Management of Complex Co-occurring Psychiatric Disorders and High-Risk Behaviors in Adolescence

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Adolescents often present to treatment with multiple psychiatric diagnoses. The presence of certain co-occurring mental health conditions can significantly affect an individual's treatment course. Adolescence is also a time of developmentally appropriate risk taking and experimenting with novel behaviors. Difficulties in accurate diagnosis and lack of effective treatment options create obstacles to helping this vulnerable patient population. Appropriate management of adolescents' complex symptoms and high-risk behaviors during a developmentally sensitive period can be challenging, even for the most skilled of clinicians. This article focuses on the assessment and management of complex, co-occurring psychiatric disorders during adolescence, with specific guidance on how to manage high-risk behaviors, such as self-harm and suicidality. Controversial topics, including antidepressants and youth suicide risk, as well as "off-label" use of mood stabilizers and antipsychotics, are also reviewed.

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CLINICAL CONTEXT

Mary is a 17-year-old female with a history of major depressive disorder, trauma, attention-deficit hyperactivity disorder (ADHD), and fluctuant mood symptoms that began during puberty. She is presenting for her second inpatient psychiatric hospitalization after a recent suicide attempt. Her first hospitalization occurred at age 15, after discovery of self-injurious behavior in the context of chronic hopelessness. She also engages in regular cannabis use and episodic binge drinking. While on the unit, she demonstrates dysregulated eating behaviors and discloses a history of unprotected sex.

Background

An estimated 13.4% of children and adolescents worldwide have a diagnosed psychiatric disorder (1). Disenfranchised youths experience psychiatric conditions at even higher rates, which reach 49% within the child welfare system (2). Co-occurring psychiatric illness is also common in youths (3). Nearly two thirds of adolescents with unipolar depression also have one or more co-occurring disorders (4). High rates of co-occurring illness during adolescence can have a negative effect on expected functioning. Lower scholastic achievement, decreased college attendance and graduation rates (5, 6), higher rates of substance use, more severe social and family dysfunction, legal difficulties, suicidal behavior, and parental substance use disorder and psychopathology (7) have all been correlated with youths who are afflicted by two or more psychiatric disorders during adolescence.

The presence of certain co-occurring mental health conditions can also significantly affect an individual's treatment course. For example, co-occurring externalizing disorders, such as conduct disorder and ADHD, have been found to lengthen the course of persistent depressive disorder (dysthymia) by up to 2.5 additional years (8). Psychiatric disorders such as depressive disorder, bipolar disorder, ADHD, and substance use disorder may exacerbate emotion dysregulation and impulsivity, resulting in an increase in risk taking, such as sexual risk behaviors, disordered eating, and reckless driving.

Despite the associated negative outcomes, psychiatric illness during adolescence is often underdiagnosed or misdiagnosed. Many psychiatric disorders are still emerging during adolescence and may present with ambiguous and overlapping symptoms. For example, depression in adolescence often presents with irritability, emotional reactivity, and behavioral dysregulation. This constellation of symptoms may be observed with a number of different psychiatric conditions, including bipolar disorder and anxiety disorders, and may be a result of trauma or substance use. Appropriate management of adolescents with complex symptoms during a developmentally sensitive time period can be challenging for even the most skilled clinicians. This paper focuses on the assessment and management of complex, co-occurring

psychiatric disorders during adolescence and offers specific guidance on how to manage high-risk behaviors, such as self-harm and suicidality. Ultimately, no single treatment for co-occurring disorders exists, and many of our current treatment algorithms lack a strong evidence base. Treatment plans must be specifically tailored to the individual and, in many cases, the needs of the family. Utilizing new technologies may facilitate research and the development of new treatment approaches for this challenging patient population.

High-Risk Behaviors

Adolescence is a time of developmentally appropriate risk taking and experimenting with novel behaviors. Risky behaviors in youths may stem from emotional dysregulation, impulsivity, a lack of effective coping skills, or a combination of these factors. In the context of psychiatric illness, these behaviors can influence the course of treatment and result in significant safety concerns.

The neurodevelopmental stage of this age group is an inherently predisposing condition in evaluating risk. Protracted maturation of the prefrontal cortex and parietal regions occurs throughout adolescence. Until this process is complete, impulsivity and poor decision making can be expected, exemplified by the patterns of drug experimentation, accidental injuries, car accidents, and risky sexual behaviors long attributed to this age group (9). Two specific types of impulsivity—acting without thinking and sensation seeking—are linked to early problem and risky behaviors (9). Sensation-seeking behaviors increase in adolescence, encouraging young people to venture outside the family, explore new experiences with peers, and select mates. Adolescents attach favorable affect to these novel experiences and seek out peers with the same interests. This peer effect magnifies the attraction to novel, and sometimes dangerous, behaviors such as drug use or engaging in sexual activity (9). Evidence suggests that youths who engage in early risk-taking behaviors, such as aggressive behavior and drug use, exhibit higher levels of impulsive behavior as early as age 3 (9).

Negative early life experiences can also increase the likelihood of adolescent risk-taking behavior. The Centers for Disease Control and Prevention (CDC) Adverse Childhood Experiences Study demonstrates that exposure to childhood stressors predicts more risk taking in adolescence. Childhood experiences of abuse or neglect, parental substance use, and domestic violence have all been linked to adverse adolescent outcomes, including drug use, addiction, and suicide. For girls, childhood sexual abuse is associated with earlier sexual experiences and unintended pregnancy (9).

Substance Use

Adolescents with psychiatric disorders are at increased risk of earlier initiation of substance use, development of regular use, and progression to a substance use disorder (10–12). Psychiatric comorbidity among adolescents with substance use disorder ranges from 61% to 88%, with notably higher rates of externalizing disorders, including ADHD and conduct disorder (7). Estimates from the National Survey of Drug Use and Health indicate that about a quarter (23.9%) of all adolescents ages 12–17 have used an illicit drug within their lifetime (13). Cannabis is the most prevalent substance used (14.4%), followed by inhalants (8.0%). More than one in four adolescents have used alcohol (26.3%), and one in 10 (13.4%) have used tobacco in their lifetime (13). Electronic vaporizing, or "vaping" of nicotine and other substances is also a relatively new but endemic behavior within the United States. Almost 16% of high school seniors report they have vaped over the past month, with the rates being twice as high for boys than for girls (14). Teens who use vaping devices are also more than twice as likely to progress to traditional tobacco use; in addition, there have been recent reports of an elevated seizure risk and other serious adverse health consequences, including pulmonary damage, that are not yet fully understood. Substance use engenders other high-risk behaviors among adolescents, such as driving under the influence and engaging in unprotected sex. Approximately 16% of adolescents have ridden in a vehicle with someone who had been drinking, and 13% of U.S. high schoolers reported they had driven while under the influence of cannabis over the past month (15). Adolescents who use substances are also more likely to engage in unprotected sex (16), and among the 28.8% of adolescents who report being currently sexually active, more than half were under the influence of alcohol or other substances before they last engaged in sexual intercourse (15).

Disordered Eating

Disordered eating and maladaptive compensatory behavior for weight management is estimated to be present for as many as 12% of female adolescents by the age of 20 (17). Eating disorders are strongly associated with negative health behaviors such as substance use and self-harm, as well as co-occurring disorders of anxiety and depression (18). Those with binge-purge types of eating disorders are particularly susceptible to drug use and self-harm (18). Most adolescents with an eating disorder meet criteria for at least one co-occurring disorder (19). The presence of disordered eating can often serve as a proxy for other co-occurring disorders and vice versa. Among adolescent females, depression has been shown to predict subsequent eating pathology (19). Additionally, comorbidity increases the severity of symptoms and makes treatment less effective, with greater rates of attrition and decreased treatment gains after therapy.

The peak onset for eating disorders is in adolescence, affecting about 1 in 10 adolescent females. Eating disorders among adolescents are predictive of adverse mental health outcomes, with higher rates of depression, anxiety, substance use, and self-harm (18). Adolescent girls with purging-type eating disorders are more likely to develop substance use disorders, depression, and self-harm behaviors (18, 20). Multiple risk factors, including family history, history of trauma, and dysregulated or impulsive personality types, have been identified as reasons for these associations (21).

TABLE 1. Risk factors for suicidal behavior among adolescents[a]

Risk factor for suicidal ideation	Risk factors for suicide attempts	Risk factors for suicide completion
Presence of a mood disorder	Suicidal ideation[b]	Firearms in the home[b]
Self-harm	Self-harm[b]	
Hopelessness	Substance use (including cannabis use)[b]	
Minority sexual or gender status	Environmental exposure to self-harm	
Psychosis	Family history of suicide	
Males	Suicide capability[b]	
Media exposure to suicide	Impulsivity	
Bullying (victim or perpetrator)	Excessive use of internet or social media	
Excessive use of internet or social media		
Parental mental illness		

[a] Adapted from Mars et al. (37) and Shain (49).
[b] Risk factors most significantly associated with suicide attempts by adolescents.

Disordered eating behaviors in adolescent patients often serve as a means of both self-harm and affect regulation, with binging relieving negative emotions and purging decreasing feelings of anxiety or anger (22).

Sexual Behaviors

Over half of all adolescents in the United States (55%) are sexually active by the age of 18 (23). According to the latest statistics from the CDC, about a third of high school teens endorsed being sexually active in the past month; however, almost half (46%) reported they did not use a condom during their last sexual encounter. Additionally, 14% reported not using any contraception, and 19% said they had consumed drugs or alcohol before the last time they had sexual intercourse (15). Unprotected sex and sex under the influence of substances can lead to significant health consequences. Close to 50% of new diagnoses of sexually transmitted infections (STIs) disproportionately occur in 15- to 24-year-olds (24). Additionally, positive correlations between risky behaviors and depressive symptoms have been found in adolescents (25). In turn, depressive symptoms are also predictive of engagement in sexually risky behaviors among adolescents and young adults (25, 26), and the severity of depressive symptoms may also quadruple the likelihood of developing an STI (27). Screening for high-risk sexual practices should therefore be a standard part of any examination of adolescents or transition-age youths and can often lead to additional information and questioning with regard to an adolescent's overall mental health.

Suicide and Self-Harm

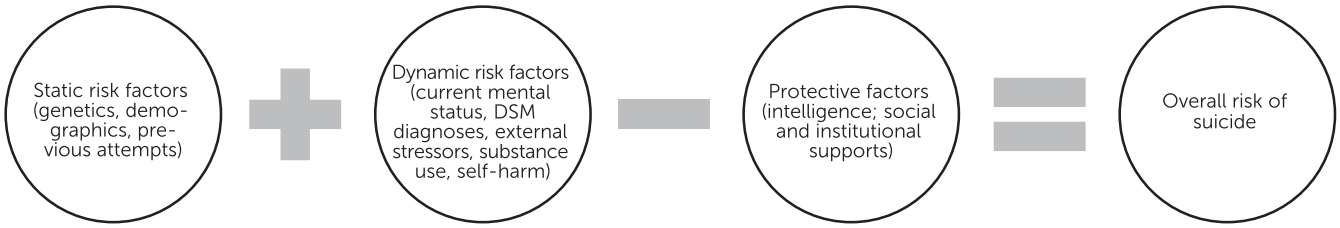
Youth suicide prevention is a matter of grave importance for mental health clinicians. Suicide rates for youths ages 15–24 have been increasing steadily since 2013, and suicide is now the second leading cause of death for adolescents ages 15–19 (28, 29). In addition to the medical risks inherently associated with self-harming behaviors, self-injury is a significant predictor of future suicide attempts (30). Suicidal ideation and self-harm have been consistently identified as significant risk factors for future suicide attempts and suicide completion (31). Approximately 30% of adolescents who experience ideation will go on to make a suicide attempt (32).

Although there is a well-established and strong association in the literature between youths who are depressed and suicidal behaviors (33, 34), suicide risk also transcends well beyond a specific diagnosis or set of co-occurring disorders. See Table 1 for a summary of the most common risk factors associated with suicide in youths. Certain risk factors have been associated with suicidal ideation, whereas others are more likely to increase the risk of a suicide attempt (35).

Recent research has focused on the subset of youths with the highest risk of acting on their reported suicidal ideation. Interestingly, suicide capability, or the belief that one would be able to carry out an intended plan of action, was cited in one recent review as the factor most consistent with predicting a future suicide attempt by youths with existing ideation (36). A large longitudinal study of youths within the United Kingdom published earlier this year demonstrated that the risk factors most likely to predict a future suicide attempt in a cohort of 16-year-olds include a history of self-harm, cannabis use, other illicit drug use, and exposure to self-harm in others (37). Substance use seems to be a catalyst for teens with existing depression and ideation and should raise significant concern, if endorsed.

Identifying and appropriately assessing a patient's risk for suicide can be a daunting task for the pediatric clinician. Overall suicide risk is composed of both dynamic and static factors, with potential changes or shifts occurring over time for individual patients (38). Some risk factors are considered fixed, such as gender or sexual orientation, whereas others are dynamic. Many of the known risk factors associated with youth suicide—including depression, hopelessness, and impulsivity—are also common and nonspecific within the adolescent population. Not all youths with depression will attempt suicide. Further, the presence of multiple risk factors may hold different weighted values, depending on the individual and the context. A depressed teenager may have a family history of suicide but no current ideation or history of suicide attempt or self-harm, indicating a lower relative risk. Conversely, a depressed teenager with one prior suicide

FIGURE 1. Suicide assessment formula



attempt and a family history of suicide might be considered to have an acutely high risk if he or she reports intermittent suicidal ideation. Appropriate interpretation of risk can be challenging for this reason and relies on a cross-sectional analysis of *foreseeable* risk for a given young person, at a given point in time.

It may be helpful to break down these identifiable components into a formulaic framework (Figure 1) that can serve as a methodical means for clinicians to qualitatively consider a given patient's safety risk. The framework of an equation implies a mental separation of the dynamic and static risk factors but also considers them additively, with protective factors being a mitigating variable. The equation is meant to represent a single cross-sectional assessment and should be reassessed over the course of treatment, thus allowing for dynamic change in the overall suicide risk for a given individual over time. It should be mentioned that although this framework assists in identifying adolescents or young adults with an elevated risk of suicide, *exact* calculations of clinical suicide risk are unattainable with our current diagnostic knowledge base. All reports of suicidal ideation, self-harm, and previous attempts must be considered serious.

TREATMENT STRATEGIES AND EVIDENCE

Assessment

A comprehensive psychiatric assessment is important for adolescent patients because undetected psychopathology could be harmful. Given the rates of comorbid conditions, thorough screening for mood disorders, substance use disorders, eating disorders, conduct disorders, ADHD, and anxiety disorders is necessary. Youths who meet diagnostic criteria for conduct disorder may not be adequately assessed for mood disturbance or suicide risk, because their symptoms may be viewed as primarily behaviorally based. Conversely, youths who present as depressed should be assessed for conduct symptoms, given that this comorbidity increases their suicide risk (39). Early and adequate detection of substance use disorder and comorbid psychopathology in youths may allow for intervention before substance use, other psychiatric disorders, and negative legal and academic consequences progress. Substance use difficulties are often diagnosed too late or go undetected (7).

On a routine psychiatric interview, a self-harm assessment often focuses on self-injury, such as cutting or burning, but other forms of self-harm among adolescents also merit screening. Especially with consideration of young patients, it may be appropriate to expand the umbrella of self-harm to include behaviors that are reckless and impulsive, often termed *emotional dysregulation*. It is important to assess the degree of emotional dysregulation that a patient is experiencing and ascertain what functional and dysfunctional (maladaptive) behaviors a patient is using to manage emotions. Emotional dysregulation can lead to potentially dangerous impulsive behaviors, including risky sexual practices, reckless driving, or drug use (40). Dysregulation can be assessed clinically or by using an assessment tool such as the Difficulties in Emotion Regulation Scale (DERS). In the context of eating disorder treatment, for example, symptoms of eating disorders have been shown to significantly correlate with emotional dysregulation on the DERS, and higher DERS scores predicted maintenance of anorexia nervosa psychopathology over time (41).

Another useful tool for adolescent assessment is the Structural Analysis of Social Behavior (SASB), a model of self-image based on interpersonal theory that considers both state and trait aspects of self-image. The SASB assesses stability of self-image related to relationships as well as variability in response to current stressors (41). Patients with an eating disorder have been shown to have more negative self-image; additionally, self-image is associated with suicidal behavior of patients with an eating disorder (41).

Treatment Approaches

In considering options to address risk-taking behaviors of adolescents, it is valuable to consider preventive approaches as well as treatment modalities. Some of these adolescent traits and behavioral patterns are set in motion before adolescence; thus, early intervention and education programs are of key importance as early as infancy. Studies show that nurse visitation programs targeting high-risk parents allow them to cope better with stress and reduce the risk of passing stress on to children. Children of parents in these programs performed better in school, had fewer psychiatric symptoms, and had lower rates of conduct disorder. Preschool-age and elementary school–age children can also benefit from early intervention programs that focus on executive functioning and self-regulation skills. Such programs have been shown to effectively reduce impulsive tendencies, which could carry forward to improve outcomes in adolescence (9).

Psychiatric treatment and community interventions for adolescents are also useful in reducing risk behavior. Because adolescents differ developmentally, including in their value of affiliation and autonomy as well as their ability to process rewards (42), approaches to prevention and addressing risk-taking behaviors should be developmentally tailored. Motivational interviewing (MI), a collaborative, patient-centered approach, has been shown to be effective in reducing substance use by young patients. A small number of studies have also suggested that it can be helpful in reducing rates of teen pregnancy and sexual risk-taking behaviors in vulnerable populations (43). Both in MI and other interventions, psychoeducation serves an important purpose. On a larger scale, psychoeducation via the media has been shown to be effective. According to the Monitoring the Future Study, one of the best predictors of drug use is the perception that drugs are dangerous to one's health (9). There is strong evidence that media campaigns have decreased the number of tobacco users and have helped reduce youth initiation and smoking (44). Graduated driver programs (after about 1,000 miles of driving experience) for adolescents have been shown to lead to a significant reduction in motor vehicle crashes (9). The strategy of graduated licensing has also been adopted by several states. Adolescents do not receive full licenses until they pass a trial period, during which they cannot drive at night and must drive with an adult. This leads to reduced rates of motor vehicle accidents and serious injuries.

Involving family members in care can facilitate improvement across different outcomes, including substance use, medication adherence, and treatment attendance (45, 46). Several evidence-based treatment modalities integrate family into care. The level of family involvement varies between modalities, ranging from being exclusively family focused to family members and caregivers participating in individual work through the development of contingency management plans, medication-monitoring practices, meal plans, and safety checks. One specific example is the Adolescent Community Reinforcement Approach (A-CRA) (47), a community-based weekly behavioral intervention for adolescents with substance use. A-CRA implements a medication-monitoring procedure that alleviates conflict around taking medication, identifies barriers to adherence, and creates a plan for medication administration.

Unfortunately, confidentiality and the logistics of disclosure can be challenging when involving family in an adolescent's care. Serious acute safety concerns that would necessitate a breach of confidentiality are often readily identified in the pediatric population. Other forms of risk taking, such as high-risk sexual encounters, may be more ambiguous and should be assessed on a case-by-case basis (see *Sexual Behaviors* section). Entering a vehicle with a driver who is intoxicated or high (including cannabis use) presents a safety concern, and the behavior should be included in safety screens.

Suicide and Self-Harm

After a suicide assessment, for youths who demonstrate an acute risk (those who report current suicidal ideation with a plan or intent to act or who have current ideation along with self-harm or substance use), inpatient psychiatric hospitalization may be most appropriate. For adolescents at elevated risk but who do not pose an acute danger (those who deny either intent or a plan to act on suicidal ideation and who do not have co-occurring risky behaviors), a higher level of care in the form of acute residential treatment or partial hospitalization may be most appropriate. Means reduction has also been shown consistently to reduce the risk of suicide (48) and is something that can be discussed during a brief outpatient office visit or within an emergency room setting. The presence of firearms in the home is associated with a higher risk of completed suicides within the adolescent population, regardless of whether the weapon is loaded (49). However, securing any unlocked firearms and removing the firearm from the home have been shown to reduce the risk of youth shootings and potential death (49) and should be explicitly discussed with parents and adolescents. Youths who are depressed also appear to be more vulnerable to social media exposure (50). It is important to consider recommending a reduction in the frequency of social media and Internet use when adolescents are found to be at elevated risk of suicide.

A significant proportion of adolescents who are hospitalized for suicidal ideation or serious attempts remain at high risk in the months (and often years) after discharge (51). There is some evidence suggesting that there are several heterogenous trajectories that adolescents presenting with suicidality can follow posthospitalization. Youths who display and report persistent ideation throughout their hospitalization and after discharge represent the most vulnerable group in terms of future morbidity and attempts (52). Most of these adolescents will necessitate continued intervention. Longer-term residential treatment programming within a contained and monitored setting is often not possible, given that most commercial insurance companies within the United States do not reimburse for such programs. An inadvertent consequence to this is often serial inpatient hospitalizations for short periods. It is important to consider the potential iatrogenic risks posed with frequent hospitalization, given the effect that institutionalization can have on social and emotional development.

To date, there have been no randomized controlled trials investigating pharmacological treatments for suicidal behavior of youths. Instead, therapeutic intervention for youths with suicidal ideation, suicidal behaviors, and self-harm has focused primarily on skills-based models of care. The treatment models with the most significant effect sizes have been dialectical behavior therapy, cognitive-behavioral therapy (CBT), and mentalization-based therapy (53). Most interventions demonstrating a positive effect also include a robust family component (53). Recent longitudinal studies have demonstrated a suicide risk reduction in mortality for adolescents who took part in a social support intervention called a Youth-Nominated Support Team, with adolescents identifying two to three caring adults in their life to provide

phone support posthospitalization for 3 months. The intervention group was associated with a reduced rate of mortality over a period of 11–14 years posthospitalization (54).

Substance Use

Despite a high co-occurring rate of substance use and mood symptoms among adolescents, a study by Mark et al. (55) found that only half (50.2%) of adolescent substance use treatment facilities offered specialized programming for dually diagnosed individuals. Patients with dual diagnoses can be challenging to treat and may have higher rates of relapse. Adolescents with substance use disorders and externalizing disorders have high relapse rates after treatment, likely because of sensation seeking and behavioral disinhibition, which are characteristics of these disorders and the developmental stage (7). All adolescents with psychiatric complaints should be screened for substance use. Two commonly used tools include the CRAFFT (56) and the S2BI (Screening to Brief Intervention) (57). The S2BI can be found online (58) and takes less than two minutes to complete.

Response to CBT in the reduction of substance use in patient populations with co-occurring depression and substance use has also been mixed. However, it has demonstrated effectiveness in the reduction of depression symptoms (42, 59, 60). A randomized controlled trial by Esposito-Smythers et al. (60) examined the use of integrated CBT (I-CBT) for adolescents with co-occurring substance use disorder and suicidality. The study found a reduction in the Behavioral Assessment Scale for Children–Depression scores in addition to suicide attempts at the 18-month follow-up. In addition, participants also had a reduction of heavy drinking days and days of cannabis use. Family-focused therapy (Risk Reduction Through Family Therapy) has also demonstrated positive findings in the reduction of depression symptoms as measured on the Child Depression Inventory–2 as well as of days of substance use when compared with treatment as usual among adolescents exposed to sexual trauma (61).

Medication studies of co-occurring depression and substance use have had variable outcomes. Most of these studies have focused on the use of sertraline or fluoxetine and have provided some evidence for management of depressive symptoms but no significant effect on substance use (42). One of the largest medication studies in this patient population was conducted by Riggs et al. (62). This study examined the effects of pharmacological treatment (fluoxetine) of adolescents ages 13–19 (N=126) with major depressive disorder, lifetime conduct disorder, and at least one substance use disorder (excluding tobacco). Participants were randomly assigned to fluoxetine (20 mg/day) and CBT versus placebo and CBT. The fluoxetine-CBT group demonstrated greater efficacy as reflected in performance on the Childhood Depression Rating Scale–Revised but not the Clinical Global Impression Improvement ratings. There were no significant differences in substance use between groups. However, the authors recommend initiation of fluoxetine early in treatment if depressive symptoms do not respond to therapy. *N*-acetylcysteine is an over-the-counter antioxidant that has demonstrated efficacy in the treatment of cannabis use by adolescents. In a study by Gray et al. (63), individuals with cannabis use disorder were more than twice as likely (odds ratio [OR]=2.4) to submit a negative urine drug screen for tetrahydrocannabinol as those who received placebo in combination with contingency management.

Disordered Eating

Given the prevalence of co-occurring disordered eating, eating disorders prevention programs are another potential means of intervention. Both dissonance-based programs that challenge the thin-ideal internalization as well as healthy lifestyle programs that focus on diet and exercise have shown promise in preventing these disorders in adolescence. Studies suggest that such programs should be in place before ninth grade (19).

Unfortunately, many treatment programs do not adequately screen for eating disorders. Only 51% of addiction treatment programs screen for symptoms, and patients with comorbid substance use and eating disorders generally do not receive eating disorder treatment (64). In assessing appropriate treatment options for patients with an eating disorder, it is helpful to use a standard set of guidelines. The American Psychiatric Association (APA) 2006 treatment guidelines for eating disorders (65) are useful in reviewing relevant symptoms, such as medical status, suicidality, weight, motivation, co-occurring disorders, need for structure, ability to control compulsive exercising, and purging, and in using the degree of symptom severity to determine the appropriate level of care from outpatient to inpatient hospitalization. In the outpatient setting, it is best to refer patients to an eating disorder treatment team when available. These specialized teams comprise a dietician, therapist, family therapist, psychiatrist, and primary care physician. As disordered eating symptoms are addressed, other self-destructive behaviors, such as substance use or self-harm, may surface or worsen. Psychoeducation regarding emotion regulation and healthy coping skills is critical for patients with eating disorders.

One efficient and effective screening tool for the assessment of eating disorders can be remembered by using the mnemonic "SCOFF," which stands for sick, control, one stone (14 pounds), fat, and food. However, it is important to note that this tool (Figure 2) (66) is validated only for identifying adults with eating disorders.

Sexual Behaviors

In targeting sexual behaviors, outcomes of unintended pregnancy and STI are primary targets for risk reduction. Americans aged 15–24 make up 27% of the new sexually active population but account for 50% of the 50 million new STIs each year (67). Psychoeducation about sexual health is of great importance, as well as practical measures such as recommending and offering routine STI testing, pregnancy testing, and HIV screening and repeat screening after unprotected sexual activity.

FIGURE 2. The SCOFF Questionnaire[a]

SCOFF	S: Do you make yourself **sick** because you feel uncomfortably full? C: Do you worry that you have lost **control** over how much you eat? O: Have you recently lost more than **one** stone (14 lb.) in a 3-month period? F: Do you believe yourself to be **fat** when others say you are too thin? F: Would you say **food** dominates your life?

[a] If a patient scores 2 or more on the SCOFF screening, more comprehensive screening with the Eating Disorder Examination Questionnaire can be performed.

Annual HIV testing should be completed for any individuals who are having unsafe sex or sharing injection drug equipment. Additionally, any women who are under 25 should be tested for gonorrhea and chlamydia annually (68). The adolescent's age, sexual partner(s), and use of substances while engaging in sexual activity should help to stratify risk and identify whether the adolescent can provide consent. State laws differ by age of consent and often consider the age of the sexual partner(s). Trauma-informed gynecologic exams should be provided when available to any survivor of sexual and gender-based violence (69).

QUESTIONS AND CONTROVERSY

Prescribing Antidepressants for Youths With Depression and Risk of Suicidality

After a black box warning from the U.S. Food and Drug Administration (FDA) was issued in 2004, the prescribing of antidepressants within the adolescent and young adult population has been somewhat controversial. This warning alerted health care professionals to the potential for an increased risk of suicidal thinking and behavior in children and adolescents ages 10–24. Although the subsequent studies and analyses conducted demonstrated only a modest increase in the risk of suicidal ideation or behavior (0.7%), there was a dramatic decline in the number of SSRI (selective serotonin reuptake inhibitor) prescriptions in the subsequent years (70, 71). Unfortunately, a parallel increase in the prevalence of suicide in youths within the United States has been observed (72). The prescribing of any medication within the pediatric population is not without risk, and all prescribing practices should take into account the risks of prescribing (with a detailed informed consent process being discussed with parents that includes the possible risk of suicidal ideation and related behaviors) versus the potential benefits. However, given that, on the whole, the risk of no treatment for youths with depression may be more significant than the risk of treatment with an SSRI and psychotherapy, psychiatrists should continue to consider SSRI medications as first-line treatment for youths with depression.

Use of Off-Label Antipsychotics for Youths

With the subsequent decline in SSRI prescriptions for youths, there has been a parallel increase in the rate of prescribing (mostly second-generation) antipsychotics to adolescents and young adults (73). The prescribing of antipsychotics can be used for any number of symptom-based ailments of youths, including poor sleep, psychosis, agitation or aggression, mood instability, and treatment-resistant depressive symptoms. However, it is important to note that current research demonstrates efficacy in only a few clinical circumstances, including bipolar mania, early-onset schizophrenia, and acute agitation of youths diagnosed as being on the autism disorder spectrum (73, 74). With the advent of increased prescribing of antipsychotic medications to youths, new research is also highlighting the vulnerability that youths display with regard to adverse effects. Adolescents appear to be more vulnerable to the potential cardiometabolic side effects, such as weight gain and hyperlipidemia, compared with the adult population (75). There is also some evidence that children, adolescents, and young adults (up to age 20) who are co-prescribed a second-generation antipsychotic as well as an SSRI or SNRI (serotonin-norepinephrine reuptake inhibitor) antidepressant are at increased risk of type II diabetes (76). Given the potential for numerous adverse medical consequences from even short-term use of second-generation antipsychotics, it is essential to ground prescribing practices within a diagnostic framework, whenever possible and to carefully balance the possible benefits with the known risks. Consider the indications for prescribing based on the diagnosis, such as concern for acute mania in an adolescent with a decreased need for sleep, increased energy, elevated mood, and paranoid thinking, rather than considering a prominent symptom or behavior as a justification for short-term medication use.

Use of Mood Stabilizers for Youths

The label *mood stabilizers* comprises a diverse class of medications, most of which are also considered antiepileptics, with varied demonstrated efficacies within psychiatry. Lithium is considered first-line treatment of both mania and the maintenance phase of bipolar disorder of youths and is the only FDA-approved mood stabilizer, to date, for adolescents ages 12–17. However, there are relatively few studies demonstrating its efficacy in youths (77). Antiepileptics, such as valproic acid and lamotrigine, have been more extensively studied, although the trials have tended to be small and unblinded (77). Lamotrigine has less demonstrated efficacy for the treatment of acute mania but may be considered for mixed episodes or depressive episodes. As with antipsychotics, it is important to consider the long- and short-term side effects of these medications as well as the potential that mood stabilizers may serve as a life-saving treatment for many youths with bipolar illness. Weight gain, thyroid abnormalities, and alopecia are known side effects of lithium use. There is also a theoretical risk for overdose, given its narrow therapeutic index, despite its having also been found in studies of adults to reduce the risk of suicide. There is also the potential for a life-threatening rash with

lamotrigine. Valproic acid, although an effective treatment for acute mania in youths, should not be used in young females of reproductive age who may be at risk of pregnancy as well as having coexisting polycystic ovarian syndrome.

CASE DISCUSSION

In addition to having major depressive disorder, Mary has a history of several high-risk behaviors, including substance use, disordered eating, and unprotected sexual activity. The elevated level of impulsivity found in Mary's age group may be further exacerbated by her ADHD and trauma history. She also has a history of self-harm and a previous suicide attempt, which places her in a high-risk category for future harm-related events. After acute stabilization of suicidal ideation, Mary will require a concrete safety plan that includes removal of lethal means or weapons and oversight of social media usage. Given her history of major depressive disorder, antidepressant medication is likely indicated. Close monitoring of her SSRI in conjunction with the FDA's black box warning should be worked into a longitudinal medication treatment plan. Mary's family can also be involved through developing a tailored contingency management plan around substance use and treatment engagement. *N*-acetylcysteine may also facilitate ongoing abstinence from cannabis. For treatment of ADHD, consider using a long-acting stimulant medication that is closely monitored by parents and her outpatient physician. Options around contraception and STI testing should be discussed before discharge. Consequences of risky sexual behaviors can be minimized by using contraception, barrier methods, and testing for STIs regularly. Given her trauma history, Mary may be an ideal candidate for a trauma-informed gynecologic exam.

RECOMMENDATIONS

Screen for Co-occurring Disorders

All patients presenting for substance use or other psychiatric symptoms or disorders should be screened for co-occurring conditions. Screening tools such as the CRAFFT and the S2BI can be used to screen for use of a wide range of substances in various treatment settings. Co-occurring disordered eating can be easily overlooked in other forms of specialized treatment settings (e.g., substance use disorder treatment facilities). Comprehensive screeners like SCOFF or the Eating Disorder Examination Questionnaire can help to identify these patients so that they receive appropriate, tailored treatment interventions. When determining the level of treatment, use the APA treatment guidelines to understand severity and scope of symptomatology.

Understand Dynamic and Static Risk Factors for Youth Suicide

Many of the known risk factors found to be associated with youth suicide—including depression, hopelessness, and impulsivity—are also common and nonspecific within the adolescent population. Assessment of dynamic and static risk factors, as well as protective factors, should represent a single cross-sectional assessment and be repeated or re-evaluated over the course of treatment.

Reduce Access to Means for Suicide Completion

Suicide capability, or the belief that one would be able to carry out an intended plan of action, has been cited as a major risk factor in future suicide attempt in youths with existing suicidal ideation. Means reduction should be a strong focus in safety planning and can be discussed during a brief outpatient office visit or within an emergency room setting.

Monitor Social Media Usage by Youths at Risk for Suicide

Youths who are depressed also appear to be more vulnerable to social media exposure. It is important to consider recommending a reduction in the frequency of social media and Internet use when adolescents are found to be at elevated risk of suicide.

Treat Mood Symptoms and Substance Use Concurrently

Therapy (including CBT) should be considered a firstline treatment for adolescents with concurrent mood symptoms and substance use. The use of sertraline and fluoxetine have provided some evidence for management of depressive symptoms but no significant effect on substance use. Substance use should be targeted with additional interventions, including MI, CBT, and family-focused therapies.

Create Treatment Teams and Psychoeducational Practices for Patients With Disordered Eating

Outpatient treatment teams consisting of a dietician, therapist, family therapist, psychiatrist, and a primary care physician offer a comprehensive approach to eating disorders treatment. These programs should touch on preventing co-occurring issues in patients with disordered eating, such as self-harm and substance use behaviors, that surface or worsen during care. By encouraging emotion regulation and healthy coping skills, clinicians can mitigate the risk of additional self-destructive behaviors of individuals with disordered eating.

Offer Sexual Health Psychoeducation and Regular STI Screening to Adolescents

Psychoeducation on healthy sexual behaviors and regular STI screening should be offered to adolescents to reduce the spread of STIs and the incidence of unwanted pregnancy. Yearly gonorrhea and chlamydia testing should be implemented in all women under the age of 25. Annual HIV testing should be offered for those who engage in unsafe sex or individuals with a history of sharing injection drug equipment.

FUTURE DIRECTIONS

With rising rates of adolescent self-harm and suicide, there is a significant need for clinicians to be able to identify and treat high-risk patients. There is also a dire need to develop prevention programming that targets high-risk subgroups, such as adolescents with pre-existing psychiatric disorders, to reduce rates of disordered eating, substance use, self-harm, and other maladaptive behaviors. Despite the lack of conclusive long-term evidence about the potential harms related to new drug trends such as vaping, clinicians should closely monitor these practices among adolescents and provide education about potential addictive and medical risks. Psychiatrists have the opportunity to advocate for universal screening of adolescents even before the youths are identified as high risk, such as in school-based settings and primary care offices.

Although several diagnostic tools are discussed in the literature, their use and evidence base among adolescents are often limited. There is lack of consensus on how to approach treatment of adolescents with co-occurring conditions and high-risk behaviors. Behavioral therapies, with and without family therapy, remain a mainstay of treatment in this population. Medication strategies have presented with mixed data for treating co-occurring disorders such as substance use and disordered eating. The use of repetitive transcranial magnetic stimulation in adolescents has demonstrated some benefit in reduction of depressive symptoms; however, its data on treating co-occurring disorders are limited (78). There are few known side effects, and it is relatively well-tolerated in this population (78).

A better understanding of risk and protective factors in high-risk behaviors, as well as suicide and self-harm, would allow for optimization of individualized treatment strategies. Further development and implementation of existing standardized tools for risk stratification in this patient population are necessary. Identification and focus on treatment predictors, such as environmental, demographic, and other individual-level factors, would allow for more tailored treatment approaches.

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