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Feasibility of group Cognitive Remediation Therapy in an adult eating disorder day program in New Zealand

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ABSTRACT

Objective: To explore the feasibility of integrating group Cognitive Remediation Therapy (gCRT) into an eating disorder day program in Auckland, New Zealand.
Method: A consecutive series of 28 patients took part over an 8-month period in the context of a service audit. Main outcome measures were the Detail and Flexibility Questionnaire (DFlex) and qualitative feedback from patients.
Results: Significant shifts in self-report inefficient cognitive style were observed pre/post gCRT with large effect sizes (Cohen's d_{av}) for both cognitive rigidity and attention to detail outcomes. Patient feedback was positive, with themes of enjoyment, increased insight, and positive social interaction/esteem boosting in the context of the group emerging.
Conclusions: Support for the acceptability, adaptation, expansion, practicality, and limited-efficacy testing of gCRT in an Australasian day program setting has been found, suggesting integration of this module into existing day treatment programs is merited. Larger scale trials may help delineate the clinical characteristics of good responders.

1. Introduction

The cognitive interpersonal maintenance model of anorexia nervosa (AN) outlines cognitive, socio-emotional, and interpersonal constructs hypothesised as both predisposing and perpetuate factors of the illness (Schmidt & Treasure, 2006; Treasure & Schmidt, 2013). In response to the body of literature highlighting the role of cognition as presented in the interpersonal model, Cognitive Remediation Therapy (CRT) for AN was developed. CRT for AN is a brief, time-limited pre-treatment intervention initially designed to target neurocognitive inefficiencies in inpatients, while engaging them in the process of therapy (Davies & Tchanturia, 2005; Tchanturia, Davies, & Campbell, 2007). CRT targets both poor set-shifting (cognitive rigidity) and weak coherence (detail focus to the exclusion of global integration). Both of these processing styles have been well documented in the AN literature (Lang, Lopez, Stahl, et al., 2014; Roberts, Tchanturia, Stahl, et al., 2007; Westwood, Stahl, Mandy, et al., 2016; Wu, Brockmeyer, Hartmann, et al., 2014), and implicated as underlying endophenotypes and/or maintaining factors of AN (Holliday, Tchanturia, Landau, et al., 2005; Lopez, Tchanturia, Stahl, et al., 2008; Roberts, Tchanturia, & Treasure, 2013; Tenconi, Santonastaso, Degortes, et al., 2010; Treasure & Schmidt, 2013).

Over the past decade, evidence for the acceptability and efficacy of individual CRT in the inpatient setting has been gathering, through case reports (Davies & Tchanturia, 2005), case series (Tchanturia et al., 2007), and more recently randomised controlled trials (Tchanturia, Lounes, & Holttum, 2014). Overall, research suggests that individual CRT is an acceptable intervention for both patients and therapists, can bring about an increase in treatment motivation, and can facilitate some gains in both meta-cognition and capability to remediate biases in neurocognitive profile (for a systematic review, see Tchanturia et al., 2014). Various adaptations of individual CRT have since been developed (Lang, Treasure, & Tchanturia, 2015; Lock, Agras, Fitzpatrick, et al., 2013; Raman, Hay, & Smith, 2014; van Noort, Kraus, Pfeiffer, et al., 2016). Common to all qualitative studies is the high acceptability of CRT from both patient and therapist perspectives (Easter & Tchanturia, 2011; Tchanturia, Giombini, Leppanen, et al., 2017; Whitney, Easter, & Tchanturia, 2008).

A group protocol for adolescent AN has more recently been manualised (Maiden et al., available online from www.katetchanturia.com). A pilot study including 30 adolescents with AN reporting the "flexibility group" to be interesting and acceptable to adolescents, with a small increase in self-reported cognitive flexibility found at follow-up (Pretorius, Dimmer, Power, et al., 2012). A later case series of nearly

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100 patients across 20 groups delivered in inpatient/intensive day program settings over a 5-year period replicated findings of high acceptability of CRT in a group format, together with increased motivation to change and a significant improvement in self-reported rigidity and detail focus (Tchanturia, Larsson, & Brown, 2016).

Treatment research of group CRT is less developed than individual CRT. Data to date comes exclusively from European and American cohorts, meriting an investigation in the Australasian context. Feasibility studies provide a practical framework within which to investigate and understanding the practicalities of disseminating evidence-based treatment into community clinical settings, particularly those without the resources of a research team. The current study aims to assess five key aspects of feasibility (Bowen, Kreuter, Spring, et al., 2009) within a specialist adult day program for eating disorders in New Zealand; adaptation, expansion, practicality, acceptability, and limited-efficacy testing.

2. Material and methods

2.1. Participants

A consecutive series of 28 patients admitted to the day program at Thrive Eating Disorders Service in Auckland, New Zealand over an 8-month period (August 2015–March 2016) were assessed as part of a service audit. All participants met DSM-IV criteria for AN or BN. On consultation with the local ethics committee (HDEC online), formal ethical approval was not required due to the nature of the study being part of a service audit. Permission was gained from the Thrive service manager, and informed verbal consent was obtained from each patient before their first CRT session.

2.2. Measures

2.2.1. Detail and Flexibility Questionnaire (DFlex)

The DFlex (Roberts, Barthel, Lopez, et al., 2011) is a 24-item self-report measure, assessing two 12-item subscales of attention to detail and cognitive rigidity as they manifest in everyday life. Moderate to strong construct validity was reported in the original validation study, when compared to appropriate subscales of the Autism Quotient (Baron-Cohen, Wheelwright, Skinner, et al., 2001; Roberts et al., 2011). Internal consistency in the current sample was low on admission (Cognitive rigidity $\alpha = 0.48$; detail focus $\alpha = 0.68$) but excellent on discharge ($\alpha = 0.91$; $\alpha = 0.94$). The DFlex has previously been used as a CRT outcome measure (Tchanturia et al., 2016).

2.2.2. Eating Disorders Examination-Questionnaire (EDE-Q)

The EDE-Q is a 28-item measure of eating disorder psychopathology adapted from the clinician-rated Eating Disorders Examination (Fairburn & Beglin, 1994). Evidence for strong psychometric properties including convergent validity have been found (for a systematic review, see Berg, Peterson, Frazier, et al., 2012).

2.2.3. Depression Anxiety & Stress Scale-21 (DASS-21)

The DASS-21 (Lovibond & Lovibond, 1995) is a 21-item self-report measure that delineates mood disruption into depression, anxiety and stress symptoms. Internal consistency is high ($\alpha = 0.79$–0.93) amongst women with an eating disorder (Eshkevari, Rieger, Longo, et al., 2014).

2.2.4. Qualitative questionnaire

A feedback questionnaire was administered at discharge, where patients were asked four open-ended questions: how they found CRT in general, what they enjoyed most, anything they did not enjoy, and if they would suggest any changes.

2.3. Procedure

2.3.1. Treatment setting

Thrive Eating Disorders Service is a publically funded specialist group-based treatment program for eating disorders. Patients are seen by a multi-disciplinary team for group work (physiotherapy, occupational therapy, psychological therapy, nutrition education) and supported meals up to five days per week. Patients have weekly individual psychological sessions (drawing from CBT, motivational interviewing and psychodynamic approaches) and individual dietetic sessions. Weekly medical monitoring is conducted by staff nurses (weight and basic observations), with psychiatric medication review provided as appropriate.

2.3.2. Intervention

Manualised group Cognitive Remediation Therapy (gCRT) was delivered on a weekly basis as part of the standard Thrive day program treatment on a rotating basis within an open group. The intervention consisted of eight 60-minute sessions, with the topics comprising two rotations of three themes (bigger picture thinking, switching, multitasking) plus motivational summary sessions at the end of each rotation. Some amendments were made to the original adolescent protocol (Maiden et al., available online from www.katetchanturia.com) to ensure that the intervention was developmentally and culturally appropriate (see Online Supplementary Table 1). A 5–10 self-reflective component was added to the end of each session.

2.3.3. Data collection and analysis

Patients completed questionnaires on admission and discharge, with the qualitative feedback questionnaire on discharge only. Inspection of histograms indicated that data was normally distributed, therefore paired-sample *t*-tests were run for the main outcome measure (DFlex). Given the small sample size, Cohen's d_{av} effect sizes (for dependent or repeated measures) are reported (Lakens, 2013) as an additional indicator of the strength of the difference in scores pre/post intervention.

3. Results

3.1. Audit metrics

Twenty-eight admissions (24 = AN; 4 = BN) were made into the day program during the audit timeframe, with 16 patients (12 = AN; 4 = BN) completing 4 or more of the 8 gCRT sessions, and 12 patients (12 = AN; 0 = BN) completing between 1 and 3 group sessions. Reasons for not completing four or more sessions were as follows; transferred to residential treatment ($n = 4$), transferred to outpatient treatment ($n = 6$), timing of session clashed with individual psychological session ($n = 2$). Patients completing three or fewer gCRT sessions were excluded from further analysis, due to having participated in less than half of the intervention. One additional AN patient was excluded from the analysis, as no questionnaires were completed. Therefore, further analyses includes data from the 15 patients that completed four or more CRT group sessions ("audit cases").

Of the 15 audit cases, an average (median) of 8 gCRT sessions (quartiles 5–10) were completed (median unique sessions = 6; quartiles 5–7).

3.2. Participant characteristics

See Table 1 for demographic details of the audit cases. Most cases presented as AN binge/purging type ($n = 7$; 46.7%) or AN restricting type ($n = 4$; 26.7%). The remaining four cases were BN (26.7%). One case was male (AN). Wide variance in the duration of eating disorder illness was observed, with a range of 1–28 years (age range 19–48 years). Similarly, given inclusion of all patients admitted to the day program (both AN and BN cases), wide variance in BMI was seen at