Autism Spectrum Disorder (ASD) and Anorexia Nervosa (AN) is there link?

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Different approaches/similarities:

Are autism and anorexia nervosa related?
Prof C. Gillberg
1983 Sweden

Is anorexia female
Version of autism?
Prof J. Treasure
2009 UK
Overlap?
What we know from research:
The comorbidity of Eating Disorders

Hollander et al 2009; Murphy et al 2010; Westwood and Tchanturia 2017
Why we were not noticing the problem?

Few points:
Gender bias
Extreme male brain hypothesis
How ASD is captured in media
Proportion of low AQ vs high AQ at admission

Autism Quotient step up programme

Cut off = 6. Higher scores indicating higher autistic symptomology (Tchanturia et al 2013, 2016)
Characteristics of autism spectrum disorder in anorexia nervosa: A naturalistic study in an inpatient treatment programme

Kate Tchanturia\textsuperscript{1,2,3}, James Adamson\textsuperscript{2}, Jenni Leppanen\textsuperscript{1} and Heather Westwood\textsuperscript{1}

Abstract
Previous research has demonstrated links between anorexia nervosa and autism spectrum disorder however, few studies have examined the possible impact of symptoms of autism spectrum disorder on clinical outcomes in anorexia nervosa. The aim of this study was to examine the association between symptoms of autism spectrum disorder and eating disorders, and other psychopathology during the course of inpatient treatment in individuals with anorexia nervosa. Participants with anorexia nervosa (n = 171) completed questionnaires exploring eating disorder psychopathology, symptoms of depression and anxiety, and everyday functioning at both admission and discharge. Characteristics associated with autism spectrum disorder were assessed using the Autism Spectrum Quotient, short version. Autism spectrum disorder symptoms were significantly positively correlated with eating disorder psychopathology, work and social functioning, and symptoms of depression and anxiety, but not with body mass index. Autism Spectrum Quotient, short version scores remained relatively stable from admission to discharge but there was a small, significant reduction
High ASD features more clinical severity
"Anorexia nervosa ASD on steroids"

<table>
<thead>
<tr>
<th>Measures</th>
<th>Low scoring autism traits</th>
<th>High scoring autism traits</th>
<th>T</th>
<th>p</th>
<th>d</th>
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</thead>
<tbody>
<tr>
<td>Demographics</td>
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<tr>
<td>Age</td>
<td>124 27.2 9.9</td>
<td>50 27.2 7.7</td>
<td>0.22</td>
<td>.98</td>
<td>0.00</td>
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<tr>
<td>Age of onset</td>
<td>115 16.4 6.6</td>
<td>44 15.5 3.8</td>
<td>0.88</td>
<td>.38</td>
<td>0.15</td>
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<tr>
<td>Illness duration</td>
<td>115 10.6 8.7</td>
<td>44 10.9 7.8</td>
<td>0.22</td>
<td>.82</td>
<td>0.04</td>
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<tr>
<td>Length of treatment (weeks)</td>
<td>122 15.8 10.4</td>
<td>47 18.2 12.5</td>
<td>1.25</td>
<td>.22</td>
<td>0.22</td>
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<tr>
<td>BMI admission</td>
<td>124 14.1 1.9</td>
<td>50 14.4 1.6</td>
<td>0.76</td>
<td>.45</td>
<td>0.17</td>
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<td>Self-report measures</td>
<td></td>
<td></td>
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<tr>
<td>EDE-Q Global</td>
<td>122 3.6 1.7</td>
<td>50 4.4 1.7</td>
<td>2.85</td>
<td>.005**</td>
<td>0.47</td>
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<tr>
<td>HADS Anxiety</td>
<td>105 13.2 5.0</td>
<td>39 16.9 3.1</td>
<td>5.38</td>
<td>&lt;.001**</td>
<td>0.82</td>
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<tr>
<td>HADS Depression</td>
<td>105 10.3 5.3</td>
<td>39 13.2 4.2</td>
<td>3.05</td>
<td>.003**</td>
<td>0.58</td>
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<tr>
<td>WSAS</td>
<td>120 25.2 10.2</td>
<td>48 29.0 6.9</td>
<td>2.80</td>
<td>.006**</td>
<td>0.41</td>
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<tr>
<td>MR Importance</td>
<td>122 8.1 2.5</td>
<td>48 7.1 2.7</td>
<td>2.16</td>
<td>.03*</td>
<td>0.39</td>
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<tr>
<td>MR Ability</td>
<td>122 5.1 3.1</td>
<td>50 3.9 2.7</td>
<td>2.45</td>
<td>.015*</td>
<td>0.40</td>
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</tbody>
</table>

**=Significant at .01. *=Significant at .05.

To address shortcomings of self report pilot study with observation based interview.
Anorexia and Autism Spectrum Conditions

- Over-representation of ASD in AN
- Poorer treatment outcomes, higher illness severity, longer illness duration
- Need for treatment adaptations
After interviewing (ADOS) 100 patients with AN (60 adults; 40 young people) we found:

Sensitivity of measures need further research

Sedgewick et al 2019 Plos one

New algorithm- more weight to the sensory sensitivities and sensory-motivated behaviours of autistic people....

Overall effect size of meta-analysis, $d = 0.6$

Overall effect size of meta-analysis, $d = 0.4$
Attention to detail/Bigger picture: Embedded Figures Test

AN & ASD: similarities

Behaviours
- Insistence on sameness
- Aloofness/Social Withdrawal
- Narrow focus of interests

Thinking Styles
- Cognitive and behavioural inflexibility
- Attention to detail (WCC)

Co-morbidity
- Co-morbid ASD in AN
Social Anhedonia Scale
1976;85:374-382

Tchanturia et al 2012, Harrison et al 2014
Friendship


“When you’re very ill you have no time to think about that kind of thing” [friendship]

“I’ve distanced myself, it’s hard because of my controlling attitude”

“I didn’t care what they thought, I was protected by this [AN] so I don’t need to worry”

“I didn’t realise what I was losing until I came to hospital”

“I put myself in more of those situations. . .in groups, I did get out more because I wasn’t as scared, because I had other [AN] thoughts on my mind”
Expressing positive emotions...

Psychiatry Research

Computerised analysis of facial emotion expression in eating disorders

297 participants with AN (100), BN (33), HC (126), Rec AN (38)
Why it matters in the context of AN

• Patients with AN have difficulties in present and past with social communication (Tchanturia 2012, 2013, Harrison 2014)
• Communication, building up relationships is important for recovery, well being
• Current treatment only starts to address it and more specificity is needed to define where we need to focus
Why smile

• Smiles- not just cheerful expressions, smiles are social acts with serious consequences (M. LaFrance 2011)

• Most rewarding for other people to be with us

• Most welcoming and giving permission to open conversation
How people with ED think?

The unified whole is different from the sum of the parts.
What we learned from our translational research?

• Research in cognitive and emotional processing gave important foundation for psychoeducation materials specifically for ED.

• Research results led to explore innovations targeting “bigger picture” of recovery.

• Some areas of communication difficulties could be addressed more effectively in treatment.

• Research based evidence is solid, more work is needed in clinical implications/adaptation and quantitative and qualitative evaluation of presented findings....
Inpatient individual & group programme

- Relapse prevention
- Anxiety management
- Body Image
- Exercise
- Self-esteem
- CREST
- Flexibility
- Perfectionism
- Assessment & Formulation

CRT & CREST
Individual forms of therapy
Sadly some clinicians don’t hear voices from patients who experience both ASD and ED

- “As someone who is on the ASD spectrum and has recovered from a decade-long AN, I am particularly familiar with the complexities of EDs and how difficult they are to treat, especially atypical cases”.

- “Last year my mum, across an Aspergers article and said it sounded like me. I went to the GP and got a referral for an NHS ASD assessment for 8 months later. I had assessment earlier this year, it was very brief and I was dismissed because I had already been diagnosed with Anorexia.

I then aid for a private assessment from a psychologist and spent 5 hours being assessed. I was then diagnosed with Aspergers. I then with this in mind started outpatient treatment.

- I have always been highly anxious and obsessive and now with my low weight my Autistic traits have been exacerbated.”
What can we do about it?

Patients (AN/ASD)

Qualitative interviews

Carers

Clinicians
PEACE pathway implementation in the clinical work

- “In the past couple of months it has really gained momentum and it has really helped at bringing the MDT together”
- “I am now thinking about things I might not have thought about”
- “Looking back at previous patients, I wish I had known then what I knew now”
- “I have now included questions around ASD in my standardised assessment”
PEACE
Pathway for Eating disorders and Autism
developed from Clinical Experience

The Health Foundation

National Autistic Society

South London and Maudsley NHS Foundation Trust
Treatment Adaptations

“The combination of autism and starvation is like autism on steroids”

01 Literal language
02 Longer processing time
03 Written communication
04 Focus on thinking styles, not thoughts
05 Separate autism from the MH condition
Thanks to

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
Recent publications from our group:

References


Tchanturia K, Larsson E, Adamson J. (2016) How anorexia nervosa patients with high and low autistic traits with respond to group Cognitive Remediation Therapy; BMC Psychiatry;

Tchanturia K, Larsson E, Adamson J (2016) Brief group intervention targeting perfectionism in adults with anorexia nervosa: empirically informed protocol; European Eating Disorders Review DOI: 10.1002/erv.2467


References (cont)
Selected references used in the presentation


Lang K, Roberts M, Lopez C, Goddard E, Khondoker M, Treasure J, Tchanturia K; An investigation of central coherence in eating disorders: A synthesis of studies using the Rey Osterrieth Complex Figure Test; Plos one


