 2019).

The issue of population heterogeneity brings us back to the validity of schizophrenia as a diagnosis. If two people have very different symptom profiles, and given the complexity of aetiological processes and cognitive mechanisms likely to be responsible for each symptom, why would we expect everyone to respond to the same intervention? Fusar-Poli et al. (2019) argue against a 'one size fits all' treatment approach for people vulnerable to psychosis, and that different interventions may benefit specific sub-groups, for example as distinguished by the three symptom clusters/characteristics of high-risk groups: attenuated psychotic symptoms, brief and limited intermittent psychotic symptoms and familial risk. The same can be argued for people with established psychosis; variation in outcomes suggests that small to moderate effect sizes for pooled data mask heterogeneity of treatment effects—some people are doing well with CBTp and others are not benefitting (cf. Solmi et al., 2023).

In order to reduce or control for heterogeneity in research samples, Fusar-Poli et al. (2019) recommend 'risk enrichment' recruitment—using standardised procedures to ensure the recruitment of high-risk participants from particular sub-groups to fully powered studies (in contrast to widening inclusion criteria which can occur given trial recruitment pressures resulting in dilution of treatment effects and underpowered research). Additionally, while a treatment as usual comparison may be desirable from both ethical and pragmatic perspectives, the wide range of interventions offered in routine service settings can make it difficult to detect novel treatment effects. If we are to address variation in apparently similar interventions (and controls) we need to be more transparent about the details of both, and/or come together as a research community to agree on working definitions of CBTp (e.g. 'high'/'low' intensity; minimum number of sessions; minimum therapist training standards; formulation required/not) and what constitutes appropriate comparison interventions.

The findings from the umbrella reviews should also be considered in the context of the wider outcome literature for psychosis. For example, despite the introduction of new pharmacotherapies for psychosis and their widespread use since the 1950s, there is scant evidence of improved long-term outcomes (Jääskeläinen et al., 2013).

In summary, the umbrella reviews indicate that (1) CBTp is effective for people with early and established psychosis in reducing symptoms and improving functioning with small to medium effects, (2) when compared with mixed and active controls, effects are consistently small and (3) there is wide variation in outcomes. This last point is particularly important because it suggests that outcomes for CBTp could be enhanced by understanding who is most likely to benefit and why.

FACTORS LIKELY TO IMPACT THE EFFECTIVENESS OF CBTP

In a systematic review of factors predictive of favourable outcomes in CBTp, O'Keeffe et al. (2017) examined associations with demographic, clinical and cognitive variables measured at baseline in RCTs. The review found evidence that female gender, older age, higher educational attainment, shorter duration of illness and greater 'insight' (attribution of psychotic experiences to mental ill-health) predicted better outcomes, with some evidence for *higher* symptom severity. O'Keeffe et al. (2017) recommend offering therapy early and developing a more individualised approach to the provision of CBTp alongside other interventions that may be useful to people for whom CBTp is not a good fit.

If we are to pursue a more individualised approach to psychological therapy provision, we might also take account of factors highlighted in the wider literature, but which are not typically assessed in RCTs. This would include common therapeutic factors (cf. Rosenzweig, 1936) and the degree to which therapy targets key causal and maintenance processes (cf. Freeman et al., 2016, 2021; Hardy, 2017).

The role of common therapeutic factors

The concept of common factors was introduced by Rosenzweig (1936) to explain broadly comparable outcomes across psychotherapies. These 'non-specific' factors describe interpersonal processes assumed to be common to all contemporary psychotherapies, including therapist and patient characteristics, and the quality of the therapeutic alliance (Wampold, 2001; Wampold & Imel, 2015). Meta-analytic results show that the alliance has a moderate effect on adult psychotherapy outcomes across modalities and presenting problems (Martin et al., 2000).

The role of common therapeutic factors is also important in CBTp. There is good evidence that people with psychosis delay accessing treatment (Birchwood et al., 2013) and around a third then disengage from services (Doyle et al., 2014; Kreyenbuhl et al., 2009). Rates of disengagement from CBTp reported in routine clinical practice vary widely (13% [Peters et al., 2015] – 43% [Richardson et al., 2019]), though

this is likely to be lower in research settings (e.g. Johns et al., 2019). Early CBTp texts consistently highlighted the importance of prioritising engagement and the therapeutic relationship but were less clear on what this involved in practice. For this, we need to look at the broader CBT literature.

Beck (1979) identified the therapeutic relationship as the foundation of CBT; *"The aspiring cognitive therapist must be, first, a good psychotherapist"* (p22), and suggested that the most common mistake when learning CBT is "*[s]lighting the therapeutic relationship"* (p32). Despite this, CBT is often criticised for being (or appearing to be) mechanistic, with a focus on corrective realism and therapist-led goals and outcomes (cf. Proctor, 2003). Like Brabban et al. (2017), we do not recognise this description of CBT and agree that such an approach would violate core CBT principles and practice. Brabban et al. (2017) suggest that while RCTs have established a sound evidence base and led to wider access to CBTp, the utilisation of protocols and symptom-based outcomes also prompted these criticisms. We would add that some of the original language of CBT (e.g. reference to faulty or distorted cognitions, dysfunctional assumptions and thinking errors) is unhelpful and likely to have shaped people's expectations of CBT as a corrective intervention. We also acknowledge that some clinical practice labelled CBT fails to adhere to key elements of skilful therapy (e.g. attending to the therapeutic relationship and ensuring genuine collaboration), raising governance issues for national CBT bodies.

In CBT and CBTp the therapeutic alliance is articulated in terms of two inherently interpersonal processes: interpersonal effectiveness and collaboration. Both are key aspects of adherent CBT (cf. Blackburn et al., 2001). Interpersonal effectiveness describes the therapist's ability to communicate (and the person's experience of) genuine regard, empathy and warmth (cf. Rogers, 1957). Collaboration describes skilful and effective engagement in the shared endeavour of active therapeutic discovery and change (cf. Blackburn et al., 2001).

The limited research examining therapist qualities predictive of the alliance in CBTp supports a focus on interpersonal effectiveness in particular. In a review of predictors and the impact of therapeutic alliance in psychological therapies for psychosis (majority CBT), Shattock et al. (2018) found that patient-rated therapist characteristics—of genuineness, trustworthiness and empathy—were associated with patient ratings of the quality of therapeutic alliance, which in turn predicted symptomatic outcomes. More recently, Bourke et al. (2021) conducted the first meta-analysis of associations between therapeutic alliance, engagement and outcomes in psychological therapies for psychosis and showed that the alliance, as rated both by the person with psychosis and the therapist, had a small to moderate impact on engagement and psychosis and global outcomes, in line with the wider psychotherapy literature. Interestingly, as with the umbrella reviews, Bourke et al. (2021) note considerable variation in the key variable of interest— here, the therapeutic alliance.

If the alliance varies widely and predicts outcomes, it is possible that some people experience a poor alliance in CBTp (and other psychotherapies) and that this can cause harm (cf. Parry et al., 2016). Goldsmith et al. (2015) investigated the *causal* effect of the therapeutic relationship on clinical outcomes in a three-arm trial comparing CBT, supportive counselling and treatment as usual. Using instrumental variable analysis (an analytical approach that can demonstrate causality), the authors showed that for both active treatments, while improvements in the alliance (on an 8-point scale) led to improved symptomatic outcomes overall, this masked important sub-group differences. For those who judged the alliance to be strong, attending more sessions led to better outcomes ($\beta = -2.91$), whereas for those who judged the alliance to be poor, *attending more sessions had a detrimental effect* ($\beta = 7.74$). This suggests that (1) a strong alliance is likely to contribute to (as opposed to simply correlate with) improved outcomes, (2) the alliance can have a sizeable impact for people with psychosis and (3) ongoing therapy in the context of a poor alliance can be harmful. To our knowledge, this study has not been replicated, so the findings should be treated with caution. If replicated, these findings would also suggest that the alliance affects pooled outcomes for CBTp.

In summary, common therapeutic factors play an important role in CBTp outcomes, consistent with the broader psychotherapy literature. Therapists' interpersonal effectiveness is likely to affect the therapeutic alliance. Where people with psychosis rate the alliance as poor, CBTp may be harmful. Hence,

if it were possible to ensure that CBTp proceeded only in the context of a good alliance, aggregate outcomes would be likely to improve considerably.

The role of key mechanisms

The recent move from 'broad spectrum' CBTp to a range of interventions targeting specific maintenance processes that affect psychotic symptoms directly (e.g. worry), or are causally implicated in the development of these symptoms (e.g. trauma), creates opportunities to further enhance the effectiveness of this therapy.

The work of Freeman and colleagues on the CBTp 'Feeling Safe' programme exemplifies this shift. This programme combines six brief modular interventions, each focused on one factor likely to contribute to the maintenance of persecutory delusions (Freeman et al., 2016, 2021). The overall programme is approximately six months long and takes a systematic approach to core CBTp intervention targets (e.g. self-beliefs, worry, safety-seeking behaviours and sleep), supported by therapy manuals and between-session coaching. The person with psychosis is encouraged to decide which of the modules to prioritise, and most people select three or four of the six (Freeman et al., 2021). The initial RCT showed excellent outcomes compared with befriending, with large effects for delusion conviction ($d = -0.86$) and severity ($d = -1.20$) and small to medium effects for paranoid thoughts ($d = -0.39$), depression ($d = -0.20$) and well-being ($d = 0.60$) at end of treatment. These gains were largely maintained at 6 months follow-up: delusion severity ($d = -0.87$), paranoid thoughts ($d = -0.42$), depression ($d = -0.14$) and well-being ($d = 0.27$). These are impressive results and considerably larger than previous CBTp outcomes.

Improved trauma interventions are also shaping CBTp. We know that adversity in childhood is associated with psychosis in adulthood, in a likely dose–response relationship; early trauma predicts the severity of voices and delusions, and neglect predicts negative symptoms (Bailey et al., 2018; Trotta et al., 2015; Varese et al., 2012). Trauma exposure is reported by 78% of people with psychosis, and 16% meet the criteria for PTSD (De Bont et al., 2015). Voices and delusional beliefs may reflect previous trauma directly (e.g. in terms of voice content) or thematically (e.g. a pervasive sense of interpersonal threat; Hardy, 2017; Larkin & Read, 2008; Morrison et al., 2003; Read et al., 2005; Steel et al., 2005, Steel, 2015).

Despite clear links with childhood trauma, most people with psychosis are not asked about early adversity or offered trauma-focused interventions (Neill & Read, 2022; Read et al., 2005, 2018), probably due to service pressures, clinical caution and the dominance of traditional medical assumptions about biological aetiology (Young et al., 2001). A meta-analysis of PTSD treatments (including CBT and EMDR) found just small effects for people with psychosis (Brand et al., 2018), though emerging evidence from case series of trauma interventions such as reliving and imagery rescripting which *target memories linked to current psychotic symptoms* show more promising results (e.g. Ison et al., 2014; Keen et al., 2017; Paulik et al., 2019, 2022), and are incorporated in the current CBTp STAR trial for psychosis and PTSD (Peters et al., 2022).

In our experience, most clinicians agree that for many people it is important to address trauma linked to psychosis, but can be unsure how to do this safely and effectively. With the development of national policies for trauma-informed mental health care (e.g. UK Government, 2022) and if the promising results of preliminary case series are replicated in larger scale studies, this is likely to become a key component of CBTp.

Interestingly, reviews of the role of attachment in psychosis and implications for CBTp (e.g. Berry et al., 2007; Gumley et al., 2014; Lavin et al., 2020; Partridge et al., 2022; Sood et al., 2022) show that attachment style predicts interpersonal processes (likely to affect the therapeutic alliance), and key maintenance mechanisms (e.g. self-beliefs, worry/other emotion regulation strategies, and safety behaviours). An integration of attachment theory and CBTp may prove fruitful in supporting people to make sense of their psychosis in a developmental context, and collaborative discussions about the focus for therapeutic change.

Precision personalised therapy for people with psychosis

We have seen that there is considerable heterogeneity in CBTp outcomes, that the therapeutic alliance may account for some of this heterogeneity, and that targeting key mechanisms implicated in the maintenance or development of psychosis is likely to be beneficial.

The heterogeneity of treatment effects (Varadhan et al., 2013) has long been recognised in the psychotherapy literature and is the basis for personalised interventions, for example through individualised formulation and treatment planning (Garfield, 1996) and following best practice guidelines for specific conditions (Cohen et al., 2021; Cohen & DeRubeis, 2018). This has resulted in mainly small to medium effects for CBTp to date. If we can determine what works best for whom, and under what circumstances (Paul, 1967), we will be able to personalise CBTp more precisely and improve outcomes more consistently.

Typical research designs and analysis plans may not do justice to CBTp. The generation of large datasets has followed rapid developments in statistical methodologies, and these are being used to develop algorithms to identify optimal treatments for depression and anxiety (Cohen et al., 2021; Cohen & DeRubeis, 2018; Hollon et al., 2019). For example, Lorenzo-Luaces et al. (2017) examined patient pathways within an RCT for anxiety and depression with modest overall effects (Van Straten et al., 2006) and showed that 75% of participants with a better prognosis (identified using pre-treatment characteristics) did well with both CBT (10–15 sessions) and a brief intervention (seven sessions), whereas the 25% of participants with a poorer prognosis did much better when allocated to CBT. Similarly, Delgadillo et al. (2017) developed a depression index based on pre-treatment characteristics and showed that the 28% of people with a more complex presentation/poorer prognosis did better when allocated directly to CBT rather than starting with a 'low intensity' intervention. In both examples, the use of an algorithm based on pre-treatment characteristics identified the people who needed more intensive therapy from the outset. Utilisation of these statistical approaches with data from trials examining a range of interventions, for example, CBTp, Family Intervention, third-wave therapies and user-led initiatives such as hearing voices groups, would be a valuable next step in personalising psychological therapies provision for people with psychosis. A meta-analysis of treatment effect modifiers in CBTp, drawing on individual participant data, is currently underway (Sudell et al., 2021).

For many of us, the notion of determining therapies using algorithms raises apposite concerns about a brave new world of psychotherapy, not least given the serious prejudicial consequences of likely biases in the application of algorithms in other settings such as policing and the judiciary (O'Neil, 2017). Additionally, it is tempting to assume that expert clinical judgement based on intensive training and supported by regular supervision would be sufficient to make accurate predictions about what works for whom. Indeed, this is the basis for clinical decision making in many therapy services nationally and internationally. However, a large body of evidence accrued over the last 50 years, and linked narrative and meta-analytic reviews (e.g. Ægisdóttir et al., 2006; Bell & Mellor, 2009; Grove et al., 2000), show that the accuracy of clinical judgement is highly variable and that these judgements are often biased (e.g. we privilege the therapy in which we are trained), and usually outperformed by statistical models (see Cohen et al., 2021).

Research into data-driven approaches to personalised therapy is still in its infancy and currently yields mixed and inconclusive results (Cohen et al., 2021). However, the availability of new analytical tools such as machine learning means that this research is likely to develop enormously over the next decade. A healthy scepticism alongside an openness to the potential benefits of data-driven decision guides will be essential if we are to support people to live well with psychosis. If applied to CBTp, and we find that outcomes can be predicted by pre-treatment characteristics (including key causal and maintenance mechanisms), therapist characteristics (including interpersonal style and effectiveness) and quality of the alliance (assessed early in therapy), we may be able to draw on algorithmic recommendations to inform transparent and collaborative decisions about personalised treatment options. Importantly, people with psychosis, clinicians and researchers will need to be satisfied that such tools enhance rather than diminish therapies, can be thoroughly scrutinised for socio-economic and other biases (no 'black box' algorithms), and genuinely improve therapy choice and outcomes (cf. Cohen et al., 2021).

CONCLUSION

CBTp typically yields small to medium effects compared with treatment as usual (which has improved considerably over the last two decades) and active controls known to be beneficial (such as supportive counselling). While statistically significant, these effect sizes are disappointing. As CBT researchers and therapists, it can be hard to hear that the approach we have committed to and invested in may not be as effective as we had hoped. Nevertheless, we need to welcome, scrutinise and extend the evidence if we are to deliver the most effective therapies for people with psychosis.

The modest effects of meta-analyses mask heterogeneous outcomes, with some people benefiting and some possibly being harmed by therapy. Therapists' interpersonal effectiveness has an impact on the therapeutic alliance, which in turn affects clinical outcomes. Additionally, the advent of interventions targeting key maintenance processes such as worry and sleep show impressive initial results, and adapted trauma interventions may also improve outcomes. It is of note that both these recent developments are designed for specific groups of people—with persecutory delusions and early trauma.

Over the next 10 years, we predict that precision psychological therapies will be shaped by the use of large datasets informed by pre- (and early) treatment factors. A review of factors predictive of favourable outcomes in CBTp argues for an individualised approach to the provision of psychological therapies (O'Keeffe et al., 2017), and the umbrella reviews of CBTp argue for a paradigm shift in psychotherapy research (Fusar-Poli et al., 2019; Solmi et al., 2023). Fusar-Poli et al. (2019) recommend 'individual-participant data meta-analyses' which would allow us to examine large, individual-level datasets that are continually updated ('living') to identify treatment effects (and effect sizes) for specific sub-groups and to address the problem of pooled data cancelling out individual differences in treatment response (cf. Nelson et al., 2021). An alternative 'staged treatment' approach to psychotherapy research involves shared treatment decisions being updated as therapy progresses based on the person's progress and dynamic prediction of clinical and recovery outcomes (Nelson et al., 2021). These are visions of precision psychological therapies based on living datasets to inform collaborative treatment decisions at an individual level.

Such datasets would depend on routine, secure and coordinated data collection in secondary care services. Many clinicians are understandably wary of burdening people with too many measures and of services becoming target-driven rather than outcome-informed. We suggest there is a balance to be struck here, with a minimum dataset (that can be declined), supported by necessary service infrastructure and used transparently to inform shared decision-making regarding treatment options, as well as generating data for large-scale analysis of predictors of therapeutic response. Wider concerns about the companies contracted to process confidential NHS data (e.g. Amin, 2023a, 2023b) highlight the need for us to work only with trusted partners.

People with psychosis present with a wide range of difficulties and priorities. The promise of the early clinical trials has not been borne out by the evidence to date. This does not need to be the end of road for CBTp. A personalised psychotherapy approach informed by a combination of individual characteristics, common therapeutic factors and key maintenance and causal mechanisms, could lead to enriched and targeted interventions, including but not limited to CBTp.

AUTHOR CONTRIBUTIONS

Katherine Newman-Taylor: Conceptualization; writing – original draft; writing – review and editing.
Richard Bentall: Conceptualization; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

Katherine Newman-Taylor is the guest editor for this special issue and has not been involved in the review of this manuscript. Richard Bentall has no interests to declare.

DATA AVAILABILITY STATEMENT

N/A.

ETHICS STATEMENT

This work has been carried out in accordance with the Declaration of Helsinki.

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