

RESEARCH-TO-PRACTICE SUMMARY

Medication Use in a Head Start Sample: Relevance for Practitioners

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This study examined the prevalence of medicine used to treat medical illness and medicine used to treat behavior problems in a Head Start preschool sample, as well as patterns in medication use based on gender, ethnicity, and behavioral characteristics. The participants for this study included 1,544 parents of children ages 2 to 5 years old enrolled in a Head Start program during the 2008-2009 academic year in three diverse Michigan counties. According to parent report, fifteen percent of children in this sample ($n = 233$) were taking medication on a regular basis. Medicine for medical illness accounted for 98.2% ($n = 306$) of the medications in the sample. Sixty-nine percent ($n = 214$) of medications reported were asthma related. The importance of educating parents about the lack of a research base and potential side effects of common medications given to preschool children is discussed.

Keywords: psychotropic medication, medication, preschool, Head Start

There is a lack of research concerning the prevalence rate of medicines used to treat common medical conditions and medicines used to reduce behavior problems in the preschool population. It is important to understand the types medication given to preschoolers given the possible negative effects of these medicines when used in young children. One recent study found that 6.8% of children in a Head Start sample were taking a prescribed medication according to parent report (Brinkman & Carlson, 2008). Another study found that almost 10% of children take over-the-counter medication at any given time (Vernacchio, Kelley, Kaufman, & Mitchell, 2008). These data indicate that at least one child in every preschool classroom may be taking medications which might affect their classroom functioning.

Currently, asthma is the most prevalent chronic childhood illness in the United States (Medco Health Solutions, 2004). It is estimated that eighty percent of children who have asthma also have allergies, and often children will take multiple medications concurrently to treat these conditions (American Academy of Pediatrics, 2010). Only 22% to 32% of children considered at-risk who are diagnosed with asthma take medication to control their asthma (Diaz et al., 2000; Halterman et. al., 2000). The side effects of asthma medications in preschoolers are not well known, especially when multiple medications are prescribed. Side effects of Albuterol, a popular quick-relief asthma medication, are known to include tremors, hyperactivity, and vomiting (Schuh et al., 1989).

The use of over-the-counter (OTC) medications within pediatric populations has recently received considerable media attention. Currently, the FDA advises parents that cold and cough medications are not approved for preschool children (0-5 years of age) due to a lack of data, though few OTC drugs have data supporting that they are not safe or efficacious in young children (Vernacchio et al., 2008). Approximately 70% of childhood illnesses, such as common colds, are treated with over-the-counter medications (Kogan, Pappas, Yu, & Kotelchuck, 1994), and as it is estimated that in any given week, 10.1% of American children use a cold and cough medication (Vernacchio et al., 2008).

Although evidence suggests that OTC medication use among the pediatric population is stable, medication used to treat behavior within the preschool population is rising - despite the fact that little is known about the long-term effects (Coyle, 2000). Behavioral (antipsychotic) medications prescribed to preschoolers on Medicare have doubled since 1990 (Fantom & Gleason, 2009) and surpass spending for pediatric asthma medications (Medco Health Solutions, 2004). Meta-analyses of children across the country indicate that stimulant and antidepressant use has increased from 0.3% to 1% among children six to fourteen years old (Olfson, Marcus, Weissman, & Jensen, 2002), but other reports indicate that psychotropic medications are used rarely (less than .03%) within the preschool population (Brinkman & Carlson, 2008).

OUR STUDY

The purpose of this study our study was to (a) better understand the prevalence of medicines used to treat common medical conditions and medicines used to reduce behavioral problems in a Head Start preschool population (b) investigate possible changes in trends in medication use based on gender and ethnicity compared to previously published data that was based on a shorter question to parents (Brinkman & Carlson, 2008), and (c) study the possibility of a link between medication type and parent-report of the child's behavioral characteristics.

Non-identifying data for this study were gathered from Head Start initial enrollment packet records that parents filled out prior to the beginning of the school year. Medication use was determined by parental responses to a series of questions about medication use that were part of each child's initial enrollment packet: **“Is your child taking any medication(s) on a regular basis (including over-the-counter, creams, lotions, herbal remedies, and seasonal)? “If yes, list all medication(s) and what it is taken for.”** Parental responses to the question (also part of the initial enrollment packet), **“Is there anything you want us to know about your child's personality or temperament which will help us to support his or her adjustment to Head Start?”** were coded according to the following categories: internalizing behaviors (eg., “Separation Anxiety,” “Shy,”), disruptive behaviors (eg., “Yelling,” “Biting,” “Bad Temper”), prosocial skills (eg., “Considerate,” “Wants to interact with others,” “Very mature”), and maladaptive social skills (eg., “Trouble sharing,” “Frustrated Easily,” “Doesn't Listen”).

IMPORTANT CONCLUSIONS/ RELEVANCE TO PRACTICE

Prevalence of medications in a Head Start preschool sample

- In this study, 15% of parents reported their child was taking a medication

- In the study completed in 2006, 11% of parents reported their child was taking a medication
- Of the children taking medication, 43% were taking multiple medications with unknown side effects
- Average number of medications per child decreased from 2.3 in 2006 (Brinkman & Carlson, 2008) to 1.67 in 2008
- Most medications were used to treat asthma
- Less than 1% of children were taking medications to treat behavior

Patterns in medication use based on gender and ethnicity

- Results of this study indicated that 18.6% ($n = 82$) of African American children and 7.9% ($n = 49$) of Caucasian children were taking medications to treat asthma
- The differences in asthma medication use based on ethnicity in this sample is larger than what is usually reported in the literature
- In the United States, approximately 8.5% of all children have asthma, with prevalence varying according to race; approximately 12.5% of African American children have asthma, whereas only 7.7% of Caucasian children have asthma (Peters & Fritz, 2010)

Common behavioral concerns in children taking medication to treat asthma

- Asthma medications did not affect children's behavior

IMPLICATIONS FOR PRACTICE

- **Need for parental education opportunities related to asthma medication and asthma management:** Providing hand-outs to families about asthma-related topics, incorporating asthma education into existing parental education activities for parents, and increasing parental access to Head Start nursing staff during parental activities are all examples of ways to increase parental education related to asthma, a common medical concern in this sample.
- **Need to distribute basic information related to common OTC medications and calculating medication dosages:** Collaborating with registered nursing staff affiliated with Head Start and/or partnering with local pediatricians' offices to create parent education materials that simplify dosage information for common OTC medications would not only increase parental access to this information, but may also increase parental understanding of the information. Although parents of children attending Head Start can most likely obtain similar information at their doctor's office, parents of children in Head Start are typically in and out of Head Start Centers much more frequently. In addition, gathering feedback from parents who have used the educational materials is helpful for continually editing the handouts to make them more relevant and user-friendly.

- **Warmth toward boys in the classroom:** Although a positive, warm classroom climate benefits all children, it is particularly important to demonstrate warmth toward preschool-age boys who are more likely to exhibit disruptive behavior than their female counterparts. The results of this study indicated boys may be more vulnerable both medically and behaviorally than their female counterparts, indicating fostering positive relationships and prosocial behavior with preschool age boys is particularly important.

CONCLUSION

Given the number of children taking asthma and other types of medications in this sample, it is important to provide families with relevant information about their child's health. Often, assumptions are made about parent and caregivers' knowledge of common medications children take to manage symptoms of common illnesses. Providing families with access to information - whether through face-to-face opportunities to speak with a registered nurse or other medical staff member, learning about common medications children take at a family night, or obtaining easy-to-read handouts in the Head Start Office - are all examples of ways to provide families with information.

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