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BRIEF REPORT: Comparison of Referrals of Individuals With and Without a Diagnosis of Psychotic Disorder to a Specialized Dual Diagnosis Program

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Abstract

It is well recognized that individuals with intellectual disabilities (ID) are at an increased risk of having mental health difficulties including psychotic disorders. The prevalence rates of psychotic disorders are generally estimated to be around 3%, much higher than in the general population. This study reviewed all referrals to a specialized dual diagnosis program between 2006 and 2008 to investigate differences between individuals diagnosed with a psychotic disorder and those without. In addition, the study examined a sub-sample of individuals with a diagnosis of psychosis who received inpatient consultation. Those who were admitted and discharged with the diagnosis of psychotic disorder were compared with those who had the diagnosis of psychotic disorder at admission but not at discharge on a number of demographic, diagnostic/clinical and treatment variables. The results indicate that psychotic disorder was the most frequent psychiatric diagnosis (20%). Individuals with a psychotic disorder diagnosis were more likely to have a milder form of ID, less likely to have a diagnosis of Autism Spectrum Disorder, and more likely to be admitted to the inpatient service. However, only about half of the individuals admitted with a psychotic disorder diagnosis kept that diagnosis at discharge, suggesting that at least in some individuals, psychosis can be misdiagnosed.

Epidemiological studies in the field of dual diagnosis face considerable methodological challenges related to inconsistencies in the definitions of intellectual disability and mental health problems, the representativeness of study samples, the method of identification and assessment of cases, and the use of appropriate diagnostic criteria (Smiley, 2005). Despite these difficulties, there is consensus in the field that individuals with developmental disabilities (DD) are at an increased risk of having mental health problems, including psychotic disorders, compared to the general population (Smiley, 2005). Prevalence rates of psychotic disorders are estimated to be higher than in the general population, with the risk of schizophrenia in individuals with DD at around 3%, compared with a lifetime general population risk of around 1% (Deb et al., 2001; Morgan et al., 2008; Smiley, 2005).

Psychotic disorders can be misdiagnosed in individuals with DD due to significant cognitive and communication impairments that make the application of standard

diagnostic criteria challenging (Bresh, 2004; Levitas et al., 2001; Myers, 1999). Emotional difficulties, particularly loss, trauma and stress, may lead to very disturbed and disorganized behaviours that could resemble psychotic presentation in a high functioning individual, but in an individual with intellectual disability (ID), might be interpreted as a manifestation of the intellectual disability and not considered to be a mental health problem (Bresh, 2004; DesNoyers Hurley, 1999).

The purpose of the study was to describe individuals seeking services from a specialized dual diagnosis program with a diagnosis of psychotic disorder at the time of referral, and to compare them to those without. Two comparisons were conducted:

(i) Comparison of individuals with and without referral diagnosis of a psychotic disorder

(ii) Comparison of hospitalized individuals who had a diagnosis of psychotic disorder on admission and discharge from the inpatient unit with those who had the diagnosis on admission only.

Method

A file review of all referrals to the Dual Diagnosis Program at the Centre for Addiction and Mental Health between January 2006 and December 2008 was conducted. Demographic and clinical information, including basic demographics, reason for referral and referring sector, psychiatric and developmental diagnoses, medical issues, Assertive Community Treatment (ACT)[1] team involvement, hospitalization and re-admission rates, and psychotropic medication, were analyzed.

This study was approved by the Research Ethics Board at the Centre for Addiction and Mental Health. Statistical results with a *p*-value less than 0.05 were considered significant; non-significant trends were those with a *p*-value greater than 0.05 but less than 0.10. Bonferroni corrections were not used due to the limited sample size, and risk of making Type II errors.

[1] For information regarding Assertive Community Treatment model see www.actassociation.org

Results

In total, 243 individuals were referred for services from the Dual Diagnosis Program between January 2006 and December 2008. Seventeen individuals were excluded from the review because of incomplete information due to limited nature of the contact, leaving a final sample size of 226.

Of the 226 individuals, one fifth (47) had a diagnosis of a psychotic disorder at the time of referral. The psychotic disorders in the sample were limited to schizophrenia, schizoaffective disorder, and psychosis Not Otherwise Specified (NOS).

Comparison I: All Referrals

Tables 1 and 2 contain descriptive information for the psychosis (n = 47) and non-psychosis (n = 179) groups.

Characteristics of Clients

The psychosis and non-psychosis groups were very similar in terms of gender distribution, with slightly over a half being male (55% in the psychosis group and 57% in the non-psychosis group) and mean age (37.4 years with range 17–79 in the psychosis group, and 34.3 years with range 16–67 in the non-psychosis group). ACT team support was very limited in both groups (9% in the psychosis group and 1% in the non-psychosis group).

Reason for Referral and Referral Source

The two most frequent reasons for referral in both groups were diagnostic clarification (35% in the psychosis group and 25% in the non-psychosis group) and aggressive/ challenging behaviour (30% in the psychosis group and 45% in the non-psychosis group). The third most common referral reason in the psychosis group was a review of medications (11%); in the non-psychosis group, it related to support issues, including inadequate housing, criminal justice involvement, and a need for extra staffing (12%).

Sixty percent of referrals in both groups came from either developmental disability services or mental health services (36% and 23% of the

Table 1. Demographic, referral and service information for psychosis and non-psychosis groups

	Psychosis group % (n)		*Non-psychosis group % (n)*	
Gender				
Male	55	(26)	57	(102)
Female	45	(21)	43	(77)
Age (years)				
Mean at referral	37.4		34.3	
Range	17–79		16–67	
Primary Reason for Referral				
Aggressive/challenging Behaviour	30	(14)	45	(77)
Diagnostic Clarification	35	(16)	25	(43)
Support Issues	7	(3)	12	(20)
Review of Medication	11	(5)	5	(8)
Threat/danger to Self/others	2	(1)	4	(7)
Other or unknown Reasons	15	(7)	10	(18)
Referral Source by Sector				
Mental Health	23	(11)	13	(23)
Developmental	36	(17)	46	(82)
Community Health Care (incl. psychiatry)	15	(7)	15	(26)
Specialized Dual Diagnosis	9	(4)	6	(10)
Other	17	(8)	21	(38)
ACT Team Involvement	9	(4)	1	(2)
Inpatient admission*	21	(10)	11	(20)
Re-admission rate	34	(16)	24	(43)

* $p<0.05$
** $p<0.01$
† *non-significant trend* ($0.05<p<0.10$)

psychosis group, and 46% and 13% of the non-psychosis group, respectively). Another 15% of individuals in both groups were referred by community health care services, which also included family physicians and community-based psychiatrists.

Developmental Diagnoses

The two groups differed significantly with regard to level of intellectual functioning (χ^2 (4, N = 226) = 11.160, p < .05). Almost 60% of individuals in the psychosis group functioned at the mild/borderline range, compared to 35% in the non-psychosis group. In contrast, 16% of the psychosis group had moderate/severe ID, while the percentage was 40% in the non-psychotic group. For almost a quarter of referrals in both groups, the level of intellectual disability was not specified or was unknown.

The rate of Autism Spectrum Disorder diagnosis was lower in the psychosis group (13%) than in the non-psychosis group (24%), and the difference showed a trend towards significance (χ^2 (1, N = 226) = 2.778, p = .096).

Concurrent Psychiatric Disorders

The rates of mood and anxiety disorders were low in both groups. The diagnosis of a mood disorder was present in 13% of the psychosis

Table 2. Diagnostic information and medication use at referral for psychosis and non-psychosis group

	Psychosis group % (n)	*Non-psychosis group % (n)*
Developmental Diagnosis*		
Borderline or higher	7 (3)	2 (4)
Mild	50 (22)	33 (57)
Moderate	11 (5)	26 (45)
Severe/Profound	5 (2)	14 (25)
Level NOS or unknown	27 (12)	25 (43)
Medical		
Seizure Disorders	6 (3)	11 (19)
Genetic Syndromes	4 (2)	13 (24)
Vision/Hearing Problems	–	11 (19)
Cerebral Palsy	–	5 (9)
Psychiatric Diagnoses		
Mood Disorder	13 (6)	17 (31)
Anxiety Disorder	9 (4)	16 (30)
Autism Spectrum Disorder†	13 (6)	24 (43)
Psychotropic Medications		
Antipsychotic**	70 (33)	46 (82)
Antidepressant	28 (13)	33 (59)
Anxiolytic	34 (16)	37 (67)
Mood Stabilizer	13 (6)	10 (17)
Anticonvulsants	19 (9)	25 (45)
Beta Blockers	–	4 (7)

* $p < 0.05$
** $p < 0.01$
† *non-significant* ($0.05 < p < 0.10$)

group and in 17% of the non-psychosis group. Anxiety disorders were diagnosed in 9% of the psychosis group and in 16% of the non-psychosis group [the difference was not significant ($p = .159$)].

Medical Conditions

Overall, the rates of medical disorders and conditions were higher in the non-psychosis group, which also had significantly more individuals with a more severe degree of ID. Specifically, seizure disorders were present in 6% of the psychotic group and in 11% of the non-psychotic group, and genetic disorders were present in 4% of the psychosis group and 13% of the non-psychosis group. There were no identified vision/hearing impairments or cerebral palsy in the psychosis group, while the rates were 11% and 5%, respectively, in the non-psychosis group.

Psychotropic Medications

Not surprisingly, the groups differed significantly with regard to the use of antipsychotic medication (χ^2 (3, $N = 226$) = 16.641, $p = .001$). Seventy percent in the psychosis group and 46% in the non-psychosis group were receiving antipsychotic medication(s). The other most commonly prescribed medications in both groups were anxiolytics (34% in the psychosis group and 37% in the non-psychosis group) and antidepressants (28% in the psychosis group and

33% in the non-psychosis group). Anticonvulsant medications were used by 19% of individuals in the psychosis group and 25% in the non-psychosis group. Mood stabilizers were used for a small percent of individuals in both groups (13% psychosis and 10% non-psychosis).

Inpatient Admission and Re-Admission Rates

Overall, clients in the two groups were equally likely to be referred to the Dual Diagnosis program more than once. However, individuals in the psychosis group had significantly more inpatient admissions (χ^2 (1, N = 226) = 5.289, $p < .05$).

Comparison II: Inpatient Assessment

During the study period, 30 individuals were admitted for inpatient assessment and treatment. Of these, ten (33%) had a diagnosis of psychosis at the time of admission. Following inpatient assessment, the diagnosis of psychosis was confirmed in only 50% (5) of these cases. The groups were too small to permit statistical analysis. However, review of descriptive information (Table 3) suggests that individuals whose diagnosis was confirmed may be younger, with longer admissions, forensic involvement, and greater improvement in Global Assessment of Functioning (GAF) scores. None of the ten individuals had a diagnosis of Autism Spectrum Disorder.

Summary and Discussion

Twenty percent of all individuals with ID referred to a specialized dual diagnosis program carried an admission diagnosis of a psychotic disorder. It was the most frequent psychiatric diagnosis in the sample, followed by mood disorders (16%) and anxiety disorders (15%). The most common reasons for referral were diagnostic clarification and aggressive/challenging behaviour.

On many of the demographic and clinical variables, individuals with a diagnosis of psychosis were similar to those without (see Table 1 and 2). However, those with psychosis were more likely to have a milder form of ID (functioning at the Mild ID/Borderline level), and were

*Table 3. Demographic, diagnostic and service utilization information for inpatient group (n = 10)**

	Psychosis confirmed (n)	*Psychosis not confirmed (n)*
Gender		
Male	(2)	(1)
Female	(3)	(4)
Age (Mean at referral)	31.4	48.2
Forensic Involvement	(4)	(2)
ID Level		
Borderline/Mild	(3)	2
Moderate/Severe	(2)	(3)
Psychiatric Diagnoses		
Mood Disorder	(1)	(2)
Anxiety Disorder	(–)	(1)
GAF[1] increase (Discharge minus admission score)	12.8	1.2
Length of Inpatient Stay (days)	427	60
Re-admission rate	(3)	(2)

* *No statistical analyses were conducted due to a small sample size*

[1] *GAF; Global Assessment of Functioning*

less likely to have a co-morbid diagnosis of an Autism Spectrum Disorder or medical diagnosis. They were also more likely to have an inpatient admission.

Of those admitted for inpatient assessment (see Table 3), only half had their admission diagnosis of psychosis confirmed. The most common alternative diagnosis was mood or anxiety disorder. Clinical observations of the individuals who "lost" their diagnosis of psychosis following inpatient assessment suggests that these were primarily women who experienced significant emotional issues (such as complicated grief reactions, relationship stress or placement outside of family home) in the context of inadequate psychosocial supports. It is possible that at least some of the individuals seen only as outpatients could potentially have their diagnosis of psychosis removed with more intensive inpatient assessment and treatment.

The findings with regard to the use of psychotropic medications in the individuals in this study shed light on prescribing practices in the community. Although treatment of psychotic symptomatology is antipsychotic medications, only 70% of the individuals in the psychosis group were receiving them. This suggests that either a significant proportion of individuals with psychosis were undertreated, or, conversely, that the diagnosis of a psychotic disorder once given was no longer valid or accurate and was not the goal of treatment by a prescribing physician. At the same time, almost half of the individuals in the non-psychosis group were receiving antipsychotic medications. Such a high number is very concerning given the severe side effects of these medications, given the best practice guidelines (Deb, et al. 2006; Holden & Gitlesen, 2004) with respect to prescription of psychotropic medications for individuals with ID, and, perhaps most importantly, the results of a recently published study (Tyrer et al., 2008) indicating limited effectiveness of antipsychotic medications in treatment of aggression in non-psychotic individuals.

Conclusions that can be drawn from this study are subject to a number of limitations. The accuracy of referral diagnoses in many cases was unknown and there is a high likelihood that some individuals were wrongly included in either of the groups, which would confound the subsequent comparisons. In addition, the number of cases in the psychosis group was relatively small, particularly in the inpatient sample.

However, these preliminary findings clearly point to the importance of further investigations into the practice of diagnosing and treating psychotic disorders in individuals with ID in the community. They also illustrate the benefit of seeking specialized dual diagnosis consultation, even for higher functioning individuals who are typically considered to be adequately served by generic mental health services. The findings of this study also highlight concerns around the use of antipsychotic medications in this very vulnerable group of individuals, and the importance and urgency of research in this area.

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