Diagnoses and Antipsychotic Treatment Among Youths in a Public Mental Health System

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BACKGROUND: The use of antipsychotics, namely newer atypical agents, has increased significantly in children and adolescents. It is important to examine diagnoses associated with antipsychotic treatment in youths.

OBJECTIVE: To evaluate trends in psychiatric diagnoses of children and adolescents in a public mental health system who were prescribed antipsychotics.

METHODS: Children and adolescents, up to the age of 19 years, who were prescribed an antipsychotic between January 1998 and December 2001 were identified using the Texas Medicaid Vendor Drug database. Patient identification numbers were then cross-linked to the Client Assignment and Registration database of the Texas Department of Mental Health and Mental Retardation to extract diagnostic data.

RESULTS: Disruptive behavioral disorders accounted for the highest percentage (35%) of diagnoses associated with children and adolescents receiving antipsychotic treatment and mental healthcare services. Depressive disorders were the second most common diagnosis (18%), and bipolar disorders accounted for roughly 12% of all diagnoses. Approximately 3% of children and adolescents did not have a psychiatric diagnosis. The percentage of youths with comorbid psychiatric diagnoses decreased over time.

CONCLUSIONS: Although disruptive behavioral disorders accounted for a large percentage of antipsychotic use in this population, these findings suggest that antipsychotics are being used to treat other psychiatric diagnoses, for which limited supporting data exist. Future research in children and adolescents should aim to provide needed efficacy and safety data of antipsychotics across the spectrum of neuropsychiatric disorders.

KEY WORDS: adolescents, antipsychotics, children.

Pharmacoepidemiologic studies examining the use of psychotropic medications in children and adolescents have suggested an increase in the use of antipsychotics, attributed to the atypical antipsychotics.[1] While these types of studies provide valuable information regarding trends in use over time, it is equally critical to examine diagnoses associated with antipsychotic treatment in youths, as limited safety and efficacy data are available from randomized, controlled trials in this population. A study of the Tennessee Medicaid system reported the highest new use of antipsychotic medications in children and adolescents with attention-deficit hyperactivity disorder (ADHD) or con-

duct disorder, followed by affective disorders.[2] Similarly, disruptive behavioral disorders accounted for 33.3% of the antipsychotic prescribing among inpatient youths.[3] Variation in patient demographics and geography necessitates additional examination in other state healthcare systems.[1]

To this end, the purpose of this study was to evaluate trends in psychiatric diagnoses of youth Medicaid recipients receiving services in the Texas public mental health system who were prescribed antipsychotic medications between 1998 and 2001.

Methods

Approval for human subjects research and a waiver of informed consent were received by the institutional review boards at the University of

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Texas at Austin and the Texas Department of Mental Health and Mental Retardation (TDMHMR).

All paid outpatient prescription claims records for antipsychotics, both typical and atypical (oral, short-acting injectable, decanoates), between January 1, 1998, and December 31, 2001, for children and adolescents up to the age of 19 years were extracted from the Texas Medicaid Vendor Drug database, which adjudicates and pays claims for Medicaid outpatient prescriptions. For the purpose of extracting diagnostic data, Medicaid identification numbers of youths having at least one prescription claim for an antipsychotic agent were then cross-linked to the TDMHMR Client Assignment and Registration System (CARE) to determine if they received services from TDMHMR. CARE collects demographic and diagnostic information and records of enrolled treatment services, including outpatient mental health services and inpatient psychiatric hospitalizations at state and local contract facilities, for all persons receiving services from TDMHMR.

It is important to note that not all Texas Medicaid youths receive services from TDMHMR; therefore, these analyses reflect the subset of Medicaid recipients prescribed antipsychotics and receiving services within TDMHMR during the designated time period. Similarly, it also reflects the subset of youth receiving services within TDMHMR who have Medicaid. Although this population represents a subpopulation of children prescribed antipsychotics, it represents a population receiving care through public mental health specialists. During this time period, no restrictions existed within Texas Medicaid regarding prescribing practices, so the data represent the actual prescribing preferences for children receiving mental health specialty services in the Texas public mental health system. Youths in the current study include those who were part of our recently published report on the prevalence of antipsychotic use in the Texas Medicaid system.[1] The diagnoses are those actually made by clinicians in the course of usual clinical care. Thus, the prescribing reflects the prescribing preferences of clinicians for these diagnoses.

Annual registration diagnostic data from community outpatient mental health centers were collected only to ensure consistency with the outpatient setting of Texas Medicaid antipsychotic prescriptions. Diagnoses, according to the *Diagnostic and Statistical Manual for Mental Disorders*, 4th edition, Text Revision (DSM-IV),[4] were classified into the following categories: anxiety disorders, bipolar disorders, depressive disorders, disruptive behavioral disorders, psychotic disorders, substance abuse disorders, developmental disorders, other psychiatric disorders, and other childhood psychiatric disorders (Table 1).[3]

Children and adolescents diagnosed with more than 1 mental disorder falling into the same diagnostic category contributed 1 case to that category. Youths with multiple diagnoses contributed 1 case for each distinct diagnostic category.[3] If a child or adolescent receiving an antipsychotic had not had a documented DSM-IV diagnosis, they were categorized as "no psychiatric diagnosis." It is important to note that unique subjects provided diagnostic data for multiple study years.

The Pearson χ^2 test was used to compare 1998 and 2001 rates of diagnoses among youths prescribed an antipsychotic. Rank order was used to determine for which diagnoses antipsychotics were most prescribed from 1998 to 2001. ANOVA was used to compare the mean number of diagnostic categories assigned per youth receiving antipsychotic treatment over time. Age- and gender-specific analyses were also conducted.

Results

DIAGNOSES

Approximately 22% of Texas Medicaid youths prescribed antipsychotics between 1998 and 2001 received community mental health services through the TDMHMR system and, therefore, had available diagnostic data from the outpatient setting (a total of 7353 unique subjects). Table 2 provides the demographic details of this sample, which was demographically similar to the entire population of Texas Medicaid youths prescribed antipsychotics between 1998 and 2001.[1] However, ethnicity data for the entire population of Texas Medicaid youths prescribed antipsychotics from 1998 to 2001 were not available. We were unable to compare disease severity between our sample and the entire Texas Medicaid database population of youths receiving antipsychotics due to the lack of such

Table 1. Diagnostic Categories[3]	
Main Diagnostic Category	**Included Diagnoses**
Anxiety	adjustment, anxiety disorder not otherwise specified, generalized anxiety, obsessive–compulsive, panic, posttraumatic stress, separation anxiety, social phobia
Bipolar	bipolar I, bipolar II, bipolar with psychosis, cyclothymic
Depressive	dysthymia, major depressive, major depressive with psychosis, mood disorder not otherwise specified
Disruptive behavioral	attention-deficit hyperactivity, conduct, impulse control, oppositional defiant
Psychotic	psychotic disorder not otherwise specified, schizoaffective, schizophrenia, schizophreniform
Substance abuse	alcohol, cannabis, polysubstance
Developmental	mental retardation, pervasive developmental
Other psychiatric	disorders not specific to childhood
Other childhood psychiatric	communicative disorders, encopresis, enuresis, learning disorders

Table 2. Demographics by Year of Youths Prescribed Antipsychotics

	Subjects, n (%)			
Demographic	**1998**	**1999**	**2000**	**2001**
Total subjects	2355	2902	2892	2506
Age (y)				
<5	106 (5)	111 (4)	100 (3)	131 (5)
5–9	748 (32)	916 (32)	940 (33)	805 (32)
10–14	1142 (48)	1419 (49)	1389 (48)	1243 (50)
15–19	359 (15)	456 (16)	463 (16)	327 (13)
Gender				
male	1705 (72)	2012 (69)	2048 (71)	1783 (71)
female	650 (28)	890 (31)	844 (29)	723 (29)
Ethnicity				
white	1040 (44)	1305 (45)	1363 (47)	1075 (43)
African American	654 (28)	730 (25)	718 (25)	641 (26)
Hispanic	631 (27)	835 (29)	775 (27)	747 (30)
other	30 (1)	32 (1)	36 (1)	43 (2)

data, but because it represents a public mental health specialty population, the youths in TDMHMR may represent a more severely ill group than the overall Medicaid population prescribed antipsychotic medications.

ANOVA showed a significant trend of fewer diagnostic categories per youth receiving antipsychotic treatment over time (F = 46.4, df = 3; p < 0.001). In 2001, the mean (± SD) number of diagnoses per youth receiving antipsychotic treatment was 1.4 ± 0.7, which was significantly lower than other study years (1998: 1.7 ± 0.9; 1999: 1.6 ± 0.8; 2000: 1.6 ± 0.8; p < 0.05 for all post-hoc comparisons). Disruptive behavioral disorders accounted for the highest percentage of diagnoses associated with youths receiving antipsychotic treatment (Table 3). ADHD was the most common diagnosis within this category, followed by oppositional defiant disorder and conduct disorder, and impulse control disorders. Depressive disorders were second most common; the percentage of depressive diagnoses remained consistent over time. Among those with a depressive disorder diagnosis, 37% had a specifier of psychotic features in 1998 and 35% in 2001. Bipolar disorders accounted for roughly 12% of all diagnoses associated with antipsychotic treatment; a trend toward more diagnoses of bipolar disorder existed over time. Among those with a bipolar disorder diagnosis, 20% had a specifier of psychotic features in 1998 and 23% in 2001. The percentage of diagnoses of mental retardation or a pervasive developmental disorder among youths was fairly steady. Of these, the majority had mental retardation (1998: 71%; 2001: 69%), compared with a pervasive developmental disorder (1998: 29%; 2001: 31%). Approximately 3% did not have a documented psychiatric diagnosis.

In the 5- to 9-year age group, disruptive behavioral disorders were the most common diagnoses during each year (1998: 48%; 1999: 45%; 2000: 45%; 2001: 46%). Depressive disorders were the second most common from 1998 to 2000 (12% each year), followed by bipolar disorders (1998: 9%; 1999: 10%; 2000: 11%). In 2001, among 5- to 9-year-olds, a slightly higher percentage of bipolar disorder diagnoses (13%) was observed compared with diagnoses of depressive disorders (12%). χ^2 Analysis comparing rates of diagnoses in 1998 and 2001 did not show a significant relationship among this age group ($\chi^2 = 15.3$, df = 9; p = 0.08).

Among 10- to 14-year-olds, disruptive behavioral disorders were most common (1998: 33%; 1999: 31%; 2000: 32%; 2001: 32%), followed by depressive disorders (1998: 20%; 1999: 23%; 2000: 21%; 2001: 21%). The percentage of 10- to 14-year-olds diagnosed with a bipolar disorder increased over time (1998: 10%; 1999: 11%; 2000: 13%; 2001: 15%). A higher percentage of this age group had a psychotic disorder diagnosis during each year (1998–2001: 8% each year) compared with younger children and adolescents (1998: 6%; 1999: 6%; 2000: 5%; 2001: 6%). A significant relationship existed between rates of diagnoses and year (1998 and 2001) in this age group ($\chi^2 = 34.3$, df = 9; p < 0.001).

Among 15- to 19-year-olds, depressive disorders were the most common diagnoses (1998: 21%; 1999: 24%; 2000: 23%; 2001: 23%). Compared with 10- to 14-year-olds, a higher percentage of 15- to 19-year-olds had a psychotic disorder diagnosis (1998: 16%; 1999: 18%; 2000: 16%; 2001: 17%) and a lower percentage had a disruptive behavioral disorder diagnosis (1998: 20%; 1999: 18%;

Table 3. Evaluation of Diagnoses of Youths Prescribed Antipsychotics[a]

Diagnostic Category	Number of Subjects (%)[b]			
	1998[c]	1999	2000	2001[c]
Total subjects	2355	2902	2892	2506
Total diagnoses	3897	4670	4508	3512
anxiety disorders	320 (8.2)	358 (7.7)	349 (7.7)	259 (7.4)
bipolar disorders	371 (9.5)	511 (10.9)	551 (12.2)	508 (14.5)
depressive disorders	677 (17.4)	891 (19.1)	809 (17.9)	635 (18.1)
disruptive behavioral disorder	1400 (35.9)	1573 (33.7)	1563 (34.7)	1234 (35.1)
attention-deficit hyperactivity disorder	(48.3)	(48.6)	(51.4)	(54.1)
impulse control disorder	(10.2)	(10.9)	(10.2)	(9.5)
oppositional defiant or conduct disorder	(41.5)	(40.5)	(38.5)	(36.4)
mental retardation/developmental disorders	238 (6.1)	244 (5.2)	265 (5.9)	190 (5.4)
no psychiatric or behavioral disorder	133 (3.4)	178 (3.8)	111 (2.5)	91 (2.6)
other childhood mental health disorders	245 (6.3)	274 (5.9)	303 (6.7)	189 (5.4)
other mental health disorders	75 (1.9)	102 (2.2)	75 (1.7)	47 (1.3)
psychotic disorders	336 (8.6)	427 (9.1)	376 (8.3)	289 (8.2)
substance abuse disorders	102 (2.6)	112 (2.4)	106 (2.4)	70 (2.0)

[a]Unique subjects contribute cases to multiple years.
[b]Percentages reported as percentages of diagnoses.
[c]Comparison of 1998 and 2001: $\chi^2 = 56.2$, df = 9; p < 0.001.

2000: 19%; 2001: 16%). The percentage of 15- to 19-year-olds diagnosed with bipolar disorder increased over time (1998: 10%; 1999: 13%; 2000: 13%; 2001: 18%). A significant relationship was observed between rates of diagnoses and year (1998 and 2001) in the 15- to 19-year-old group (χ^2 = 19.9, df = 9; p = 0.02).

From 1998 to 2001, a higher percentage of male youths receiving antipsychotic treatment had disruptive behavioral disorders (1998: 39%; 1999: 38%; 2000: 39%; 2001: 40%) than did females (1998: 28%; 1999: 25%; 2000: 25%; 2001: 24%). Depressive and anxiety disorders were more common in females (depressive: 24–25%; anxiety: 10–11%) during each year compared with males (depressive: 15–16%; anxiety: 6–7%). Both males and females showed comparable percentages of psychotic disorders (both genders: 9% each year), and a trend toward increasing percentages of disorders (1998: 9% males, 11% females; 2001: 14% males, 16% females). χ^2 Analysis comparing rates of diagnoses in 1998 and 2001 showed a significant relationship for males (χ^2 = 46.2, df = 9; p < 0.001) and females (χ^2 = 18.8, df = 9; p = 0.03).

In 1998, 45% (1054/2355) of the subjects receiving antipsychotic treatment were assigned more than 1 distinct diagnostic category. A trend toward a lower percentage of youths with comorbid psychiatric disorders existed (1999: 43%; 2000: 40%; 2001: 30%). Among children and adolescents with a disruptive behavioral disorder, a comorbid diagnosis of a depressive disorder (16%) was most common, followed by comorbid bipolar disorder (11%). Among youths with either a bipolar or depressive disorder, 30% had a comorbid diagnosis of a disruptive behavioral disorder.

ANTIPSYCHOTIC TREATMENT

In this sample of Texas Medicaid youths receiving outpatient services and prescribed antipsychotics in the TDMHMR system, the number and percentage of youths prescribed an atypical antipsychotic increased from 1998 (n = 1860; 79%) to 2001 (n = 2466; 98%). The percentage of youths prescribed risperidone was highest during each year, followed by olanzapine and quetiapine (1998: 78% [n = 1469], 26% [n = 489], and 7% [n = 125], respectively; 2001: 70% [n = 1734], 28% [n = 694], 18% [n = 446], respectively). The percentage of youths prescribed a typical antipsychotic decreased over time (1998: 34% [n = 805]; 2001: 7% [n = 180]).

Atypical antipsychotic prescription increased among 5- to 9-year-olds (1998: 77% [n = 578]; 2001: 99% [n = 797]), 10- to 14-year-olds (1998: 80% [n = 919]; 2001: 98% [n = 1220]), and 15- to 19-year-olds (1998: 82% [n = 294]; 2001: 98% [n = 319]), with risperidone being the most common agent. Typical antipsychotic prescriptions decreased over time in all age groups. Similarly, an increase in the percentage of males (1998: 78% [n = 1331]; 2001:

98% [n = 1751]) and females (1998: 81% [n = 529]; 2001: 99% [n = 715]) prescribed atypical antipsychotics was observed, whereas the use of typical antipsychotics decreased. These findings are consistent with those seen with the entire Texas Medicaid child and adolescent population.[1]

Discussion

In the Texas Medicaid system, antipsychotic use in children and adolescents increased 44% from 1998 to 2001; atypical antipsychotic use, however, increased by 74%.[1] Disruptive behavioral disorders were the most common diagnoses, followed by depressive and bipolar disorders. These diagnostic findings are consistent with those seen in the Tennessee Medicaid system and New York inpatient psychiatric facilities.[2,3] Although geographic variation in antipsychotic prescribing has been observed, the reasons for use may not differ among regions. Youths with disruptive behavioral disorders may account for a large percentage of antipsychotic prescribing across settings due to the fact that these disorders are the most prevalent disorder in the pediatric population.[5] Additionally, behavioral disorders are typically poorly tolerated in school settings, and are one of the more common reasons for psychiatric hospitalization among children.[6] Thus, clinicians may have a tendency to treat these disorders assertively, resulting in the prescription of antipsychotic medications.

Although the use of most antipsychotics, namely newer atypical agents, for disruptive behavioral disorders and aggression remains off-label, available data predominantly support short-term use in youths with subaverage intellectual functioning or autism and are limited to risperidone.[7-12] Furthermore, these data are reflected in the Treatment Recommendations for the Use of Antipsychotics for Aggressive Youth and an international consensus statement on ADHD and disruptive behavioral disorders.[13,14]

Risperidone (mean dose 0.028 mg/kg) was more efficacious than placebo in reducing aggression, as measured by the Rating of Aggression Against People and/or Property Scale, in a 10-week, randomized, double-blind study of 20 youths (aged 6–14 y) with conduct disorder.[9] In a 4-week, randomized, controlled trial of 13 children and adolescents (6–14 y) with behavioral problems and borderline intellectual functioning, risperidone (mean dose 1.2 mg/day) was superior to placebo in reducing scores on the Aberrant Behavior Checklist (ABC).[12] In 38 hospitalized adolescents (mean age 14.0 y) with severe aggression and subaverage levels of intelligence, treatment with risperidone (mean dose 2.9 mg/day) was associated with significant improvements on the Clinical Global Impression–Severity scale, modified Overt Aggression Scale, and the ABC.[8]

Aman et al.[7] demonstrated the superiority of risperidone (mean dose 1.16 mg/day) over placebo in controlling conduct problems, as measured by the Nisonger Child Behavior

Rating Form (NCBRF), in a 6-week, randomized, double-blind study of risperidone in 118 children and adolescents (5–12 y) with disruptive behavior disorders and subaverage intelligence. In another 6-week, randomized, double-blind, placebo-controlled trial of 110 children (5– 12 y) with subaverage intelligence, risperidone (mean dose 0.98 mg/day) was superior to placebo in reducing scores on the NCBRF, as well as on the ABC.[11] In 101 children with autism and behavioral problems, risperidone (mean dose 1.8 mg/day) was more efficacious than placebo in reducing behavior problems, measured by the ABC, over an 8-week period.[10]

Interestingly, ADHD accounted for a large percentage of diagnoses within the disruptive behavioral disorder category. The likelihood of clinicians using antipsychotics to treat the classic symptoms of ADHD in children without psychiatric comorbidity should be fairly low, given that these symptoms optimally respond with psychostimulants. However, low-dose antipsychotics may be used to address excessive hyperactivity or aggressive behaviors in youths with ADHD. Aman et al.[15] reported that risperidone, with or without a psychostimulant, was superior to placebo in reducing both hyperactivity and disruptive behavior. Furthermore, treatment with risperidone plus a psychostimulant resulted in better control of hyperactivity than did psychostimulant monotherapy.

Depressive disorders were the second most frequent diagnoses in children and adolescents receiving antipsychotics, yet, as of January 18, 2006, no systematic study examining antipsychotics in childhood or adolescent depression exists. Albeit controversial,[16] the Texas Children's Medication Algorithm Project algorithm for the treatment of childhood major depressive disorder recommends a selective serotonin-reuptake inhibitor plus an atypical antipsychotic in youths with a diagnosis of major depressive disorder with psychotic features.[17] While major depressive disorder with psychosis was common in our study sample (39% of depressive disorder diagnoses), a significant number of youths receiving antipsychotic prescriptions were diagnosed with nonpsychotic depression, for which preliminary data in adults suggest that atypical antipsychotics may be beneficial.[18] Also, depressive disorders in youths are often comorbid with disruptive behavioral disorders, possibly warranting use of an antipsychotic in youths who are aggressive, or when antidepressant treatment or psychosocial interventions have been unsuccessful in reducing these behaviors.[19]

The proportion of bipolar disorder diagnoses among children and adolescents receiving antipsychotic treatment increased from 1998 to 2001. Although controversial, it has been suggested that this increase is possibly due to advances in recognition of its phenomenology.[20] Clinicians are likely to use atypical antipsychotics for the treatment of bipolar disorder in children and adolescents based on adult safety and efficacy data. Aripiprazole, olanzapine, quetiapine, risperidone, and ziprasidone have approved indications for the treatment of acute mania in adults. In adolescents, only quetiapine has been studied in a randomized, controlled trial as an adjunct to divalproex and monotherapy for mania.[21,22]

In the study of quetiapine as adjunctive treatment, patients receiving divalproex (mean serum concentration 102 µg/mL) plus quetiapine (mean dose 432 mg/day) had significantly greater reductions in Young Mania Rating Scale (YMRS) total scores than did patients receiving divalproex alone (mean serum concentration 104 µg/mL).[21] The response rate in the divalproex plus quetiapine group was 87%, which was significantly higher than that seen with divalproex alone (53%).

In the head-to-head comparison study of divalproex (mean serum concentration 101 µg/mL) and quetiapine (mean dose 412 mg/day) in adolescent mania, both treatments resulted in significant improvement in YMRS total scores over 28 days.[22] However, response and remission rates were significantly higher for the quetiapine group (84% and 60%, respectively) compared with the divalproex group (56% and 28%, respectively).

Although some may be concerned by this practice approach, atypical antipsychotics do provide clinicians with additional treatment options in circumstances in which the benefits of initiating antipsychotic treatment appear to outweigh the potential risks.[20] In fact, the observed efficacy of atypical antipsychotics in bipolar mania has resulted in a recommendation of these agents as first-line treatment.[23] Response rates with combination atypical antipsychotic and mood stabilizer therapy in adult and pediatric mania studies are approximately 20–30% higher compared with response rates with mood stabilizer monotherapy.[21,24] Similar to depressive disorders in youths, comorbidity of bipolar disorder with a disruptive behavioral disorder may warrant treatment with an antipsychotic, especially if severe aggressive behavior is present.

Disruptive behavioral disorders appear to be a common diagnosis for which antipsychotics are used in children and adolescents. Although risperidone has been systematically evaluated in randomized clinical trials for the treatment of aggression and shows reasonable effect sizes, additional research is needed to determine the relative safety and efficacy of other atypical antipsychotic agents, the relative benefits of antipsychotics versus psychosocial treatments for disruptive behavioral disorders, and the long-term effects of different treatment modalities.[25] In addition, it is unclear how adult data of atypical antipsychotics for the treatment of other psychiatric disorders can be extrapolated to the child and adolescent population. The assumption that adult safety and efficacy data are applicable to the pediatric population is not sufficient, as seen with the contro-

versy surrounding antidepressants and suicidal ideation or self-injurious acts in youth.[26] Multidisciplinary and interagency research collaborations are needed to bridge this widening gap between science and clinical practice.[25]

The results of this study should be viewed in the context of its limitations. Diagnostic data were limited to a subset of Texas Medicaid youths receiving antipsychotics and mental healthcare services from TDMHMR community mental health centers, limiting the generalizability of the results. It is possible that the sample under study is not representative of all Texas Medicaid youths, as those receiving services from TDMHMR may represent a more severely ill group. However, this sample may be more representative of psychiatrist preferences. Only psychiatrists (general or child) provide physician services within TDMHMR, and the Medicaid population had no restrictions on medication use. Budget limitations may influence prescribing in the TDMHMR indigent care population, but no such restrictions were in place with children who had Texas Medicaid.

Initial intake diagnostic interviews of the patients and their respective legal guardians are typically performed by "qualified mental health professionals." These individuals may have variable training in appropriate diagnosis of psychiatric disorders in children and adolescents, possibly resulting in inconsistent and inaccurate diagnosis. However, all children receiving medication services within TDMHMR are evaluated by a psychiatrist before being prescribed psychotropic medications. Other research has also shown a positive relationship between Child Behavior Checklist Scores and clinical diagnosis among new child and adolescent intakes in TDMHMR.[27] Thus, these diagnoses not only reflect diagnoses made by a psychiatrist, but caregiver-completed ratings are also consistent with the diagnoses. No distinction of primary or secondary diagnosis is available in the CARE database, which limited our ability to discern for which diagnosis an antipsychotic may have been prescribed. Psychiatric comorbidity is extremely common in children, particularly among those receiving care in the public mental health sector, and it is often difficult to determine which disorder is primary.[28] Dosing data of atypical antipsychotics were not evaluated to further determine appropriateness of treatment. Although youths were prescribed an antipsychotic, it was not possible to determine if the specific agent was actually taken as prescribed. The study analyzed annual cross-sectional data, which allows for unique subjects to appear in multiple study years (~45% contributed data points in multiple years). This lack of independence in the data is a limitation of the statistical analyses conducted (both χ^2 and ANOVA) and also does not allow for a longitudinal evaluation of an individual's diagnoses or treatment. Finally, the validity of the data is unknown as these data were collected for administrative purposes rather than for research. It is possible that errors may have been made during data collection and input into the CARE database. However, studies have shown that administrative databases have similar levels of accuracy as retrospective chart reviews.[29,30]

Conclusions

Disruptive behavioral disorders accounted for the highest percentage of diagnoses associated with children and adolescents receiving antipsychotic treatment and mental healthcare services. Future research should aim to provide needed efficacy and safety data of antipsychotics across the spectrum of child and adolescent psychiatric disorders.

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EXTRACTO

INTRODUCCIÓN: La utilización de los antipsicóticos atípicos ha aumentado considerablemente en la población infantil y la adolescencia. Es importante analizar los diagnósticos asociados con el tratamiento antipsicótico en esta población.

OBJETIVO: Evaluar las tendencias en el diagnostico psiquiátrico de los niños y adolescentes en un recurso público de salud mental que prescribe antipsicóticos.

MÉTODOS: Se identificaron los niños y adolescentes hasta 19 años, a los que se prescribió antipsicóticos entre enero de 1998 y diciembre 2001, utilizando la base de datos del Texas Medicaid Vendor Drug. Los números de identificación de los pacientes fueron cruzados con la base de datos del Client Assignment and Registration del departamento de salud mental y retraso mental para extraer los datos diagnósticos.

RESULTADOS: Los trastornos del comportamiento supusieron el mayor porcentaje (35%) de diagnósticos asociados a la utilización de antipsicóticos en niños y adolescentes en los servicios de atención a la salud mental. Los trastornos depresivos fueron el segundo diagnóstico más frecuente (18%) y los trastornos bipolares supusieron cerca del 12% de todos los diagnósticos. Aproximadamente un 3% de los niños y adolescentes no disponían de un diagnóstico psiquiátrico. El porcentaje de esta población con comorbilidad de diagnósticos psiquiátricos disminuyo con el tiempo.

CONCLUSIONES: A pesar de que los trastornos del comportamiento supusieron el mayor porcentaje de diagnósticos asociados a la utilización de antipsicóticos, este análisis sugiere que están siendo utilizados para otros diagnósticos psiquiátricos, para los cuales existe una limitada cantidad de datos. La investigación en el futuro debería conseguir proporcionar los datos de eficacia y seguridad de la utilización de antipsicóticos en niños y adolescentes para los diversos trastornos neuropsiquiátricos existentes.

Corinne Zara Yahni

RÉSUMÉ

DONNÉES DE BASE: L'utilisation des antipsychotiques, notamment des nouveaux agents atypiques, a significativement augmentée chez les enfants et les adolescents. Il est important d'étudier les diagnostics associés avec les traitements antipsychotiques dans cette population.

OBJECTIF: Le but de cette étude était d'évaluer les tendances des diagnostics psychiatriques chez des enfants et adolescents traités dans un système public de santé mentale et pour qui des antipsychotiques ont été prescrits.

MÉTHODOLOGIE: Les enfants et adolescents (âge maximum de 19 ans) pour qui un antipsychotique a été prescrit entre janvier 1998 et décembre 2001 ont été identifiés en utilisant la banque de donnée Texas Medicaid Vendor Drug. Les numéros d'identification de patient ont ensuite été croisés avec la banque de données Assignation et enregistrement du client du département de santé mentale et de déficience mentale du Texas pour extraire les données relatives au diagnostic.

RÉSULTATS: Les troubles de comportement perturbateur non spécifié représentaient le pourcentage le plus élevé (35%) de diagnostics retrouvés chez les enfants et les adolescents ayant reçu une prescription d'antipsychotique et des services de santé mentale. Les troubles dépressifs constituaient le second diagnostic le plus fréquent (18%) alors que les troubles bipolaires correspondaient à grosso modo 12% de tous les diagnostics. Approximativement 3% des enfants et des adolescents étudiés n'avaient pas de diagnostic psychiatrique. Le pourcentage de jeunes présentant une comorbidité psychiatrique associée à un autre diagnostic diminuait avec le temps.

CONCLUSIONS: Bien que les troubles de comportement perturbateur non spécifié représentaient un pourcentage élevé de la raison d'utilisation des antipsychotiques dans cette population, ces données suggèrent que les antipsychotiques sont utilisés pour traiter d'autres troubles psychiatriques, pour lesquels peu de données supportent l'utilisation. Les recherches futures chez les enfants et les adolescents devraient viser à produire des données concernant l'efficacité et la sécurité des antipsychotiques pour différents désordres neuropsychiatriques.

Marie-Claude Vanier