Interprofessional Roles to Support Psychotropic Medication Prescribing for ASD

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Abstract While developmental and behavioral interventions are the primary treatment methods for youth with ASD, psychotropic medications are often prescribed by psychiatrists, developmental-behavioral pediatricians, and sometimes primary care clinicians (PCCs) to manage co-occurring disorders and symptoms. To maximize the effectiveness of these medications, collaborations across family, medical, community, and school systems are needed. However, there are numerous barriers unique to interprofessional collaboration around psychotropic prescribing for children with ASD. As such, this chapter aims to discuss these unique barriers, outline models of interprofessional care, and describe specific interprofessional and collaborative roles between prescribers and non-prescribers to support effective psychotropic management for children with ASD.

As evidenced throughout this book, children diagnosed with ASD do best when professionals use a team-based approach to care. The treatment team for a child with ASD spans several systems including medical, school, family, community, and sometimes legal systems. Approximately half of the children with ASD are prescribed medications to manage comorbid or co-occurring emotional and behavioral symptoms (Madden et al., 2018). While psychiatrists, pediatricians, and developmental-behavioral pediatricians may be involved in prescribing psychotropic medications,

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M. B. McClain et al. (eds.), *Interprofessional Care Coordination for Pediatric Autism Spectrum Disorder*, https://doi.org/10.1007/978-3-030-46295-6_18

collaborative and interprofessional teams are often needed to maximize the benefits of psychotropic medication. Thus, the aim of this chapter is to describe the current state of prescribing, identify barriers to interprofessional collaboration around psychotropic medication management, and explore models that can be used to increase collaboration. The reader is referred to the chapter "Psychopharmacology of Autism Spectrum Disorder" for a detailed review of psychopharmacological therapies for use with ASD.

Current State of Prescribing

Developmental and behavioral therapies are the primary treatments for youth with autism spectrum disorder (ASD) to address the core impairments that characterize ASD: (1) deficits in social communication and social interaction and (2) restricted repetitive patterns of behavior, interests, and activities. However, psychotropic medications may be considered to manage co-occurring behavioral health conditions such as ADHD, anxiety and mood disorders, OCD, tics, sleep disorders, and associated problem behaviors or symptoms such as irritability associated with ASD. In fact, children and adolescents with ASD may be at increased risk for depression, anxiety, and bipolar disorders compared with peers without ASD (Kirsch et al., 2020). Accordingly, the use of psychotropic medications is more prevalent in children with ASD (48.5%) as compared to children without ASD (7.7%; Madden et al., 2018). The most common classes of medications prescribed for youth with ASD include stimulants, alpha-agonists, or atomoxetine (30.2%); antipsychotics (20.5%); and antidepressants (17.8%). Children with ASD are also substantially more likely to be prescribed more than one psychotropic medication at a time (i.e., polypharmacy) compared to non-ASD youth (Frazier et al., 2011; Logan et al., 2012), which can raise concern for medication side effects, treatment of side effects with additional medications, or drug–drug interactions. Due to the national shortage of child neurologists, child and adolescent psychiatrists, and developmental-behavioral pediatricians, particularly in rural areas (Health Resources and Services Administration [HRSA], 2015), the burden of first-line treatment often falls upon the patient's primary care clinician (PCC).

Barriers to Collaboration

While many agree that interprofessional collaboration is important in the treatment of children with complex health needs such as ASD (e.g., Myers & Johnson, 2007; Swiezy et al. 2008), this work often remains fragmented across siloed systems of care,

and psychotropic medication management is no exception. The chapter "Interprofessional Education and Training" covers the barriers and facilitators to interprofessional care in significant depth and breadth, yet some barriers unique to psychotropic medication management in children with ASD bear separate mention.

Schools are required by federal law to administer, monitor, and support children who are prescribed psychotropic medication when indicated (IDEA, 2004; Section 504 of the Rehabilitation Act of 1973). However, a few states explicitly address the monitoring of treatment response or side-effects of psychotropic medications in their policies (Ryan et al., 2014). Teachers are often unaware that a child has been prescribed psychotropic medication or if the dose is being adjusted (Koegel, Krasno, Taras, Koegel, & Frea, 2014). Communication between the prescriber and teacher is uncommon, and often systems are not in place for this type of communication to occur. While school psychologists are often uniquely positioned to integrate and coordinate information across family, school, and medical systems (e.g., DuPaul & Franklin, 2019; Power et al., 2003), fewer than 20% of school psychologists report receiving formal coursework in child psychopharmacology (Gureasko-Moore, DuPaul, & Power, 2005).

Primary care is a fitting access point for management of developmental and behavioral health needs including ASD, as primary care is often the first and only contact for a majority of families who seek and receive mental health services (Polaha et al., 2011). Unfortunately, PCCs report a lack of confidence and knowledge in ASD treatment, and parents report that PCCs often appear unprepared to fully support the needs of children with ASD (Brachlow, Ness, McPheeters, & Gurney, 2007; Carbone et al., 2013; Kogan et al., 2008). Specialty training for pediatric residents in ASD typically consists of a required 4-week developmental-behavioral pediatrics rotation during the 3 years of residency training. Over one-third (36.6%) of pediatric residency training directors rate the quality of behavioral health training within the 4-week development and behavior rotation as suboptimal or below, and 62.8% rate the quality of behavioral health training within the pediatric residency program as a whole to be suboptimal or below (Shahidullah et al., 2018b). Other clinicians who often provide primary care to children and adolescents (family physicians, pediatric nurse practitioners, and physicians assistants) typically receive no to limited formal training in developmental-behavioral pediatrics.

Even for those pediatric clinicians who feel confident in the management of behavioral health concerns in ASD, additional system issues can serve as barriers to care delivery. These barriers include time, reimbursement, inefficient office workflows, challenging patient behavior, and limited infrastructure to support communication and trust between providers (Carbone, Behl, Azor, & Murphy, 2010; Carbone et al., 2013; Van Cleave et al., 2018). The primary care service sector is best positioned to address brief and straightforward complaints; addressing behavioral health concerns pose a challenge given that these visits typically take more time to complete with additional post-visit work, yet result in lower reimbursement rates (Meadows et al., 2011). Given the brevity of most primary care visits, it is challenging for clinicians to deliver the necessary standard of care for behavioral health conditions that encompasses a broad spectrum of empirically based biological, social, and psychological

management considerations. It is thus not surprising that many PCCs feel the management of developmental and behavioral conditions, with the exception of ADHD, is outside of their primary responsibility (Heneghan et al., 2008).

Models of Collaborative Care Across Systems

Several models of care have been developed to improve the collaborative management of children with behavioral health needs such as ASD. Parents, specialists, and PCCs report a preference for effective communication between specialists and PCCs, as it allows specialists to efficiently share their expertise, particularly when children are not already connected to a comprehensive ASD treatment center (Van Cleave et al., 2018).

Coordinated telephonic consultation models such as the Massachusetts Child Psychiatry Access Project (MCPAP) provide direct consultation with specialists to support management within primary care (Straus & Sarvet, 2014). Taking this one-to-one telephonic consultation a step further, Project Extension for Community Healthcare Outcomes (Project ECHO®) includes an interdisciplinary group of specialists (termed a hub team) and provides didactics and case-based consultation to a group of community providers (e.g., Mazurek, Brown, Curran, & Sohl 2017; Sohl et al., 2017; see chapter "ECHO Autism" for more information). This extends the consultation model through transactional learning between specialists and groups of community providers rather than one community provider at a time. While traditionally used with community PCCs, the Project ECHO model is designed to be an open learning extension model that can be adapted to address any topic or profession.

While these telephonic consultation models have demonstrated positive outcomes (e.g., Sarvet et al., 2010; Wegner et al., 2008), PCCs report that their ability to implement this knowledge is often limited by behavioral aspects of care delivery (e.g., not tolerating medication, difficulty swallowing pills, behavioral difficulties during office visits; Van Cleave et al., 2018). Co-located, collaborative care and integrated care models involve the placement of behavioral health experts on-site to support the primary care team in addressing behavioral health needs within primary care (Njoroge et al., 2016). In co-located models, a specialist conducts a concurrent clinic in a shared space (e.g., primary care office, and school) which can increase access to care for patients. Collaborative care models typically screen for a specific, high need condition (e.g., ASD) and a care manager (e.g., nurse, social worker) who provides a protocol-driven process (i.e., stepped care) that may include consultation with specialty providers, direct intervention with families, and/or patient tracking through the use of a registry (e.g., Katon et al., 1995). Highly integrated care models typically involve the co-treatment of patients during a single visit with multiple providers (e.g., a psychologist and a PCC conducting a joint appointment for a child with ASD). Psychologists within these roles are able to support diagnostic clarity, provide information to families, clarify and improve treatment plans, coordinate care across systems, address barriers to adherence (e.g., pill swallowing, stigma,

motivation, and organization), as well as evaluate and monitor medication effects. The involvement of behavioral health clinicians in primary care visits significantly reduces the time burden experienced by providers (Riley et al., 2019).

In addition to the integration of specialists within primary care centers, there is an emerging trend to integrate behavioral health specialists within schools. Integration of these specialists, including psychiatrists, within the school has been shown to increase access to care, be effective at improving symptoms, and was found to be acceptable by parents, teachers, and students (Herman, Cho, Marriott, & Walker, 2018). Having psychiatrists located within schools also affords easier coordination between school staff, parents, and psychiatrists. Integrating medical providers, behavioral health clinicians, social workers, and psychiatrists within school-based health centers offers the opportunity to increase collaboration between most of the relevant ASD treatment team members (Plax & Garwood, 2018). However, the workforce shortages experienced by child and adolescent psychiatry may limit the dissemination of these models.

Primary Components to Interprofessional Psychotropic Management

Safe and effective psychotropic prescribing involves several steps including obtaining diagnostic clarity, exchanging information, providing education, joint treatment planning, addressing barriers to adherence, and evaluating and monitoring medication effects to support successful titration over time. Each step offers numerous opportunities for interprofessional collaboration among treatment team members.

Supporting Diagnostic Clarity

Psychologists and other behavioral health clinicians are trained to evaluate and diagnose mental health disorders using psychometrically valid assessment tools and to incorporate historical, interview, observational, and collateral assessment data. This expertise is ideally suited to assist prescribing clinicians in providing diagnostic clarity around ASD as well as identification of comorbid diagnoses and impairing symptoms. However, comprehensive assessment should include assessment of multiple domains (educational, behavioral, social, speech, occupational, medical, etc.); and therefore, integrated interprofessional assessment teams ideally involve team members with expertise in each of these domains. Practically, however, this is often unrealistic in most settings. Instead, careful coordination across providers and gathering data from multiple sources to integrate into the evaluation is important.

Selecting the Appropriate Medication and Titration

Psychiatrists and developmental behavioral pediatricians are ideally suited for determining the most effective medications and dosage to manage comorbid symptoms. As previously mentioned, PCCs often report a lack of confidence in managing psychotropic medication; however, consultation and implementation support may allow for PCCs to increase their level of comfort and expertise. Increasingly, clinical pharmacists are found within primary care practices as essential members of the interdisciplinary team (Kozminski et al., 2011; Scott et al., 2011). Clinical pharmacists can add an additional layer of quality, safety, and accuracy by recommending appropriate therapy and dosages, identifying and addressing drug interactions and medication non-adherence, and managing therapy by titration and lab monitoring (Kozminski et al., 2011; Scott et al., 2011; Wongpakaran et al., 2017).

Providing Psychotropic Information to Families

Psychiatrists, developmental-behavioral pediatricians, and clinical pharmacists are all well-versed in providing education about psychotropic medications to families. Despite not having prescriptive authority in most U.S. states, the American Psychological Association (APA) has recommended three levels of Psychopharmacological Roles that psychologists may be positioned to undertake, depending upon their level of training (Smyer et al., 1993). At the first and most basic level, all psychologists can undertake a Level 1—*Psychotropic Information Providing* role—whereby they help inform treatment decision-making by providing information on psychotropic medication as one potential treatment modality as part of a comprehensive treatment plan (types, indications/contraindications, costs/benefits, and risk potential). Psychologists may commonly provide information that may be relevant to treatment decision-makers such as opinions relevant to pharmacotherapy without necessarily playing a formal role in decision-making. This can include pointing patients to vetted referral or information sources (e.g., handouts on evidence-based treatments including psychotropic medications), or discussing with patients how to address their concerns about the medication with a prescriber.

Similarly, clinical pharmacists often are not granted prescriptive authority in most U.S. States. However, clinical pharmacists are trained in the safe and efficacious use of medications, and complete extensive training in the delivery of complex medical information to patients and families using age-level appropriate language. In addition to having an essential role in the appropriate selection and monitoring of a psychotropic agent, clinical pharmacists can also effectively assist prescribers in the initial and follow-up education related to psychotropic agents and how they may interact with other medications given the frequently co-occurring medical needs of youth with ASD.

Joint Planning and Care Coordination

Although they may not be ultimately responsible for the decision that is made in these circumstances, psychologists often play a substantive role in the decision-making process that includes determining indications/contraindications for available treatment options, weighing treatment decisions in the context of risk-benefit analyses, planning treatment regimens that emphasize the "least intrusive" principle and sequencing options (benefits of first evaluating response to behavioral treatments before initiating psychotropic medications), and coordination of behavioral and pharmacological interventions as part of a comprehensive regimen. These roles include involving and engaging patients and families in treatment planning through shared decision-making and valuing and deferring to patient choice and autonomy. This is defined as a Level 2—*Collaborative Practice* role—and many psychologists are positioned to undertake this collaborative role by virtue of their training. Given a significant barrier to coordination is that many providers are required to meet face-to-face clinical productivity; relying on other team members who do not have the same requirements such as care navigators or sometimes medical social workers to arrange for care and communication can be helpful. Research on group-based decision-making and treatment planning in medical contexts suggests that team-based care can significantly improve outcomes (e.g., Sharma et al., 2016).

Addressing Barriers to Adherence

The importance of involving and engaging patients and families in the choice of potential initiation of psychotropic medications (as mentioned above) lies in the research showing that parents typically prefer behavioral treatment options over pharmacological options (Al-Haidar, 2008). Eliciting and clarifying attitudes and perspectives around the use of these medications is important as many individuals may lack an accurate understanding of what these medications are and how they work. They may overestimate or underestimate their risk of side/adverse effects, and/or may have had prior negative experiences with a particular medication either with themselves or their child or via friends, family, and media outlets. Psychologists can address perceptual obstacles that patients have toward psychotropic medications or other treatments such as stigma or misinformation that leads them to believe that a particular treatment is not a good option for their child. Psychologists and other behavioral health clinicians can also work closely with patients and families to address more concrete obstacles such as adherence difficulties or skill deficits related to medication use including difficulties with pill swallowing. Clinical pharmacists collaborate with providers to ensure medications are prescribed according to proper indication, dosage, and formulation and in alignment with evidence-based guidelines. Clinical pharmacists maintain a vast understanding of multiple formulations of drugs (e.g., chewable, liquid, and sprinkles), facilitate conversations and authorizations

with insurance companies to ensure families have access to the most appropriate type and formulation of a medication, and are skilled in safe and effective ways to support the administration on the correct schedule. Additionally, pharmacists based in traditional dispensing community pharmacy locations can offer insight into filling trends and behaviors at the pharmacy. Medical social workers can help families navigate difficult social determinants of health including helping families problem-solve financial, housing, and transportation barriers. For families who struggle with adherence or behavioral interference with medication administration, letters can be written so that school nurses can administer medications at school.

Evaluation and Monitoring of Medication Effects

Multi-informant monitoring of medication effectiveness and side/adverse effect is best practice. Careful monitoring is important for children with ASD as they are more sensitive to medication and more likely to experience adverse effects than the general population (Aman, Farmer, Hollway, & Arnold, 2008; Towbin, 2003). While all areas of psychotropic prescribing can be supported by multiple professionals, evaluation and monitoring may be supported by the widest range of professionals for collaboration, particularly for those without prescribing privileges spend considerable time with patients in naturalistic settings where the impairment is occurring.

Children spend a majority of their waking time in school during the school year and are often tasked with many challenging situations wherein interfering symptoms are present. Thus, despite the barriers previously mentioned, schools remain an important area for evaluation and monitoring of psychotropic medications (Shaw et al., 2011). Approximately one out of four school psychologists report direct psychopharmacologic services such as monitoring behavioral response or side effects and most school psychologists report indirect support to children prescribed psychotropic medications such as behavioral management consultation, providing assessment data to prescribing physicians, and implementing adjunctive psychosocial treatment (Shahidullah & Carlson, 2014). DuPaul and Franklin (2019) outline several psychotropic-related roles for school psychologists that include consulting with physicians, teachers, and families to assess medication effects, assisting physicians and families to determine the optimal dosage of medication, assessing and supporting adherence, and facilitating the integration of all interventions provided (i.e., medical, behavioral, and educational).

School nurses are often knowledgeable about medications used in children with ASD and can serve as an important resource in the school setting to monitor and evaluate the effect medications and serve as a conduit between school and prescriber (Strunk, 2009). Partnerships between school nurses and nursing staff in the prescribing provider's clinic could also reduce the barriers that arise from differing language, ethics, and professional style.

Integrated primary care teams can also support the monitoring of psychotropic medication effectiveness. PCCs, clinical pharmacists, nursing staff, and integrated

behavioral health providers on the team can work collaboratively to monitor symptoms, adverse effects, and impairment during well-child visits and routine sick care. Shahidullah, Hostutler, & Stancin (2018a) delineated a number of collaborative medication-related roles that integrated pediatric psychologists who can undertake in the support of prescribing clinicians (see Shahidullah et al., 2019, for a review of relevant ethical considerations for when psychologists undertake these medication-related roles). Clinical pharmacists are trained to conduct comprehensive medication reviews through medication therapy management (MTM), which includes the identification and classification of medication therapy problems such as adverse effects, efficacy, and duplication of therapy (American Pharmacists Association and the National Association of Chain Drug Stores Foundation [APhA], 2008). The pharmacists' patient care process, which integrated clinical pharmacists utilize in the clinic and community-based settings, is a collaborative tool that pharmacists use to optimize and monitor medications (Joint Commission of Pharmacy Practitioners [JCCP], 2014). Clinical pharmacists integrated into the primary care team can complete MTM to assist clinicians in proper management of medications for ASD. There has been less formal delineation of the collaborative medication-related roles that other behavioral health clinicians (e.g., social workers, licensed counselors, and licensed marriage and family therapists) are positioned to undertake.

Community-based providers outside of the school are also well-positioned to help monitor and guide psychotropic management of conditions. Treatment monitoring data collected by behavior therapists and speech and occupational therapists can also be integrated into medication response to assess improvements in impairment, frequency, and severity of interfering behaviors. Behavioral health providers are well-positioned to monitor side/adverse effects and to evaluate behavioral response to medication through progress monitoring, standardized rating scales, and observational data collected as part of behavioral interventions. This data monitoring, when shared with prescribing pediatric clinicians can be helpful in dosage titration/tapering and discontinuation/withdrawing phases of medication management.

While integrating this data across professions and settings is important in psychotropic medication management, it can be difficult to gather this data in an effective way. The use of electronic health records (EHRs) can provide secure access to documentation across providers and facilitate communication between families and medical providers through the use of secure messaging. Traditionally these functions have been available to providers practicing in the same organization, but increasingly EHRs are able to coordinate information across health systems for more comprehensive access to patient information. Clinical registries can help organize and retain the information collected across providers and settings as well as track the progress of patients through the systematic application of measurement-based care. In addition, online patient portals that allow tracking of data and secure communication across multiple professions and settings are increasingly being used to track response to psychotropic medications such as HealthTracker™ (Santosh et al., 2017) and the ADHD Care Assistant (Power et al., 2016).

Conclusion

While psychotropic medication use is relatively common in children with ASD, it is ideally but one component of a comprehensive treatment plan developed and supported through interprofessional care. Members of the interprofessional team may include school personnel, staff from community agencies, behavioral health specialists, pharmacists, and PCCs, in addition to the patient and family. Given the breadth of professionals and service sectors involved, multiple barriers to providing this type of care exist but can be overcome through effective communication and processes that facilitate efficient information exchange. Increasingly, innovative models of care are being developed to extend the knowledge and expertise of behavioral health specialists into the medical home to support PCCs in prescribing psychotropic medications using a team-based approach. Beneficial aspects of an interprofessional approach to psychotropic prescribing include assistance with diagnostic clarity, patient and family education, medication monitoring, and adherence.

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