

## **Mother's little helper: a medicated generation**

Melody Yarbrough Knight  
Texas A&M University-Kingsville

Lawrence Philip Knight  
Texas A&M University-Kingsville

Steve Bain  
Texas A&M University-Kingsville

### **Abstract**

This study looked at medication usage of boys, aged 7-17, attending a summer camp. Medications taken by the boys during camp included psychotropic medications, allergy medications, asthma medications, antiviral medications, acne medications, digestive aids and vitamins and supplements. The purpose of this study, specifically, was to look at the number of campers taking some form of psychotropic medication. Frequency distributions were conducted dividing boys taking medications into categories. These categories included those boys taking medications of any type and boys taking psychotropic medications. Frequency distributions were calculated and a Chi-Square analysis was used to determine significance. Of these 191 boys, 80, or 41.8 % were taking some type of medication. Of the 80 campers taking some form of medication, 33, or 41.2%, were taking one or more psychotropic medications. A statistical significance was found in the number of 12-13 year old boys taking psychotropic medications,  $p=.020$ . The United States has increasingly been using prescription medications to manage children's behavior since the early 1990s. Is this use of mind altering medication warranted or are we putting an entire generation at risk?

Keywords: Psychoactive, ADHD, Antidepressants, Stimulants, Children, Adolescents, FDA

## Introduction

Children and adolescents in the United States are being medicated in alarming numbers. Last year alone, 15 million prescriptions for antidepressants were written for children and teenagers (Manninen, 2006). Psychotropic drug prescriptions of all types have increased for adolescents in this country by 250% over the last 7 years (Science Daily, 2005). Psychiatric or psychotropic medications are used to treat mental disorders. Psychiatrists and many physicians believe that people with mental disorders can live more productive lives through the use of these medications. Psychotropic medications treat the symptoms of mental disorders. They have not been found to cure the disorder. They are designed to make people feel better so they can function more effectively in society (National Institutes for Mental Health, 2010). Drugs included under the umbrella term of psychiatric or psychotropic medication include stimulants, antidepressants, anti-epileptics, mood stabilizers, tranquilizers and atypical antipsychotics. These drugs are prescribed to treat symptoms, not to cure, Attention Deficit Hyperactivity Disorder (ADHD), bipolar disease (BPD), depression, anxiety, schizophrenia and for mood stabilization (National Institutes for Mental Health, 2010).

The United States has been using psychotropic drugs in increasing numbers since the early 1990s. Breggin (2000) summarized a variety of health organizational reports. According to an Oregon State University report (2008), the United States led the world in prescribing stimulant medication. In 1995, the International Narcotics Control Board (INCB), part of the World Health Organization (WHO) reported that a significant number of boys diagnosed with ADD were given Ritalin or methylphenidate. The number of children on drugs has continued to rise. One study in Virginia found that 20% of white boys in the fifth grade were receiving stimulant drugs during the day from school officials. A study in North Carolina showed 10% of children were receiving stimulant drugs either at home or school or both, with the rate for boys probably exceeding 15%. This suggests that more than 5 million school children in the United States are currently taking stimulant drugs. According to a report in the Journal of the American Medical Association, this number does not include a three-fold increase of prescription stimulants for 2-4 year olds (Breggin, 2000). This number is also only for stimulant drugs. In addition, children are being prescribed atypical antipsychotics, antidepressants and anti-epileptics. Anti-epileptic or anti-seizures drugs are now being used in children as "mood stabilizers" (Oregon State University, 2008).

Perhaps this surge in medications for our youth is warranted. According to Surgeon General David Satcher, MD, one in ten children suffers from mental illness severe enough to impair development (Littell, 2010) and one juvenile detention center surveyed claimed that two-thirds of its youthful offenders suffered from psychiatric disorders. Robert Hendren, D.O., professor of pediatrics and psychiatry at UMDNJ-Robert Wood Johnson Medical School states that 12-13% of children and adolescents have a diagnosable mental disorder (Littell, 2010). According to the Surgeon General's Report on Mental health in 2000, 11% of children and adolescents in the United States aged 9-17 have a diagnosable mental or addictive disorder with significant functional impairment and four million children suffer from a major mental illness and have significant impairments at home, at school, and with peers (Leadholm, 2007).

Are parents being pressured by schools to give psychiatric drugs to their children as claimed by Dr. Peter Breggin, MD, the director of the International Center for the study of Psychiatry and Psychology? Dr. Breggin suggests that teachers, school psychologists and administrators threaten parents, telling them their children cannot be educated unless they are

medicated. In some cases the schools even call child protective services to investigate parents for child neglect when behavior control medication is withheld (Breggin, 2000).

What actually constitutes mental illness? Diagnosis criterion for ADHD and other mental disorders are contained in The Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-IV). ADHD diagnosis is divided into three areas. These include: hyperactivity, impulsivity, and inattention. A child with hyperactivity “often fidgets with hands or feet or squirms in seat” and “often leaves seat in classroom or in other situations in which remaining seated is expected” (Breggin, 2000, p.5). For impulsivity, the first criteria is “often blurts out answers before questions have been completed”. For inattention the criteria is “often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities” (Breggin, 2000, p. 5). Since fidgeting and inattention are both normal behaviors for children to some degree, the problem comes in determining when these behaviors are “normal” and when they are so excessive that they become “mental disease” and must be controlled with medication. Is ADHD actually even a disease? Since it has an official number and definition in the DSM-IV, psychiatrists and physicians say that it is. Advocates of Attention Deficit Hyperactivity Disorder claim that ADHD is associated with changes in the brain. However, studies by both the NIH and American Academy of Pediatrics report no known biological basis for ADHD. These studies suggest that any brain changes or abnormalities in these children are caused by previous exposure to psychiatric medications and not by a disease (Breggin, 2000). Other mental/behavioral diagnoses in children seem equally ambiguous.

### **Effects of Psychoactive Drugs**

The purpose of psychoactive drugs is to assist in the normalization of thoughts and behaviors. In clinical trials, the drugs work by suppressing spontaneous behavior. Children demonstrate less curiosity and fail to explore, socialize and play. The drugs increase concentration of focused activities including schoolwork (Breggin, 2000). While suppressing curiosity and play may not be a desired effect, increased concentration is. Stimulant drugs work especially well for focusing attention. However, children given stimulants can suffer over-stimulation. This is then treated with addictive sedatives while stimulant induced depression is treated with antidepressants. As emotional control breaks down due to medication effects, mood stabilizers are added so that children end up on four or five psychiatric drugs at one time (Breggin, 2000). As with all medications, there are side effects that come with the use of psychotropic medications which need to be considered. Antidepressants have been shown to cause suicidal thoughts and behavior while worsening depression (CBS News, 2009). The FDA warned that “symptoms such as anxiety, agitation, hostility, mania and hypomania may result as well as drug-induced hostility and violence”(as quoted in Breggin, 2010). Breggin further summarized the FDA studies:

In the FDA studies, suicidal thoughts and behavior began within one week of starting the drug and continued to surface throughout the treatment period that extended over 24 weeks for some patients. Children as young as five were included in the analysis and all ages were at risk of becoming suicidal (par.7).

These drugs have a drastic and permanent impact on brain chemistry and structure. Studies of short-term clinical doses of amphetamine produce brain cell death while long term use can permanently alter brain biochemistry. Stimulants also slow growth by suppressing the appetite and disrupting growth hormone production (Breggin, 2000).

## Testing/Prescribing Drugs

Prescribing psychoactive medications for children and adolescents requires the judgment of a physician. The physician of choice for making these determinations would be a child or adolescent psychiatrist with training and qualification in the use of these medications for this age group (American Academy of Child and Adolescent Psychiatry, 2009). As demand increases, psychoactive drugs are being widely prescribed by pediatricians and primary care physicians. In the case of the anti-depression drugs classified as SSRIs (Serotonin Reuptake Inhibitors), seventy two percent of family physicians and pediatricians surveyed said they had prescribed these antidepressants to patients under the age of 18. However, only 8 percent said they had received adequate training in managing childhood depression and 16 percent stated being “comfortable” treating children with depression (Littell, 2010).

Most psychoactive medications prescribed for children under age 12 do not have specific approval by the Federal Drug Administration (FDA). To get this approval, research is needed to demonstrate both the safety and efficacy of these drugs for use in children. So far, the research lags far behind the clinical use of these medications (American Academy of Child and Adolescent Psychiatry, 2009). Long term studies are especially needed to determine the effect of these drugs on developing brains (Breggin, 2000).

The National Institute for Mental Health (NIMH) was concerned about the psychotropic medications being prescribed to children since the safety and efficacy of most psychotropic medications have not been established. Some widely used drugs do not have FDA approval for use in young children because there are not enough data to support their use (National Institutes for Mental Health, 2004). Because of this lack of FDA approval, physicians are recommending “off-label” use of medications. “Off-label” treatment involves use of a drug without FDA approval for use in children or the use of an approved FDA drug to treat a condition for which it has not been approved (National Institutes for Mental Health).

The FDA has sought increased testing of drugs on children. In 1997, Congress passed the FDA Modernization Act (FDAMA). This bill provided financial incentives to pharmaceutical companies to test drugs on children. This resulted in a change in federal policy to accommodate more pediatric trials. Initially, FDAMA children were protected by federal regulations preventing them from being recruited for experiments not in their best interest (Sharav, 2003). The Prescription Drug User Fee Act (PDUFA) of 1992 speeded up the drug approval process and allowed drug companies to pay fees directly to the FDA creating a conflict of interest (Sharav, 2003). The standard was changed to allow drug approval with a single clinical trial rather than two, and the FDAMA offered pharmaceutical companies financial incentives to enroll children as research subjects and extended the manufacturer’s exclusive control of the market by six months when the medication was tested on children in controlled clinical trials. In 2001, advisory committees for the Department of Health and Human Services (DHHS) approved the recruitment of healthy children for use as “risk-bearing” normal control subjects (U.S. Department of Health and Human Services, 2010). The rationale for this decision was that even children who did not suffer from a medical condition being studied may be “at risk” of developing the condition in the future and therefore may be used as research subjects (Sharav, 2003). In 2004 the FDA urged manufacturers to label antidepressant drugs with warnings that these medications increase the risk of suicidal thoughts and behaviors in children. These warnings are called a “black box” alert.

According to Breggin (2008), psychiatric medications work by causing the brain to malfunction. Some relief of symptoms may be a result of the placebo effect and some as a result of emotional anesthesia caused by medication. The final result is a reduced awareness, sensitivity, and other higher human processes. When all studies are considered in addition to those the drug companies choose to publish, antidepressants work no better than sugar pills (Breggin, 2010).

## **The Drugs**

Stimulants are used to target the symptoms of ADHD, including inattention, impulsivity, and hyperactivity. There are four types of medications which have been approved for use in children: 1) methylphenidate (Ritalin) for children over 6 years of age, 2) mixed amphetamine salts for children over 3 years of age, 3) lisdexamfetamine for children 6-12 years of age, and 4) atomoxetine (over 6 years of age). The results of three studies lasting from 14-24 months have been mixed (MTA Cooperative Group, 1999; Oregon State University, 2008; Riddle, Kastelic & Frosch, 2001) One study found improvement of symptoms with medication, though most improvement was found in groups receiving both medication and counseling. A second study found significant improvement with medication over a placebo. The third study found only fair quality evidence that medication was superior to placebo. Debar, Lynch, Powell, and Gale (2003) found only 60% of children given a stimulant drug had a diagnosis of ADHD, and 35% more had behavior symptoms that only seemed related to ADHD. Adverse effects of stimulants that may outweigh benefits include growth suppression, insomnia, vomiting, drowsiness, abnormal thinking, and possible cardiac complications (Oregon State University, 2008; National Institutes of Mental Health, 2004; Zito, 2008).

Mood Stabilizers are used to target nonspecific aggression and explosive behavior even when there is no clear evidence of a mood disorder. Both traditional bipolar medications like Lithium and Valproate are used for mood stabilization along with medications originally designed as anti-epileptics. Though several studies have found that drugs decreased the symptoms of mania in children diagnosed with bipolar disorder, there are significant adverse effects that may outweigh the benefits. Among these adverse effects are liver toxicity, pancreatitis, thrombocytopenia, and polycystic ovary disease (Oregon State University, 2008; Zito, 2008).

Atypical Antipsychotics are used for conduct disorder, oppositional defiant disorder, disruptive behavior disorder, bipolar disorder, and autism. Studies showed that Risperidone and Olanzapine performed better than a placebo for modifying behavior in children. Side effects from these drugs are of concern since there are no long term studies in children. Side effects found in short term studies include weight gain, sedation, and metabolic and endocrine problems (National Institutes for Mental Health, 2004; Oregon State University, 2008; Vitiello, 2008).

Of the antidepressants, only Fluoxetine is approved by the FDA for treating major depressive disorder (MDD) in children ages 2-18. A meta-analysis by Tsapakis, Soldani, and Tono (2008) concluded that all types of antidepressants have limited efficacy in depression in children. Antidepressants like Prozac, Paxil, Zoloft, and Celexa can lead to suicidal thoughts and behaviors and deepen depression. The FDA also warned that "Symptoms such as anxiety, agitation, hostility, mania and hypomania may be precursors to emerging suicidality." (Breggin, 2010, p. 1)

## **Purpose of the Study**

This study looked at medication usage of boys, aged 7-17, attending a summer camp. The purpose of this study was to look at the number of campers taking some form of psychotropic medication. The camp, located in the Eastern United States, was available to any boy wanting to attend. However, camp costs limited campers to boys of a higher socio-economic status. Parents of these children were highly educated and tended to have professional jobs. Medications taken by the boys during camp included psychotropic medications, allergy medications, asthma medications, antiviral medications, acne medications, digestive aids, vitamins, and supplements.

## **Methods**

Frequency distributions were conducted dividing boys taking medications into categories. These categories included those boys taking medications of any type and boys taking psychotropic medications. For this study, psychotropic medications were not further subdivided into the sub-categories of stimulants, antidepressants, anti-epileptics, mood stabilizers, tranquilizers, and atypical antipsychotics due to the small number of the sample size. Frequency distributions were calculated and a Chi-Square analysis was used to determine significance.

## **Results**

There was a total of 191 boys attending camp during the first summer camp session. The oldest camper was 17 years of age; the youngest was 7 years of age with a mean age of 12.5 years. Of these 191 boys, 80, or 41.8 % were taking some type of medication and 17.3% were taking psychotropic medication. Forty five percent of the campers taking medications were taking only a single medication while 16.2% were taking 2 medications, 15% were taking three medications and 23.8% were taking 4 or more medications. The 12-13 year old campers had the highest medication use rate at 41.3% of all medications given. Of the 80 campers taking some form of medication, 33, or 41.2%, were taking one or more psychotropic medications. Of these, 23.8% were taking only one psychotropic medication, 6.2% were taking 2 psychotropic medications, 6.2% were taking 3 psychotropic medications and 5% were taking 4 or more. A Chi-Square analysis was utilized to test for statistical significance. A statistical significance was found in the number of 12-13 year old boys taking psychotropic medications,  $p=.020$ .

## **Discussion and Recommendations**

This study found that large numbers of children from well educated families and high socio-economic status are relying on psychotropic medications to control their children's behavior. Almost half of the children were taking some form of medication. The main objective of this study was to look at the number of children and adolescents taking very strong medication with verifiably serious side effects even though diagnosis for ADHD was based on highly subjective and questionable criterion. Many Americans have come to rely on pharmaceuticals as a primary solution to problems. The inclination to take a pill to change behavior has been the standard approach to mental or behavioral problem. It may be that some of the behaviors parents

and physicians have attempted to medicate away have simply been the behaviors of normal children.

Increases in the use of psychotropic medications by children and adolescents, limited information on the benefits, long-term consequences of these medications, and indications of severe side effects continue to be a growing concern. Bauman and Spitz (2007) summarized several studies and found:

The potential consequences of psychotropic drug use include morbidity, mortality, deleterious effects on quality of life, and the cost of remedial treatments. More specifically with regard to adolescent health, psychotropic medication carries a risk of undesirable side-effects, the development of dependency, and delayed initiation of adequate management of the underlying problem. Furthermore, relief of symptoms may result in the patient neglecting to follow appropriate health-related advice or failing to modify dangerous habits. Rapid progress in medicine has reinforced this trend, as have advertising and the greater availability of certain drugs – putting the younger generation at an increasing risk (paragraph 6).

Safety and efficacy of psychotropic drugs in the pediatric population, especially for the long-term, is not fully known. Off-label prescription rates for these drugs have increased. The FDA is placing decisions about the use of these medications in the hands of any doctor who can write a prescription. Black Box Warnings, required by the FDA, shift the responsibility for consequences of use of these drugs in children and adolescents ultimately to parents. More research is needed to determine the safety and efficacy of psychotropic drug use in children. Clearer guidelines are needed for diagnosis of children using these medications. Hence off-label prescriptions need to be discouraged rather than encouraged. Children are a society's most precious asset. Parents, medical and mental health professionals, and educators should encourage opportunities for physical activity, recreation, and the use of imagination. Children can be taught measures of self-control. The use of medication to control children is likely to have catastrophic results. Medicating children unnecessarily has become an easy solution and one that may have long-term devastating consequences for an entire generation.

## References

- American Academy of Child and Adolescent Psychiatry, (2009). Policy statements; prescribing psychoactive medication for children and adolescents. Retrieved August 27, 2010, from [http://www.aacap.org/cs/root/policy\\_statements/prescribing\\_pschoactive\\_medication\\_for\\_children\\_and\\_adolescents](http://www.aacap.org/cs/root/policy_statements/prescribing_pschoactive_medication_for_children_and_adolescents).
- Baumann, M. & Spitz, E. (2007). *Advising adolescents on the use of psychotropic medication: attitudes among medical and psychology students*. Substance Abuse and Prevention Policy, 2:21. Retrieved September 30, 2010 from <http://www.substanceabusepolicy.com/content/2/1/21>.
- Breggin, P.R. (2008). *Brain-disabling treatment in psychiatry: drugs, electroshock, and the role of the FDA*. New York, NY: Springer Publishing Company.
- Breggin, P.R. (October 9, 2000). Testimony before the subcommittee on oversight and investigations committee on education and the workforce. Retrieved August 27, 2010, from <http://www.rense.com/general4/addpsy.htm>.

- Breggin, P. (2010). Psychiatric drug facts. Retrieved August 28, 2010, from [http://www.breggin.com/index.php?option=com\\_content&task=view&id=199](http://www.breggin.com/index.php?option=com_content&task=view&id=199).
- CBS News, (January 29, 2009). ADHD Drugs: Hallucinations Not Uncommon. FDA Examines Incidence Of Psychotic Symptoms In Children Taking ADHD Medications, Retrieved August 28, 2010, from <http://www.cbsnews.com/stories/2009/01/27/health/webmd/main4757554.shtml>.
- Debarr, L.L., Lynch, F., Powell, J., & Gale, J. (2003). Use of psychotropic agents in preschool children: associated symptoms, diagnoses and health care services in a health maintenance organization. *Archives of Pediatric and Adolescent Medicine*, 157, 150-157.
- DSM Disorders Diagnostic Criteria. (2000). DSM-IV Multiaxial System (Made Easy), Retrieved September 1, 2010, from [http://psyweb.com/Mdisord/DSM\\_IV/jsp/dsm\\_iv.jsp](http://psyweb.com/Mdisord/DSM_IV/jsp/dsm_iv.jsp).
- Gillberg, C., Melander, H, & von Knorring, A., Janols, L.O., Thernlund, G., Hagglof, B., Eidevall-Wallin, L., Gustafsson, P., & Kopp, S. (1997) Long-term stimulant treatment of children with ADHD symptoms: a randomized double-blind placebo controlled trial. *Archives of General Psychiatry*, 54, 857-864.
- Leadholm, B.A. (2007). Psychoactive medication for children and adolescents: orientation for parents, guardians, and others. The Children and Adolescents' Psychoactive Medication Workgroup, Psychoactive medication for Children and Adolescents: Orientation for Parents, Guardians, and Others. Massachusetts Department of Mental Health, Division of Child and Adolescent Service, Office of Clinical and Professional Services.
- Littell, M.A. (2010). Children and Psychotropic Drugs, *HealthState Home*, New Jersey: University of Medicine & Dentistry of New Jersey, Retrieved August 30, 2010, from [http://www.umdnj.edu/umcweb/marketing\\_and\\_communications/publications/umdnj\\_mag](http://www.umdnj.edu/umcweb/marketing_and_communications/publications/umdnj_mag).
- Manninen, B.A. (2006). Medicating the mind: a Kantian analysis of overprescribing psychoactive drugs. *Journal of Medical Ethics*, 32(2), 100-105.
- MTA Cooperative Group (1999) A 14 month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. *Archives of General Psychiatry*, 56, 1073-1086.
- National Institutes for Mental Health, Mental Health and Illness (2004). Prescribing psychoactive medication to children, treatment of children with mental disorder. Retrieved August 28, 2010, from <http://www.nimh.nih.gov/publicat/childqa.cfm#readNow>.
- National Institutes for Mental Health, (2010). Mental Health Medications, Retrieved August 28, 2010, from <http://www.nimh.nih.gov/health/publications/mental-health-medications/complete-index.s>.
- Oregon State University, College of Pharmacy, (2008). Psychotropic Medication Management I n Children and Adolescents, Salem, Oregon: Oregon Department of Human Services.
- Riddle M.A., Kastelic E.A., Frosch, E. (2001). Pediatric Psychopharmacology. *Journal of Child Psychology and Psychiatry* 42(1), 73-90.
- Science Daily, (2005). Researcher Investigate Effects of Psychoactive Drugs on Children and Adolescents. Reprinted from materials provided by Temple University Health Sciences Center. Retrieved August 28, 2010, from <http://www.sciencedaily.com/releases/2005/03/050326095556.htm>.
- Sharav, V.H. (2003) The Impact of the FDA Modernization Act on the Recruitment of Children for Research, *Ethical Human Science & Services*, 5, 83-108.



Tsapakin EM, Soldani, F., & Tono,L. (2008). Efficacy of antidepressants in juvenile depression: meta-analysis. *The British Journal of Psychiatry* 193, 10-17.

U.S. Department of Health and Human Services Public Health Service, Food and Drug Administration, (2010). *Guidelines for the Clinical Evaluation of Antiepileptic Drugs (Adults and Children)* crosslisted as FDA 79-3055 Guideline for Clinical Evaluation of Psychoactive drugs in Infants and Children, Rockville, Maryland: Food and Drug Administration.

Vitiello, B. (2008) An international perspective on pediatric psychopharmacology. *International Review of Psychiatry* 20(2), 121-126.

Zito, J.M., (May 2008) Testimony to the House Committee on Ways and Means, Washington DC, Retrieved August 28, 2010, from <https://waysandmeans.house.gov/hearings.asp?formmode=printfriendly&id=6907>.

