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Antipsychotic medication prescription patterns in adults with developmental disabilities who have experienced psychiatric crisis

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ABSTRACT

Antipsychotic medication rates are high in adults with developmental disability. This study considered rates of antipsychotic use in 743 adults with developmental disability who had experienced a psychiatric crisis. Nearly half (49%) of these adults were prescribed antipsychotics. Polypharmacy was common with 22% of those prescribed antipsychotics taking 2 or more antipsychotics at once. Predictors of multiple antipsychotic use included gender, residence, psychiatric diagnosis and previous hospitalizations. Implications of medication prescriptions to this vulnerable population are discussed.

1. Introduction

Pharmacotherapy is a very popular intervention for individuals with developmental disabilities (DD) and behavioural concerns, despite limited evidence of its effectiveness (see Matson & Neal, 2009 for review). Significant attention has been paid to the use of antipsychotic medications as of late because of some recent research demonstrating their inefficacy in treating aggression (Tyrer et al., 2008), one of the more common reasons they are prescribed in this population. Side effects of early antipsychotics such as Haldol and Mellaril include dystonia, neuroleptic malignant syndrome (NMS), tardive dyskinesia (TD), pseudo parkinsonism, and akathisia (see Matson & Mahan, 2010 for review). Atypical antipsychotics have been promoted because of their reduced risk for extra pyramidal symptoms, although this has recently been questioned in the developmental disability population (Matson, Rivet, & Fodstad, 2010). Additional side effects of atypical antipsychotics include weight gain, abnormal glucose metabolism (e.g. diabetes mellitus), dyslipidemia, and increased risk of metabolic syndrome and cardiovascular disturbances (see Hasnain et al., 2009; Ucok & Gaebel, 2008 for full review). These side effects, if not well monitored, can lead to further difficulties in someone already compromised.

Research in the US, UK and Australia has demonstrated high rates of psychotropic medication in adults with DD living in the community with antipsychotics most commonly prescribed (e.g., Beange, McElduff, & Baker, 1995; Burd et al., 1997; DeKuijper et al., 2010; Hurley, Folstein, & Lam, 2003; Lott et al., 2004; Marshall, 2004; Molyneux, Emerson, & Caine, 1999; Robertson et al., 2000; Spreat, Conroy, & Fullerton, 2004). The majority of studies on medications have been descriptive in nature, with fewer studies exploring predictors of high psychotropic medication use. Such research is critical because it can help us to understand why some people are at greater risk for polypharmacy than others, which can then guide intervention efforts.

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Three studies have considered predictors of antipsychotic use specifically in adults with DD. In Molyneux et al.'s study (1999), based in the UK, 21% of 357 adults were prescribed antipsychotic medications, 25% of whom had a psychotic disorder diagnosis. The likelihood of being prescribed antipsychotic medication could be predicted with 85% accuracy based on having a diagnosed mental health problem, challenging behaviour, being discharged from a longstay hospital, involvement of a consultant psychiatrist, and perception by the GP that there were good external support services.

In Robertson et al.'s study (2000), also based in the UK involving 500 individuals with DD from 3 residential settings, antipsychotic medications were most commonly prescribed to those in "residential campuses" (larger congregate settings). Individuals in residential campuses were also more likely to be prescribed 2 or more antipsychotics or an antipsychotic plus another psychotropic medication. The likelihood of being prescribed antipsychotic medication was predicted with 76% accuracy based on challenging behaviour, not having impaired mobility, living in larger congregate setting, greater BMI, not having moved recently from family home, and having a senior staff member with nursing certification.

The final study examined predictors of high risk medication regimens in individuals with DD. Wood, Hall, Zhang, and Hou (2006) studied the Medicaid claims for 2 or more antipsychotics used concurrently among 18,159 individuals with DD in Florida. They selected two or more antipsychotics because of the consensus that such use is rarely indicated and is in fact considered unsafe (Baumeister, Sevin, & King, 1998; Stolker, Heerdink, Leufkens, Clerkx, & Nolen, 2001; Szymanski & King, 1999). Ten percent of their sample was found to be taking 2 or more antipsychotic medications concurrently. Using logistic regression, they found that males, adolescents, and individuals living in group homes were all more likely to be taking 2 antipsychotic medications. Furthermore, visits to primary care were associated with a decrease in likelihood of being prescribed 2 or more antipsychotics while visits to psychiatrists increased likelihood of being prescribed 2 or more antipsychotics. This study was unable to examine reasons for medication use in greater detail (e.g., psychotherapy, psychiatric diagnosis, severity of disability) because findings were based on previously collected administrative data.

The purpose of the current study was to investigate rates of antispsychotic medication use in a group of individuals with DD, each of whom had experienced at least one psychiatric crisis in the past year. It was thought that this group of individuals would have high rates of antipsychotic use in addition to the use of other medications. We further hypothesized that a subgroup of individuals would be prescribed 2 or more antipsychotics. We aimed to replicate Wood et al.'s finding (2006) that those on such high risk regimens would be more likely to be younger, male and living in group homes. We also expected that those on high risk regimens would be more likely to have a psychiatric disorder, and to exhibit higher levels of aggression than individuals on only 1 or no antipsychotic medication.

2. Material and methods

2.1. Participants

Medication profiles of 751 adults with DD living in one large and two medium sized urban centres in Ontario, Canada were collected as part of a larger project on behavioural crises and developmental disabilities. Eight individuals were excluded from this analysis because informants failed to include medication information. The remaining participants were 463 men and 279 women and 1 transgendered individual, mean age of 36.34 (SD = 14.40). Three hundred and seventy three individuals were living in group homes, 189 individuals with family, and 181 individuals either independently or semi independently in a variety of minimal support settings. Sixty five percent of individuals were either working, in school or participating in other structured daytime activities at the time of their crisis. All of these adults were being served by social services or mental health agencies that support people with DD.

2.2. Instruments and procedure

Staffs from the participating agencies were trained to complete client background forms and crisis description forms on their clients if they had a crisis; whether the event was considered to be a crisis was a subjective decision based on the staff completing the form. Current medications were recorded as part of the client background form. The client background form also provided information on age, gender, ethnicity, place of residence, daytime activities, psychiatric and medical diagnoses, as well as current clinical services received. No identifying information about individuals was provided to the research team. All participating agencies were trained in the completion of these forms by the two project research coordinators.

Once the forms were forwarded to the research team, research staffs were trained to categorize medications into 7 medication classes for standard use: antidepressants, anxiolytics, antipsychotics, anticonvulsants, mood stabilizers, sedatives and stimulants. The distinction between mood stabilizers and anticonvulsants was made by classifying medications (e.g. valproate and carbamazepine) as mood stabilizers for all individuals who did not have a diagnosis of seizure disorder. Antipsychotics were further classified as typical or atypical. The institution's Research Ethics Board approved this protocol.

3. Calculation

T-Tests, chi-square analyses, and ANOVAs were used for comparisons. Analyses were run on SPSS 15.0 for windows. Logistic regression was used to assess the association between the dependent variable (two or more antipsychotics vs. one or