

Psychological and Pharmacological Treatment Approaches: An Overview

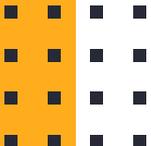
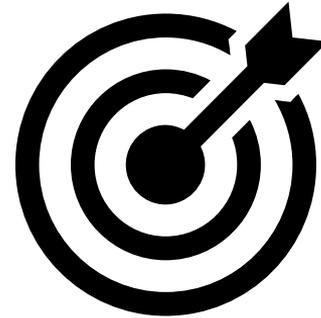
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Autism Spectrum Disorder in Forensic Settings
23rd September 2020

Contents

- My background
- Introduction
- Psychological treatments
- Pharmacological treatments
- Treatment programmes
- Summary



My Background

- **Professional:**

- Intercalated BSc (research-based): 2010
- Medical Degree: 2011
- Psychiatry Membership: 2015
- Academic Clinical Lecturer/PhD Student: 2017-
- Chief Investigator SPRINT Study (NIHR CRN): 2019-

- **Personal:**

- Family member with Autism, ADHD and Intellectual Disability
- Longstanding interest in neurodevelopmental differences



Autism Diagnosis Precedes Treatment....

- Limited evidence re autism prevalence in adult inpatient psychiatric units (Tromans *et al.*, 2018)
- Evidence to suggest that many inpatients may have undiagnosed autism (Brugha *et al.*, 2020)
 - Including in forensic (Scragg and Shah, 1994) and prison settings (Billstedt *et al.*, 2017).
- Currently undertaking multi-site pilot study estimating the prevalence of autism within acute mental health settings (Tromans *et al.*, 2019)

BMJ Open Study protocol: an investigation of the prevalence of autism among adults admitted to acute mental health wards: a cross-sectional pilot study

Sam Tromans ^{1,2} Guiqing Lily Yao,¹ Reza Kiani,^{1,2} Regi Alexander,^{1,3} Mohammed Al-Uzri,^{1,4} Traolach Brugha^{1,4}

Autism Treatment Survey

Journal of Autism and Developmental Disorders
<https://doi.org/10.1007/s10803-018-3569-y>

BRIEF REPORT



Brief Report: Autism Spectrum Disorder: A Comprehensive Survey of Randomized Controlled Trials

Samuel Tromans^{1,2} · Clive Adams³



Tromans and Adams, 2018

- Cochrane Central Register of Controlled Trials search for RCTs of therapeutic interventions for autism
- 529 studies identified
 - Most small in size (Mean $n = 49$; Median $n = 36$)
 - Only 9% ($n = 46$) of studies had ≥ 100 participants
 - Clear need for research groups to collaborate
- Sharp rise in number of RCT's since 2008
- Most frequently evaluated pharmacological treatment:
 - Antipsychotic medications (44 RCTs; $n = 3006$)

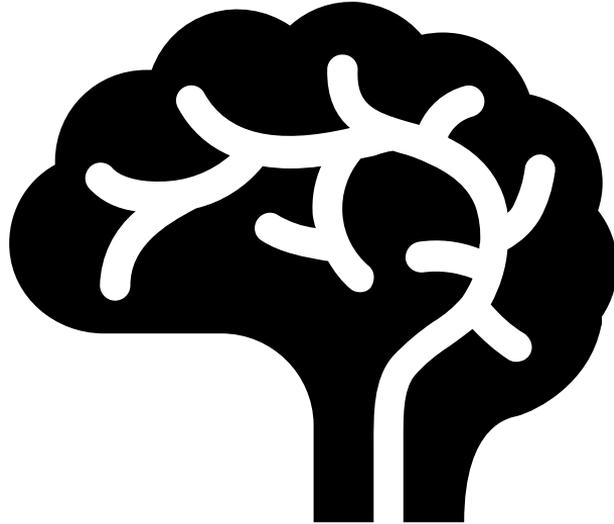


Importance of Environment

- Environmental factors may be a significant trigger for challenging behaviour
- **Importance of adjustments and adaptations:**
 - Personal space
 - Visual supports
 - Interior design
 - Lighting
 - Noise levels
 - Opportunity to exercise (Sola *et al.*, 2012)
 - Provides benefit in motor and social skills



Psychological Treatment



Psychological Treatment

Melvin *et al.* (2017) – Systematic review on treatment for autistic offenders

- Three small studies focussed on adapted CBT for sexual offending (autistic $n = 21$)
 - In each study, autistic groups had a greater propensity for recidivism compared to non-autistic
- Langdon *et al.* (2013) – Adapted version of the EQUIP programme
 - Aims to enhance moral development and tackle cognitive distortions
 - 3 of the 4 autistic adults appeared to improve in social perspective taking
 - No significant change regarding anger



Psychological Treatment

- Nine other case reports and series ($\Sigma n=12$)
 - Including single psychological approaches (e.g. adapted CBT) and multi-faceted approaches (e.g. family therapy, psychotherapy and social skills training)
 - Mixed effectiveness – 4 considered not effective
- **Difficult to make generalisations based on such small studies**



Cognitive Behavioural Therapy (CBT): General

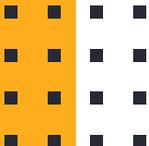
- **Weston *et al.* (2016) meta-analysis:** Reported on CBT for autistic people in two contexts

	Core autistic features	Affective disorders
Eligible studies (<i>n</i>)	24	24
Self-report measures	Non-significant small-medium effect size (ES)	Non-significant small to medium ES
Informant-report	Significant small-medium ES	Significant medium ES
Clinician report	Significant medium ES	Significant medium ES
Task-based	Significant small-medium ES	N/A

Psychological Approaches: General

NICE Guidance, 2012:

- **Functional analysis of behaviour**
 - Can guide and inform subsequent psychosocial approaches
- **Anger management plans, including:**
 - Functional analysis of anger
 - Coping skills and rehearsing behaviours
 - Relaxation training
 - Fostering problem-solving abilities



Psychological Approaches: General

Pallathra *et al.* (2019): Psychosocial interventions

- **Social cognition approaches**
 - Cognitive Enhancement Therapy (Eack *et al.*, 2013)
 - Significant improvement in social and cognitive functioning
- **Social functioning based approaches**
 - Program for the Education and Enrichment of Relational Skills (Gantman *et al.*, 2012)
 - Significant improvement in social skills and social skills knowledge
- **Social anxiety**
 - Mindfulness therapy adapted for autistic persons (Spek *et al.*, 2013)
 - Have shown significant reductions in anxiety and depressive symptoms

Psychological Approaches: Summary

- **The evidence base is very limited for psychological treatments for autistic persons within forensic settings, including for:**
 - Offence-specific interventions (e.g. adapted CBT for sexual offending)
 - Non-offence specific interventions (e.g. adapted EQUIP programme)
- **Autistic individuals often expected to fit into conventional therapeutic programmes (Murphy, 2010):**
 - Usually developed for patients with personality and psychotic disorders (Alexander *et al.*, 2016)
 - Unclear whether 'treatment as usual' is effective for autistic offenders

Pharmacological Treatment



Pharmacological Treatment

- **Relative lack of RCT evidence for pharmacological treatments for autism**
 - Particularly for treatment of core autistic features
- **Pharmacological treatment is instead focussed on:**
 - *Non-core behavioural symptoms*
 - E.g. Irritability, repetition, hyperactivity, social withdrawal, aggression
 - *Co-occurring mental health conditions*
 - Common forms of mental illness are more prevalent in autistic persons than their non-autistic peers



Pharmacological Treatment : Good Practice Principles

- **Central focus of patient and family/carers in treatment decisions**
 - Ensuring relevant information is conveyed and any concerns are discussed
- **Start low, go slow treatment approach**
 - Greater sensitivity to side effects in autistic persons
- **Regular monitoring**
 - Symptom monitoring
 - Specific medication-related monitoring (e.g. ECG, glucose, lipids for antipsychotics)
- **Use medication in conjunction with other approaches**
 - Psychological, environmental, social

Antipsychotics: Monotherapy

- **Risperidone** shows some evidence for treating irritability, repetition and social withdrawal
 - Potential benefits need to be weighed against side-effects
- **Aripiprazole** also appears to demonstrate some benefit in treating irritability.
- Fallah *et al.* (2018) network meta-analysis
 - Both Risperidone and Aripiprazole demonstrate significant ↓ in ABC-I scores relative to placebo
- Zhou *et al.* (2020) meta-analysis:
 - Significant ↓ in restricted, repetitive behaviours with Risperidone and Aripiprazole
- **Less evidence for other antipsychotics:** Olanzapine, Haloperidol, Quetiapine, Lurasidone



Antipsychotics: Clozapine/ Multi-Agent Use

- **Clozapine**

- Beherec *et al.* (2011) – Significantly ↓ ($P 2.5 \times 10^{-3}$) number of days with aggression and ↓ ($P < 10^{-3}$) number of psychotropic drugs
 - Findings further supported in replication study by Rotharmel *et al.* (2018)

- **Multiple antipsychotic therapy**

- Wink *et al.* (2017) - May be worth consideration for persons with particularly treatment-resistant behavioural symptoms
 - Some patients likely benefit but important to monitor carefully



Antidepressants

Jobski *et al.* (2017) review: “Antidepressants have almost no effectiveness in ASD”

- Should only be prescribed in selected cases

Selective serotonin reuptake inhibitors (SSRI's)

- **Cochrane review (2011) – 7 RCTs evaluating Fluoxetine (2), Fluvoxamine (2), Fenfluramine (2) and Citalopram (1)**
- No evidence to support use in children
- Limited evidence in adults
 - McDougle *et al.*, 1996: Significant ($p < 0.03$) ↓ in aggression with Fluvoxamine
 - Buchsbaum *et al.* (2001) – Significant ($p < 0.03$) ↓ in anxiety with Fluoxetine

■ ■ ■ ■ Zhou *et al.* (2020) – No significant benefit in ↓ restricted, repetitive behaviours over placebo

Antidepressants

- **Serotonin-noradrenaline reuptake inhibitors: Venlafaxine**
 - Appears to show some promise for behavioural symptoms, including irritability, hyperactivity, and non-compliance
 - E.g. Carminati *et al.* (2016) – Randomized double-blind study of 6 patients with ID and autism
- **Tricyclic antidepressants: Clomipramine (Cochrane review, 2012)**
 - Some limited evidence to suggest improvement in autistic symptoms, irritability, and obsessive-compulsive disorder type symptoms
 - Conflicting evidence regarding hyperactivity
 - Adverse effects noted – significant dropout in one Clomipramine study

Other Agents

- **Methylphenidate**

- **Cochrane review, 2017 (Limited to children and adolescents)**

- Methylphenidate improves hyperactivity and inattention
 - No evidence that it improves or worsens autistic symptoms

- **Likely of greatest clinical value in those with autism and co-occurring ADHD**

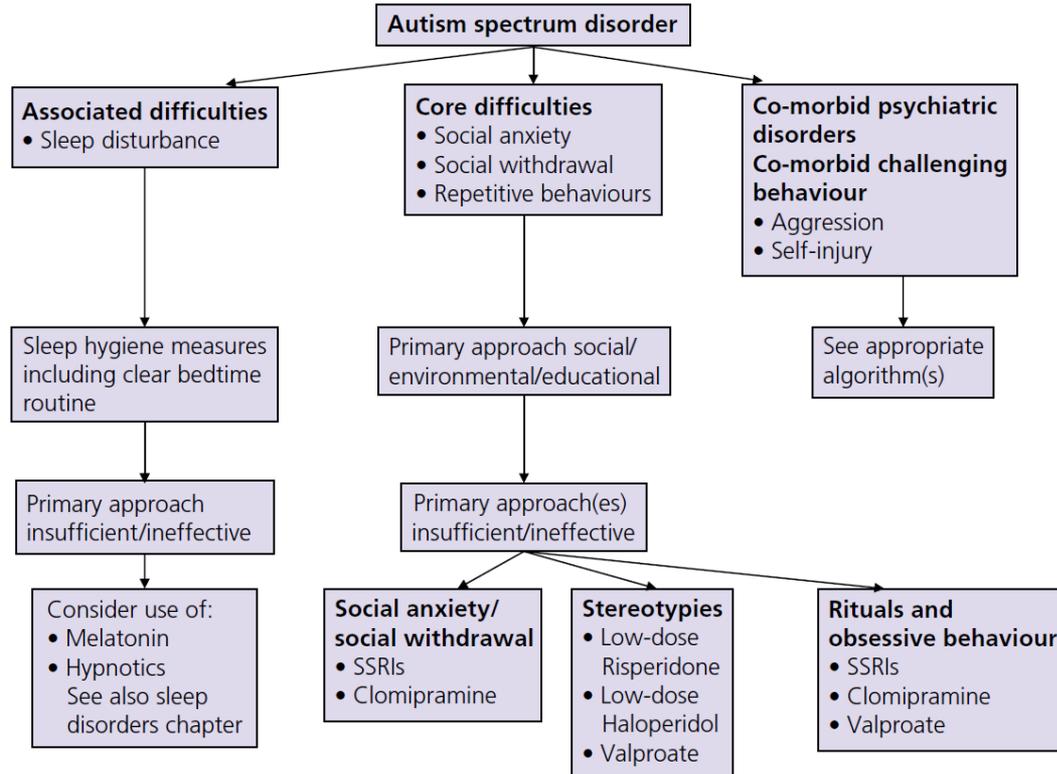
- Conditions no longer mutually exclusive

- **Lamotrigine**

- **Belsito *et al.* (2001) → Double-blind, placebo-controlled parallel group study**

- No significant differences on multiple measures of behavioural symptoms
 - Though parental ratings demonstrated substantial improvements

Pharmacological Treatments Summary: Frith Guidelines (2015)



Future Research: The STRATA Study

- The STRATA study is a UK-based multi-centre randomised control trial
 - Investigating the use of Sertraline for anxiety in autistic persons



Pharmacological Treatments: Summary

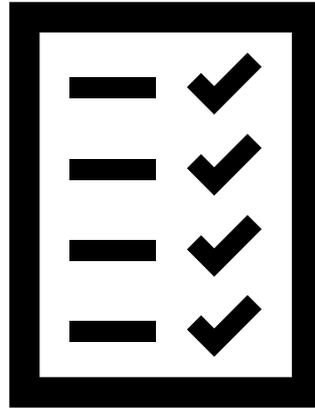
■ Treatment of non-core behavioural symptoms

- Antipsychotics:
 - Risperidone (irritability, social withdrawal, repetition)
 - Aripiprazole (Irritability)
- Antidepressants:
 - Limited evidence currently for SSRIs
 - Fluvoxamine (aggression), Fluoxetine (anxiety)
 - SNRIs: Venlafaxine (irritability, hyperactivity, non-compliance)
 - TCAs: Clomipramine (irritability, obsessive-compulsive type symptoms)

■ Treatment of co-occurring mental health conditions

- As per treatment of specific condition

Treatment Programmes



Ten Point Treatment Programme (Alexander *et al.*, 2011)

- Intended for individuals with intellectual disabilities based in forensic settings
- Similar to the four-stage personality disorder in ID treatment pathway suggested by Johnstone (2005)
 - 1. Assessment and motivational work
 - 2. Treatment interventions
 - 3. Consolidation or relapse prevention
 - 4. Discharge

Ten Point Treatment Programme (Alexander *et al.*, 2011)

Assessment:

- 1) Multi-axial diagnostic assessment;
- 2) Psychological formulation;
- 3) Risk assessment

- 4) Management of aggression care plan

Therapies:

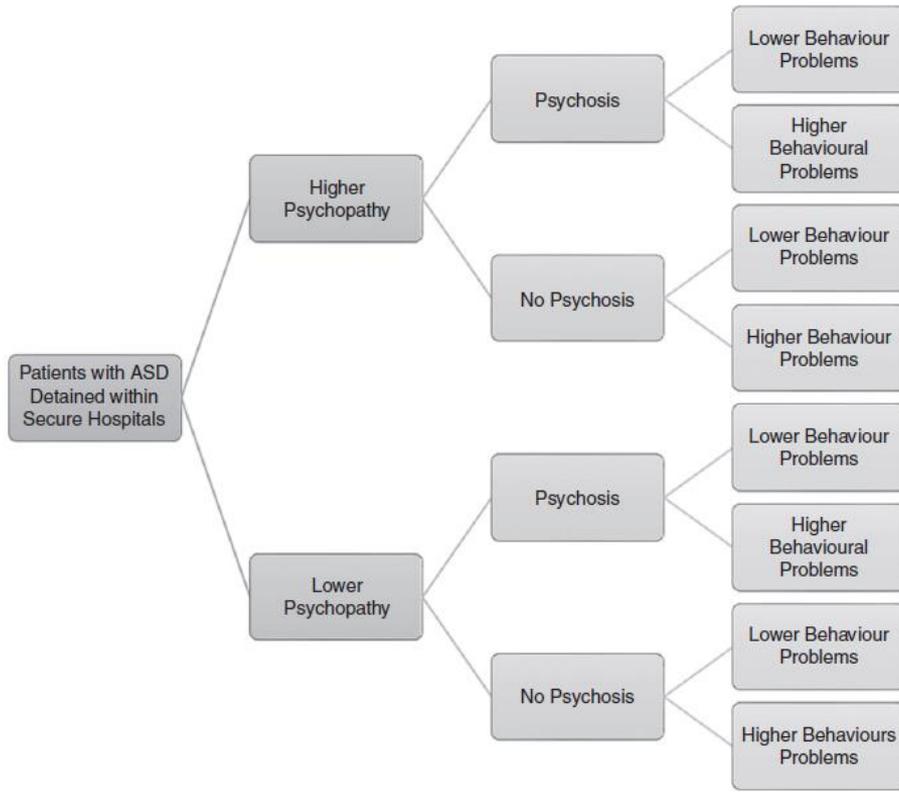
- 5) Pharmacological;
- 6) Psychotherapy;
- 7) Offence-specific therapies

- 8) Rehabilitation

- 9) Community participation

- 10) Preparation for transition

Typology-Based Approach to Treatment



■ **Alexander *et al.* (2018):** Autistic persons in forensic settings represent a heterogeneous patient group

- Classification into subtypes may help guide a more tailored approach to treatment

■ **Barnoux *et al.* (2020):**

- Demonstrated 96-100% subtype agreement between professional raters for case vignettes

Overall Summary

- Limited evidence base for psychological interventions specific to forensic settings
- Pharmacological treatment likely of greatest value in treatment of co-occurring conditions
 - Though some evidence for treating non-core behavioural symptoms
- **Need for a multimodal treatment philosophy**
- **Treatment programmes provide a more systematic approach**
 - Need for research to evaluate the efficacy of programmes which appear to show therapeutic promise



Thanks, Any Questions?

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