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Research Article

The Effect of Comorbid Autistic Spectrum Disorder or Autistic Spectrum Disorder Traits on Treatment Outcomes in Patients Receiving Intensive Inpatient Treatment for Severe, Treatment Resistant Obsessive-Compulsive Disorder: A Retrospective Case-Notes Review

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Abstract

The National Service for Obsessive Compulsive Disorder/Body Dysmorphic Disorder (OCD/BDD) offers intensive treatment for severe, treatment resistant OCD. A percentage of patients admitted present with comorbid Autistic Spectrum Disorder (ASD) or ASD traits. Although therapy is individually adapted to treat patients who have ASD, the service does not currently have a specific treatment protocol for treating this comorbidity. In this retrospective study, a sample of 34 patients admitted between August 2018 to March 2022 were separated into two categories based on their scores on the Autism Spectrum Quotient (AQ) or an established diagnosis of ASD [1]. Patients with scores over 32 (suggestive of ASD traits) or a diagnosis of ASD were grouped in the "+ASD traits" group, and those with scores below 32 in the "-ASD traits" group. Standardized measures of symptom severity are routinely administered in the service. Pre-treatment and post-treatment questionnaires include the Yale Brown Obsessive Compulsive Scale (YBOCS) and the AQ [2] [1]. Post-treatment outcome measures indicated that patients displaying ASD traits as measured by the AQ show a poorer response to treatment in terms of reduction in OCD symptoms on YBOCS scores. The findings suggest the presence of ASD traits have an impact on the treatment outcomes for OCD and indicate the need for further research into adapting treatment protocols for patients with ASD and OCD.

Keywords: OCD; ASD; CBT; Inpatient treatment

Abbreviations: ASD: Autistic Spectrum Disorder; OCD: Obsessive Compulsive Disorder; BDD: Body Dysmorphic Disorder; AQ: Autism Spectrum Quotient; YBOCS: Yale Brown Obsessive Compulsive Scale; CBT: Cognitive Behavioural Therapy; ERP: Exposure and Response Prevention; SSRI: Selective Serotonin Reuptake Inhibitor

Introduction

The National Obsessive-Compulsive Disorder/Body Dysmorphic Disorder (OCD/BDD) service is a Tier 6 service funded by NHS England to provide specialist treatment for people with severe, complex, treatment refractory obsessive-compulsive disorder and Body Dysmorphic Disorder. This treatment is offered in multiple settings including outpatient/home-based and inpatient, with the focus of this study being inpatient treatment. The patients receiving treatment have severe, treatment-resistant OCD as defined by Pallanti et al. [3].

The criteria to be accepted for treatment by the National Service are as follows:

a) To have severe or extreme OCD baseline Y-BOCS ≥30.

b) To have had inadequate responses to at least two serotonin reuptake inhibiting drugs (SRI's) including clomipramine and/or a selective serotonin reuptake inhibitor (SSRI) at optimal British National Formulary doses for a minimum of 12 weeks.

c) To have had inadequate response to augmentation of the above-mentioned SRI treatments with either first- or second-generation antipsychotic medications/extending the SSRI dose beyond normal formulary limits.

d) To have had inadequate response to two trials of Cognitive Behavioural Therapy (CBT) with Exposure and Response Prevention (ERP) with each trial constituting at least 10 hours of therapist time and with one trial taking place in the setting where their symptoms are maximal.

The inpatient arm of this service provides specialised treatment for patients with treatment resistant OCD or BDD that have significant functional and nursing needs, as well those that present with a high degree of risk around physical health sequelae and their mental health needs. Admissions tend to last between four to six months, and the patients engage in intensive CBT with ERP, occupational therapy programs, medication optimization as well as addressing any physical health needs including having dietitian and physiotherapy input. Over a course of four to six months, the patients engage in at least one individual weekly session of CBT with ERP and two weekly group sessions of CBT with ERP, as well as having individual, 24/7 nursing support to work on their daily intensive ERP programme in between sessions. A percentage of inpatients have comorbid Autistic Spectrum Disorder (ASD) or ASD traits which we defined as having a score of 32 or more on the AQ [1]. Aside from rare exceptions, all patients are on optimised, evidence-based treatment for OCD, comprising at least one SRI and augmentation with a low dose dopamine blocking agent as per National Institute for Health and Clinical Excellence Guidelines for OCD and BDD [4]. OCD and ASD are frequently comorbid. It is estimated that prevalence rates of OCD in children and adolescents with ASD are 4.9 -37.2% in children and adolescents with ASD, and 7-24% in adults with ASD [5]. The prevalence of ASD in those with OCD is less clear and is thought to be under-recognized although a more recent study on young people in South London found that 25% of those with OCD had a concurrent ASD diagnosis [6, 7].

For those with comorbid OCD and ASD there is an increased psychosocial functional impairment compared to those with either OCD or ASD alone [7]. Essential features of ASD are markedly abnormal or impaired development in social interaction and communication and a restricted repertoire of interests and activities.

Repetitive routines and rituals are frequent in autism and many of these behaviours match those seen in OCD, including hoarding which is commonly reported in adults who have ASD [8,9]. OCD is more common than expected among relatives of patients with autism [10,11]. This connection is also supported by a genetic study linking treatment resistant OCD with Asperger's syndrome and autism [12]. Research exploring possible explanations for the comorbidity of OCD and ASD, highlights the commonality of repetitive and ritualistic behaviours in both presentations [13]. However, it has been proposed that the function of such behaviours differs between OCD and ASD. Repetitive behaviours in OCD have a specific function and are aimed at reducing distress evoked by obsessional thoughts (although they eventually contribute to perpetuating anxiety). In contrast, it is often unclear as to what the function of repetitive behaviours in ASD is, with the suggestion that they may serve as a means of sensory stimulation, enjoyment, or self-soothing [14].

Despite similarities in presentation, OCD and ASD are distinct diagnoses according to DSM V and ICD-11 [15, 16]. Patients with OCD and ASD have been found to require services and treatment for longer; are more likely to be prescribed medication and, although improvements in functioning are seen with treatment, gains have generally been smaller than for those with OCD alone [7]. Treatment studies for OCD in patients with ASD have shown mixed results. A randomized controlled trial demonstrated that CBT is effective in adults and adolescent patients with comorbid ASD and OCD [17]. However, subsequent studies demonstrated that standard CBT programs for OCD have reduced efficacy in individuals with ASD compared with those with OCD alone [19,20]. A case-controlled trial in adolescents as well as a non-randomized trial of cognitively able (IQ > 80) adults showed significantly smaller post-treatment decreases in OCD symptoms in individuals with ASD compared to those with only OCD. Both studies also demonstrated lower remission rates in the ASD group (9% vs. 46%) and (13.33% vs. 54.54%) [18, 19]. Additionally, patients with ASD may not experience treatment gains as early in treatment as individuals with OCD alone as reported in a study by Tsuchiyagaito, et al. [19]. The study indicated that adults without ASD demonstrated significant reductions in OCD symptoms at their mid-treatment point, whilst adults with ASD did not which may suggest a slower course of improvement with treatment. In addition, a study in Japan evaluated the treatment outcomes comparing adults admitted over 48 weeks with OCD plus ASD traits to patients with OCD without ASD traits. Results showed a smaller improvement as well as higher final YBOCS scores in the group with ASD traits [20].

In contrast, a comparative study by Nakagawa, et al. demonstrated no significant difference in the total Y-BOCS score and improvement rate between the groups. However, at follow up the OCD plus ASD group had a significantly higher total Y-BOCS score than in the OCD only group [21]. There is a dearth of research on treatment for individuals with OCD plus ASD traits. This study intends to expand on the growing evidence base to support the development of appropriate treatment pathways for these individuals. Whilst previous studies have focused mainly on the evaluation of treatment outcomes in outpatient settings, this study utilizes data from

a highly specialist intensive inpatient setting for individuals with severe OCD. Specifically, this study aims to explore the treatment outcome in patients with OCD plus ASD traits compared to those without ASD traits.

Materials and Methods

Research Design

a. This is a retrospective case note review study which was carried out using survey research methods. We extracted routinely collected data from the electronic health records on clinical outcomes, symptoms of severity and sociodemographic characteristics. These included measures of OCD symptom severity assessed by the YBOCS, and Autism traits rated by the AQ [2,1].

b. The Y-BOCS is a 10-item scale comprised of five rating components for obsessions and compulsions: time spent or occupied; interference with functioning; measure of distress; resistance and control. A four-point scale from 0 = "no symptoms" to 4 = "extreme symptoms" is used for each item. The first five items are a severity rating for obsessions, with the last five rating compulsions.

c. The AQ is a screening instrument used to measure traits associated with ASD in adults with normal IQ. It is a self-administered tool consisting of 50 items, covering behaviours across five domains: communication, social skills, attention switching, imagination and attention to detail [1]. Scores of 32 and over on the AQ, is suggestive of ASD traits and warrant further formal assessment.

Participants

Data was routinely collected for all patients admitted to the ward from August 2018 to March 2022. Patients were excluded where they did not have a diagnosis of OCD and where their AQ and YBOCS data was missing. A total sample of 34 patients were included in the study (Table 1). Traits of ASD were measured using the AQ and patients were separated into two categories: "+ASD traits" (N = 12) for those with scores over 32 suggestive of ASD traits, and "-ASD traits" (N=22) for those with scores below 32. The data indicated a larger percentage of males than females presenting with OCD with a larger percentage of males in the +ASD traits group. The patients were predominantly Caucasian; of single status and ranging in age from 18-71 years old (Table 1).

Table 1: Sociodemographic characteristics of patient participants by group.

	+ASD (n = 12)	-ASD (n=22)	Total (n=34)
Age at admission	31.91 (SD = 17.78)	37.05 (SD 12.55)	35.24(Sd=14.55)
Gender (%)			
Male	8 (66.7%)	14 (63.6%)	22 (64.7%)
Female	4 (33.3%)	8 (36.4%)	12 (35.3%)
Ethnicity (%)			
White	12 (100%)	19 (86.3%)	30 (91.1%)
Asian or Asian British	0	2 (9.1%)	2 (5.9)
Other	0	1 (4.5%)	1 (2.9%)
Marital status (%)			
Single	10 (83.3%)	15 (68.1%)	25 (73.5%)
Married	2 (16.7%)	6 (27.2%)	8 (23.5%)
Divorced	0	1 (4.5%)	1 (2.9%)

Results

A two-way mixed method Analysis of Variance (ANOVA) was computed for YBOCS at assessment and discharge for both groups: +ASD traits (n=12) and -ASD traits (n=22). The threshold for evaluating significance was set to p = 0.05 (Figure 1).

The YBOCS scores decreased significantly from assessment to discharge across both groups F (1, 32) = 85.03, p <.001. However, patients categorized as +ASD traits had higher scores on the YBOCS at the end of treatment than those categorized as -ASD traits (Figure 1).

(Figure 2) There was a statistically significant difference in the scores of the two groups at discharge F (1, 32) = 8.36, (p =.007). The +ASD group indicated a decrease of 27.6% in OCD symptomatology on the YBOCS scores and the -ASD group showed a 52.6% decrease (Figure 2).

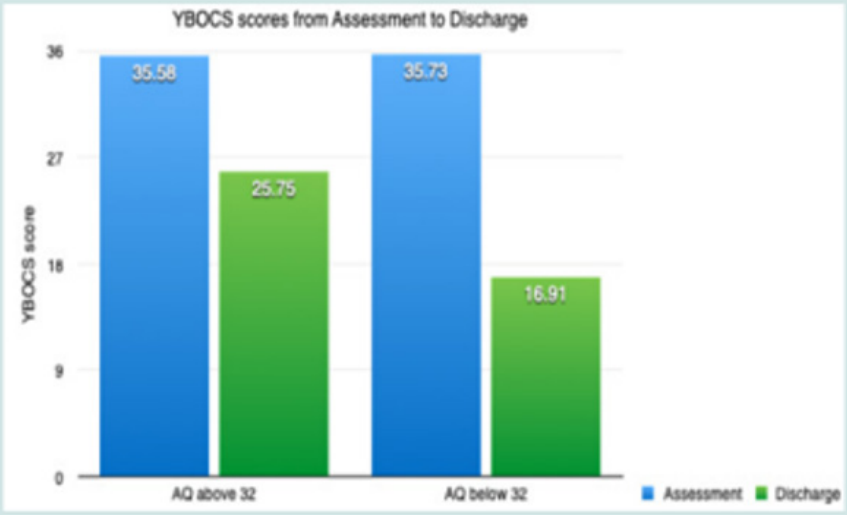

Figure 1: YBOCS scores from assessment to discharge by group.

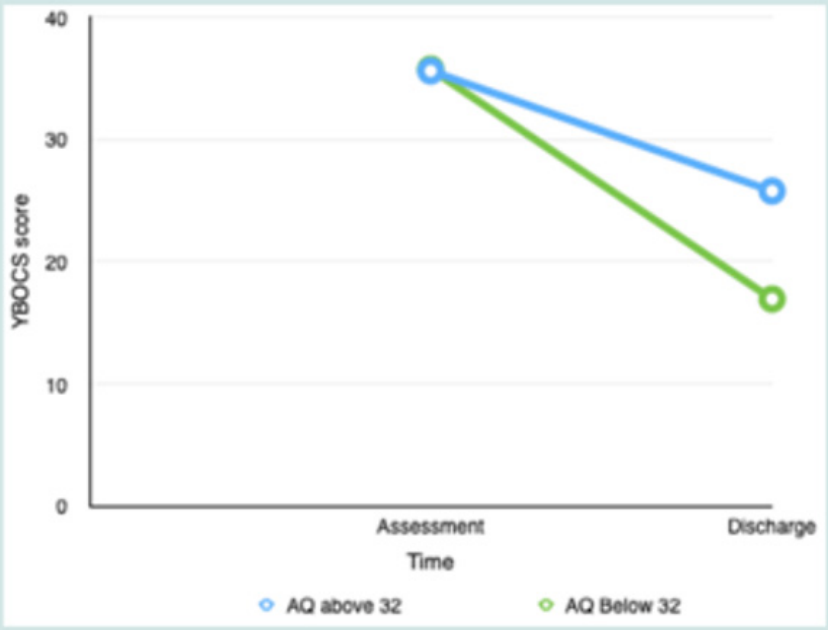

Figure 2: Difference in OCD symptoms on YBOCS between -ASD and +ASD groups at discharge.

Discussion

This study presents a preliminary investigation into how ASD traits / diagnosis impact outcomes in the treatment of OCD in a specialist inpatient setting. In comparing the two groups, the significant difference in response to treatment indicates that patients with OCD and comorbid ASD/ASD traits had limited benefit from inpatient CBT treatment compared to patients with OCD only. The findings are in keeping with literature that reports less favorable outcomes in treating OCD with CBT for patients with comorbid ASD [18-21].

The patient sample is a heterogeneous group, consisting of patients with an established diagnosis of ASD as well as patients who were undiagnosed but scored above 32 on the AQ. However, although the AQ is a validated screening tool, it is not a diagnostic tool for ASD, meaning that patients above threshold, might not necessarily have had an ASD diagnosis. Given the overlap of OCD and ASD psychopathology, there is a risk that the items on the AQ may score positively despite the absence of any true underlying ASD traits [22]. This could lead to falsely positive scores for ASD traits. Given this, it may have been beneficial to further stratify the groups by separating those with a formal ASD diagnosis from those with ASD traits whilst analyzing the data. However, the inclusion of patients with ASD traits as well as those with a formal ASD diagnosis sought to broaden the applicability of the findings. In addition, the need for adaptation of treatment approaches could be considered for both

groups resulting in a more individualized approach to meet patient needs. The results of this study, in keeping with the literature, suggest that patients with OCD and ASD/ ASD traits compared to individuals with OCD alone show a lower early treatment response [19, 23]. Taking this observation into consideration will be beneficial for patients and clinicians in the initial phase of treatment and may avoid unnecessary or premature changes in treatment plans due to a perceived non-response. Although pharmacological treatment was provided for the patients included in this study, it was not considered in the treatment outcomes. Given the pharmacological criteria for admission to the unit, the majority of patients are usually on a SRI / SSRI and a dopamine blockade as a minimum.

Due to disruptions in service provision during the COVID-19 pandemic in 2020, some patients were discharged prematurely, and others had virtual sessions. The discharge YBOCS scores for some of the patients in the sample may reflect these interruptions. There was also missing questionnaire data therefore these patients were excluded resulting in a small sample size.

Implications for Clinical Practice and Future Research

From this pilot study, clinical implications included the Service considering:

Adapting CBT to address specific needs of ASD patients.

Adjustments to the ward environment can be implemented to support this group of patients.

Specialized training for the team to help optimize their ability to address the specific care needs of those with ASD traits or a formal diagnosis of ASD.

Long term follow-up was not consistent for this sample due to the pandemic, however for future research, follow-up to a year post- discharge may provide further insight into sustainable progress across both groups. Although the YBOCS is a validated measure for OCD, it is not designed to assess the severity of specific traits regarding OCD in patients with ASD. Further research to develop measures to assess comorbid disorders in ASD patients could provide clarity about overlapping symptoms and severity which can inform treatment options [19, 20]. Considering limitations mentioned above, further research will be needed to explore the effect of comorbidity, medication, and therapy adjustment for these patients. In summary, this study supports available literature that ASD patients who have OCD require a more comprehensive package of care to improve quality of life, alleviate distress and limit the amount of time they remain in a hospital setting.

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