

## Suggested Reading

Donnelly CR (2003). Pharmacologic treatment approaches for children and adolescents with posttraumatic stress disorder. *Child Adolesc Psychiatric Clin N Am* 12: 251–269.

Pitman RK, Delahanty DL (2005). Conceptually driven pharmacologic approaches to acute trauma. *CNS Spectrums* 10 (2): 99–106.

Perrin S, Smith P, Yule W (2000). Practitioners review: The assessment and treatment of posttraumatic stress disorder in children and adolescents. *J Child Psychol Psychiat* 41 (3): 277–289.

Scheeringa MS, Peebles CD, Cook CA, Zeanah CH (2001). Toward establishing procedural, criterion, and discriminant validity for PTSD in early childhood.

Saxe G, Stoddard F, Courtney D, Cunningham K, Chawla N, Sheridan R, King D, King L (2001). Relationship between acute morphine and the course of PTSD in children with burns. *J Am Acad Child Adolesc Psychiatry* 40 (8): 915–921.

*Earlier this year, the following study by Dr. Bauermeister was published in The ADHD Report. CAPN readers will be interested in this study of an Hispanic pediatric population and the treatment implications discussed. Reprinted by permission, The ADHD Report 13(3), 2005.*

## Medication Treatment of ADHD in Latino/Hispanic Children

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ADHD (Attention–Deficit/Hyperactivity Disorder) is a prevalent and impairing condition that affects individuals across the life span (American Psychiatric Association, 1994). Given the multiple risks associated with this disorder, guidelines have been developed to promote adequate treatment through pharmacology and psychosocial interventions (AACAP, 2002; AAP, 2000). Treatment based on the use of stimulants is highly efficacious in reducing the core symptoms of ADHD, as well as the associated features of defiance and aggression (MTA Cooperative Group, 1999). On the other hand, behavior therapy, as a psychosocial intervention for ADHD, has proven to be effective in the management of the symptoms of the disorder and the modification of the associated behaviors (Pelham, Wheeler, & Chronis, 1998).

Research has supported the construct validity of ADHD in Latino/Hispanic children. Those with the disorder are at risk for presenting neurocognitive (executive functioning), educational, social, and clinical

impairments (Bauermeister, Barkley, et al. 2005; Bauermeister, Matos, et al., 2005; Bauermeister, Shrout, et al., 2005). The weighted prevalence of the disorder among Puerto Rican children ages 4 to 17 is 7.5% when parents are the informants (Bauermeister, Shrout, et al., 2005) and 8% when both parents and children aged 11 to 17 are the informants (Canino et al., 2004).

In spite of the prevalence estimates and the fact that Latinos/Hispanics are the largest growing minority group in the United States, evidence suggests children identified as ADHD from this ethnic group are not receiving adequate pharmacological and psychosocial treatment (Jensen et al., 1999; Rowland, Umbach, Stallone, Naftel, Bohlig, & Sandler, 2002; Safer & Malever, 2000; Stevens, Harman, & Kelleher, 2004). However, with the exception of Jensen and colleagues (1999), researchers in these studies did not directly ascertain the diagnosis of ADHD and the services received using carefully executed interviews of non-referred representative community samples. Thus, it is

not clear how many Hispanic/Latino children with ADHD are being treated and the types of services they receive.

In the absence of systematic data, our research group in the Behavioral Sciences Research Institute at the Medical Science Campus of the University of Puerto Rico decided to examine to what extent Puerto Rican children with a diagnosis of ADHD were actually receiving treatment and to identify variables associated with stimulant medication treatment. One of the strengths of our epidemiologic study was the use of DSM–IV criteria for ADHD and a large non-referred community sample of children ages 4 to 17. We also conducted focus groups with children and their parents to explore knowledge and attitudes about ADHD and medication treatment. Whereas the epidemiological study yielded quantitative findings generalizable to the population, the focus group study provided insights that can help clinicians understand attitudes and barriers to medication

treatment and, more importantly, set the stage for further research.

## Treatment Prevalence Study

### Sample, Procedures, and Measures

In this study, we selected children ages 4 to 17 from an island-wide probability household sample ( $n = 1897$ ). The sampling strategy and the measures have been described elsewhere (Bauermeister et al., 2003; Canino et al., 2004). In addition to obtaining relevant demographic information from the child's primary caretakers, we conducted interviews to assess risk and protective factors, medical insurance coverage, and attitudes towards medication use. We assessed presence of psychiatric disorders with the Spanish version of the Diagnostic Interview Schedule for Children, version IV (DISC)-IV (Bravo et al., 2001). We used the Spanish version of the Service Assessment for Children and Adolescents (SACA) (Canino et al., 2002) to identify the types of services and treatments used by children for emotional, alcohol, and drug problems. Lay interviewers conducted the interviews in participants' households.

### Results

A total of 143 participants received a DISC-IV diagnosis of ADHD. We found that only 7.2% ( $n = 12$ ) of those with the disorder received any medication treatment; 7.0% ( $n = 11$ ) received stimulant treatment during the preceding year. A finding of concern was that about half (3.6%) of the children who met ADHD diagnostic criteria and were medicated with stimulants in the previous year had discontinued this treatment at the time of the interview. The reasons given by parents for discontinuation were negative side effects ( $n = 2$ ), lack

of effectiveness ( $n = 1$ ), and parental disagreement about medication use ( $n = 1$ ). Lack of health insurance was not a reason for treatment noncompliance; all children had insurance that covered total or partial medication costs.

We also found that a diagnosis of ADHD or ADHD not otherwise specified (odds ratio [OR] = 12.1), global impairment (OR = 6.8), and being male (OR = 8.9) was associated with higher odds of receiving stimulant medication during the preceding year ( $p < .001$ ). Further examination of the data indicated that whereas the male-to-female ratio in the prevalence of ADHD was 2:1, the corresponding ratio in the stimulant medication prevalence was 10:1. Household income, insurance coverage during the last year, and comorbidity were not significant predictors of stimulant use. We could not analyze the association of age and positive attitudes towards medication with stimulant treatment due to extremely low sample size.

When we examined rates of psychosocial treatment, less than one-fourth of the children with ADHD received child and family therapy, case management, and evaluation testing services in mental health facilities or by mental health professionals. About 40% received any psychosocial services in school-based, outpatient, and hospitalization or residential facilities.

In brief, our findings suggest that most Puerto Rican children are not receiving efficacious treatments based on scientific findings and relevant clinical consensus. The data suggest females with ADHD, in addition to adolescents, are significantly under treated in this Latino population. Inspection of the data also suggests caretakers of stimulant-treated children with ADHD present a more positive attitude towards the use of medication than caretakers of children with

other DISC-IV diagnoses or no diagnoses. Unfortunately, our treatment prevalence study did not ascertain parents' perceptions about ADHD and its treatment. Parental perceptions about the nature and treatment of ADHD could shed light on the low rate of medication treatment in this Latino/Hispanic population. We explored such perceptions in the focus group study summarized below.

### Focus Group Study: Medication Treatment

To explore knowledge and attitudes of parents, children, and adolescents about ADHD and medication treatment, we conducted six focus groups during August and September of 2001. These were: two groups of parents of children ages 7 to 12 (one group included parents of medicated participants and the other group did not); one group of medicated and unmedicated children ages 7 to 12; one group of medicated and unmedicated adolescents; and, two groups of parents of adolescents (one group included parents of adolescents who were medicated and the other group did not). The participating children and adolescents ( $n = 39$ ) had been formally diagnosed with the disorder by mental health professionals. All participants resided in the San Juan metropolitan area.

Four psychologists and a child psychiatrist from our research team led the groups. Participants were asked to discuss 10 overarching questions concerning information about ADHD and attitudes toward treatment for this disorder. During each session, a research assistant took notes on the discussion while another kept track of the time allotted for the discussion of each question. The group discussion was audiotaped and later summarized. A summary of the general findings from an analysis of participants' reactions to the topic areas presented for

discussion are divided into four interrelated themes below.

### *Information, Perceived Changes, and Attitudes About Medication*

Parents reported receiving limited information about medication treatment for ADHD. Most information related to potential side effects such as loss of appetite and sleep problems. Most parents acknowledged that medication provided positive changes in their child's behavior and concurred that medication improved self-control, performance, and learning in school. This observation is consistent with the trend reported in our treatment prevalence study. However, parents still voiced fears and concerns about the medication side effects.

Several children expressed how medication helped them improve their grades and behavior at school. In addition, they felt that medication could be discontinued in the future when no longer needed. However, their positive attitudes towards medication were not as definitive as those of their parents. They expressed concerns about choking while taking the pills, potential side effects, and being labeled by peers as "crazy." The children and adolescents felt that mental health professionals provided little information about medication treatment, mainly discussing the positive treatment effects, such as enhanced academic performance and self-control at school.

Adolescents on medication acknowledged the drugs' positive effects. They expressed that medication helped them concentrate more at school and to control themselves better. However, their preference was not to take medication. Several perceived medication-stimulated behaviors as negative. Some examples were "not being themselves" when under medication, not being able to play the Puerto Rican cultural script

of horsing around and joking ("relajando"), notstanding up for oneself and getting respect verbally or physically when bothered by others ("darse a respetar"), or not being loyal and defending their friends at school. Thus, cultural norms in some children can lead to the perception that improvements in self-control are undesirable. This hypothesis needs to be examined in future research.

The participants' perceptions suggest professionals in this Latino/Hispanic community do not spend adequate time educating children about ADHD and its treatment and helping them overcome barriers to medication compliance. Parents are then left with the responsibility of educating their children on medication treatment, without having the necessary knowledge and skills.

### *School and Other Influences on the Decision to Receive Medication*

Most parents narrated how school policies greatly influenced their intention to medicate their children. Examples of these policies were school admission, grade promotion, completing written work, academic performance, and classroom discipline.

Parents whose children were not medicated at the time of the focus group discussion decided not to medicate their children because of information provided by the media that stimulant medication was similar to cocaine, reluctance of the child's pediatrician to prescribe medication, negative side effects, potential for addiction, and negative feedback from teachers.

### *Doubts and Worries*

Underlying parents' attitudes toward medication, we identified doubts and profound apprehension about short- and long-term medication side ef-

fects, such as brain damage and drug addiction, risk of their child being labeled as crazy, and loss of job opportunities associated with testing positive to stimulant use. This misinformation and apprehension is further exemplified by worries related to specific long-term outcomes such as Alzheimer's disease and infertility. Children's and adolescents' concerns about medication were related to feeling nervous or being physically harmed by this treatment.

### *Barriers for Discontinuing*

Parents identified a number of barriers and reasons that can contribute to the discontinuation of medication for children with ADHD. Among these were parents' lack of appropriate information; fear of harming their children; lack of financial resources to periodically assess feared medical side effects; fear of child becoming addicted; lack of support from family members, school personnel, and close friends; costs or lack of medical insurance coverage; legal requirements to buy medication within a 24-hour period after being prescribed; and inconsistent views among professionals as to the necessity of medication for the child. Some parents whose children were not medicated anticipated that their children would have negative feelings about medication due to side effects or a fear of being pointed out at school as taking drugs.

Children, on the other hand, gave as much or more importance to peer rejection than to physical side effects for discontinuing medication. In addition, they mentioned difficulties in remembering to take medication at school, concern about lack of privacy, missing class discussion when leaving the classroom to take medication, and lack of information on the part of school personnel. They also identified physical barriers, such as lack of properly functioning water fountains in their school.

## Thoughts and Clinical Implications

The negative views about medication expressed by these parents are similar to those reported by Latina mothers in the mainland (Arcia, Fernández and Jaquez, 2004). Although mainland nonwhite parents present a less positive perception of medication treatment for ADHD than white parents, both groups have perceptions similar to those reported by Latino/Hispanic parents in our groups (Dosreis, Zito, Safer, Soeken, Mitchell, & Ellwood, 2003). Thus, some misconceptions and reservations about medication treatment for ADHD may be present in most parents, while others may be specific to Latino/Hispanic parents or other ethnic groups. In the absence of much needed research in this area, the following ideas may help clinicians treating children with ADHD and their families increase compliance and adherence to treatment. Some of these ideas may be particularly helpful for Latino/Hispanic patients.

Parents, children, and teachers need to receive precise and comprehensive information about ADHD and its treatment. My personal view as a clinician is that this information should be communicated in the general context of diversity and individual differences among human beings. The main message should highlight individuals' diverse patterns of difficulties and talents. ADHD needs to be explained as a pattern of neurobiologically based difficulties related to self-regulation that places children and adolescents at risk for facing more adaptation problems at school, home, and work than others of the same age.

Clinicians must also emphasize the particular qualities, abilities, and skills these individuals possess. This

approach could help parents and their children have a less pathological view of ADHD and facilitate treatment acceptance. An understanding and acceptance of the disorder can help children and their parents view medication not as a treatment for "crazy" people but as a treatment that enhances self-regulation and increases opportunities for personal, social, academic, and occupational attainment (Barkley, 1998).

The education process needs to be continuous and adapted according to the clinical picture of each child and his/her development. Physicians need to set aside adequate time to establish a therapeutic alliance and to explain ADHD to parents and children. Parents must have access to culturally sensitive literature on ADHD. Several books in Spanish for parents and children with ADHD have been published (Bauermeister, 2002; García-Pérez, 1997; Gordon, 1995).

Emphasis should be placed on the positive effects of medication and its potential to help children and adolescents improve self-regulation and demonstrate their skills and talents. In the case of Latino/Hispanic children, information about medication needs to be provided to other members of the family, such as grandparents, aunts, uncles, and other close relatives. This recommendation responds to the Latino/Hispanic cultural value of familism (Marin & Marin, 1991). Parents may consult extended family members about medication treatment and their opinions will have considerable weight in their decision-making. School personnel and teachers need to be better informed about medication treatment for ADHD, students' misconceptions and feelings associated with this treatment modality, and the importance of implementing procedures to minimize medica-

tion-related barriers and increasing students' self-efficacy to adhere to their medication regimen. One example is to ensure that children who take medication during school hours can do so in private.

Mental health professionals need to promote information that clarifies common misconceptions and myths. They need to explain how the media tends to perpetuate incorrect ideas by providing sensationalistic and unbalanced coverage of medication treatment for ADHD. Professionals must empathize with the conflictive and emotionally laden process some Latino/Hispanic parents go through when facing choices with respect to medication (Arcia et al., 2004). Parents need encouragement to openly discuss medication information with professionals specializing in this area. This approach is particularly relevant to Latino/Hispanic parents who give importance to behaviors promoting smooth and pleasant social relationships ("simpatía") and not expressing disagreement, specifically to authority figures, such as physicians (Marin & Marin, 1991).

Independent of their ethnic/social background, it is important to help parents understand that medication is a legitimate and effective treatment modality that in no way implies they have failed as parents or are acting in an irresponsible manner. Feelings of guilt related to the use of medication should be brought out to the open and discussed. Adolescents need counseling and education concerning ADHD and medication. In the case of Hispanic/Latino adolescents, this counseling needs to be sensitive to cultural values. Some adolescents may misinterpret their increase in self-regulation during school hours as a sign of weakness or as an inability to behave at school in a manner consistent with the expected cultural role of demanding respect from others or

playing around in the classroom. As pointed out, this is an important area for further research.

Finally, it is of utmost importance to provide pertinent literature on ADHD and its treatment to other professionals in the community who are in a position of significantly influencing parents and children's opinion about medication. These professionals include pediatricians, psychologists, school counselors, and pharmacists. Parents in our focus groups report that discrepant views about medication for ADHD on the part of these professionals contribute to their doubts and to the discontinuation of this treatment modality. This is likely to occur in non-Hispanic communities as well.

## Conclusions

Our findings indicate that it is essential to increase awareness of the special needs of Latino/Hispanic children with ADHD in order to close the gap between evidence-based services required by those children and the services they actually receive. Research is needed concerning the factors that influence treatment-seeking and adherence in general and the best means to communicate the importance of treatment to Latino/Hispanic children with ADHD and their parents.

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