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BRIEF REPORT: Exploring Treatment Outcomes of Individuals With Autism Spectrum Disorder in a Specialized Dual Diagnosis Inpatient Program

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Abstract

Patients with an intellectual disability and mental health problems (dual diagnosis) can benefit from specialized, multi-disciplinary inpatient treatment. However, the benefits of specialized inpatient treatment for the subpopulation of dual diagnosis patients with autism spectrum disorders (ASD) are unknown. The purpose of the current study was to examine the outcome of inpatient treatment for 9 individuals with ASD, in comparison to 9 patients with a dual diagnosis without ASD. The two groups varied in their reasons for admission and level of ID. Overall, the ASD group appears to be more impaired clinically at both admission and discharge, as measured by the Global Assessment of Functioning (GAF), Reiss Screen for Maladaptive Behaviour (Reiss Screen) and Aberrant Behaviour Checklist (ABC). Both groups showed improvement on the GAF from admission to discharge, but changes on Reiss and ABC scores varied. There was no difference with respect to length of stay. Findings from this study suggest there may be differences between patients with and without ASD in terms of their response to inpatient treatment. Replication with a larger sample is needed.

Autism spectrum disorder (ASD) is frequently seen in conjunction with intellectual disability (ID) (Bradley & Lofchy, 2005; Bryson, Bradley, Thompson, & Wainwright, 2008). It is estimated that mental health problems occur in 35% of adults with ASD living in the community (Morgan, Roy, & Chance, 2003; Tsakanikos et al., 2006; Ghaziuddin, Weidmer-Mikhail, & Ghaziuddin, 1998), and individuals with ASD have increased rates of mental health disorders than individuals with ID without ASD (Bradley & Bolton, 2006; Brereton, Tonge, & Einfeld, 2006; Morgan, Roy, & Chance, 2003). Individuals with ID and/or ASD and psychiatric problems (also called "dual diagnosis"), along with their families, can benefit from a specialized interdisciplinary team approach for their assessment, treatment and management (Lubetsky, Mueller, Madden, Walker & Len, 1995). Toronto's Centre for Addiction and Mental Health (CAMH) has a specialized inpatient unit for patients with dual diagnosis. One subpopulation often seen in this program is patients with ASD. However, little is known about the outcome of this population after treatment in specialized inpatient settings. In a previously reported review, the clinical profile of patients with ASD and ID in a specialized inpatient unit was described (Palucka & Lunsky, 2007). This review of inpatient treatment focused on length

of stay, the frequency of restraints and types of treatment plans implemented, as well as family support and discharge location. However, standardized measures of psychopathology were not included, and there was no comparison group of other inpatients in the unit. The current study aimed to expand on the findings of Palucka and Lunsky by including standardized clinical ratings, and a control group of dual diagnosis patients without ASD, to determine the differential impact of treatment in the Dual Diagnosis unit on outcomes for patients with ASD.

Method

Based on a review of inpatient charts, individuals with ASD discharged from the Dual Diagnosis unit between 2006 and 2008 were compared to age-matched patients without ASD discharged from the same unit. The ASD group consisted of 9 individuals (7 males, 2 females, ages 20 to 40 years), and were compared to 9 age-matched controls (5 males, 4 females, ages 21 to 47 years). Variables examined were diagnoses, reason for referral, and length of inpatient stay. Scores on the Global Assessment of Functioning (GAF), Aberrant Behaviour Checklist (ABC) and Reiss Screen for Maladaptive Behaviour (Reiss Screen) were also explored. The GAF, an assessment of overall functioning, yields a single score, determined by the inpatient psychiatrist. Five subscales of abnormal behaviour are examined in the ABC, based on the ratings of 58 items by healthcare professionals on the unit. The Reiss Screen comprises 8 clinical subscales that look at several behavioural issues, as well as a total psychopathology subscale (26-Item score). A decrease in scores on the ABC and Reiss Screen, and an increase in GAF score, indicates an improvement in behaviour/symptoms. Given the small sample size, mean scores and standard deviations are offered but statistical analyses were not conducted.

Results

Demographics

As shown in Table 1, the ASD group had more severe intellectual disabilities; 2 individuals with ASD were diagnosed with severe ID, however, there were none with severe ID in the matched group. There were also more men in the ASD group, as there were not enough men in the non-ASD group that could be matched by age. As well, Axis I diagnoses varied between the two groups. Only one patient with ASD had a comorbid diagnosis (mood disorder). In contrast, the most common diagnosis among matched patients was psychotic disorder. Reasons for admission differed somewhat between the two groups. Patients with ASD were admitted for aggressive/challenging behaviour, threat to self or others, and to develop a support plan. In addition to the reasons above, patients without ASD were also admitted for diagnostic clarification and medication review. The average length of stay (LOS) in the ASD group was 146 days (*SD* = 74), and 137 days (*SD* = 80) in the matched group. It did not appear as though LOS was longer for one group than the other.

Table 1. Admission profile and length of stay for ASD and matched groups

	ASD (n)	*Match (n)*
Length of Stay (days)		
0-30	0	1
30-90	2	2
90-180	3	2
>180	3	4
Axis I Diagnosis		
Mood Disorder	1	2
Psychotic Disorder	0	4
Anxiety Disorder	0	0
Intellectual Disability		
Mild	2	5
Moderate	5	4
Severe	2	0
Medication		
Antidepressant	6	4
Anxiolytic	9	5
Antipsychotic	8	7
Mood	1	0
Stimulant	0	0
Anticonvulsant	4	1
Beta Blocker	3	0
Other	6	5
Change in medication	8	8

Table 2. Admission and discharge means on clinical assessments

	ASD		*Match*	
	Admission	*Discharge*	*Admission*	*Discharge*
GAF	20	27	26	34
ABC	23	16	9	12
Irritability	9	15	7	4
Lethargy	3	4	2	0
Stereotypy	4	4	3	2
Inappropriate Speech	15	12	10	6
Hyperactivity				
REISS Screen	17	11	10	11
26-Item Score				

Clinical Assessments

Overall, it appears that individuals with ASD presented with more impairment when compared to patients without ASD, as measured by the GAF, ABC and Reiss Screen (Table 2). Specifically, the ASD group had lower GAF scores, and higher scores on all ABC subscales and on the Reiss Screen 26-Item score, at both admission and discharge. With regard to treatment outcomes, both the ASD and non-ASD groups showed an increase in mean GAF score from admission to discharge. It appears as though reductions in ABC subscale scores may be more apparent for the control group. Conversely, it appears as though Reiss Screen total scores are more likely to decrease in the ASD group. Given the small sample size, statistical tests for each of these comparisons were not conducted, and these trends should be studied within a larger sample.

Medications

Overall, more individuals in the ASD group were prescribed psychotropic medications such as anxiolytics, antidepressants, antipsychotics, mood stabilizers, anticonvulsants, and beta blockers. Individuals with ASD also used more medications for other health issues than those in the matched group. In both groups, there was a change in medications from admission to discharge for almost all individuals.

Discussion

Despite the small sample size, we found some potential differences between the ASD and matched samples. The groups varied in terms of diagnoses; patients in the ASD group did not generally have a psychiatric diagnosis, whereas 4 out of 9 individuals in the matched group were diagnosed with psychotic disorders. Also, more individuals with ASD were diagnosed with moderate or severe ID. It is interesting that none of the patients in either group were diagnosed with anxiety disorders, but many were prescribed anxiolytic medications. This may mean that they showed symptoms of anxiety, but did not meet DSM-IV criteria for a diagnosis of an anxiety disorder; thus the presence of anxiety was recognized even though no formal diagnosis was given. Further, those with ASD may not be diagnosed with an anxiety disorder due to difficulties in differentiating between symptoms associated with ASD and symptoms of anxiety disorder. In addition, the number of patients who changed psychotropic medications illustrates the need for ongoing assessment in this area for patients with dual diagnosis.

Across measures of psychopathology and impairment in functioning, the ASD group exhibited more severe challenges than those without ASD, at both admission and discharge. Both groups showed an approximately equal increase in GAF scores with hospitalization, indicating an improvement in global functioning. However, the ASD group exited the hospital with more impaired functioning than the

matched group based on the GAF tool, perhaps due to the challenges of treating individuals with ASD in hospital environments (i.e. change of living environment, disruption in daily routine, busier and less predictable setting) and as they enter the hospital with more impaired function. These aspects of hospitalization may be particularly difficult for patients with ASD and more severe ID. Nevertheless, despite these challenges, these findings suggest that clients with ASD can benefit from hospital treatment. The profile of change in scores on the ABC and Reiss were different for the ASD and matched groups. It is possible that how symptoms change over time in the two groups may differ, and is worthy of further examination with a larger sample.

Implications derived from these findings are subject to limitations, most notably, the small sample size. Differences in clinical profile variables and scores on behavioural measures, both within and between groups, were small. Replication of this study with a larger sample would allow for statistical analyses, which may reveal more robust evidence of differences between patients with and without ASD, including symptom changes following hospitalization. In spite of these limitations, the clinical impression of inpatient unit staff was that all patients demonstrated some degree of improvement with hospitalization, and this impression was supported by some of the outcome measures examined here. Overall, there were some differences between individuals with ASD and those without, and both groups showed some improvement with admission to the specialized unit. Continued research with this subgroup of clients can be used to enhance our understanding of their clinical profile and to service their needs through treatment planning and evaluation.

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