How research in cognitive styles and neuropsychology in eating disorders stimulated the treatment innovations

Dr Kate Tchanturia

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No grade A (reflecting strong empirical data) recommendation for treatment for AN and 49 C (expert opinion in absence of strong data). Further research in effective treatments was encouraged.

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9 RCT-s for AN; drop out rates very high (between 30-65%)
Cognitive style variation in the general population

- e.g. good proof reading (Lang et al 2014, 2015)
- e.g. choosing one strategy routine (Tchanturia et al 2011, 2012)

Estimated IQ in anorexia: A systematic review
Annals of General Psychiatry. 23; 9 (1) :40
Research in cognitive characteristics

• Cognitive inflexibility in Anorexia Nervosa robustly replicated
  (review Lang et al 2014, Tchanturia et al 2012)

• Poor gestalt processing
  (review Lang et al 2014, Lopez et al 2009)

• Perfectionism is strongly present in AN
  (review Lloyd et al 2014)

• IQ is higher than average
  (Lopez et al 2010)
Variety of the neuropsychological tasks were used to explore cognitive strengths and weaknesses (Tchanturia et al 2011; 2012; Harrison et al 2012; Lopez et al 2009)

Set Shifting: WCST

Central Coherence: ROCFT

FPT
Effect sizes from studies using the Wisconsin Card Sorting task (WCST) with adults and children and adolescents with AN

Thompson et al., 1993
Fassino et al., 2002
Koba et al., 2002
Ohrmann et al., 2004
Steinglass et al., 2006
Nakazato et al., 2010
Abatte Daga et al., 2011
Tchanturia et al., 2012
Galimberti et al., 2012
Geil et al., 2012
Pignatelli et al., 2013

Andres-Perpina et al., 2011
Dmitrzak-Weglarz et al., 2011
McAnarney et al., 2011
Fitzpatrick et al., 2012
Lonzano-Serra et al., 2014
Lang et al., submitted

ADULT

CHILD

Starting Cards...
Sort by shape
Test Card
Sort by colour
WCST in AN and ASD

No significant difference in perseverative errors between AN and ASD participant groups, suggesting similar set-shifting profiles.

Westwood et al. (in prep)
Attention to detail
Embedded Figures Test
(reported in Lopez et al 2008, 2009; Lang et al 2014)
Rey-Osterrieth Figure most reported
(Lang et al 2014 systematic rev)

(Please copy this figure)
Rey-Osterrieth Figure
CC studies in adults
ROCFT (N=252)

Studies not included in meta-analysis:

- Lindner et al., 2012 – did not report CCI
- Goddard et al., 2013 – Only included males, but found that ED males had weaker central coherence than HC males (d=-0.5, p=0.009).
- Kanakam et al., 2012- Included mixed AN & ANREC: reported no differences between ED twins and HC (d=0.1, p=0.05).
Effect size is similar in CC in children

Lang et al 2015 Plos one

N= (AN -42; HC =42) in children
Targeting cognitive styles and strategies in ED

Cognitive Flexibility

Perfectionism

Central Coherence

Cognitive Remediation Therapy for Anorexia
Manual for Clinicians
Tchanturua, Davies, Reeder, Wykes
2007, 2010
London 2 version
available from the SLAM ED website
Cognitive Remediation Therapy: ‘The how rather what of thinking’

• Manual based 10-session intervention, twice a week, for adult AN admitted to a specialist ED Unit

• Include exercises to:

  (1) increase cognitive flexibility

  (2) see the ‘bigger picture’

  (3) relate to real life
CRT improves cognitive task performance
(Tchanturia et al. 2014 for review EERD)

Effect sizes of the CRT treatment studies including cognitive assessments

Central Coherence
- Tchanturia et al. (2008)
- Dingemans et al. (2013)
- Lock et al. (2013)

Set Shifting
- Brockmeyer et al. (2013)
- Dingemans et al. (2013)
- Lock et al. (2013)
- Abbate-Daga et al. (2013)
- Tchanturia et al. (2008)
Drop out from the treatment (psychological and psychopharmacological 35-65% reported in the past studies before 2004)

From available evidence drop out from CRT is low! (0-15%)

Case series
Quality of life more than symptoms improve in Schizophrenia what about AN?
Evidence for QoL improvement from one case series and one RCT trial!
Cognitive Remediation Therapy as an Intervention for Acute Anorexia Nervosa: A Case Report

Helen Davies and Kate Tchanturia*
Institute of Psychiatry, King’s College, University of London, UK

The aim of this case report is to illustrate how cognitive remediation therapy (CRT) can be used as part of the treatment programme in acute anorexia nervosa (AN) to stimulate mental activities and improve thinking skills and information-processing systems when other therapies, for example cognitive behavioural therapy (CBT), may be too complex and intense for the patient to engage in. Furthermore, we hypothesize that CRT may be an effective tool in improving flexibility of thinking in AN, as previous neuropsychological findings have proved that rigidity is one of the maintaining factors in AN. Copyright © 2005 John Wiley & Sons, Ltd and Eating Disorders Association.
Research evidence for CRT in ED

MRC Framework for the Development of Complex Interventions

Pre-clinical
- Theory: Explore relevant theory to ensure best choice of intervention and hypothesis and to predict major confounders and strategic design issues.

Phase I
- Modelling: Identify the components of the intervention, the underlying mechanisms by which they will influence outcomes and provide evidence that you can predict how they relate to and interact with each other.

Phase II
- Exploratory Trial: Describe the constant and variable components of a replicable intervention AND a feasible protocol for comparing the intervention to an appropriate alternative.

Phase III
- Definitive RCT: Compare a fully-defined intervention to an appropriate alternative using a protocol that is theoretically-defensible, reproducible and adequately controlled, in a study with appropriate statistical power.

Phase IV
- Long-term Implementation: Determine whether others can reliably replicate your intervention and results in uncontrolled settings over the long term.

Continuum of increasing evidence

Cognitive Remediation Therapy (CRT) for eating and weight disorders

Edited by Kate Tchanturia

Routledge 2015 London
www.katetchanturia.com
Thanks to the home and international

For manuals and more information visit: www.katetchanturia.com

Research gate
If we have time for questions?
If not email me:
Kate.Tchanturia@kcl.ac.uk
Thanks

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Swiss Anorexia Nervosa Foundation

The Psychiatry Research Trust

Ariadne

South London and Maudsley NHS Foundation Trust

FUNDACAO Bial
INTERNATIONAL COLLABORATORS
International collaborators
References

Systematic reviews:


Group CRT:


Patients feedback:


Child adolescent adaptation:


Careers and family:

References (fMRI studies)

• Fonville L, Giampietro V, Williams S, Simmons A, Tchanturia K. (2013) Alterations in Brain Structure in Adults with Anorexia Nervosa and the Impact of Illness Duration; Psychological Medicine DOI: 10.1017/S0033291713002389


