# The American Journal of Psychiatry

### Residents' Journal

March 2021 Volume 16 Issue 3

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#### **COMMENTARY**

### **Transforming Into a Telemedicine Trainee**

Jacqueline Hirsch, M.D.

In my third year of psychiatry residency training, I transformed from a general outpatient practitioner into a telemedicine trainee. Early on in the COVID-19 pandemic, I attempted to match my patients' varied access to technology with the limitations of my own technological skills to continue patient care from my home. This essay explores some insights learned from COVID-19 telemedicine that will inform our future outpatient practice as trainees.

The transition from face-to-face to video or telephone patient encounters has presented new challenges in obtaining clinical data. This became apparent during a telephone encounter with a patient who could not access a video platform. This patient, who has a history of impulsive self-injurious behavior and who is at high risk of suicide, told me that she was feeling depressed. I asked her about her symptoms and made tentative decisions about medical treatment, but without visual contact, it all seemed limited. I was worried about her and felt unsure of my clinical decision making without a visual exam. I could not see whether her shoulders folded in toward her chest while she spoke softly, or if she had showered or gotten dressed. I was unsure if there were any new selfinflicted wounds on her skin. I could not rely on my own physical tools of leaning forward gently with open palms to express empathy or finding her wandering eyes to remind her of my presence. Instead, I offered an empathetic voice and In practicing
telemedicine, we as
residents became
more astute clinicians,
and our patient care
became more nuanced
and personalized.

obtained more targeted data through precise questions. Although it was difficult to assess her symptoms, she was amenable to a medication dosage increase and close outpatient follow-up. For this patient and for other encounters, I became more aware of the information lost over a telephone or video encounter and how it affected clinical decision making. In the future, clinicians must find new ways of obtaining and conveying data during telephone and video encounters to improve patient care.

My clinical decision making in the COVID-19 pandemic became more personalized and nuanced. Another patient reported that she had recently developed new symptoms, which raised concerns about mania. Pre-COVID, I would not have hesitated to recommend hospitalization to treat her mania, pursuing the fastest and most efficient route to recovery. In the pandemic, however, it is more critical than before to consider a

patient's unique biopsychosocial factors when assessing the need for hospitalization or identifying less restrictive alternatives. She cared for several vounger family members and her own infant, and she remained physically close to her elderly parents, who had chronic medical conditions. She was well enough to participate in treatment, and with her family's help we were able to make immediate medication changes at home. Two days later, she reported that she was now sleeping and remained safe. Patient-centered care continues to be important during this pandemic, and dispositional decisions should be more personalized and cautious, as this one needed to be.

Becoming a telemedicine trainee during the COVID-19 pandemic has been both a difficult and rewarding experience. In practicing telemedicine, we as residents became more astute clinicians, and our patient care became more nuanced and personalized. Although telemedicine challenges the way we assess patients, it also allows for greater patient outreach to vulnerable populations with socioeconomic obstacles to accessing care. There remains much to be learned from telemedicine in the time of COVID. and perhaps these insights extend beyond this pandemic and can improve the future of psychiatry.

Dr. Hirsch is a fourth-year resident in the Department of Psychiatry and Behavioral Sciences, Feinberg School of Medicine, Northwestern University, Chicago.

#### **COMMENTARY**

# Psychiatric Changes in Athletes Following Traumatic Brain Injury in Sports: The Need for More Research

Vincent J. Borkowski, M.D., Ph.D.

Traumatic brain injury (TBI) is a major source of morbidity and mortality in contact sports. TBIs can result in many short-term and long-term physical and mental sequelae that are currently being actively researched. The full range of TBI-related psychiatric changes has not yet been comprehensively examined. It has been suggested that a history of head trauma sustained in contact sports, such as professional football, may be associated with changes in personality and cognitive function in the adult population (1, 2). However, more research is needed for determining a link between TBI and long-term psychiatric changes, such as depression and anxiety.

In terms of psychiatric impact, the SHEFBIT study-a prospective study of adult emergency department admissions in the United Kingdom-noted an increased prevalence of depression following TBI (2). As the number of TBIs increases, the prevalence of depression can be postulated to increase. Some patients who have sustained a brain injury may not have been diagnosed or have received treatment (3). Research that shows a causal link between participation in contact sports in early life and later-life psychiatric manifestations, such as dementia due to TBI, is lacking. Bieniek et al. (1) suggested that manifestations such as depression may occur in the short-term in association with brain injuries acquired during contact sports. As the number of participants in contact sports increases, we may well see a concomitant increase in mood symptoms and disorders and other psychiatric illness in affected populations. So far, we lack definitive long-term studies that follow young participants in contact sports who suffer TBI and who later develop We lack definitive longterm studies that follow young participants in contact sports who suffer TBI and who later develop mood or other disturbances.

mood or other disturbances. Singh et al. (2) have linked TBI (unrelated to sports) to depression in young patients in prospective studies. But longer-term studies would be useful.

As for changes on the cellular level, Ling et al. (4) have shown that contact sport-related brain injuries have impacts beginning in childhood and adolescence. Research on concussions in young athletes suggests possible neurodegeneration (1, 4) or disruption of the blood-brain barrier (5). These cellularlevel events could predispose toward psychiatric changes, such as depression and anxiety (4, 5). These findings underline the severity of potential sequelae of brain tissue injury and point to a potential mechanism for the development of psychiatric illness. Few animal studies exist, although mood disorders and higher-level cognitive disorders can be difficult to detect in low-level mammals. There is a need to determine which levels of activity are safe and which sports may present higher risks of neurological changes for participants.

Ultimately, more research is needed on the link between contact sports and psychiatric illness resulting from TBI. Information on causation and not merely association is needed, as are details of the natural history of any such association. More definitive, high-quality evidence from large-scale, prospective, cohort studies are needed to help establish guidelines and to inform future risk assessments. As more individuals participate in contact sports, the full impact of participation on future psychiatric health has not yet been detailed, making this a vital area of study.

Dr. Borkowski is a first-year resident in internal medicine at University of Wisconsin Hospitals and Clinics, Madison.

The author thanks Claudia Reardon, M.D., for her advice and comments regarding the article.

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#### **ARTICLE**

# Telepsychiatry: A Unique Opportunity for Learning the Psychiatric Interview

Yochai Re'em, M.D.

The COVID-19 crisis has forced mental health services to transition to a new era in digital communication. As a result, quidelines have rapidly expanded in order to improve access to care. This new reliance on telepsychiatry brings an opportunity to transform trainee education by emphasizing digital modalities early in teaching the psychiatric interview, serving as an additional support for growth through methods not easily achieved in person.

The psychiatric interview introduces trainees to the world of the practitionerpatient relationship, along with methods to elicit information, induce patient self-reflection, and guide patients along a pathway of self-discovery. Throughout training, trainees discover the many ways in which they can bring aspects of the dynamic to conscious awareness in order to enhance engagement, lower defenses, and provide insight into the patient's internal structure. Mastering the delicate balance between content gathering, establishing rapport, being mindful of transference and countertransference, and other relationship-based factors, all while keeping these in conscious awareness, can appear an insurmountable challenge to the early learner (1). Incorporating live supervision via telepsychiatry may serve as an important support to trainees in this process.

To date, in-person psychiatric training has primarily utilized two supervision techniques. The first, retrospective analysis of interview material, is achieved via observed, recorded, or videotaped interviews. The use of telepsychiatry for patient sessions allows the session to be recorded without the need for additional equipment, partially alleviating the concern that patients may react differently with an external camera. This format also ideally shows the faces of the patient and the provider in clear full view, so that their affects may be seen side by side. Although use of recorded sessions in a retrospective approach can lead to significant insights, the next step is often more challenging: learning from experience to actively shape future approaches.

Another common supervision technique is the live one-way-mirror. Utilizing telepsychiatry, supervisors may observe both the supervisee and the patient, sending real-time feedback in the form of messages (e.g., using the private chat function in Zoom). This may

allow identification of cues put forth by the patient, comments on affect, suggestions for structuring, drawing parallels to prior sessions, and more. The benefit of this approach, compared with the retrospective approach, is such that the supervisee is able to adjust to feedback immediately in the course of the interview, instead of relying on the issue representing itself, or the learner remembering the feedback during the next session. This allows learners not only to appreciate the theory behind the techniques learned but to proactively apply the learned theory under the direction of a supervisor.

Among the many inherent limitations of telepsychiatry sessions with patients are factors such as "Zoom fatigue" (2), inability to perform a complete physical exam, limited visual range, and inability to appreciate nuances in nonverbal communication. Given these limitations, future approaches may consider a combination of in-person sessions with digital supervision, because digital supervision has been shown to be as effective as the former (3). Other considerations include the fact that real-time feedback may initially interfere with the supervisee's ability to be fully present in the interview, and patients may be put off by the idea of an invisible observer.

Despite these limitations, patients may be requesting telepsychiatry services in greater numbers, even as the pandemic eases. The direct supervision afforded by telepsychiatry may help refine the skills of supervisees, and as their comfort with the platform increases, supervisees may learn ways of overcoming the barriers described above. Ultimately, an approach that combines telepsychiatry with in-person supervision may pro-

#### **KEY POINTS/CLINICAL PEARLS**

- Telepsychiatry platforms have rapidly expanded in the setting of the COVID-19 pandemic.
- There are several benefits telepsychiatry may offer in teaching the psychiatric interview.
- Combined treatment (in-person and virtual) in the future would harness the teaching benefits in virtual treatment and preserve the in-person connection.

mote a trainee's ability to integrate multiple sources of live feedback during an interview, helping the interviewer hone his or her skills. The forced transition to telepsychiatry presents a unique opportunity for training programs to embrace this change and implement new modalities of supervision.

Dr. Re'em is a third-year resident at New York—Presbyterian Hospital, Weill Cornell Medicine, Payne Whitney Psychiatry, New York.

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### The American Journal of Psychotherapy

#### **Call for Papers From Early-Career Professionals**

The American Journal of Psychotherapy is pleased to announce a new section, "The Trainee's Perspective," overseen by Lisa A. O'Donnell, Ph.D., L.M.S.W., and Paula Ravitz, M.D., F.R.C.P.C.

The community of mental health professionals has much to learn from the perspectives of trainees across disciplines who deliver psychotherapy to diverse populations. The editors welcome The *Trainee's Perspective* articles from doctoral students, residents, fellows, interns, new practitioners, and others within the fields of psychiatry, psychology, social work, nursing, occupational therapy, and counseling who are pursuing creative and innovative ways to work with patients within these fields and have insightful

reflections based on their experience. This column is intended to feature brief reflections on trainees' experience of learning, conducting, implementing, and evaluating psychotherapy. Format: limited to 1,000 words and 5 or fewer headings; no abstract, tables, or figures; up to 5 references. Cover letters should specify training level and field.

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## Neurosyphilis With Psychosis as the Primary Presentation

Lauren M. Nutile, M.D.

Patients with neurosyphilis, which is now a rare disease because of the availability of antibiotics, can initially present with psychiatric symptoms instead of the more well-known physical findings, such as general paresis, tabes dorsalis, and Argyll Robertson pupils. A subset of patients with primarily psychiatric symptoms beginning later in life tend to be incorrectly diagnosed as having late-onset schizophrenia. This case report describes a 67-year-old female with psychiatric symptoms starting 8 years prior to presentation who was misdiagnosed with late-onset schizophrenia. Because her symptoms first appeared at the later age of 59, additional testing was performed to rule out a medical etiology. The patient was found to be positive for syphilis infection in the serum and cerebrospinal fluid. She displayed no other notable symptoms of syphilis aside from bizarre behaviors and paranoid delusions. This case demonstrates the importance of considering organic infectious diseases, such as syphilis, when psychosis initially presents at an older age.

Syphilis is an infection caused by the bacterium Treponema pallidum that has shown decreased prevalence because of the advent of penicillin (1). If the disease remains untreated, syphilis progresses through three stages. Primary syphilis involves development of a chancre about 2 to 3 weeks after exposure, and secondary syphilis is characterized by lymphade-

nopathy, fever, CNS involvement, and rash on the palms and soles that appears weeks to months after infection. Tertiary syphilis is an inflammatory process that can cause granulomatous tissues to form in the cardiovascular or central nervous system 1 to 30 years after exposure. The illness may remain latent for years in between stages (1). Neurosyphilis itself can be further broken down into an early stage involving meningeal and vascular structures and a late stage affecting the parenchyma of the brain and spinal cord (1, 2).

Some of the psychiatric symptoms that have been described in untreated neurosyphilis patients include personality changes, aggressive behaviors, mania, auditory and visual hallucinations, illusions, frank paranoia, progressive cognitive impairment often leading to loss of employment, delirium, and persecutory delusions (1–7). Because of early treatment, only about 10% to 15% of primary syphilis cases progress to tertiary syphilis, and of these cases, less than 20% present with primary psychiatric symptoms (3). For these reasons, the diagnosis of neurosyphilis is often overlooked.

Few journal articles and case reports in the current literature describe psychosis as the first manifestation of syphilis. In fact, many patients over age 45 who present as psychotic are diagnosed with late-onset schizophrenia. Late-onset schizophrenia accounts for 15% to 20% of all diagnoses of schizophrenia and is typically associated with better premorbid functioning, fewer negative symptoms, and less severe neurocognitive impairment, compared with schizophrenia that presents at an earlier age (8). Late-onset schizophrenia usually responds to lower doses of antipsychotics, compared with higher doses.

#### **CASE REPORT**

Ms. A was a 67-year-old female with a medical history significant for hypertension, controlled diabetes, chronic obstructive pulmonary disease, and misdiagnosed late-onset schizophrenia who presented to inpatient psychiatry under a temporary detention order because she was displaying bizarre behavior and responding to internal stimuli. She also appeared to be quite paranoid, carrying knives around with her for protection. Her symptoms were first noticed 8 years before, and she had been admitted to an outside psychiatric facility seven times over the past 2 years with a similar presentation. Ms. A was misdiagnosed with late-onset schizophrenia and had been treated with risperidone, haloperidol, and paliperidone. Her symptoms only minimally improved with antipsychotic treatment each time, and she had a history of noncompliance with medication in the outpatient setting, because she did not believe she had a psychiatric illness. Over 8 years, Ms. A's symptoms continued to worsen to the point where she could no longer maintain employment. She retired at age 62 and moved in with family members.

The differential diagnosis for the case was initially broad and included late-onset schizophrenia, schizoaffective disorder, unspecified psychosis, substance-induced psychosis, HIV-associated psychosis, hepatic encephalopathy, neurosyphilis, and other venereal diseases. Basic psychiatry screening labs, including complete blood count, basic metabolic panel, thyroid-stimulating hormone, lipid panel, liver function tests, hemoglobin A1c, urinalysis, and drug screen, were ordered when the patient was admitted. Given that Ms. A's

symptoms did not manifest until age 60, further testing was ordered, including syphilis immunoglobulin G, HIV, hepatitis C, gonorrhea, chlamydia, trichomonas, and computerized tomography (CT) imaging of the head. Syphilis testing was found to be reactive, with rapid plasma reagin titer of >1:256. A noncontrast head CT showed nonspecific subcortical and periventricular white matter hypodensities (Figure 1). The basic psychiatry labs noted above and HIV, hepatitis, and other sexually transmitted disease testing were all negative.

Ms. A's psychotic symptoms were addressed pharmacologically by starting paliperidone and titrating to 6 mg daily. She was overall calm and cooperative while interacting with staff members on the psychiatric unit. However, she was frequently observed responding to internal stimuli and smiling inappropriately when she thought she was alone. The patient was quite guarded and generally a poor historian. When she was told about her diagnosis of syphilis, Ms. A stated she thought she had syphilis a few years ago, but she could not recall for sure. Her family was unable to confirm or deny a prior diagnosis of syphilis.

To solidify a diagnosis of neurosyphilis, a lumbar puncture was performed by the neurology consult team. On venereal disease research laboratory testing, cerebrospinal fluid (CSF) was found to be reactive, with a titer of 1:4. The patient was then transferred to a medical specialty unit where she was started on 4 million units of intravenous penicillin every 4 hours for the treatment of neurosyphilis. A peripherally inserted central catheter line was placed for ease of treatment, and she completed a 12-day course of antibiotics. At the time of discharge from the medical unit, Ms. A was no longer displaying any paranoid behaviors nor was she speaking about any overt delusions. She was discharged home with family after completion of penicillin treatment and after being reevaluated by psychiatry. Oral paliperidone 6 mg daily was prescribed at discharge. Ms. A was advised to follow up with both her local outpatient psychiatrist and her primary care provider for further syphilis-related management.

FIGURE 1. Head CT without contrast<sup>a</sup>



<sup>a</sup> Axial images sliced superiorly to inferiorly moving left to right. The arrows point out nonspecific subcortical and periventricular white matter hypodensities in this patient. Hypodensities in these areas have been previously described in patients with neurosyphilis. However, it cannot be ruled out that these findings could be due to chronic microvascular changes.

#### **DISCUSSION**

It is important to consider a wide differential in the case of an elderly patient who presents with psychosis as a primary symptom, including organic diseases such as neurosyphilis. Some aspects of Ms. A's case did fit with a diagnosis of late-onset schizophrenia, particularly her psychotic symptoms starting after age 45, female gender, few negative symptoms, and good premorbid functioning (8). There was the possibility that she developed both late-onset schizophrenia and neurosyphilis. However, the positive serum and CSF testing, as well as Ms. A's minimal improvement with antipsychotic treatment, suggested that her symptoms were more likely the manifestation of neurosyphilis.

Because tertiary syphilis is quite indolent and can remain dormant for years, the patient may have been originally exposed to the disease up to 30 years earlier. Neither Ms. A nor her family could confirm whether she had previously been diagnosed with syphilis. Her symptoms likely worsened over 8 years

because the infection went untreated. In contrast to Ms. A's poor response to antipsychotics, her symptoms appeared to have responded well to neurosyphilis treatment, which typically includes 18 to 24 million units per day of aqueous crystalline penicillin for 10 to 14 days through intravenous administration (4, 9). After 12 days of intravenous penicillin, she was no longer responding to internal stimuli or smiling inappropriately.

Although a positive response was seen with intravenous penicillin treatment, it was important to ensure that the patient follow up with primary care and neurology as well as psychiatry. The overall prognosis for patients with neurosyphilis is poor. Only some patients experience resolution of psychotic symptoms after intravenous penicillin treatment; the cure rate is estimated to be about 60% (5, 8). Patients may require serial laboratory monitoring (or lumbar punctures) every 6 months for a span of 2 years (10). If CSF white blood cell count or serum venereal disease research laboratory levels do not decrease fourfold or normalize by the end

#### **KEY POINTS/CLINICAL PEARLS**

- Medical conditions, including neurosyphilis, should always be considered in the differential diagnosis for psychosis in elderly patients.
- Patients exposed to syphilis can develop neurosyphilis many years after initial infection.
- Neurosyphilis does not always present with classic symptoms of general paresis, tabes dorsalis, and ocular findings.
- Proper treatment with intravenous penicillin G does not always resolve the psychiatric symptoms of neurosyphilis.

of 2 years, then a proper treatment response has not occurred and retreatment is considered (7, 9). Additionally, some case reports have found that neurosyphilis patients who present as psychotic do not have a good prognosis for symptom resolution (1, 2, 5). In these cases, continuation of antipsychotic treatment may be necessary. However, if a patient continues to do well and no longer displays psychosis, antipsychotic treatment should be discontinued, given potential adverse effects from psychotropics.

The case of Ms. A helps to demonstrate that we must consider medical causes when evaluating new-onset psychosis in an older patient, especially when symptoms do not improve with antipsychotic treatment. The diagnosis of neurosyphilis is rare, but about 60% of patients respond well with intravenous penicillin treatment if providers correctly diagnose the etiology. If additional testing had not been ordered for organic causes of psychosis, Ms. A likely would have continued the pattern of psychi-

atric admission, medication noncompliance, and worsening of symptoms. Neurosyphilis is not an infection to be missed.

Dr. Nutile is a fourth-year resident in the Department of Psychiatry, Virginia Commonwealth University, Richmond.

Dr. Nutile thanks Tushar Thakre, M.D., and Katie Adams, Pharm.D., who assisted by providing editing suggestions.

The patient described in this case report provided verbal consent to this publication.

The author confirms that details of the case have been disguised to protect patient privacy.

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### SSRI-Induced Hypersexuality

Shiwen Yuan, M.D., and Courtney E. Deban, M.D.

Selective serotonin reuptake inhibitors (SSRIs) are the first-line pharmacotherapy for depressive mood disorders, anxiety disorders, and obsessive-compulsive disorder (OCD) and are widely used in other psychiatric and medical conditions. In the United States, 12.7% of the population over age 12 have taken antidepressant medications (1). Sexual dysfunction is one of the most common side effects of SSRIs. Although symptoms of hyposexuality, such as erectile dysfunction, anorgasmia, and delayed ejaculation, are well recognized, hypersexuality as a potential side effect is less understood but important for providers to identify and manage.

Here we report a case of hypersexuality as an adverse effect of sertraline in an individual seeking treatment for depressive symptoms. We include a brief review of available literature on hypersexuality related to SSRIs. Clinical features of this rare side effect are summarized in hopes of providing directions for management and future study.

#### **CASE REPORT**

Mr. M is a 42-year-old married Caucasian male with a history of papillary thyroid carcinoma, who underwent a total thyroidectomy and left modified radical neck dissection, followed by a full course of radioactive iodine treatment. He presented to the psychiatry clinic for assessment and treatment of inattention and fatigue that began with the cancer treatment and had persisted for 1 year after treatment completion.

During the initial psychiatric interview, Mr. M further characterized his symptoms as fatigue despite good sleep and increased anxiety and irritability. A screening measure indicated a moderate level of depression. The most troublesome symptoms to him were cognitive issues, which included forgetfulness,

inattention, and difficulties with retaining and organizing new information. His symptoms impaired his occupational functioning and family relationships. Neuropsychological testing confirmed that his cognitive symptoms were of new onset and not developmental in nature. He denied any history of depression, anxiety, bipolar disorder, psychotic disorder, OCD, trauma, or substance use disorder. He had no past inpatient psychiatric hospitalizations. Psychiatric review of systems was negative for mania-hypomania, psychosis, posttraumatic stress disorder (PTSD), eating disorder, suicidality, and homicidality. The patient did not report any family history of severe mental illnesses or intolerance of psychotropic medications. His medications on presentation included levothyroxine 0.224 mg daily and omeprazole 20 mg twice a day. His thyroid-stimulating hormone (TSH) was monitored monthly by endocrinology following the surgery, with a goal of 0.1 mIU/L to 0.5 mIU/L. TSH had been consistently within this range until 1 month prior to his psychiatric presentation, when it was elevated to 12.4 mIU/L. His levothyroxine dose was adjusted by his endocrinologist, and TSH returned to normal range in the subsequent months. According to the patient's report, his psychiatric symptoms predated this aberration in TSH and persisted despite normalization of thyroid function. Other lab tests, including vitamin B12 level, were within normal limits. No brain imaging was performed.

The patient started bupropion XL 150 mg once daily 1 month after the initial psychiatric evaluation to address persistent symptoms despite stabilized thyroid function. However, the medication was discontinued 1 week after initiation because of a significant increase in irritability. Sertraline was then started at 50 mg once daily, and the pa-

tient subsequently reported a dramatic improvement in cognitive symptoms, mood, anxiety, energy, fatigue, and selfesteem, stating that he felt "like myself again." Nonetheless, he also developed adverse effects, including hypersexuality (increased sex drive, constant sexual thoughts, and compulsive masturbating throughout the day, including strong urges to do so at work), as well as hyposexuality (delayed ejaculation). He described both these side effects as debilitating and shameful, and he noted that the hypersexuality in particular was negatively affecting his marriage and career, although not as severely as his presenting symptoms had. There were no signs of mania or hypomania.

Sertraline was switched to duloxetine 30 mg once daily because of these side effects. The sexual side effects were attenuated but persistent, and the patient complained that the duloxetine was not effective in controlling the cognitive and mood symptoms on 2-month follow-up. Escitalopram was trialed for 2 months subsequently, but it elicited no positive treatment effects, even though no further sexual side effects were reported. After consideration of other treatment options, the patient elected to restart on sertraline, because he felt the benefits had outweighed the side effects. Sertraline was started at 50 mg daily. With this trial, he experienced no symptoms of hypersexuality, and delayed ejaculation was subjectively less severe than with the prior trial. The daily dose was subsequently increased to 100 mg; side effects were unchanged. He described a complete resolution in his cognitive, mood, and energy symptoms on 2-month follow-up.

#### **DISCUSSION**

Sexual side effects are highly prevalent but underreported in patients receiving treatment with SSRIs. The rate of pa-

TABLE 1. Case reports of hypersexuality induced by selective serotonin reuptake inhibitors (SSRIs)

Study	SSRI and dose	Description	Management
Das et al. (5)	Sertraline (100 mg daily)	Male, age 55. Heightened sexual desire and increased demands to have sexual intercourse (which did not occur when on bupropion monotherapy), resulting in spousal distress. Lengthier and firmer erection but no evidence of priapism.	Discontinued sertraline Continued bupropion
Ellison (8)	Fluoxetine (20 mg daily)	Female, age 50. Increased difficulty achieving orgasm during sexual intercourse but experienced unintended exercise-induced orgasms that occurred with predictable regularity and ease. No genital arousal during exercise-induced orgasms.	Cyproheptadine 4 mg orally prior to sexual intercourse improved anorgasmia but induced sedation. Discontinuation of fluoxetine resolved exercise-induced orgasms.
Elmore and Quattlebaum (9)	Patient 1: fluoxetine (20 mg daily)	Patient 1: female, age 60. Marked sexual arousal after 10 years of no sexual activity or masturbation.	Discontinuation
	Patient 2: paroxetine (20 mg daily)	Patient 2: female, age 41. Pelvic sexual sensations, frequent sexual arousal, and sexual fantasies with masturbation. These experiences were apparently not preceded by a state of desire.	Discontinuation
	Patient 3: fluoxetine (20 mg daily); fluvoxamine, dose not reported	Patient 3: female, age 33. Fluoxetine first for 6 months; then fluvoxamine for 2 months. Increase in sexual desire starting with both initial doses, as well as a sexual pelvic sensation and arousal.	Discontinuation
Garcia-Campayo et al. (10)	Fluoxetine (20 mg daily)	Male, age 69. Bursts of sexual excitement, one to two episodes per day, lasting 30 to 60 seconds, associated with a tingling feeling over genital skin. No penile erection.	Discontinuation
Modell (12)	Fluoxetine (20–40 mg daily)	Female, age 30. Repeated yawning, clitoral engorgement, spontaneous orgasms ("little tingly orgasms for no apparent reason") in a typical "slow-crescendo, rapid-decrescendo intensity of sensation."	Discontinuation
Morris (13)	Fluoxetine (20 mg daily)	Male, age 69. Frequent short episodes of sexual excitement described as feeling like an orgasm, two to four times per day, lasting 10 to 30 seconds, associated with tingling feeling over skin and without an erection. Relationship was dose dependent.	Dose decreased to 20 mg every other day
Pae et al. (14)	Patient 1: paroxetine (10 mg daily)	Patient 1: female, age 64. Spontaneous and repeated sexual orgasm with genital arousal, particularly in a bumpy ride, such as the subway. Episodes lasting 30 to 60 seconds, ten to 15 times per day. Increased sexual stimulation during intercourse.	Discontinuation
	Patient 2: paroxetine (15 mg daily)	Patient 2: female, age 48. Frequent and increased sexual desire, with a feeling of clitoral engorgement. Masturbation after sexual intercourse. Sexual urges and excitement during doctor's appointment.	Discontinuation
	Patient 3: paroxetine (30 mg daily)	Patient 3: female, age 54. Heightened sexual arousal, excitement and desire resulting in more frequent sexual intercourse.	Switched to mirtazapine
Kurtses-Gursoy (16)	Escitalopram (10 mg daily)	Male, age 40. Spontaneous erection, once or twice daily, without sexual arousal and intermittently spontaneous ejaculation without any stimulation or erection.	Switched to citalopram
Virit and Savas (17)	Citalopram (20 mg daily)	Male, age 25. Spontaneous ejaculation that started 2 weeks after drug initiation. Occurred daily and was not associated with sexual fantasy or arousal, without erection and feeling of orgasm.	Switched to paroxetine

tients self-reporting sexual side effects is around 14%, whereas the likelihood of endorsement of such side effects when asked directly by a physician is reported to be 58% (2). Although limited to case reports, a growing body of evidence has suggested that hypersexuality is part of the side-effect profile of SSRIs and other serotonin-enhancing medications, in-

cluding duloxetine (3) and venlafaxine (4). Das et al. (5) reported a similar case of sertraline-induced hypersexuality, characterized by heightened sexual desire resulting in marital discord, without signs of mania or hypomania in a 55-year-old male with history of PTSD and major depressive disorder. In their report, a confounding factor was that the

patient was taking bupropion when sertraline was added. However, the temporal relationship between the initiation of sertraline and the onset of hypersexuality convinced those authors that sertraline was at least partially involved in the development of this side effect. Drugdrug interaction should also be considered in that case, given that sertraline

can inhibit the metabolism of bupropion (6), potentially by inhibiting CYP2B6 (7).

Our case was different in that bupropion preceded sertraline, with no overlap between the two medications throughout the treatment course. This further supported the conclusion that sertraline caused the hypersexual side effects. A series of cases have been reported on hypersexual side effects from fluoxetine. paroxetine, fluvoxamine, citalopram, and escitalopram (8-17) (Table 1). Some described a similar clinical profile with enhanced sexual desire and excessive masturbation (5, 9, 14), as noted in our case. However, most reported a unique cluster of symptoms (8, 10-14), and except for one case of exercise-induced orgasm (8), these symptoms included brief and automatic episodes of sexual excitement or an orgasm-like feeling, lasting 10 to 60 seconds, with a frequency ranging from one to four or more times per day. The episodes might be associated with tingling feelings in the genital area but not always with penile or clitoral engorgement. These episodes were not necessarily unpleasant, but they could be ego-dystonic and could trigger shame and anxiety, especially when they occurred without sexual stimulation in public scenarios.

Other potential clinical features of SSRI-induced hypersexuality have been noted. Episodes may occur as early as 2 weeks into treatment, and in cases where there is a quick and prominent antidepressant response that could occur sooner than 4 weeks after initiation of SSRI medication (8, 14). There

are no other signs of mania or hypomania could explain the hypersexuality (4, 5, 14). In some cases, the propensity for such episodes occurred in those with preexisting neurologic conditions, including stroke, or in those that had undergone radiation therapy (3, 10, 13). In other cases, the hypersexuality episodes were accompanied by yawning (9, 11, 12). Intriguingly, citalopram and escitalopram have not been independently associated with heightened sexual desire or arousal or with automatic orgasm, but only with clitoral priapism (15) and spontaneous erection (16) and ejaculation (16, 17). Yanik (4) reported a case of spontaneous orgasms initiated by venlafaxine, which persisted after the venlafaxine was switched to citalogram. It is worth noting that in Yanik's report, the patient eventually ceased drug treatment because of the side effects and started electroconvulsive therapy, after which she recovered from both hypersexuality and depression.

The mechanism of SSRI-induced hypersexuality is unclear. Up-regulation (which can be induced by brain injuries or neurologic conditions) of serotonin receptors (5-HTR) has been suggested as having the main role in enhanced sexual stimulation (13). This may explain only a portion of the cases with preexisting brain organicity, e.g., stroke (3, 13). The co-occurrence of yawning and spontaneous orgasms, which can occur in opioid withdrawal, raised the hypothesis that endogenous opiates may decrease with fluoxetine, explaining the sexual side effects (12, 18). Overall, it has

been suggested that abnormal increases in central serotonergic neuronal activity may underlie the hypersexual side effects caused by SSRIs (10). Further studies are required to understand the pathophysiology.

It appears that SSRI-induced hypersexuality may be a distinct entity, with characteristic clinical features. It is important for clinicians to identify this unique side effect, be aware of the range of the SSRI sexual side-effect spectrum, and differentiate it from an antidepressant-induced mood switch. Management of hypersexuality induced by SSRIs should involve psychoeducation, to reassure and destigmatize this phenomenon by informing patients of the existence of this side effect in order to alleviate possible anxiety and guilt. Second, in most cases, the hypersexuality diminished when the SSRI doses were decreased or the medication was discontinued; some of the patients also benefited from switching medication (14, 16, 17) or substituting other treatment modalities, e.g., ECT (4). For patients whose hypersexuality continues despite a switch to other antidepressants, it may be worthwhile to rechallenge with the original SSRI that elicited significant treatment response (as reported in our case), because the sexual side effects may not recur.

Drs. Yuan and Deban are fourth-year psychiatry residents in the Department of Human Behavior and Psychiatry, Brown University, Providence, R.I.

Dr. Yuan's effort is supported by NIMH (grant R25MH101076).

The authors thank Alice-Lee Vestner, M.D., Assistant Professor of Psychiatry, and Dr. Lawrence H. Price, M.D., Professor of Psychiatry in the Department of Human Behavior and Psychiatry at Brown University for their invaluable guidance. The authors also thank the patient for his trust and enlightenment.

The authors confirm that details of the case have been disguised to protect patient privacy.

#### **KEY POINTS/CLINICAL PEARLS**

- Although less common than hyposexuality, hypersexuality is a potential sexual side effect of selective serotonin reuptake inhibitors (SSRIs) that warrants monitoring and management.
- Hypersexuality associated with use of SSRIs should be differentiated from iatrogenic mood switch and from mania-hypomania symptoms resulting from underlying bipolar disorder.
- SSRI-induced or SSRI-associated hypersexuality could be clinically characterized by increased sexual desire or ego-dystonic sexual hyperarousal and automatic orgasms.
- Consider decreasing the dose of, discontinuing, or switching the SSRI associated with hypersexuality or consider neuromodulation as an alternative management.

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# Stewart Paton: Mental Hygienist and Father of College Psychiatry

Jessica Wang, D.O.

Interest in college mental health has been growing among psychiatrists in recent years, likely related to increased media coverage of school shootings and teen suicides in the past few decades (1). In 2004, the American Psychiatric Association formed an official task force on the treatment of college students. In 2017, the Association for College Psychiatry was created as a nonprofit organization and has organized three annual meetings and a mentorship program. As a fourth-year resident starting a longitudinal rotation in the counseling center on our university's undergraduate campus (albeit virtually due to COVID-19), I wondered how psychiatrists became involved in the area of college mental health in the first place. These origins can be traced back to 1910 when Stewart Paton established the first student mental health center at Princeton University.

Born in New York City in 1865, Paton completed his undergraduate studies at Princeton and his M.D. at Columbia University (2). He did his postgraduate studies in Europe under the tutelage of prominent figures, such as Heinrich Obersteiner and Emil Kraepelin. and eventually settled down at his alma mater of Princeton after returning to the United States. He organized the first university mental health services after observing that students were leaving school before finishing their courses of study as a consequence of mood and personality disorders. He was ahead of his time, considering that the first student health services that were created at Amherst College in 1861 did not incorporate services for mental health (3).

Demand for mental health services became apparent when Princeton students reportedly flocked to see Paton "by the dozens" (4). A few years later, he served in World War I, and during his time in the Neuropsychiatry Division of American Expeditionary Forces Medical Corps, he served on a committee to study shell shock. From this experience, he theorized that collegiate students were not necessarily prepared to handle stressors other than war and could easily become vulnerable to many of the symptoms of shell shock that he saw in soldiers (1). He argued that college campuses should promote resiliency in their student populations so that students would be better equipped to handle the daily stressors of life.

After the war, Paton worked at Columbia University with Thomas W. Salmon, another leader in the mental hygiene movement in the early 20th century, and helped found the national journal Mental Hygiene in 1917 (2). When the American Student Health Association met for the first time in 1920, it stressed the importance of mental hygiene to maximize the potential of students during their college years. Over the next decade, more comprehensive mental health services emerged at other institutions of higher learning, including West Point (prompted by the deaths of two cadets from suicide), Yale, Dartmouth, and Vassar (5).

Stewart Paton passed away in 1942 at the age of 76 from heart disease. Al-

though terms such as "shell shock" and "mental hygiene" are now obsolete, his work set a precedent for other colleges and universities to follow. Nearly 50 years elapsed between the creation of the first student health services at Amherst College and the creation of Paton's mental health clinic, and it is clear that he served an important role as a professional advocate for students. The link he identified between the emotional distress exhibited by his students and by World War I soldiers seems even more relevant for today's youth, who have experienced 9/11, increased gun violence, civil unrest, financial recession, and now a pandemic. It is our duty to continue addressing these subsets of our patient population and the unique challenges they face.

Dr. Wang is a fourth-year resident in the Department of Psychiatry and Behavioral Science at Temple University, Philadelphia.

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# Mind and Body: The Power of Using Creative Arts in Psychiatry

Audrey Soojung Sung, M.S.

"I want to remind everyone that when you're out there on the dance floor, just focus on expressing yourself," said Anna Banana Freeze, my first breakdancing (culturally known as breaking) teacher. I was a 21-year-old college student, mesmerized by her confidence and style. In her dance crew's T-shirt and skinny jeans, she taught us one of her favorite moves: a bridge where she used her hands to lift her body up from a supine position. Once I executed this move, I felt an instant connection to dance. I loved transforming my thoughts and feelings into something physical. Now, as a 28-year-old medical student, my love for breaking remains strong. When I'm stiff and tired from the rigorous hours of studying, I go out into the dark, empty hallways of my school to put on some music and dance alone. The familiar rhythm of the movements lifts my mood and energizes my body.

What draws me to dance is the same as what draws me to psychiatry: the mindbody connection. As an aspiring psychiatrist, I'm interested in understanding how dance, as well as other creative arts, can help in the treatment of patients. A systematic review of 27 randomized clinical trials found that creative arts therapies—including music, dance, and other forms of art—significantly reduced anxiety and depression and increased quality of life in patients with cancer (1). In addition, dance significantly reduced anxiety and depression in patients with

schizophrenia, autism, and cardiovascular disease, as shown in a meta-analysis of 41 controlled intervention studies (2). This research highlights the importance of the creative arts in the healing process—something I knew to be true from my own experience.

During my outpatient psychiatry experience, I moved beyond the symptom checklist to explore patients' understanding of their own mental health, stressors, and ways of coping. For example, I worked with one teenage patient with major depressive disorder who used journaling to process the death of his cousin. Inspired by his story, I realized that I wanted to help patients heal not only through traditional methods, such as medications, but also through the creative arts. In The Gift of Therapy: An Open Letter to a New Generation of Therapists and Their Patients (3), psychiatrist Irvin Yalom shared an example of how he and his patient, a creative writer, wrote and shared summaries of each therapy hour. Through this creative collaboration, Dr. Yalom gained a deeper understanding of his patient's experience during therapy. Although he initially believed that she appreciated his psychological interpretations of her experiences in their sessions, the patient actually valued small actions, such as compliments on her writing or laughter at her satirical comments. Like Dr. Yalom, I want to incorporate creative arts as a way to better understand patients in clinical practice—for example, by asking interested patients to do exercises where they can play a song or dance in order to express their emotions.

As a medical student, I have often felt overwhelmed by the intense training, anxious over presentations, and disappointed in my mistakes. In those moments, I turn to dance. I groove to the beat and confidently freeze with a strong stance, remembering the example of my college dance teacher. It is important for everyone, especially patients with mental illnesses, to have outlets that can enhance their well-being. That's where the creative arts come in: to help people use their bodies to explore, communicate, and manage their emotions.

Audrey Soojung Sung is a fourth-year medical student at Rush Medical College of Rush University, Chicago.

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- Must be in a U.S. residency program or fellowship.

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\* \* \*

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