Speech-Language Pathologists' Self-Assessment of Knowledge Regarding Medications to Treat Behaviors Associated with Autism Spectrum Disorder

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Abstract. Children with Autism Spectrum Disorder (ASD) are often prescribed medications to help control self-injurious behaviors, aggression, compulsive behaviors, and hyperactivity. Speech-Language Pathologists (SLPs) should be familiar with medication-related behavior changes and side effects. The purpose of this study was to evaluate SLPs' self-assessment of knowledge regarding medications prescribed to children with ASD. SLPs registered with the Kansas Speech-Language Hearing Association were provided a link to an online survey. The response rate was 13%, (n = 56). Overall, 88% of respondents felt they had a good understanding of ASD characteristics; but only 15% felt they had a good understanding of ASD medications. Only 14% were satisfied with their medication knowledge, 79% wanted to be more knowledgeable, and 60% felt they knew where to locate medication information. SLPs that completed continuing education were more likely to be satisfied with their knowledge regarding ASD characteristics than with ASD medications.

1. Introduction

Autism Spectrum Disorder (ASD) is one of the fastest growing developmental disabilities in the United States occurring in 1 in 150 births. In 2006, approximately 194,000 students ranging form 6 through 21 years of age were identified as having ASD and receiving special education services [1]. Many children with ASD exhibit distinctive behavior patterns such as: hyperactivity, inattention, impulsivity, aggression, irritability, self-injury, obsessive compulsiveness, and anxiety. These behaviors often inhibit their ability to participate in educational, social, and family activities.

A study of national Medicaid data from 2001 revealed that 56% of children with ASD were prescribed at least one psychoactive medication per year and 20% of those children used ≥ 3 concurrent psychoactive medications [2]. In a 2002 analysis of a large national insurance database, approximately 70% of the children diagnosed with ASD, ages 8 to 21 years, received at least one psychoactive medication annually [3]. The medications prescribed to help alleviate challenging behaviors in children with ASD often have side effect profiles that include neurological, cognitive, behavioral, and cardiovascular. The side effects of these medications range from mild to life-threatening.

SLPs are likely to observe, recognize, and manage medication-related behavior changes and side effects, as well as assist in decision making regarding optimal treatment for children with ASD. Therefore, they are vital members of the child's team and should be as knowledgeable as possible regarding the medications associated with treatment of ASD.

2. Methods, Results, Discussion, Significance

Methods: A cross-sectional survey was conducted with all 435 SLPs registered with the Kansas Speech-Language Hearing Association (KSHA). The participants were provided with a link to the 22 item online survey via e-mail addresses that were obtained through the KSHA membership directory. The overall survey response rate was 13%.

Data Analysis and IRB Approval: Statistical significance was set at $p \leq .05$. Descriptive data were reported using means $\pm$ standard deviation or percentages as appropriate. Frequency data were compared using the Chi square test. Respondents marking "strongly agree" or "agree" were considered to be satisfied with their knowledge. This project was approved by the WSU IRB.

Results, Respondent Characteristics: Of the 56 SLPs surveyed, 55% practice in a public school setting; 20% reported having no individuals with ASD on their caseload and 56% reported having between 1 – 20% on their caseload. In addition, 82% felt they were likely to provide services to individuals with ASD in the future. Thirty-six percent of SLPs who did provide treatment to individuals with ASD indicated that some of those individuals were taking medications to treat behaviors associated with ASD.

Table: 1
Self-assessment of Knowledge

n = 56	Mean[a]	SA / Agree	SD / Disagree
Regarding **medications** commonly prescribed to individuals with ASD…			
I can list the different types of medications.	1.9 ± 1.06	13%	80%
I understand their purpose.	2.3 ± 1.21	23%	63%
I understand their side effects.	2.1 ± 1.13	15%	69%
I know where to locate additional information I might need.	3.5 ± 1.11	60%	23%
Overall, I have a good general understanding of these medications.	2.0 ± 1.13	15%	76%
I am satisfied with my current level of knowledge.	2.1 ± 1.01	14%	71%
I would like to be more knowledgeable.	3.9 ± 1.03	79%	13%
Regarding **characteristics** associated with ASD…			
Overall, I have a good general understanding.	4.2 ± 0.71	88%	2%
I am satisfied with my current level of knowledge.	3.4 ± 0.99	56%	21%
I would like to be more knowledgeable.	4.1 ± 0.65	86%	2%

Number responding to at least 10 items
[a] Mean expressed as mean ± standard deviation

***Results, Self-assessment of Knowledge Regarding Characteristics of ASD*:** More SLPs were satisfied with their knowledge regarding characteristics of ASD as compared to medication knowledge. SLPs who completed continuing education (CE) or workshops on ASD characteristics were more likely to be satisfied with their knowledge as compared to those who had not, 90% vs. 71% [X^2 (2, N = 55) = 7.17, p = .028]. Completion of prior academic coursework on ASD characteristics did not significantly affect self-assessment of knowledge in this area X^2 (2, N = 56) = 4.34, p = .114. Respondents with a higher percentage of ASD patients on their caseload were no more likely to have higher satisfaction with their knowledge of characteristics, X^2 (6, N = 55) = 9.14, p= .166.

Results, Self-assessment of Knowledge Regarding Medications Associated with ASD: SLPs who completed CE or workshops on the medications used to treat behaviors associated with ASD were more likely to be satisfied with their knowledge as compared to those who had not, 50% vs. 7% [X^2 (2, N = 54) = 15.81, p < .001]. SLPs who completed academic coursework on the medications used to treat behaviors associated with ASD were more likely to be satisfied with their knowledge as compared to those who had not completed such coursework, 75% vs. 10% [X^2 (2, N = 55) = 12.72, p = .002]. Respondents with a higher percentage of ASD patients on their caseload were no more likely to have higher rates of satisfaction with their medication knowledge, X^2 (6, N = 55) = 6.64, p = .355.

Discussion: Participation in CE and academic coursework were both associated with higher self-assessment of knowledge regarding ASD medications. Participation in CE, but not academic coursework, was associated with higher self assessment of knowledge in regards to the characteristics associated with ASD; however, this may not be an important finding due to the fact that overall self-assessment was very high. As expected, self-assessment of knowledge was much higher for ASD characteristics than for medication, especially in SLPs who lacked prior CE or academic coursework. SLPs' self-assessment of knowledge regarding medication was very low; however, 60% reported knowing where to locate medical information if needed. An important limitation of this study is the low response rate, 13%, which indicates that these results may not be representative of all Kansas SLPs.

Clinical Significance: SLPs providing treatment to individuals with ASD should have a general knowledge of the most commonly prescribed medications, an understanding of why the medications were prescribed, and how they may improve the quality of life for the individual and family. SLPs should also have an understanding of the medications' most common and more serious side effects. This study revealed a need to provide CE for SLPs to increase their knowledge related to medications used in the treatment of ASD.

3. Conclusion

Self-assessment of knowledge regarding ASD medications was low; however, prior CE was correlated with higher self-assessment of knowledge. Thus, providing CE for SLPs may increase medication knowledge.

References:

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