The American Journal of
Psychiatry
Residents' Journal

September 2017 Volume 12 Issue 9

Inside

EDITORIAL

Disorders in Children and Adolescents: Challenges in Diagnosis and Treatment With an Emphasis on Neurodevelopmental Disorders

Shawn E. McNeil, M.D.

As the specialty of psychiatry has matured, distinctions have emerged that necessitate an altered approach to the diagnosis and treatment of certain populations. In the case of children and adolescents, clinicians should have an understanding of the "developmental standard" expected of same-age peers and be able to consider a patient's behavior and "degree of competence" in this context (1). The younger the patient, the more significant nonverbal communication becomes, and the more important the role of play in the evaluation process (1).

Specific disorders may appear during this critical stage that can have a lifelong impact. This might also be a time when the first signs and symptoms of mood and psychotic disorders present themselves. Substance use patterns can begin to take shape, and clinicians may even be able to identify "patterns of personality pathology" in the adolescent age group (2). Detecting such symptoms in this population requires a practitioner in tune to the nuances that make these patients and their clinical presentations so unique.

Disorders affecting children and adolescents tend to present unique challenges to families, physicians, and others who seek answers and mitigation of symptoms. Although most psychiatric conditions may present before adulthood, neurodevelopmental disorders are unique in that their symptoms must typically be present in the early developmental period or at least by adolescence (3). As an example, individuals with autism spectrum disorder (ASD) may present during this period with symptoms that vary widely from one case to the next (4).

The younger the patient, the more significant nonverbal communication becomes, and the more important the role of play in the evaluation process.

This issue of the *Residents' Journal* focuses on matters affecting children and adolescents, with an emphasis on neurodevelopmental disorders like ASD and attention deficit hyperactivity disorder (ADHD). One article examines the role of pharmacological methods in treating autism-associated irritability and aggression. Another article investigates general practitioners' knowledge of early-psychosis intervention programs. A case report analyzes co-occurring ASD and new-onset auditory hallucinations, connecting these two conditions as sensory processing disorders. Another case report sheds light on issues associated with inappropriate prescribing of amphetamine/dextroamphetamine following misdiagnosis. A commentary provides insight into mental health stigma, particularly in certain cultures, as well as efforts by the National Institute of Mental Health to integrate neuroscience into treatment and create opportunities for communication with parents about their child's care.

We hope that this issue may serve as an informative tool that will shed light on the intricacies of treating children and adolescents.

Dr. McNeil is a second-year child and adolescent psychiatry fellow at LSU Health Sciences Center, Shreveport, La., and Media Editor for the *Residents' Journal*.

REFERENCES

1. Dulcan MK (ed): Dulcan's Textbook of Child and Adolescent Psychiatry, 2nd ed. Washington DC, American Psychiatric Publishing, 2016, pp 3–5
2. Westen D, DeFife JA, Malone JC, et al: An empirically derived classification of adolescent personality disorders. J Am Acad Child Adolesc Psychiatry 2014; 53(5):528
3. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, 5th ed. Washington, DC, American Psychiatric Publishing, 2013, pp 31–86
4. Volkmar F, Siegel M, Woodbury-Smith M, et al: Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. J Am Acad Child Adolesc Psychiatry 2014; 52(2): 237–239

ARTICLE

Pediatric Pharmacologic Management of Autism-Associated Behavioral Dysregulation

Willa Xiong, M.D.

Autism spectrum disorder (ASD) is a developmental disorder characterized by persistent impairments in social communication and interactions, in addition to restricted and repetitive patterns of behavior and interests. A surveillance summary by the Centers for Disease Control and Prevention from 2008 estimated the prevalence of ASD in the United States to be one in every 68 children, as defined by the *DSM-IV-TR* criteria for autism, Asperger's syndrome, and pervasive developmental disorder not otherwise specified (1). Early behavioral and educational interventions (e.g., applied-behavioral analysis, Early Start Denver Model, speech therapy) are recommended as primary treatment modalities, as they have been well documented to mitigate the core features of ASD, maximize patients' functional independence, and improve quality of life (2). These approaches aim to promote communication, socialization, play, daily living skills, and academic achievements, while decreasing maladaptive behaviors.

Psychotropic medications are sometimes used in patients with ASD to treat various symptoms, including hyperactivity, inattention, impulsivity, comorbid anxiety or depression, obsessive behaviors, and sleep disturbances. Medications can also be helpful in decreasing aggression, irritability, self-injurious behaviors, and tantrum behaviors, which will be addressed collectively as "behavioral dysregulation" in the present article. Psychotropic medications should be considered after behavioral and environmental interventions have been inadequate or if the child poses a safety risk (2). The benefits and risks of medications must be weighed carefully by the psychiatrist on a case-by-case basis. Important considerations include the impact of behavioral dysregulation on the child's ability to learn and socialize, as well as the child's general health and safety. The psychiatrist must provide psychoeducation to caretakers, emphasizing that medications, similar to behavioral and educational modalities, will not "cure" autism but rather aim to improve the patient's overall functioning.

The only medications that have been approved by the Food and Drug Administration (FDA) for ASD-associated behavioral dysregulation in the pediatric population are risperidone and aripiprazole. While there are no established mechanisms explaining treatment efficacy, the dopaminergic and serotonergic pathways are likely contributory, given links to impulsive aggression and known actions of atypical antipsychotics on dopamine D_2 receptors and serotonin receptors. The safety and effectiveness of these two psychotropic medications in children under 5 years old have not yet been established. There are also no FDA-approved medications for ASD-associated behavioral dysregulation in adults. However, various pharmacological treatments, such as other antipsychotics, anticonvulsants, alpha-2 agonists, mood stabilizers, selective serotonin reuptake inhibitors, and beta blockers, have been studied and are used off-label in children and adults.

FDA-APPROVED PHARMACOTHERAPIES

Risperidone

In 2006, risperidone became the first medication approved by the FDA for the treatment of ASD-associated behavioral dysregulation in children and adolescents (≥5 years old). Risperidone is dosed in a weight-based fashion (see Table 1), and there are no established guidelines for children weighing less than 15 kg. Two 8-week randomized, double-blind, placebo-controlled trials of risperidone have demonstrated improvements in behavioral dysregulation (3, 4). The primary outcome of both studies included the irritability subscale of the Aberrant Behavior Checklist, which measures emotional and behavioral symptoms and includes items such as "injures self," "aggressive," "temper tantrums," "irritable," and "cries and screams inappropriately" (5). A follow-up study showed longer-term efficacy and tolerability of risperidone treatment for 4 months (6), although outcomes for extended treatment durations, as is often the case in clinical settings, are unknown. In a discontinuation phase of the study, continued risperidone treatment resulted in significantly lower behavioral recurrence rates, compared with tapering off risperidone over 4 weeks. The study findings suggest caution when withdrawing effective treatment for target symptoms. In a recent fixed-dose study, risperidone at 1.25 mg or 1.75 mg per day (weight-dependent) was shown again to be efficacious (7), consistent with previous studies with similar doses of risperidone treatment (3–5). However, lower doses at 0.125 mg or 0.175 mg were not found to be effective (7). No inferences can be made about the effectiveness of mid-range doses between 0.175 mg and 1.25 mg, by nature of the study's design.

Common side effects in the studies included sedation, increased appetite, weight gain, fatigue, drowsiness, dizziness, drooling, tremor, and constipation. Incidence of extrapyramidal symptoms in patients treated with risperidone varied across studies, with one study reporting incidence as high as 27.5%; tremor

TABLE 1. FDA-Approved Pharmacologic Agents for Treating Autism-Associated Behavioral Dysregulation

Medication	Initial Dose	Titration	Recommended Dose	Maximum Dose	Dosage Forms
Risperidone	0.25 mg/day (<20 kg) or 0.5 mg/day (≥20 kg)	Increase by 0.25 mg/day (<20 kg) or 0.5 mg/day (≥20 kg) after 4 days, and every 2 weeks thereafter	0.5 mg/day–3 mg/day given once daily or in two divided doses	Not established	Tablets, orally disintegrating tablets, oral solution
Aripiprazole	2 mg/day	Increase to 5 mg/day after 7 days, then increase by 5 mg/day every 7 days	5 mg/day–10 mg/day given once daily	15 mg/day	Tablets, orally disintegrating tablets, oral solution

and hypokinesia were the most common symptoms noted (3).

Aripiprazole

Aripiprazole was approved by the FDA in 2009 for the treatment of ASD-associated behavioral dysregulation in children and adolescents (ages 6–17). Aripiprazole is dose-independent of weight, with a recommended starting dose of 2 mg daily (see Table 1). Two 8-week, randomized, double-blind, placebo-controlled trials demonstrated efficacy in acute treatment, according to Aberrant Behavior Checklist scores (8, 9). Benefits of long-term treatment of aripiprazole have not been established. In a study of patients who responded to aripiprazole initially, the primary outcome measure of time to behavior recurrence did not significantly differ between those randomly assigned to continue the medication or switch to placebo (10). However, aripiprazole treatment did result in a clinically relevant number needed to treat of 6 (to prevent one additional relapse) in a post hoc analysis. Patients were notably switched from aripiprazole directly to placebo in the study, rather than titrated down in dosage, due to the prolonged 75-hour half-life of aripiprazole.

Common adverse effects in the studies included fatigue, vomiting, somnolence, and tremor (8–10). The FDA has also warned about rare impulse-control problems (e.g., binge eating, gambling) based on 184 case reports of children and adults treated with aripiprazole, although ASD was not specifically mentioned in the treatment indications (11).

ADVANCED-MANAGEMENT CONSIDERATIONS

When deciding between risperidone and aripiprazole, psychiatrists should balance side-effect profiles with existing evidence and the patient's clinical response. To our knowledge, there has only been one head-to-head study of these two medications to date, which showed comparable safety and efficacy of treatment over a 2-month period (12). Risperidone has some evidence, albeit limited, for longer-term efficacy, but poses greater theoretical risk of sedation, metabolic effects, as well as dose-related extrapyramidal symptoms and hyperprolactinemia. On the other hand, aripiprazole may lead to increased activation and akathisia and may be associated with rare impulse-control problems. Atypical antipsychotics, as a class, are known to have metabolic side effects (i.e., weight gain, dyslipidemia, insulin resistance), with long-term cardiovascular risks. Other less common adverse effects of antipsychotics to consider include dystonic reactions, tardive dyskinesia, and neuroleptic malignant syndrome, all of which parents should be educated about before consenting for treatment.

OFF-LABEL PHARMACOTHERAPIES

Other Antipsychotics

One small randomized, double-blind, placebo-controlled trial of olanzapine (treatment group, N=6; control group, N=5) demonstrated improvements in behavioral dysregulation, with weight gain and sedation as notable side effects (13). In a recent trial of lurasidone, double-blind treatment with fixed doses of 20 mg/day (N=50) and 60 mg/day (N=49) did not demonstrate efficacy in treating behavioral dysregulation when compared with placebo (N=51) (14). Although, to our knowledge, no randomized, double-blind, placebo-controlled trials of other atypical antipsychotics exist, quetiapine, ziprasidone, and clozapine have demonstrated benefits in open-label studies and case series (15). Haloperidol has been shown in two randomized, double-blind, placebo-controlled trials to improve general behavioral concerns in children with ASD (e.g., hyperactivity, stereotypies, fidgeting) but not behavioral dysregulation specifically (16, 17).

Other Agents

A pilot randomized, double-blind, placebo-controlled trial (N=33) of *N*-acetylcysteine, a glutaminergic modulator originally used to treat acetaminophen overdose, showed improvements in behaviors measured by the Aberrant Behavior Checklist (18). A small randomized, double-blind, placebo-controlled study (N=8) of the central alpha-2 agonist clonidine's effects on inattention, impulsivity, and hyperactivity symptoms incidentally found lower ratings on the Aberrant Behavior Checklist (19). This may suggest promise in the use of clonidine in treatment of behavioral dysregulation, but inferences are limited: Aberrant Behavior Checklist scores were not the primary endpoint, and baseline scores were not provided. To our knowledge, there are no randomized, double-blind, placebo-controlled trials examining the efficacy of antidepressants, but small open-label studies, case reports, and retrospective chart reviews primarily examining stereotypies and repetitive behaviors have suggested secondary benefits in aggression from fluvoxamine, paroxetine, sertraline, citalopram, and escitalopram (15). Evidence on the use of valproate is conflicted, with one study showing significant improvement in Aberrant Behavior Checklist scores and another showing no treatment difference (19). There has been one open-label trial of beta-blockers in eight adults with ASD

KEY POINTS/CLINICAL PEARLS

- Children with autism spectrum disorder (ASD) often suffer from behavioral disturbances, such as irritability, aggression, tantrums, and self-injury, which can profoundly impair their functioning, affect caregivers, and pose safety risks.
- There are no published clinical guidelines on when to initiate pharmacologic treatment in these cases; therefore, careful evaluation of the benefits and risks should be performed on a case-by-case basis and rely on the severity of functional impairment.
- Risperidone and aripiprazole are the only Food and Drug Administration-approved treatments for ASD-associated behavioral dysregulation; risperidone poses more risk for sedation, metabolic effects, dose-related extrapyramidal symptoms, and hyperprolactinemia, whereas aripiprazole may cause akathisia and, in rare cases, impulsivity.
- Olanzapine and haloperidol have some evidence supporting their use but are also limited by side-effect profiles; there is insufficient evidence to recommend the use of other psychotropics at this time.

demonstrating improvements in aggressive behavior (20), but no studies with larger sample sizes, nor any examining children, have been published.

CONCLUSIONS

Children and adolescents with ASD often suffer from behavioral dysregulation that affects their lives, as well as the lives of their families. There are only two FDA-approved pharmacologic treatments in this population and limited evidence for off-label options. Even less is known about treatment in adults, and there are no formally approved treatments at this time. There is no hard and fast rule on when to start medications, or which medication to choose. Pharmacological management decisions rely on clinical acumen and consideration of the amount of evidence for efficacy, as well as the side-effect profile and tolerability of any given treatment. Further research is required to better guide the treatment of ASD-associated behavioral dysregulation in an evidence-based fashion.

Dr. Xiong is a fourth-year resident in the Department of Psychiatry, Washington University School of Medicine, St. Louis.

The author thanks Rachel Katz, M.D., current Editor-in-Chief of the Residents' Journal, for her support and insightful feedback on this work.

REFERENCES

1. Baio J: Prevalence of autism spectrum disorders—Autism and Developmental Disabilities Monitoring Network, 14 sites, United States, 2008. MMWR CDC Surveill Summ 2012; 61:1–19
2. Volkmar F, Siegel M, Woodbury-Smith M, et al: Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. J Am Acad Child Adolesc Psychiatry 2014; 53(2):237–257
3. Shea S, Turgay A, Carroll A, et al: Risperidone in the treatment of disruptive behavioral symptoms in children with autistic and other pervasive developmental disorders. Pediatrics 2004; 114:e634
4. McCracken JT, McGough J, Shah B, et al: Risperidone in children with autism and serious behavioral problems. N Engl J Med 2002; 347:314
5. Aman MG, Singh NN: Aberrant Behavior Checklist Manual. East Aurora, NY, Slosson Educational Publications, 1986
6. Research Units on Pediatric Psychopharmacology Autism Network: Risperidone treatment of autistic disorder: longer-term benefits and blinded discontinuation after 6 months. Am J Psychiatry 2005; 162:1361–1369
7. Kent J, Kushner S, Ning X, et al: Risperidone dosing in children and adolescents with autistic disorder: A double-blind, placebo-controlled study. J Autism Dev Disord 2013; 43:1773–1783
8. Owen R, Sikich L, Marcus RN, et al: Aripiprazole in the treatment of irritability in children and adolescents with autistic disorder. Pediatrics 2009; 124:1533
9. Marcus RN, Owen R, Kamen L, et al: A placebo-controlled, fixed-dose study of aripiprazole in children and adolescents with irritability associated with autistic disorder. J Am Acad Child Adolesc Psychiatry 2009; 48:1110
10. Findling RL, Mankoski R, Timko K, et al: A randomized controlled trial investigating the safety and efficacy of aripiprazole in the long-term maintenance treatment of pediatric patients with irritability associated with autistic disorder. J Clin Psychiatry 2014; 75:22–30
11. US Food and Drug Administration: FDA Warns About New Impulse-Control Problems Associated With Mental Health Drug Aripiprazole. Silver Spring, Md. http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm498823.htm (Accessed May 2016)
12. Ghanizadeh A, Sahraeizadeh A, Beck M: A head-to-head comparison of aripiprazole and risperidone for safety and treating autistic disorders, a randomized double blind clinical trial. Child Psychiatry Hum Dev 2014; 45:185–192
13. Posey DJ, Stigler KA, Erickson CA, McDougle CJ: Antipsychotics in the treatment of autism. J Clin Invest 2008; 118(1):6–14
14. Loebel A, Brams M, Goldman RS, et al: Lurasidone for the treatment of irritability associated with autistic disorder. J Autism Dev Disord 2016; 46(4):1153–1163
15. Leskovec TJ, Rowles BM, Findling RL: Pharmacological treatment options for autism spectrum disorders in children and adolescents. Harv Rev Psychiatry 2008; 16(2):97–112
16. Campbell M, Anderson LT, Small AM, et al: The effects of haloperidol on learning and behavior in autistic children. J Autism Dev Disord 1982; 12:167
17. Anderson L, Campbell M, Adams P, et al: The effects of haloperidol on discrimination learning and behavioral symptoms in autistic children. J Autism Dev Disord 1989; 19:227–239
18. Hardan AY, Fung LK, Libove RA, et al: A randomized controlled pilot trial of oral N-acetylcysteine in children with autism. Biol Psychiatry 2012; 71(11):956–961
19. Fung LK, Mahajan R, Nozzolillo A, et al: Pharmacologic treatment of severe irritability and problem behaviors in autism: A systematic review and meta-analysis. Pediatrics 2016; 137(Suppl 2):S124–135
20. Ratey JJ, Bemporad J, Sorgi P, et al: Open trial effects of beta-blockers on speech and social behaviors in 8 autistic adults. J Autism Dev Disord 1987; 17:439–446

ARTICLE

General Practitioners' Knowledge of a Local First-Episode Psychosis Treatment Program

Sarah Adams, H.BA, MSc., M.B. B.Ch., BAO
Marrison Stranks, H.BSc., M.Sc.

Over the last three decades, early-psychosis intervention (EPI) programs have been established to identify and provide treatment to individuals experiencing a first episode of psychosis—the majority of whom are adolescents and young adults (1). EPI programs provide medical and psychosocial intervention through an intensive, multidisciplinary case management model (1, 2). Patients are followed closely over time and paired with a range of health professionals. In addition to ongoing psychiatric treatment, for example, clinic nurses monitor metabolic side effects of antipsychotic medications, and psychologists conduct cognitive-behavioral therapy with patients. Family members are offered educational and support group services, and patients attend practical, interactive programming relating to employment and social skills.

A large body of evidence now exists demonstrating the benefits of specialized EPI services to individuals experiencing psychosis for the first time, including the reduction of positive and negative symptoms; treatment of comorbid conditions such as substance abuse, anxiety, and depression; minimization of interpersonal, educational, and occupational disruptions; and improvements in overall daily functioning (2, 3). Unfortunately, individuals often present to EPI programs after a prolonged duration of untreated psychosis (4), which is associated with significantly poorer outcomes (5–7). Among other factors, prolonged duration of untreated psychosis can be due to lack of recognition of signs and symptoms among both patients and practitioners, patient reluctance and/or lack of insight into the condition, and/or inadequate access to primary care (2, 4).

One area of interest in duration of untreated psychosis reduction is the role of general practitioners in recognizing prodromal or acute signs and symptoms of psychosis and identifying appropriate pathways to care (2, 8, 9). In the Canadian health care system, general practitioners act as primary caregivers, as well as "gatekeepers," to specialist care. Referrals to specialists, such as psychiatrists, are most frequently made by general practitioners. General practitioners often see patients and families longitudinally and are able to recognize subtle behavioral changes or the presence of new symptoms. General practitioners are thus uniquely positioned to identify prodromal signs and symptoms of early psychosis, which include a decline in academic functioning, poor hygiene and personal care, social withdrawal, decreased motivation, and impaired emotional expression (2).

The purpose of the present study was to explore general practitioners' knowledge of a local EPI program in Kingston, Canada. Established in 2004, the Heads Up! EPI program at Hotel Dieu Hospital in Kingston is an outpatient service available to patients aged 14 to 35 who are experiencing a first episode of psychosis or who have not previously received treatment for psychosis. Patients who meet these criteria and live in the catchment areas are eligible for treatment that is more comprehensive than general outpatient treatment with general practitioners or psychiatrists. Despite the existence of this evidence-based EPI program, data collected by the clinical coordinator of the Heads Up! EPI program indicate that the program receives the majority of its referrals from inpatient and emergency department psychiatrists. Very few referrals are received from general practitioners. We were therefore interested in better understanding local general practitioners' knowledge of the Heads Up! EPI program.

METHOD

A survey was mailed to 106 general practitioners practicing full- or part-time in Kingston, Canada. To generate this list, an online search was conducted to identify general practitioner practices in Kingston and the surrounding county. Each practice was contacted by the principal investigator and asked how many general practitioners were employed full- or part-time. The mailed paper-based survey consisted of 10 multiple-choice questions that were aimed to elicit general practitioners' knowledge of the Heads Up! EPI program and their understanding of the eligibility criteria, referral process, and services offered (see Table 1). This study was approved by the ethics committee at Queen's University in Canada.

RESULTS

Seventy-two of the 106 general practitioners contacted responded to our survey (68% response rate). Only 45% of responding general practitioners had heard of the Heads Up! EPI program. Of those surveyed, 32% had referred a patient to the program, although 75% reported feeling that they had patients in their practice that would benefit from the program's services. The majority (82%) were unaware of the eligibility criteria, and 79% did not know how to refer a patient. Eighty percent of the

TABLE 1. Heads Up! Early Psychosis Intervention Program Survey Questionsa

Have you heard of the early-psychosis intervention program at Hotel Dieu Hospital in Kingston? (yes/no)
Have you ever referred a patient to this program? (yes/no)
If so, approximately how many patients have you referred?
Are you aware of the eligibility criteria of the early-psychosis intervention program? (yes/no)
Do you know how to refer a patient to the program? (yes/no)
Would learning more about the early-psychosis intervention program enable you to provide better clinical care to your patients? (yes/no)
Do you currently have patients in your practice that you believe would benefit from the early-psychosis intervention program? (yes/no)
We would love to provide you with more information about our program. What would be the most effective way to give you this information? a) Information package sent to you by mail b) Information package sent to you by e-mail c) A presentation by one of our staff at your clinic d) A presentation and tour held at our clinic e) Other (please specify): _____
What information can we provide you that would be most helpful? (please check all that apply) Information about the common presentations of first-episode psychosis Information about the management of first-episode psychosis Our program's eligibility requirements How to refer a patient to our program Services offered to patients by our program Other: (please write in response)
If you would like us to provide you with information, please tell us the best way to get in touch with you: (write in response)

[a] Further details can be obtained online (http://www.hoteldieu.com/programs-and-departments/early-psychosis-intervention-program).

general practitioners stated that learning more about first-episode psychosis and the EPI program would enable them to provide better clinical care to their patients. One hundred percent requested to receive more information. The majority of respondents requested to receive an information package by mail (60%), whereas others preferred to receive information by e-mail (22%) or by a presentation at their practice given by an EPI staff member (18%).

DISCUSSION

Our results indicate that while the majority of general practitioners felt that they had patients in their practice that would benefit from an EPI program, general practitioners lacked knowledge of the program, the eligibility criteria, and/or the referral process, factors that may explain the gap between the low referral rates and the perception of need. This was reinforced by the finding that the majority of general practitioners believed learning more about the EPI program would enable them to provide better clinical care to their patients, and 100% of general practitioners requested to receive more information.

It is vital that patients in need of EPI services are able to access these programs in a timely fashion (5–7). Patients with longer duration of untreated psychosis are less likely to achieve remission (5) and experience significantly poorer quality of life and overall functioning (5, 6). One study conducted in British Columbia, Canada, examined treatment delays in patients presenting to a specialized EPI program and found that patients had an average of 3.02 (SD=1.31) service contacts prior to entry into the EPI program or hospital (10). Nearly a third of patients had four or more contacts with services prior to entering the EPI program (10). Reductions in duration of untreated psychosis are thus a crucial area for improvement in the treatment of first-episode psychosis.

Our study also elucidates the need for psychiatrists to provide psychoeducation to other health care professionals. As our study indicates, general practitioners are keen to learn more about topics that they believe will benefit

KEY POINTS/CLINICAL PEARLS

- Early-psychosis intervention (EPI) programs have been established internationally to identify and provide multidisciplinary treatment specific to the needs of individuals experiencing psychosis for the first time.
- A long duration of untreated psychosis is associated with significantly poorer clinical outcomes, for example, the presence of symptoms at follow-up, as well as with significantly poorer quality of life and overall functioning.
- General practitioners, due to their longitudinal relationship with patients and their role as "gatekeepers" to secondary care, play a vital role in recognizing the prodromal signs and symptoms of psychosis but may lack knowledge of psychosis intervention services offered in their area.
- The majority of general practitioners surveyed felt that they had patients in their practice that would benefit from an EPI program and believed that learning more about the EPI program would enable them to provide better clinical care to their patients.

patients in their practice and improve their clinical care. This presents an opportunity for strengthening existing mental health care pathways and bridging gaps in referral networks. Psychiatrists, as advocates and educators, can use this research by treating encounters with general practitioners as opportunities to share knowledge about early warning signs, as well as local pathways to specialized care.

Multiple follow-up steps have been taken since the results of this research became available. Information packages on the EPI program were sent to over 300 general practitioners in the surrounding area. The EPI referral form was embedded into the electronic health records systems of multiple general practitioners' practices, enabling them to have quick and easy access. Several presentations were given by EPI staff at general practitioner offices. EPI staff were also invited to present at the Queen's University Grand Rounds. These are all feasible steps that can be taken elsewhere to increase general practitioners' knowledge of local EPI programs and the signs of early psychosis.

CONCLUSIONS

Our study demonstrates that the majority of general practitioners in Kingston, Canada, were unaware of the services offered by a local EPI program. Despite this, many general practitioners stated that they had patients who would benefit from the EPI program and felt that learning more would improve the clinical care they provided. The results of our survey support calls to further educate health care professionals about EPI programs and appropriate pathways to specialized care of psychosis (2, 8, 9).

Dr. Adams is a third-year resident in the Department of Psychiatry, Queen's University, Kingston, Ontario, Canada. Marrison Stranks is a medical student at the University of Buckingham, United Kingdom.

REFERENCES

1. McGorry PD: Early intervention in psychosis: obvious, effective, overdue. J Nerv Ment Dis 2015; 203(5):310–318
2. Norman RM, Manchanda R: Prevention and early intervention program for psychoses (PEPP). Healthc Q 2016; 18:37–41
3. Nordentoft M, Rasmussen JO, Melau M, et al: How successful are first episode programs? A review of the evidence for specialized assertive early intervention. Curr Opin Psychiatry 2014; 27:167–172
4. Lloyd-Evans B, Crosby M, Stockton S, et al: Initiatives to shorten duration of untreated psychosis: systematic review. Br J Psychiatry 2011; 198(4):256–263
5. Marshall M, Lewis S, Lockwood A, et al: Association between duration of untreated psychosis and outcome in cohorts of first-episode patients: A systematic review. Arch Gen Psychiatry 2005; 62(9):975–983
6. Norman RM, Manchanda R, Windell D, et al: The role of treatment delay in predicting 5-year outcomes in an early intervention program. Psychol Med 2012; 42(2):223–233
7. Perkins D, Gu H, Boteva K, et al: Relationship between duration of untreated psychosis and outcome in first-episode schizophrenia: A critical review and meta-analysis. Am J Psychiatry 2005; 162:1785–1804
8. Flora N, Anderson KK, Ferrari M, et al: Comparative analysis of pathways to early intervention services and duration of untreated psychosis in two Canadian cities. Early Interv Psychiatry (Epub ahead of print, March 9, 2016) doi: 10.1111/eip.12326
9. Ministry of Health and Long-Term Care, Ontario, Canada: Early Psychosis Intervention Program Standards, 2011. http://www.health.gov.on.ca/english/providers/pub/mental/epi_program_standards.pdf (Accessed September, 2016)
10. Ehmann T, Tee A, MacEwan G, et al: Treatment delay and pathways to care in early psychosis. Early Interv Psychiatry 2014; 8:240–246

CASE REPORT

Sensory Processing and Genetic Expression Similarities in Autism and Schizophrenia

Shariq F. Haque, M.D.

Autism is a neurodevelopmental disorder with deficits in the domains of social communication and interaction, as well as restricted patterns of behaviors, interests, and activities (1). Schizophrenia is a complex psychiatric disorder consisting of hallucinations and/or delusions, as well as impairments in cognition, including that of executive function (2). Eugene Bleuler posited that autism was one of the four features characteristic of patients with schizophrenia (3). Many of the negative symptoms of schizophrenia can mimic those of social withdrawal in autism. The distinction between the disorders was unclear until 1971 when the work of Israel Kolvin helped distinguish the two in *DSM-III* (1). It is understood that both schizophrenia and autism spectrum disorder (ASD) are characterized by derangements in sensory processing (4, 5). Both ASD and schizophrenia share multiple phenotypic similarities and risk factors; they have been reported to occur together at elevated rates (6). There exists literature on sensory processing deficits in both spectrums of disorders, and there are overlapping mechanisms implicated in the two. Recent research also describes shared genes, which are both downregulated in patients with autism and schizophrenia (4), further reinforcing a link between the disorders.

Sensory systems are required for two purposes: to channel attention to critical regions of the outside world and, secondly, to decode that information to enable subsequent voluntary processing (5). Impairments of sensory processing often lead to inappropriate responses to environmental stimuli, for instance, a patient with autism being unable to appropriately respond to social cues.

The case report below is of a young girl with autism who developed new-onset auditory hallucinations.

CASE

"Samantha" is a 7-year-old girl with a history of ASD, who presented to the hospital, sent from school to the emergency department, for psychiatric evaluation after reporting hearing voices for the past 2 months telling her to hurt other people. The voices were persecutory in nature and would often tell her to harm her family. The child would refer to the voices as coming from an "imaginary friend, with fangs." She had a normal developmental history, with milestones delayed for speech development. Her teachers had alerted her parents about her complaints of hearing voices. The family history was significant for schizophrenia on both the paternal and maternal sides. There was no significant medical history. Mental status examination revealed that the child was markedly withdrawn, covering her face when the interviewer asked her a question. She did demonstrate inability to maintain eye contact. She appeared morphologically without deficits. No visual hallucinations were described, but there existed auditory hallucinations of an imaginary friend that would tell the patient to hurt either herself or her family. While she never physically saw the imaginary friend, she believed that the imaginary friend had fangs. Medical workup in the emergency department, including CT head scan, complete blood count, and metabolic profile, were within normal limits.

A more thorough workup could have included an MRI, heavy metal testing, EEG, and lumbar puncture, in addition to genetic testing, to exclude other pathologies. In the absence of a family history of genetic defects, seizure history, exposure to heavy metals, or compromised vital signs, these examinations were deferred to be completed on an outpatient basis. The patient was referred for inpatient psychiatric hospitalization for stabilization and further evaluation and treatment.

DISCUSSION

Sensory processing deficits are a cardinal symptom of ASD (4). Adequate preattentive filtering of this information is necessary for higher cortical processing and then, in turn, for healthy brain function (7). Sinclair et al. summarized sensory processing deficits in ASD, including abnormal auditory event-related potentials and reduced P50 suppression, a measure of sensory gating and reduced neurophysiological response to redundant stimuli, in children with ASD aged 3–8 (4). Javitt and Freedman concluded that deficits exist in patients with schizophrenia for P50 suppression (5). Such patients experience louder noises, misperception of sounds, and hallucinations (5). Other studies also suggest that P50 deficits exist in both patients with schizophrenia and those with ASD (7), consistent with impairments in excitatory and inhibitory balance (5). Sensory processing deficits in autism can lead to differences in arousal to stimuli, which would, in turn, influence behavior (7). An inability to maintain eye contact or to respond appropriately to questioning can be some manifestations.

While previous research exists suggesting an overlap between single-nucleotide genetic polymorphisms for both disorders (5), there is a paucity of data at the level of genetic transcriptomes. Transcriptomes are defined as the total sum of messenger RNA expressed from a gene for specific cell lines. A recent transcriptome analysis conducted by Ellis et al. analyzed and compared RNA sequencing from the cortical brain tissue of deceased

KEY POINTS/CLINICAL PEARLS

- Autism and schizophrenia were first distinguished as individual disorders with the introduction of DSM-III.
- There continues to exist significant overlaps in sensory processing deficits in both disorders.
- New, recent research indicates a downregulation of similar genes, suggesting a common neurodevelopmental basis for both disorders.
- In the present case report, current guidelines would promote a diagnosis of schizophrenia; however, new genetic data and existing data on sensory processing similarities of autism and schizophrenia lead to evidence of a shared biological basis of both disorders.

patients with that of control subjects with autism, schizophrenia, or bipolar disorder (8). They found nine genes between both schizophrenia and autism that were differentially expressed, a finding that was statistically significant. Autism and schizophrenia both had a high number of genes that were similarly expressed. The genes in question code for neuronal synapse projection and formation (8). The authors suggest a possible role for underlying neuronal development due to this correlation (8) and therefore a possible neurobiological relationship for both disorders.

CONCLUSIONS

The association between schizophrenia spectrum disorders and ASD is known (6). Both groups of disorders involve significant deficits in sensory processing. Advances in molecular genetic sequencing techniques are beginning to show a relationship between autism and schizophrenia. Individuals with autism have a 12.8% incidence of schizophrenia spectrum disorders (6). While there exists some evidence of overlap between sensory processing deficits between schizophrenia and autism (4, 5), as well as new genetic research (8), further research and studies on gene transcriptomes are needed to identify additional overlaps and shed light on the neurobiological bases of both disorders.

Dr. Haque is a first-year child and adolescent psychiatry fellow at Northshore-Long Island Jewish Hospital, Glen Oaks, N.Y.

The author thanks Sobia Nizami, M.D.

REFERENCES

1. Kolvin I: Studies in childhood psychoses: Diagnostic criteria and classification. Br J Psychiatry 1971; 118:381–384
2. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, 4th ed, Text Revision. Washington, DC, American Psychiatric Publishing, Washington, DC, pp 274–286
3. McNally K: Eugene Bleuler's four As. Hist Psychol 2009; 12(2):43–59
4. Sinclair D, Oranje B, Razak K, et al: Sensory processing in autism spectrum disorders and Fragile X syndrome: From the clinic to animal models. Neurosci Biobehav Rev 2016; 60:180–188
5. Javitt D, Freedman R: Sensory processing dysfunction in the personal experience and neuronal machinery of schizophrenia. Am J Psychiatry 2015; 172:17–31
6. Chisolsm K, Lin A, Abu-Akel A, et al: The association between autism and schizophrenia spectrum disorders: A review of eight alternate models of co-occurrence. Neurosci Biobehav Rev 2015; 55:173–183
7. Case-Smith J, Weaver L, Fristad M: A systematic review of sensory processing interventions for children with autism spectrum disorders. Autism 2015; 19(2):133–148
8. Ellis S, Panitch R, West A, et al: Transcriptome analysis of cortical tissue reveals shared sets of downregulated genes in autism and schizophrenia. Transl Psychiatry 2016; 6(5):1–7

CASE REPORT

Stimulant Overprescribing, Abuse, and Diversion

Saeed Ahmed, M.D.
Sanya Virani, M.D.

CASE

"Mr. A" is a 25-year-old man who was admitted to an inpatient unit. He presented as unkempt, anxious, a bit hostile, and psychotic with paranoid delusions and auditory-visual hallucinations. The patient had a history of abusing the psychostimulant amphetamine/dextroamphetamine salts. He admitted first experimenting with the drug during high school, after being introduced to a "smart pill" by his friends. He started using only a few times a month but soon became fully dependent and was using simply to "get high." His addiction made him increasingly anxious that he would run out of pills, seeking the drug from friends and sometimes the streets. The patient went so far as to feign illness, by mimicking symptoms and presenting himself as a textbook case of attention deficit hyperactivity disorder (ADHD) to a psychiatrist to secure a prescription.

When he was asked about the hallucinations, he stated that the "voice of God" had been speaking to him for a few years and that he had been listening to, and even enjoying, their conversations. If he swallowed the pill, it connected him to God, if he did not, all connections between him and God were severed, and panic would strike. He would become so wrapped up in worry about losing this connection, even for a second, that he had begun taking enough pills to lose count, especially during the previous few weeks. He also stated that he witnessed the "shadow" of God, but the vision remained vague. He indicated that the mundane, inanimate objects of daily life delivered the "heaven-sent" messages that drove him and that car license plates, encoded with God's numbers, properly deciphered, would guide him in his tasks, while government agents tracked his every move. His visible anxiety and paranoia convinced us that he believed these delusions and hallucinations were real.

Interviews with the patient's family revealed a baseline behavior that buttressed the findings of interviews conducted independently by two psychiatrists. It was no surprise that he, patently, did not meet the criteria for ADHD. Instead, he was given the diagnosis of substance/medication-induced psychotic disorder.

DISCUSSION

The above case illustrates troubling issues associated with misdiagnosis, inappropriate prescribing of amphetamine/dextroamphetamine, the resulting addiction, untoward side effects, and when prescription numbers are extrapolated, all of which present an increased economic burden on the health care system.

In 2011, the Centers for Disease Control and Prevention reported findings from the National Survey of Children's Health, which showed that 7.8% and 9.5% of U.S. school-aged children received a diagnosis of ADHD from health care providers based on parent reports in 2003 and 2007, respectively (1). Notably, this number rose to 11% by 2011. These data may not represent the true prevalence because the survey is based on parental report, requiring parents to recall ADHD diagnosis. The drastic increase in the number is worrisome, but there is considerable evidence indicating that changes in diagnostic criteria, increasing awareness, access to services, and changes in health and education, such as widespread behavioral health screening, may explain the increasing prevalence (2). This increased prevalence of ADHD diagnoses tends to result in an increased number of prescriptions. Statistics from the National Center on Addiction and Substance Abuse reveal that the number of prescriptions for ADHD in the United States showed a 369% increase, or 23.4 million prescriptions per year, between 1992 and 2002 (3).

Increasing prevalence of ADHD raises questions about the reliability of diagnostic evaluations by clinicians and subsequently prescribing medication, particularly without consulting a mental health professional (4). Literature and popu-

KEY POINTS/CLINICAL PEARLS

- The responsibility of making a correct diagnosis of attention deficit hyperactivity disorder should rest with primary care physicians and psychiatrists, who should adhere to *DSM-5* criteria, with close attention to its latest revisions and updates, while concurrently specifying the level of severity.
- Clinicians need to recognize signs of addictive behavior and potential misuse of stimulants among adolescents, or adult patients, who insist on increasing dosages or who frequently report lost prescriptions.
- Suspected substance abuse warrants alternate treatments: prescribing nonstimulant medications, prescribing stimulant medications with less abuse potential, or employing nonpharmacological strategies, including cognitive-behavioral therapy, biofeedback, relaxation techniques, and psychotherapy.

lar opinion also allude to the increasing pressure by parents and teachers from health care providers to "push" diagnoses (5), making ADHD a childhood diagnosis with prevalence second only to obesity.

The above case report warrants serious concern because it illustrates fissures in the institutional and clinical system—misdiagnoses, as well as inappropriate prescriptions that perpetuate the cycle of addiction. The ease with which adolescents and youths can "game the system" to procure stimulants from schools, colleges, and the streets, as well as from physicians' offices, must be addressed. The majority of nonprescription stimulant users obtain the drugs from a peer with a prescription, a process known as diversion (6). The most common reasons for the use of stimulants for nonmedical purposes among youths are to enhance alertness and concentration, to aid with studying, and to get "high"(7). Stimulants are common illicitly used drugs among adolescents and college students, second only to marijuana.

What does this all mean? What should be extremely crucial is for clinicians to conduct a thorough evaluation to ensure that they make an appropriate, nonpressured, correct diagnosis and before considering prescribing a medication as a first resort. It is simple: understanding the disorder and constructing the appropriate diagnosis should target, as a rule, the appropriate treatment.

Dr. Ahmed is a third-year resident in the Department of Psychiatry, Nassau Health Care Core, East Meadow, New York. Dr. Virani is a second-year resident in the Department of Psychiatry, Maimonides Medical Center, Brooklyn, New York.

REFERENCES

1. Visser SN, Danielson ML, Bitsko RH, et al: Trends in the parent-report of health care provider-diagnosed and medicated attention-deficit/hyperactivity disorder: United States, 2003–2011. J Am Acad Child Adolesc Psychiatry 2014; 53(1):34–46
2. Garfield CF, Dorsey ER, Zhu S, et al: Trends in attention deficit hyperactivity disorder ambulatory diagnosis and medical treatment in the United States, 2000–2010. Acad Pediatr 2012; 12(2):110–116
3. Bollinger L, Bush C, Califano J, et al: Under the Counter: The Diversion and Abuse of Controlled Prescription Drugs in the US. New York, National Center on Addiction and Substance Abuse, 2005
4. Safer DJ, Malever M: Stimulant treatment in Maryland public schools. Pediatrics 2000; 106(3):533–539
5. Foy JM, Earls MF: A process for developing community consensus regarding the diagnosis and management of attention-deficit/hyperactivity disorder. Pediatrics 2005; 115(1):e97–e104
6. Wilens TE, Adler LA, Adams J, et al: Misuse and diversion of stimulants prescribed for ADHD: A systematic review of the literature. J Am Acad Child Adolesc Psychiatry 2008; 47(1):21–31
7. Teter CJ, McCabe SE, LaGrange K: Illicit use of specific prescription stimulants among college students: prevalence, motives, and routes of administration. Pharmacotherapy 2006; 26(10):1501–1510

COMMENTARY

The Utility of Neuroscience in Educating Families About Adolescent Mental Health

Bharat Reddy Sampathi, B.A.

HYPOTHETICAL CASE SCENARIO

"Patient T" is a 17-year-old, first-generation Asian-American male brought to the clinic by distraught parents concerned about an "unbelievably disrespectful" lack of energy and motivation. The parents stated, "Our son refuses to work hard in school, his grades are very poor, and he doesn't appreciate the hardships we had to endure to provide him with the life he lives. He claims he is tired, but we think he is outright lazy!" The patient's symptoms began 6 to 9 months prior and include loss of appetite, fatigue, irritability, social isolation, and significant weight loss. You notice that he avoids eye contact and consistently defers answering your questions to his parents. After multiple visits and a thorough analysis, you conclude that the patient suffers from major depressive disorder.

Explaining the patient's condition to his parents proves to be difficult. They struggle to acknowledge the concept of mental health and consequently refuse the therapy and medication that their child may need. Furthermore, they ruminate on their child's somatic symptoms and believe his current state is due to a physical ailment.

How do you convince this patient's parents of their child's true predicament, especially when immediate medical attention is necessary?

Introducing the concept of mental health to a family with stigma toward, or who are unfamiliar with, the topic is a challenging task that requires a longitudinal relationship. For example, mental health has been denounced for centuries in many Asian cultures; therefore, rooting your discussion in anatomical and physiological concepts may make this seemingly abstract topic more understandable (1, 2).

Allowing psychiatrists to link brain circuits, brain function, and more into their treatment plans has created an avenue for communication with parents who might be in denial about their child's struggles.

The National Neuroscience Curriculum Initiative (http://www.nncionline.org/), funded by the National Institute of Mental Health, was created to help psychiatrists integrate neuroscience into their psychotherapy and psychopharmacology (3). Allowing psychiatrists to link brain circuits, brain function, and more into their treatment plans has created an avenue for communication with parents who might be in denial about their child's struggles.

At Stanford University, for example, I have observed psychiatrists using cross-sections of the adolescent brain depicting key structures and neurotransmitter pathways to demonstrate that each part of the brain is complexly intertwined. Consequently, parents are able to comprehend that what they might have labeled as "lazy and unmotivated" is actually a physical manifestation of depression due to a biological error such as the inadequate production of neurotransmitters. In order for their child to reach the academic potential they desire, they need to understand that the instigating causes must be addressed first.

This form of communication is not revolutionary, but as a medical trainee, through such cases, I have realized that mental health is a delicate art. It's much more than a stereotypical prescription for antidepressants or a few sessions of therapy. Rather, cases should be approached in an individual manner. If a family leaves your office feeling apprehensive or, even worse, in denial, then you have created an uphill battle for both your patient and yourself. In summary, for cases that resonate with the hypothetical scenario presented above, neuroscience will serve practitioners well.

Bharat Sampathi is a third-year medical student at the University of California, Irvine School of Medicine, Irvine, Calif.

The author thanks Shashank Joshi, M.D., for his mentorship.

REFERENCES

1. Spencer M, Chen J, Gee G, et al: Discrimination and mental health-related service use in a national study of Asian Americans. Am J Public Health 2010; 100:2410–2417
2. Lin K, Cheung F: Mental health issues for Asian Americans. Psychiatr Serv 1999; 50:774–780
3. Insel T: Training for the Future. Bethesda, Md, National Institute of Mental Health, 2015

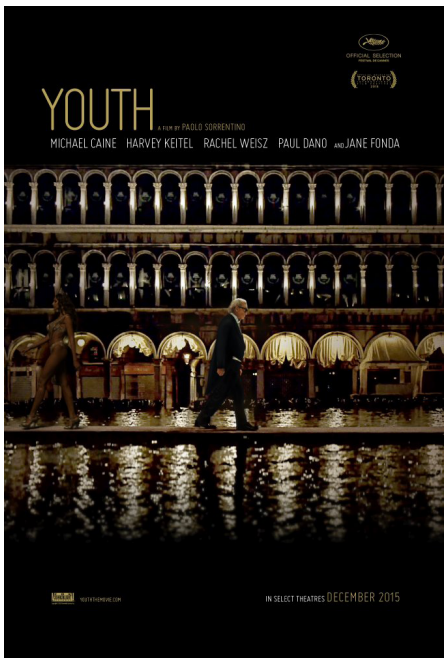
MOVIE FORUM

Integrity Versus Despair as Illustrated in the Film *Youth*

Reviewed by Khushminder Chahal, M.D.

Youth follows the summer stay at a spa resort in the Swiss Alps of two best friends. In old age, the two men now find their conversations oscillating between good memories and bad realities. This contrast between what was and what could be drives the narrative for many of the film's characters. The spa serves as a "transitional space"—Donald Winnicott's idea that there exists a potential space between the self and other within which one can navigate between the inner and outer worlds (1). And it is within this space that each character finds themselves struggling with some dilemma regarding their integrity, which is Erik Erikson's final psychosocial stage of development. Erikson theorized eight psychosocial stages of development (2). One must successfully resolve the central conflict of each to move onto the next. The final of these stages is that of integrity versus despair (2, 3). The pursuit of integrity consists of an individual accepting responsibility for all that he or she has done in life and achieving satisfaction with him- or herself. The inability to do so results in despair. This struggle is represented best in the two main characters, as Fred represents successful attainment of integrity, while Mick represents despair.

Fred is a retired composer. He has declined to perform his songs for the Queen. We are unsure why. However, we become aware that it is due to unresolved personal conflicts. His daughter



Directed by Paolo Sorrentino

reveals to him that she is aware of all of his extramarital activities. We discover that his wife was the only one who sang his songs, but she now suffers from dementia. Fred is able to work through these conflicts and accept responsibility for his life. The result is attainment of integrity, which is represented in the closing scene of the film with Fred's triumphant performance for the Queen.

Mick is a film writer and is working with his team to complete the script he hopes will define his career, entitled "Life's Last Day." He battles over what the main character's last words will be while on his death bed. The need for perfection of these words before his death mirrors Mick's need for perfection before his inevitable end. His integrity is threatened when the lead of the script resigns and tells Mick he doesn't have the level of skill he once had. With this last attempt of integrity crushed, Mick succumbs to his despair and steps off the balcony to his death.

This film illustrates well this psychosocial phase and would be of great utility to mental health providers in attempting to understand the mental landscape of our elderly population. With an aging population, such mental conflict is likely to present itself often in the clinical setting. Viewing this experience from the patient's perspective sets the stage for empathy.

Dr. Chahal is a fourth-year resident, and Chief Resident, in the Department of Psychiatry and Behavioral Neurosciences, Wayne State University, Detroit.

REFERENCES

1. Winnicott DW: Transitional objects and transitional phenomena; a study of the first not-me possession. Int J Psychoanal 1953; 34(2):89–97
2. Erikson E: Childhood and Society. New York, WW Norton and Company, 1964
3. Erikson E: Identity: Youth and Crisis. New York, WW Norton and Company, 1968

Residents' Resources

Here we highlight upcoming national opportunities for medical students and trainees to be recognized for their hard work, dedication, and scholarship.

To contribute to the Residents' Resources feature, contact Anna Kim, M.D., Deputy Editor (anna.kim@mountsinai.org).

OCTOBER DEADLINES

Fellowship/Award	Geriatric Mental Health Foundation's Honors Scholarships
Organization	American Association for Geriatric Psychiatry (AAGP)
Deadline	October 1, 2017
Brief Description	Provides residents a 1-year membership to AAGP; Registration and travel costs to attend the AAGP Annual Meeting; Participation in an academic project related to geriatric psychiatry under the supervision of an assigned mentor.
Eligibility	PGY-1, 2, or 3 in an accredited psychiatry residency program
Contact and Website	E-mail: Training@aagponline.org • Phone: 703-556-9222 http://www.aagponline.org/index.php?src=gendocs&ref=GMHFScholarProgram&category=Main
Fellowship/Award	**Geriatric Mental Health Foundation's General Scholarships**
Organization	American Association for Geriatric Psychiatry (AAGP)
Deadline	October 1, 2017
Brief Description	Provides medical students a 1-year membership to AAGP; registration and travel stipend to attend the AAGP Annual Meeting; voluntary participation in an academic project related to geriatric psychiatry under the supervision of an assigned mentor.
Eligibility	Medical students in an LCME or COCA accredited medical school.
Contact and Website	E-mail: Training@aagponline.org • Phone: 703-556-9222 http://www.aagponline.org/index.php?src=gendocs&ref=GMHFScholarProgram&category=Main

NOVEMBER DEADLINES

Fellowship/Award	American Psychosomatic Society (APS) Scholar Awards
Organization	American Psychosomatic Society (APS)
Deadline	November 1, 2017
Brief Description	Between 10 and 24 APS Scholar Awards are presented to outstanding abstract submissions in which the first author of an accepted abstract is either a student, resident, or fellow. Each award provides monetary assistance for the APS conference fees, travel, and hotel accommodations.
Eligibility	APS member or in the process of applying for membership; first author of an abstract accepted for presentation at the APS Annual Meeting; student or trainee enrolled in medical, graduate, or undergraduate school or in residency, internship, or postdoctoral fellow.
Contact and Website	E-mail: info@psychosomatic.org • Phone: 703-556-9222 • Fax: 703-556-8729 https://psychosomatic.org/awards/index.cfm
Fellowship/Award	**APS Medical Student/Resident/Fellow Travel Scholarships**
Organization	American Psychosomatic Society (APS)
Deadline	November 1, 2017
Brief Description	Scholarships are intended to assist with travel, hotel accommodations, and meeting registration fees to the APS Annual Meeting. Each scholarship will include $500 travel funds, a complimentary registration to the 3-day meeting, and a complimentary 1-year membership.
Eligibility	Applicant must be a medical student, resident, or fellow.
Contact and Website	E-mail: info@psychosomatic.org • Phone: 703-556-9222 • Fax: 703-556-8729 https://psychosomatic.org/awards/index.cfm
Fellowship/Award	**APS Minority Initiative Award**
Organization	American Psychosomatic Society (APS)
Deadline	November 1, 2017
Brief Description	Each scholarship will include travel funds and a complimentary registration.
Eligibility	Applicant must be an underrepresented minority as defined by the NIH to be African Americans, Hispanics, Native Americans, and Alaska Natives, and Pacific Islanders.
Contact and Website	E-mail: info@psychosomatic.org • Phone: 703-556-9222 • Fax:703-556-8729 https://psychosomatic.org/awards/index.cfm

Author Information for *The Residents' Journal* Submissions

The Residents' Journal accepts manuscripts authored by medical students, resident physicians, and fellows; attending physicians and other members of faculty cannot be included as authors.

To submit a manuscript, please visit http://ajp.psychiatryonline.org/ajp_authors_reviewers, and select a manuscript type for AJP Residents' Journal.

1. **Commentary:** Generally includes descriptions of recent events, opinion pieces, or narratives. Limited to 500 words and five references.
2. **History of Psychiatry:** Provides a historical perspective on a topic relevant to psychiatry. Limited to 500 words and five references.
3. **Treatment in Psychiatry:** This article type begins with a brief, common clinical vignette and involves a description of the evaluation and management of a clinical scenario that house officers frequently encounter. This article type should also include 2–4 multiple-choice questions based on the article's content. Limited to 1,500 words, 15 references, and one figure. This article type should also include a table of Key Points/Clinical Pearls with 3–4 teaching points.
4. **Clinical Case Conference:** A presentation and discussion of an unusual clinical event. Limited to 1,250 words, 10 references, and one figure. This article type should also include a table of Key Points/Clinical Pearls with 3–4 teaching points.
5. **Original Research:** Reports of novel observations and research. Limited to 1,250 words, 10 references, and two figures. This article type should also include a table of Key Points/Clinical Pearls with 3–4 teaching points.
6. **Review Article:** A clinically relevant review focused on educating the resident physician. Limited to 1,500 words, 20 references, and one figure. This article type should also include a table of Key Points/Clinical Pearls with 3–4 teaching points.
7. **Drug Review:** A review of a pharmacological agent that highlights mechanism of action, efficacy, side-effects and drug-interactions. Limited to 1,500 words, 20 references, and one figure. This article type should also include a table of Key Points/Clinical Pearls with 3–4 teaching points.
8. **Perspectives in Global Mental Health:** This article type should begin with a representative case or study on psychiatric health delivery internationally, rooted in scholarly projects that involve travel outside of the United States; a discussion of clinical issues and future directions for research or scholarly work should follow. Limited to 1,500 words and 20 references.
9. **Arts and Culture:** Creative, nonfiction pieces that represent the introspections of authors generally informed by a patient encounter, an unexpected cause of personal reflection and/or growth, or elements of personal experience in relation to one's culture that are relevant to the field of psychiatry. Limited to 500 words.
10. **Letters to the Editor:** Limited to 250 words (including 3 references) and three authors. Comments on articles published in the *Residents' Journal* will be considered for publication if received within 1 month of publication of the original article.
11. **Book and Movie Forum:** Book and movie reviews with a focus on their relevance to the field of psychiatry. Limited to 500 words and 3 references.

Upcoming Themes

If you have a submission related to the themes shown, contact the Section Editor listed below the topic. ***Please note that we will consider articles outside of the theme.***

If you are interested in serving as a **Guest Section Editor** for the *Residents' Journal*, please send your CV, and include your ideas for topics, to Rachel Katz, M.D., Editor-in-Chief (rachel.katz@yale.edu).

Forensic Psychiatry

Willa Xiong, M.D.
w.xiong@wustl.edu

Treating Patients With Comorbid Substance Use Disorders

Cornel Stanciu, M.D.
cornel.stanciu86@gmail.com