People with severe mental disorders (SMD) have a higher mortality rate and reduced life expectancy compared to the general population. Factors that contribute to higher mortality rates include a higher rate of smoking and increased incidence of obesity from lifestyle, diet, or medication side effects. Cancer treatment may exacerbate mood and psychotic symptoms in patients with SMD. Some of the medications used in cancer treatment or the medications used to alleviate the side effects of cancer treatment can have adverse reactions with psychotropic medications. This article examines problems that patients with SMD encounter with their cancer diagnosis and treatment. Oncology nurses in any clinical setting play a pivotal role in identifying the special needs of a patient with SMD. Oncology nurses must become familiar with psychosocial issues, psychotropic medications, and SMD to educate and advocate for these patients and their families. Collaborating and coordinating care between oncology and psychiatry providers is needed for optimal patient outcomes.

Hearing the words “you have cancer” can be traumatizing. A preexisting severe mental disorder (SMD) often compounds this trauma and can lead to a poorer treatment outcome. People with SMD die 13.5–30 years earlier than the general population (Piatt, Munetz, & Ritter, 2010). The reasons for this are unclear. Some studies suggest the late detection of cancer; poor lifestyle choices; difficulty with communication; limited access to medical care; differences in race, gender, and age; and level of education all play a part in this premature mortality (Bradford et al., 2008; Howard et al., 2010; Pandiani, Boyd, Banks, & Johnson, 2006).

Side effects from psychotropic medications can lead to an increased incidence of obesity, diabetes, and a sedentary lifestyle. Tobacco use and drug and alcohol abuse often are common, as are poverty, violence, and homelessness. All are contributing factors in the higher mortality rates for patients with SMD (Piatt et al., 2010). Many people with SMD do not have adequate communication skills or the education to adequately navigate complex healthcare systems. Depressive and psychotic symptoms make it difficult to seek out and accept medical care or develop trust in medical professionals.

An estimated 26% of all Americans aged 18 years or older, or about 5.7 million people, suffer from a diagnosable mental disorder in any given year (Kessler, Chiu, Demier, & Walters, 2005). About 1.6 million new cases of cancer are expected to be diagnosed in 2012 (American Cancer Society, 2012), but few statistics are kept on people with SMD who are diagnosed with cancer. When people with SMD and their families are given a life-threatening diagnosis of any type of cancer, oncology nurses must pay special attention to the unique problems associated with SMD and target interventions to meet these needs. Three specific types of SMD will be reviewed here: major depressive disorder, bipolar disorder, and schizophrenia—not necessarily because they are the most common, but because they can be the most debilitating.

Major Depressive Disorder

Major depressive disorder affects about 14.8 million adults in the United States and is the leading cause of disability in the country (World Health Organization, 2008). According to the American Psychiatry Association ([APA], 2000), people with major depressive illness experience at least five or more of the
following symptoms for a period of at least two weeks or more: (a) a loss of interest in usually pleasurable activities, (b) irritability, restlessness, tension, (c) painful thoughts of self-loathing, (d) persistent sad or empty feelings, (e) overeating or loss of appetite, (f) insomnia, early morning wakefulness, or excessive sleeping, (g) extreme fatigue and decreased energy, (h) persistent aches and pains and digestive disorders and headaches that are not relieved with treatment, (i) poor concentration and difficulty with decision making, or (j) suicide ideation or suicide attempts (APA, 2000) (see Figure 1). The severity, frequency, and length of symptoms will be different for each person, but it remains a highly treatable disease for those who seek help. Intensive research into this illness has provided many treatment plans that include medications, psychotherapy, and other methods to help people with this disabling disease.

Patients with preexisting major depressive disorder who are diagnosed with cancer may need psychotropic medication adjustments and an increase in frequency of psychotherapy sessions. In addition, patients who are diagnosed with cancer may develop a major depressive disorder, whether in the form of a single episode related to the cancer, recurrent episodes, or a new disorder possibly undiagnosed or under treated in the past.

Case Study

E.K. is a 33-year-old single woman, first diagnosed with breast cancer at age 30. She was treated with chemotherapy, but now has a recurrence of breast cancer on the same side manifested by ductal carcinoma in situ. She is preparing for a bilateral mastectomy and reconstructive surgery recommended by her oncologist to minimize or prevent future recurrences. She had received a recurrence of breast cancer at age 30. She was treated with chemotherapy, but now has had several disappointing romances and lost contact with some friends when she completed her cancer treatment, increasing her loneliness and depression. She has had suicidal ideation in the past, with no plan or intent, and at times wishes she would have died. Her psychiatric prescriber recommended increasing her antidepressant dose followed by augmentation with an atypical antipsychotic. Over time, E.K. has improved with counseling and medication changes. She is accepting of the oncology treatment plan and is preparing to enroll in a new cancer wellness program at a health center.

Depression Etiology and Treatment

No single source exists for the development of depression; the roots lie in biochemical, genetic, environmental, and psychological factors. Of the 30 or so identified neurotransmitters in the brain, serotonin, norepinephrine, and dopamine are the primary neurotransmitters involved in mood, anxiety, and psychotic disorders. Without enough neurotransmitter material, too much uptake, or excessive breakup by the chemical monoamine oxidase, messages are not relayed and the brain slows down, reducing signal transmissions that may result in chemical imbalances. A person may feel depressed and seek treatment, usually from his or her internist or family practitioner who assesses the complaint, makes the diagnosis of major depressive disorder, and prescribes a medication. It may take two to four weeks for antidepressants to start having any clinical effect, and 12 weeks for antidepressants to reach full effectiveness. Table 1 lists the antidepressants most often prescribed for depression. Studies show that major depressive disorder responds best to a combination of psychotropic medication and cognitive behavioral psychotherapy (CBT) (Fulcer, Badger, & Belansky, 2009).

Bipolar Disorders

The second type of SMD that can profoundly impact emotional distress with cancer is bipolar disorder. That name aptly describes the high-low character of this illness, also known as manic depressive disorder. Like depression, most researchers agree that multiple factors contribute to bipolar disorders, and that stressful life events can trigger the onset of this life-long illness (National Alliance on Mental Illness, 2006). The diagnosis is based on symptoms, course of illness, and family history. With accurate diagnosis and treatment of bipolar disorders, most people can achieve an acceptable level of wellness and decrease emotional distress while undergoing cancer treatment.
Case Study

B.H. is a 43-year-old man diagnosed with advanced pancreatic cancer. He had been diagnosed with bipolar disease 15 years earlier. After B.H. learned of his cancer diagnosis, his behavior became very irrational, with hours of severe depressive symptoms alternating with hypomanic symptoms of inability to sleep, rapid and pressured speech, euphoria, grandiosity, and irritability. These symptoms developed after he stopped taking his bipolar medications. His statement, “I have cancer now, I don’t need those pills,” underscored his lack of knowledge of his illness needs. Another family member who took Family Medical Leave Act (FMLA) to help care for B.H. stated that often, during office visits or treatment days, B.H.’s mental disorder symptoms were overlooked. When the family member finally called the physician’s attention to the often erratic

### TABLE 1. Psychotropic Medications

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Drugs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selective serotonin reuptake inhibitor (SSRI)</td>
<td>Citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline, and vilazodone</td>
<td>Acts on the neurotransmitter serotonin, which can affect mood. These drugs block the reuptake of serotonin from the synapse to the nerve, thereby increasing the amount of serotonin available in the synapse.</td>
</tr>
<tr>
<td>Selective serotonin and norepinephrine reuptake inhibitor (SNRI)</td>
<td>Desvenlafaxine, duloxetine, and venlafaxine</td>
<td>Block the reuptake of both serotonin and norepinephrine from the synapse into the nerve. Norepinephrine is currently thought to affect alertness and energy.</td>
</tr>
<tr>
<td>Other antidepressants</td>
<td>Mirtazapine, nefazodone, and trazodone</td>
<td>Targets specific serotonin, histamine, norepinephrine, alpha, and muscarinic receptors in the brain. Blocks those specific reuptakes and indirectly increases the activity of certain brain circuits. May help with sleep.</td>
</tr>
<tr>
<td></td>
<td>Bupropion</td>
<td>The actual mechanism of action is unknown, but it does not have the usual libido-inhibiting qualities of other antidepressants. Mild weight loss can be a side effect. Also prescribed to assist with smoking cessation. Can lower the threshold for seizures.</td>
</tr>
<tr>
<td></td>
<td>Atomoxetine</td>
<td>Selectively inhibits norepinephrine reuptake. Found to be an effective treatment for depression and attention deficit disorder.</td>
</tr>
<tr>
<td>Tricyclic antidepressant</td>
<td>Amitriptyline, doxepin, nortriptyline, protriptyline, clomipramine, imipramine, desipramine, and trimipramine</td>
<td>Some of the older agents are still in use today. Called “tricyclic” because of the three rings of atoms in their chemical structure. First used in the early 1960s. Work similarly to SSRIs and SNRIs, but usually with more side effects like dry mouth or orthostatic hypotension.</td>
</tr>
<tr>
<td>Monoamine oxidase inhibitors (MAO)</td>
<td>Isocarboxazid, phenelzine, seligiline, and tranylcypromine</td>
<td>Another older group of drugs that are seldom used now. MAOs work by inactivating enzymes that promote the breakup of the neurotransmitters serotonin, norepinephrine, and dopamine from the synapse, thus increasing those levels of neurotransmitters. MAOs require a special diet and careful clinical follow-up because of their interactions with other medications. MAOs can be effective with atypical depression, or a depression with marked anxieties and phobias. Sometimes they are effective when no other drugs work.</td>
</tr>
<tr>
<td>Second or third generation antipsychotics (known as atypicals)</td>
<td>Aripiprazole, asenapine, clozapine, iloperidone, lurasidone, olanzapine, paliperidone, quetiapine, risperidone, and ziprasidone</td>
<td>Newest medications available to treat not only depression, but also bipolar disorder and schizophrenia. These drugs are second- and third-generation antipsychotics that often are used in combination with one of the antidepressants listed in this table to achieve better response.</td>
</tr>
<tr>
<td>First generation antipsychotics</td>
<td>Chlorpromazine, fluphenazine, haloperidol, loxapine, prochlorperazine, thioridazine, thiothixene, and trifluoperazine</td>
<td>The exact mechanism of action is unknown. Selectively antagonizes dopamine D2 receptors. Common use of prochlorperazine for nausea or chlorpromazine for hiccups. Warn patients of possible side effects. Often used with benztropine or trihexyphenidyl to remedy possible side effect.</td>
</tr>
<tr>
<td>Mood stabilizers</td>
<td>Valproic acid, carbamazepine, lamotrigine, lithium, oxcarbazepine, and topiramate</td>
<td>The exact mechanism of action is unknown. Increases gamma aminobutyric acid effects. May inhibit glutamate/N-methyl-D-aspartate receptor-mediated neuronal excitation to provide mood stabilization.</td>
</tr>
</tbody>
</table>

*Note.* Based on information from Epocrates Online, 2012.
behavior, B.H. was referred back to the family practice doctor who wanted to “do tests in hospital” or to a psychiatrist to “try some new medications.” No one in the oncology community sat down with B.H. to explain how important his bipolar medications were to his health or how it might have made a difference in the quality of his remaining life.

B.H.’s case did not include the positive mental health treatment and outcomes of E.K.’s case. This illustrates the need for oncology nurses and staff to become better educated on SMD to remove the stigma of this comorbidity. Progress has been made with destigmatizing cancer, but an SMD diagnosis often is viewed negatively by the public and healthcare professionals, resulting in substandard treatment (Dipaula, Qian, Mehdizadegan, & Simoni-Wastila, 2011). Removing fear, blame, and negative stereotypes for both diseases is important. Although oncology professionals are not experts in psychiatric care, “all patients with cancer and their families should expect and receive cancer care that ensures the provision of appropriate psychosocial health services” (Adler & Page, 2008, p. 1).

Bipolar Disorder Treatments

Medication is only one part of the plan of treatment for bipolar disorder. Cognitive behavioral therapy, family therapy, and education about the disease and medications can help patients achieve mental health recovery and prevent exacerbation of symptoms and psychiatric hospitalizations. In the author’s clinical experience, people with bipolar illness have a high risk of destructive behavior because of manic or depressive states, and alcohol or substance abuse can lead to violent or suicidal intentions.

Risk of suicide in patients with cancer is twice that of the general population, and is even higher for people with cancer and SMD (Misono, Weiss, Fann, Redman, & Yueh, 2008). Table 2 and Figures 2–3 summarizes suicide assessment tools and interventions for oncology nurses. As a rule, staff members who are inexperienced with suicide assessment should not be charged with that responsibility without sound mentorship, although novice clinicians may develop skills necessary to this complex task (Cutcliffe & Barker, 2004). Psychiatric professionals routinely assess suicide ideation as part of the mental status examination for all patients. Oncology nurses can develop assessment questions and talk with and get guidance from more experienced oncology and psychiatry professionals. Figure 4 summarizes the mental status examination and examples of appropriate clinical terminology for psychiatric and oncologic settings.

According to APA (2000), four basic types of bipolar disorder exist (see Figure 5), all of which involve varying episodes and severity of mania and depression. Effective medications are available to treat the different types of bipolar disorders, with lithium being the gold standard of medication treatment since the 1940s. Lithium has a narrow therapeutic range and requires laboratory monitoring at least every six months. Dosage changes may be necessary because of level fluctuations, symptoms, and various adverse reactions (Epocrates Online, 2012b). Other first-line mood-stabilizing drugs include divalproex sodium and carbamazepine, both of which also require laboratory monitoring every six months. More frequent levels are needed if the patient is exhibiting symptoms of hypomania (which may indicate non-compliance with medications) or if the patient shows symptoms of lithium toxicity that may include tremors, nausea, vomiting, and changes in mental status (Epocrates Online, 2012b).

Anticonvulsant drugs such as lamotrigine, gabapentin, and topiramate are effective but also must be used with caution because of possible adverse reactions. Anticonvulsants, antibiotics, and other medications can cause Stevens-Johnsons syndrome, a severe rash that can lead to necrosis if untreated.

TABLE 2. Nurses’ Global Assessment of Suicide Risk

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence and influence of hopelessness</td>
<td>3</td>
</tr>
<tr>
<td>Recent stressful life event (e.g., job loss, financial worries, pending court action)</td>
<td>1</td>
</tr>
<tr>
<td>Evidence of persecutory voices and beliefs</td>
<td>1</td>
</tr>
<tr>
<td>Evidence of depression or loss of interest or loss of pleasure</td>
<td>3</td>
</tr>
<tr>
<td>Evidence of withdrawal</td>
<td>1</td>
</tr>
<tr>
<td>Family history of serious psychiatric problems or suicide</td>
<td>1</td>
</tr>
<tr>
<td>Recent bereavement or relationship breakdown</td>
<td>3</td>
</tr>
<tr>
<td>History of psychosis</td>
<td>1</td>
</tr>
<tr>
<td>Prior suicide attempt</td>
<td>3</td>
</tr>
<tr>
<td>History of socioeconomic deprivation</td>
<td>1</td>
</tr>
<tr>
<td>History of alcohol use and/or alcohol misuse</td>
<td>1</td>
</tr>
<tr>
<td>Presence of terminal illness</td>
<td>1</td>
</tr>
</tbody>
</table>


FIGURE 2. Interventions for Patients at Risk for Suicide

Nonpharmacological Treatments of Bipolar Disorder

Antidepressant medications and mood stabilizers carry a black box warning that states they can cause an increase in suicide ideations (Epocrates Online, 2012a). Suicide risk assessment is particularly important when starting a new medication or changing a dose because improvement in depression may increase energy level, therefore increasing the ability to act on suicide ideations.

Atypical antipsychotic medications often are used in combination with mood stabilizers to treat bipolar disease in the mixed or manic phases. These medications include olanzapine, quetiapine, and risperidone, which can cause significant weight gain and lead to type-2 diabetes and cardiovascular disease (Epocrates Online, 2012c). Other newer antipsychotics such as paliperidone, ziprasidone, aripiprazole, and lurasidone have less potential for weight gain and associated complications.

Another drug combination to help control depressive symptoms in bipolar disorders is to add antidepressants such as fluoxetine, paroxetine, sertraline, or bupropion to the mood stabilizing regimen. The use of antidepressant medications for bipolar disease also can trigger manic symptoms and must be used with caution. Psychopharmacologic nuances such as these are known to psychiatric prescribers, but less so to primary care or oncology prescribers. Therefore, collaboration between providers will be important to achieve optimal management.

Nonpharmacological Treatments of Bipolar Disorder

In addition to medication, psychotherapy is an effective treatment for bipolar disorder. Patients and their families can learn to change negative thought patterns, learn new and more effective behaviors through CBT, identify new episodes of mania or depression earlier, and improve communication skills. Education about this disease and its treatments offers patients and families more understanding, guidance, and hope for mental health recovery and higher levels of function.

Electroconvulsive therapy (ECT) is used to treat SMD when multiple medications, medication combinations, and other treatments have failed (Nuttall et al., 2004). ECT has proved to be highly effective for people with severe bipolar disease who have not responded to other regimens. Since 1985, transcranial magnetic stimulation (TMS), a noninvasive method of stimulation to influence cerebral function, has been researched for use and efficacy in treatment of psychiatric disorders (Loo et al., 2000). These treatment modalities have sparked controversy for their depictions in film and other media, but have also generated positive outcomes for some people with SMD who do not respond to multiple medication regimens and other treatments (Sharp, 2005).

Schizophrenia

Schizophrenia is an SMD that affects more than two million adults, with women developing this disease at a slightly later age than men (National Institute of Mental Health, 2008). It has been called the cancer of mental illness (Weinberger, 2010). According to Weinberger (2010), schizophrenia means fragmented mind. Contrary to current beliefs, schizophrenia is not caused by illegal drug use or abusive parenting. Like a lot of other diseases, environmental factors may be involved as well as genetic predisposition related to brain development prior to birth. The first symptoms usually start in adolescence or early childhood. During the early phases of schizophrenia, when the symptoms are mild or vague, a person may be misdiagnosed as suffering from depression or other mental illness. As the disease progresses, a clear diagnosis can be made.

Case Study

J.T. is a 25-year-old single woman, the youngest of five children. She was treated in an outpatient chemotherapy clinic for stage III breast cancer. She also has a diagnosis of severe schizophrenia. Her mother and two older sisters took turns bringing her to the clinic and giving the nurses and physicians information on J.T.’s treatment tolerance and related side effects. Her visit times were always scheduled as “extended,” and great care was taken to lessen any psychological discomfort. The oncology nurses knew that every Monday morning, J.T. would call with at least one or two questions for the triage nurse. J.T.’s psychiatrist suggested that she write how she was feeling in her journal. There were some days that she just wrote one or two words, such as “tired” or “sick,” while on other days she entered many descriptive sentences and wrote about her experiences at the clinic, such as “seeing other people like me.” Her family members were loving, patient, and always supportive of her decisions. At the end of 12 weeks, she said she had enough and wanted no more treatments. After thoughtful and carefully worded discussions to help her and her family understand the implications of her decision to end oncology treatment, J.T. decided to stop chemotherapy for stage III breast cancer. She also has a diagnosis of severe schizophrenia. Her mother and two older sisters took turns bringing her to the clinic and giving the nurses and physicians information on J.T.’s treatment tolerance and related side effects. Her visit times were always scheduled as “extended,” and great care was taken to lessen any psychological discomfort. The oncology nurses knew that every Monday morning, J.T. would call with at least one or two questions for the triage nurse. J.T.’s psychiatrist suggested that she write how she was feeling in her journal. There were some days that she just wrote one or two words, such as “tired” or “sick,” while on other days she entered many descriptive sentences and wrote about her experiences at the clinic, such as “seeing other people like me.” Her family members were loving, patient, and always supportive of her decisions. At the end of 12 weeks, she said she had enough and wanted no more treatments. After thoughtful and carefully worded discussions to help her and her family understand the implications of her decision to end oncology treatment, J.T. decided to stop chemotherapy for stage III breast cancer.

Additional Resource

A good resource for evidence-based interventions for depression is the Oncology Nursing Society’s Putting Evidence Into Practice tool. To access, open a barcode scanner on your smartphone, take a photo of the code at left, and your phone will link automatically. Or, visit www.ons.org/Research/PEP/Depression.
Ms. X was tearful while receiving chemotherapy. She voiced concerns about losing her hair, the loss of a breast, and not being able to do household chores and homework with her children. In addition, she feels angry and distance from her husband. Ms. X requested and was given a referral for a therapist to start individual counseling. She denied suicidal ideation, but stated that “sometimes I think it would be easier if I would have died.” Ms. X reported that lorazepam eases her anxiety and helps her sleep. She plans on discussing with her oncologist the possibility of starting on an antidepressant. In addition, Ms. X asked her oncology nurse about sexuality issues and was given a pamphlet from the American Cancer Society on women and sexuality, as well as a schedule of classes at the Cancer Support Community (www.cancersupportcommunity.org).

### Schizophrenia Diagnosis

**DSM IV-TR diagnostic criteria for schizophrenia includes two or more of the following symptoms for a significant portion of time during a one-month period: delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, negative behaviors (e.g., flat affect, inability to speak, apathy), and decreased ability to feel pleasure or anhedonia. This lifelong disease requires extensive care and frequent hospitalizations, particularly in the early weeks or months following a diagnosis. Many types of schizophrenia and schizophreniform disorders exist, such as schizoaffective disorder, which further complicates the differential diagnosis. Because the cause of schizophrenia is unknown, the treatment is focused on symptom management with medication, patient and family education, and support.

Some theories suggest that excessive amounts or an imbalance of the neurotransmitter dopamine is associated with the body metabolizes drugs, a prescriber may need to change medications or dosages frequently to achieve an optimum level of wellness for the patient.

### Drug Interactions and Medical Complexities

**Tamoxifen and Antidepressants**

Some of the medications used in the treatment of cancer or to control the symptoms related to chemotherapy or biotherapy may interact adversely with the psychotropic medications and cause potentially life-threatening reactions or adversely affect the course of treatment. Since 1988, tamoxifen has reduced the recurrence of breast cancer by 40%–50% in early-stage hormone receptor-positive postmenopausal women, and 30% in premenopausal women (National Cancer Institute, 2012). In breast cancer, the use of tamoxifen may interact with some medications prescribed for depression or bipolar disorder. That interaction may interfere with the effects of tamoxifen. The liver uses cytochrome P450 enzymes to metabolize many drugs. One of those enzymes is CYP2D6, which converts tamoxifen into endoxifen—the active (usable)
form that blocks estrogen receptors in the breast tissue. Studies show that about 7% of the Caucasian population, 1% of the Asian population, and 2% of the African American population in the United States has a deficiency of CYP2D6 (Bertilsson, Dahl, Dalen, & Al-Shurbaji, 2002; Evans et al., 1993). Selective serotonin reuptake inhibitor (SSRI) and selective serotonin and norepinephrine reuptake inhibitor (SNRI) drugs that are moderate or strong inhibitors of the CYP2D6 enzymes include fluoxetine, paroxetine, and bupropion. Moderate inhibitors include duloxetine, sertraline, and trazodone (Goetz et al., 2007). A few tests are available to genotype cytochrome CYP2D6, but the small number of people affected by the results may not warrant testing of all candidates for effective administration of tamoxifen. All evidence points to avoiding moderate or strong inhibitors of CYP2D6 enzymes and to consider alternate medications for the treatment of mental illness. Other medications used in SMD, such as tricyclic antidepressants and monoamine oxidase inhibitors (MAOs), have not been implicated in this adverse drug interaction, but research is continuing.

Syndrome of Inappropriate Antidiuretic Hormone Secretion

Problems are associated with the concomitant use of SSRIs and other psychiatric medications. Syndrome of inappropriate antidiuretic hormone (SIADH) secretion is a rare endocrine paraneoplastic syndrome resulting from the excessive release of antidiuretic hormone (ADH) from either the posterior pituitary gland or from an ectopic source, leading to impaired renal excretion (Itano & Taoka, 2005). The clinical hyponatremia is a result of excess water and not an external source of serum sodium deficiency.

Mild symptoms when the serum sodium levels are 125-130 mEq/L include general malaise, nausea, headache, poor appetite, and confusion. Moderate symptoms such as increasing lethargy, disorientation, psychosis, and depression occur when serum sodium levels are 115-125 mEq/L. Severe symptoms such as seizures, coma, or death occur when serum sodium levels are less than 115 mEq/L (Rottman, 2007).

SIADH as a result of SSRI use was first noted in the late 1980s (Rottman, 2007). Reporting of this side effect was rare, and it was not until 1996 that a review of the more than 736 cases of hyponatremia related to SSRI use demonstrated the extent of the problem (Liu, Mittmann, Knowles, & Shear, 1996). SIADH is most commonly seen in patients with small cell lung cancer, but can occur in noncancer-related circumstances, such as trauma, infections, surgery, and pulmonary diseases. The use of tricyclic antidepressants, morphine, opioids, diuretics, and nonsteroidal anti-inflammatory drugs (NSAIDs) have all been implicated in SIADH (Itano & Taoka, 2005). Treatment is directed to managing the hyponatremia, providing supportive care, and discontinuing the medication that may be causing the problem.

Serotonin Syndrome

Another side effect of SSRI and SNRI use is called serotonin syndrome, an excess of serotonin. This potentially life-threatening adverse reaction can occur with any of the SSRIs and SNRIs or with a combination of these drugs and other psychotropic medications. Serotonin syndrome symptoms can include mental status changes, hyperactivity of the autonomic systems, and neuromuscular changes. The concentration of serotonin in the body can be modified by the use of (a) SSRIs and SNRIs, (b) MAO inhibitors such as phenelzine, moclobemide, and isocarboxazid, (c) dopamine agonists such as ropinirole and pramipexole, (d) pain medications such as fentanyl, tramadol, or meperidine hydrochloride, (e) use of dextromethorphan, an over-the-counter cough medication, (f) herbal products such as St. Johns Wort, ginseng, and tryptophan, (g) lithium, and (h) antiemetics such as ondansetron, granisetron, metoclopramide, and other medications (i.e., antibiotics and anticonvulsants that have been implicated in this type of serotonin poisoning) (Boyer & Shannon, 2005). No laboratory test is available to confirm a diagnosis of serotonin syndrome; therefore, healthcare providers must look for signs of behavioral, neuromuscular, and autonomic symptoms.

According to Ables and Nagubilli (2010), 8,187 people in the United States were identified as having serotonin syndrome, leading to 103 deaths. Because most studies target only SSRI, the number of people affected are certainly underreported (Lamoure, 2008). The symptoms of serotonin syndrome usually start within a few hours of the administration of the new medication or a change in the dose. Symptoms are vague, such as mild confusion, tachycardia, diarrhea, and mild tremors that were not present prior to initiation of the new medication. As the serotonin builds up, the symptoms become more pronounced: hypertension, hyperflexia, muscle rigidity, clonus, diaphoresis, increased confusion, and increased tachycardia. If untreated, these symptoms of serotonin syndrome can progress to shock and death. With supportive care and removal of the

**Figure 5. Types of Bipolar Disorders**

*Note: Based on information from American Psychiatric Association, 2000.*
serotonin agent causing the problem, the patient usually recovers within 24–48 hours (Ables & Nagubilli, 2010).

In light of all the possible medical complexities and drug interactions, healthcare practitioners may be reluctant to prescribe or allow psychotropic medications for patients with cancer. The choice of psychotropic medications for a patient with cancer is based on multiple factors including symptoms, previous use, efficacy of psychotropic medications, family history, possible drug interactions, and cost. These medications often are prescribed at the lowest dose and titrated up to a therapeutic dose slowly to prevent serious adverse reactions. Once an effective psychotropic medication regime is determined, it should continue for at least six months to decrease a chance of relapse. Collaboration with psychiatric prescribers is helpful in managing psychotropic medications for patients with SMD and cancer, particularly when patients or family members cannot provide adequate treatment history.

The Nurse’s Role

Oncology nurses are not required to be competent in the assessment and management of severe mental disorders such as bipolar disorder and schizophrenia; however, they should be able to identify patients experiencing depression and anxiety. A diagnosis of severe SMD and other less severe mental health issues may complicate the oncology treatment plan. However, nurses and other oncology professionals cannot deliver quality cancer care without addressing patients’ psychosocial health needs. Enhancing nursing competence in the management of psychosocial issues is imperative.

Many assessment tools are used to measure anxiety, depression, and other psychiatric issues; none are more practical and applicable to emotional issues in oncology than the distress thermometer from the National Comprehensive Cancer Network ([NCCN], 2005). The distress thermometer has a 0–10 scale in the shape of a thermometer, with 0 indicating no distress and 10 indicating severe distress, along with a checklist identifying emotional, family, physical, and practical problems and spiritual or religious concerns. If a patient has an emotional distress score of 4 or higher, or significant issues identified from the checklist, additional assessment and discussion should occur so that appropriate resources and support can be provided (Fulcher & Gosselin, 2007). Oncology nurses must develop experience in timing and wording of mental health assessment dialogues (for anxiety or depression) that may be as simple as asking, “how is your mental health today?”

Suicide Risk Assessment

One of the most difficult nursing roles may be to assess patients with cancer for suicide risk in the ambulatory setting—an important piece of the psychosocial assessment, particularly when a patient has a history of mental illness or is exhibiting significant symptoms of anxiety, depression, or distress. Studies suggest that patients with cancer are at an increased risk of suicide and that the risk of suicide may increase with an advanced stage of cancer at diagnosis (Aiello-Laws, 2010; Allebeck, Bolund, & Ringback, 1989; Fox, Stanek, Boyd, & Flannery, 1982). During the nurse’s assessment of emotional distress, depression, and anxiety, it is appropriate to say, “some people think about killing themselves when they receive a cancer diagnosis. Have you ever had thoughts like that?” If the patient answers that he or she has had suicidal thoughts, other questions should encourage elaboration to determine how strong the intent is and the nurse should calmly provide the appropriate interventions. If imminent suicide intent, the risk of suicide, or a feasible plan to commit suicide exists, the healthcare team should be alerted. If the patient has a plan and intent to commit suicide, the health professional should notify significant others, have them remove any means to carry out a suicide plan, and stay with the patient. Hospitalization may be necessary to prevent the patient from carrying out a suicide plan. These safety measures are best carried out with the patient’s knowledge and agreement. When this situation arises, make an immediate referral to a treatment facility, emergency department, social worker, psychiatrist, or chaplain (Aiello-Laws, 2010).

A nurse’s role with all patients is to provide education on cancer diagnosis, medication, side effects, and treatment plan in easy-to-understand literature supported by verbal instructions and feedback to make sure that the information is understood. Education should be modified, when necessary, to meet the needs of a patient with a SMD and his or her family. Simplicity and reinforcement are two of the important principles of patient education, no matter what the patient’s education level is (Freda, 2004). Oncology nurses working with patients who have a SMD can facilitate a psychiatric consultation with professionals available within their facility, and/or collaborate with the patient’s mental health provider(s) with the patient’s consent.

Implications for Practice

- A severe preexisting mental disorder often complicates cancer treatments and outcomes.
- Oncology nurses need to be better educated on severe mental disorders and the medications used to treat this specific population.
- Outpatient chemotherapy offices should have a protocol in place for psychiatric emergencies, such as patients making suicide threats or patients experiencing altered mental status episodes.

Conclusions

Medical professionals need to be aware of premature mortality in people with SMD. Healthcare professionals are becoming more aware of this underserved population and learning to deal with mental health issues as a vital part of oncology care (Adler & Page, 2008). Research studies in this area will expand knowledge and lead to improved care and patient outcomes.

Progress has been made in removing the stigma of mental illness and encouraging the public to view persons with SMD as any other person with a chronic but treatable illness. Substantial research has led to major pharmaceutical changes in psychiatric medication regimens, and ongoing studies and practices involving case management, family interventions and support, and skills training are leading to more optimistic
long-term outcomes. More research is needed on the effects of a cancer diagnosis and its treatment in people experiencing SMD. Nurses play a pivotal role in patient assessment, education, and advocacy. Oncology nurses can become proficient in providing psychosocial support while caring for patients and caregivers. Increasing knowledge of SMD and associated medical complexities that may exist in patients with cancer is important to optimally care for this population.

References


Receive Continuing Nursing Education Credits

Receive free continuing nursing education credit* for reading this article and taking a brief quiz online. To access the test for this and other articles, visit http://evaluationcenter.ons.org/Login.aspx. After entering your Oncology Nursing Society profile username and password, select CNE Tests and Evals from the left-hand menu. Scroll down to Clinical Journal of Oncology Nursing and choose the test(s) you would like to take.

* The Oncology Nursing Society is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s COA.