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Identifying Feasible Interventions to Prevent Long-Term Health Consequences of Psychotropic Medications Prescribed to Children at the Baird School

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Introduction

•Many children with behavioral needs struggle in traditional classroom settings. Children receive help through specialized educational institutions, pharmacotherapy, and psychiatric counseling.

•While substantial information exists about drug indications and side effects, there is little literature documenting the barriers caregivers face in addressing side effects.

•Our group conducted a literature review to identify the side effects and associated comorbidities of the six most frequently prescribed psychotropic drugs at the Baird School.

•We designed a survey to assess the caregivers' resources and barriers to minimizing these side effects, and then offered a collection of feasible recommendations.

Background

•The most common drugs prescribed to students at the Baird School include: **Clonidine[1], Riperidone[2], Guanfacine[3], Lisdexamfetamine[4], Methylphenidate[5] & Quetiapine[6]**.

•These drugs are prescribed to treat various pediatric conditions, including attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), mood disorder, anxiety/depression, reactive attachment disorder, and post-traumatic stress disorder (PTSD).

•Some of the most common side effects reported with these drugs include **insomnia[4,5,7], restlessness[8], weight gain[9,10], decreased appetite[7,3], somnolence[3,11], depression[2],** and **bradycardia[11].**

•Studies suggest that these side effects can lead to **arrhythmias[1], hyperlipidemia[6], impaired social or academic performance[3], malnutrition[7],** and **diabetes mellitus[6,12]** with decreased health status.

Methods

•Our survey contained questions about **physical activity, nutrition, sleep hygiene, medication administration, access to medical care and community/ state programs**.

•Surveys were mailed to the caretakers of the 31 students at Baird School; responses were collected for 2 weeks.

•Due to low initial survey response, all 31 caretakers were called to complete more surveys by phone.

•Caretakers that were initially unavailable were called a second time. No messages were left.

31 surveys sent to caretakers → 12 surveys returned to Baird School → 9 surveys completed via phone → 21 surveys completed total

•Survey responses were tabulated and data analysis was performed.

60% of Baird students are **NOT** fulfilling the CDC's recommendations for physical activity

Results

Figure 1: Why A Child Misses A Dose of Medication

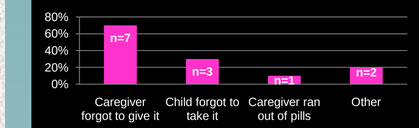


Figure 2: Bedtime and Difficulty Falling Asleep

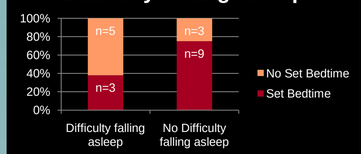


Figure 3: Awareness of Medication-Specific Nutritional Needs

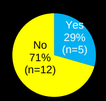


Figure 4: Amount of Physical Activity

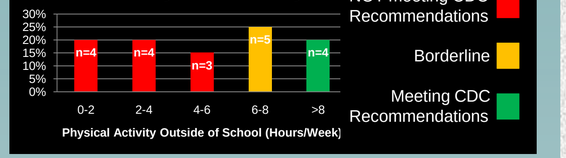
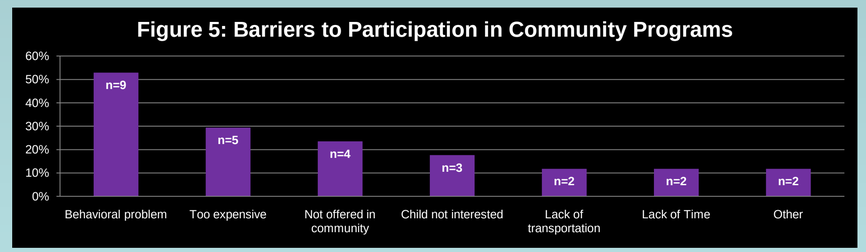


Figure 1: 56% (9/16) of respondents reported missed doses of medication at least once per month.
Figure 2: There is a relationship between having a set bedtime and less difficulty falling asleep.
Figure 3: 71% (12/17) of caregivers are not aware of specific nutritional needs related to their children's medications.
Figure 4: The CDC recommends 7 hours of physical activity per week (60 minutes per day).
Figure 5: 71% (15/21) of children were reported to not be involved in community programs offering physical activity; caregivers cited a number of barriers.

Figure 5: Barriers to Participation in Community Programs



Discussion

•Survey data identified areas for health improvement in Baird students.

•Baird students most often miss a dose of medication because a caregiver forgot to administer it. Methods for remembering when to give each dose may help reduce adverse side effects associated with missing a dose.

•Since most children who experience sleep difficulties do not have a bedtime routine, improving sleep hygiene may improve overall health.

•Most caregivers were unaware of their children's medication-specific nutritional needs. Recommendations should promote awareness about medications' effects on appetite and activity.

•The majority of Baird students are not meeting the CDC recommendations for physical activity.

•Behavioral problems are the most significant barrier to involvement in community programs. Recommendations for improving physical activity should include individual or specialized forms of exercise.

Limitations

•The sample size (31) & number of surveys completed (21) were too small to reach statistical significance.

•Low initial survey response required follow-up phone calls, but 15/31 caregivers were unreachable.

•Families with the greatest barriers may not have been reached due to lack of access to phone/mail, lack of time or motivation to complete the survey, or illiteracy.

•The current CDC recommendations for physical activity, nutrition, & sleep are not specific to children taking psychotropic medications.

Future Work

Based on the barriers identified in this project, future work could include caregiver education on physical activity, nutrition, and sleep hygiene, as well as identifying more accessible and specialized community programs.

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