

# 361 Mental Illnesses

## Definition/Cut-off Value

As defined by the American Psychiatric Association in the Diagnostic and Statistical Manual of Mental Health Disorders, Fifth Edition, a mental disorder (or mental illness)<sup>1</sup> is:

“A syndrome characterized by clinically significant disturbance in an individual’s cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities (1).”

Mental illnesses where the current condition, or treatment for the condition may affect nutrition status include, but are not limited to:

Mental Illnesses	
Depression	Anxiety Disorders
Post-Traumatic Stress Disorder (PTSD)	Obsessive-Compulsive Disorder (OCD)
Personality Disorders	Bipolar Disorders
Schizophrenia	Attention-Deficit/Hyperactivity Disorder (ADHD)

Note: For mental illnesses related to eating disorders (e.g., anorexia nervosa, bulimia nervosa and binge-eating disorder), please see risk #358 Eating Disorders.

The presence of a mental illness that is diagnosed, documented, or reported by a physician, or someone working under a physician’s orders, mental health provider or as self-reported by an applicant, participant, or caregiver. See Clarification (page 12) for more information about self-reporting a diagnosis.

## Participant Category and Priority Level

Category	Priority
Pregnant Women	I
Breastfeeding Women	I
Non-Breastfeeding Women	III, IV, V or VI
Children	III

## Justification

### Prevalence of Mental Illnesses

In 2019, the prevalence of any mental illness in U.S. adults was 20.6%; one fifth of the adult population (2). Mental illnesses can vary in impact from mild to severe (2). Young adults aged 18-25 had the highest prevalence of mental illnesses (29.4%) (2). Females had a higher prevalence (24.5%) than males (16.3%) (2). Those reporting two or more races had the highest prevalence (31.7%), followed by Whites (22.2%), Alaskan Natives or Native Americans (18.7%), Hispanics (18%), Blacks (17.3%), Native Hawaiians or Other

<sup>1</sup> The terms mental disorder and mental illness are both used in the Diagnostic and Statistical Manual of Mental Health Disorders. Mental illness is the term endorsed by Substance Abuse and Mental Health Services Administration (SAMHSA).

Pacific Islanders (16.6%), and Asians (14.4%) (2). Additionally, people in the Lesbian, Gay, Bi-Sexual, Transgender, Queer (LGBTQ) community experience mental illnesses, especially depression and anxiety disorders, at a higher rate (3). LGB adults are more than twice as likely as heterosexual adults to experience a mental illness while transgender adults are nearly 4 times as likely as cisgender adults to experience a mental illness (3).

The prevalence of severe mental illness in U.S. adults was 5.2% in 2019 (2). Severe mental illness results in serious functional impairment which substantially interferes with or limits one or more major life activities (2). The Americans with Disabilities Act Amendments Act of 2008 defines major life activities as “including but not limited to caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, speaking, breathing, lifting, learning, reading, concentrating, and working” (4). People with severe mental illness often have difficulty maintaining a healthy diet, even when guidance is provided (5). Unintended changes in total body weight (5% in the past month, or 10% in the past six months) and medications that alter appetite or intake, nutrient absorption, or the metabolism of nutrients may signal the need for additional referrals and indicate that the mental illness is more serious (5). Females had a higher prevalence (6.5%) of severe mental illness than males (3.9%) (2). Young adults aged 18-25 years had the highest prevalence of severe mental illness (8.6%) compared to adults aged 26-49 years (6.8%) and aged 50 and older (2.9%) (2). Those reporting two or more races had the highest prevalence of severe mental illness (9.3%), followed by Alaskan Natives or Native Americans (6.7%), Whites (5.7%), Hispanics (4.9%), Blacks (4.0%), Asians (3.1%), and Native Hawaiians or Other Pacific Islanders (2.6%) (2).

The prenatal and postnatal periods are a common time for the relapse of mental illnesses such as depression, bipolar disorder, and anxiety disorders since women may choose not to take their medications while pregnant or breastfeeding. Suicide remains a leading cause of mortality in the postpartum period and accounts for 20% of maternal deaths in the first year after birth. Mental illnesses during pregnancy have been associated with adverse perinatal outcomes, including placental abnormalities, small-for-gestational-age fetuses, fetal distress, preterm delivery, adverse neurodevelopmental outcomes, and disordered attachment. Pregnant women with untreated mental illness are also more likely to smoke, use alcohol and drugs, have less prenatal care, and have poor nutrition. (6)

Children whose parents have a mental illness are at risk for developing social, emotional, and behavioral problems. They are more likely to have an inconsistent and unpredictable family environment which can place the child at risk for poverty, living in a single parent home, hostile behavior by a parent, and having a parent with a substance use disorder. (7)

Mental illnesses or serious emotional disturbances also occur in children. Symptoms in children are observed as serious changes in the way they typically learn, behave, or handle their emotions, which cause distress and problems getting through the day. The diagnosis is often made in the school years or sometimes earlier. Symptoms of mental illnesses often change as a child grows. Mental illnesses can also interfere with a child’s healthy development, causing problems that can continue into adulthood. The most common mental illnesses that are diagnosed in childhood are attention-deficit/hyperactivity disorder (ADHD), anxiety, and behavior disorders, as follows (8):

- 9.4% of U.S. children aged 2-17 years have received an ADHD diagnosis.
- 7.4% of U.S. children aged 3-17 years have a diagnosed behavior problem.
- 7.1% of U.S. children aged 3-17 years have diagnosed anxiety.
- 3.2% of U.S. children aged 3-17 years have diagnosed depression.

- 16.7% U.S. children aged 2–8 years have a diagnosed mental, behavioral, or developmental disorder.

Poverty affects mental health in many ways including increased financial stress, chronic and acute stressful life events, inadequate nutrition, and lead exposure. It can also affect parental relationship stress, result in a low-stimulation home environment, and child abuse and neglect. Poverty in childhood is associated with depressive and anxiety disorders, and higher rates of almost every psychiatric illness in adulthood. Poverty in adulthood is linked to depressive disorders, anxiety disorders, and suicide. (9)

### **Treatment**

Treatment for any mental illness can be complex and depends on the severity of the symptoms (1). It is estimated that only half of individuals with any type of mental illness receive treatment (2). More females receive treatment for mental illnesses than males (2). It is also more common for older adults to receive treatment than those aged 18-25 years old (2).

Mental illnesses are most commonly treated with psychotherapy and medication (1). Medications can play a role in treating most mental illnesses but choosing the right treatment plan should be based on an individual's needs, medical situation, and be under the guidance of a health care professional (10). Certain medication such as antidepressants, antipsychotics, anticonvulsants, or stimulants can influence body weight and appetite (11). Individuals who are prescribed antipsychotics often have weight gain that may result in additional health issues, reduced quality of life, and poor compliance with taking the medication as prescribed (12).

### **Mental Illnesses and Nutrition**

Nutrition is important to mental health because it contributes to maintaining the structure and function of the nerve cells and chemicals in the brain. The production of nerve chemicals or neurotransmitters requires certain nutrients including amino acids, zinc, copper, magnesium, iron, iodine, selenium, and B vitamins. If the intake of these nutrients is low, it can affect the production of neurotransmitters and therefore mental health. While vitamin D is usually associated with bone health it is also a very important nutrient for the brain. Research has associated vitamin D deficiency with mood disorders, dementia, and an increased risk for depression. (12)

Essential fatty acids (EFA) are also crucial nutrients that may support mental health. They are the building blocks for nerve tissue and transmitting nerve signals. When EFA are out of balance or consumed in insufficient amounts, biochemical malfunctions such as incomplete or inaccurate nerve signals can impact physical and mental health. (12)

Some patients with mental illnesses can be deficient in some vitamins, minerals, and nutrients. These commonly include, B6, B9, B12, omega-3 and omega-6 fatty acids, magnesium, vitamin D, and zinc (12). Evidence suggests that in some cases, when these deficiencies are returned to normal, changes in mood and behavior can be achieved. (12)

### **Common Mental Illnesses**

#### **Depression**

Depression has a variety of symptoms, the most common are feelings of sadness or a marked loss of interest in pleasure or activities (13). Other symptoms include appetite changes resulting in unintended weight loss or gain, insomnia or oversleeping, loss of energy or increased fatigue, restlessness or irritability, feelings of worthlessness or inappropriate guilt and difficulty thinking, concentrating, or making decisions

(14). Depression affects 6.7% U.S. adults in any given year and 16.6% will experience depression at some time in their life (14). The prevalence of depression among females is 60% higher than males (13). Of those adults diagnosed with depression, 63.8% had severe impairment (2). Although depression can occur at any age, it usually first appears in the late teens to mid-twenties (14). Depression is now recognized in children and adolescents and tends to present as irritability, rather than low mood (2). There is no definite cause of depression but there are many contributing factors including genetics, nutrition, environmental stressors, hormonal disruptions, and changes in brain chemistry (12). Approximately one-third of people who have depression do not respond well to the available treatments (12).

For information on screening WIC participants for possible depression please see *Guidance for Screening and Referring with or at Risk for Depression* (available on the Food and Nutrition Service PartnerWeb). This guidance clarifies WIC staff's role in maternal depression, provides training resources, identifies focus areas of breastfeeding promotion and support, and nutrition education related to maternal depression. It also contains information on referring participants to appropriate mental health services to maximize participant benefit from WIC nutrition services to achieve positive health outcomes.

### Prenatal Depression

The most common symptoms of prenatal depression include feelings of sadness, anxiety, and fatigue (15). Women who experience depression during pregnancy are found to be at an increased risk of not following their prenatal medical plan, inadequate or excessive gestational weight gain, smoking, and substance use (16). Studies suggest that pregnant women with untreated symptoms of depression have increased rates of birth complications, preeclampsia, preterm delivery, low birth weight and impaired social, cognitive, and emotional development in the baby (16, 17). Approximately 10% of pregnant women experience depression with some reported rates as high as 22% (18, 19). Women of color and those from lower socioeconomic groups have a significantly higher incidence of prenatal depression (20).

Approximately 6-8% of U.S. women report using or having been prescribed an antidepressant while pregnant (21). There are currently no recommendations on which medication should be used to treat depression during pregnancy and there are concerns about the negative associations of antidepressants on fetal and infant health (12, 22). Selective serotonin reuptake inhibitors (SSRIs) are the most frequently used medication to treat pregnant women with depression (22). Some complications associated with SSRIs and Selective norepinephrine reuptake inhibitors (SNRIs) used in pregnancy may include increased risk of spontaneous abortion, preterm birth and low birth weight, poor neonatal adaptation syndrome, persistent pulmonary hypertension and congenital anomalies including heart defects (22). High rates of depression relapse (70%) have been found in some studies when pregnant women have stopped their antidepressant medication (23). The use of antidepressants during pregnancy may also influence a woman's choice for feeding her infant making her less likely to plan on or initiate breastfeeding (24). For all these reasons, it is imperative that prenatal women discuss the benefits and risks of antidepressant therapy as part of the treatment for depression with their health care provider (21).

### Depression in Pregnant Adolescents

Adolescent pregnancy is considered a significant risk for depression (25). Women who gave birth before their 20th birthday showed higher levels of depressive and anxiety symptoms (25). The symptoms of depression in adolescence are different than those presented in adulthood (26). While they share a depressed mood, adolescents more frequently show changes in appetite or weight and insomnia, rather than a loss of interests and poor concentration (26). Depression in adolescent pregnancy has a high frequency of suicidal attempts, reaching up to 20% (26).

Teens who are female, have a family history of depression, a history of trauma, family conflict, a chronic medical disease, or who are LGBTQ are at greater risk for developing adolescent depression. Depression in adolescents can occur with other mental illnesses including anxiety. (26)

### Postpartum Depression

Postpartum depression (PPD) is a form of depression that occurs within 4 to 6 weeks after childbirth and is one of the most common complications that occurs after pregnancy (27, 28). PPD is associated with many adverse outcomes for both mother and offspring including, maternal mortality and morbidity, increased risk for infanticide, poorer maternal-infant attachment, early discontinuation of breastfeeding, and impaired parenting behaviors (12, 27). It affects 10-15% of women (27). The risk factors associated with PPD include genetics, history of a mental illness and adverse life events including physical, psychological, or sexual abuse (27). Discrimination and immigration are often overlooked adverse life events associated with PPD (27).

PPD is different from the “baby blues” which is used to describe mild mood changes, feelings of worry, unhappiness, and exhaustion in the first 2 weeks after having a baby (15). The “baby blues” is a common reaction following delivery that affects 70-80% of new mothers (12). The “baby blues” typically peak four to five days after delivery and may last hours to days and usually resolve within 2 weeks (12, 15).

### Breastfeeding and Depression

Women with PPD are less likely to breastfeed, as PPD is considered a risk factor for breastfeeding self-efficacy (12, 29). Women with low self-efficacy are 3 times more likely to stop breastfeeding early (29). Studies show the presence of depressive symptoms in the postpartum period decrease maternal confidence in breastfeeding and increase the risk of discontinuing exclusive breastfeeding (29). Women with PPD also have fewer positive interactions with their infants and a poorer perception regarding their baby’s behavior (29). Additionally, PPD can negatively affect milk supply due to elevated levels of cortisol in the mother’s system (12). Difficulties with breastfeeding can cause the mother to feel overwhelmed and increase the risk of depression (12). If a mother with early signs of PPD stops breastfeeding, depression can become more severe due to the abrupt drop in oxytocin levels (12). Successful breastfeeding may have a protective effect on maternal mental health because the breastfeeding relationship can decrease feelings of loneliness and emptiness that are common in PPD (12). Higher levels of oxytocin released during breastfeeding can cause the mother to feel calmer and more relaxed (12).

Medications used to treat PPD include SSRIs and SSNIs (23). Most research shows negligible risk in infants exposed to SSRIs in human milk containing antidepressants (24). Sertraline, an SSRI, is the most studied antidepressant in breastfeeding (6). It has minimal transfer into breastmilk and is well tolerated by most infants (6).

### **Anxiety Disorders**

Anxiety disorders are the most common mental illness in adults in the U.S. (12). They include the following types: generalized anxiety disorder, panic disorder, and various phobia-related disorders (30). In anxiety disorders, worry and fear interfere with daily life and are much more severe than occasional anxiety (2,30). All anxiety disorders share an increase in emotional, physical, and neurological symptoms precipitated by a specific situation or circumstance (12). Nineteen percent of the adults in the U.S. have an anxiety disorder; 22% of those individuals experience severe impairment related to their anxiety. (12). The risk factors for anxiety disorders include both genetic and environmental components along with exposure to stressful events, an adverse childhood experience, and a history of mental illness in the family (12, 30).

During pregnancy, anxiety may have adverse effects on both the mother and baby, including impaired fetal development, complications of labor, and altered mental development of the newborn (31). Therefore, it may be necessary to consider medication for anxiety that worsens during pregnancy. Anxiety disorders are usually treated with psychotherapy and medications (30, 32). The medications most used to treat anxiety disorders include anti-anxiety medications (benzodiazepines), antidepressants (SSRIs and SSNIs), and blood-pressure medications (beta-blockers) (2, 30, 32). Benzodiazepines (i.e., Xanax, Valium) have the benefit of working faster than anti-depressants, but they can be addictive if used over the long-term (30). Both antidepressants, SSRIs (i.e., Zoloft, Prozac) and SSNIs (i.e., Effexor), are used to treat anxiety disorders, but they can take 4-6 weeks for effects on mood to occur (30). An increase in suicidal thoughts or behavior can occur in those under age 25 when taking antidepressant medications, especially in the first few weeks after starting, or when the dose is changed which requires appropriate monitoring by the prescribing provider (33). Beta-blockers can be used to help relieve the physical symptoms of anxiety, including shaking and a rapid heartbeat but they are usually used short-term or on an as needed basis such as during situational anxiety (32). SSRIs are the first-line pharmacological agents for anxiety disorders in perinatal patients (23).

### **Post-Traumatic Stress Disorder (PTSD)**

PTSD is a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic, shocking, scary, or dangerous event (34). People with PTSD have intense or disturbing thoughts and feelings related to their trauma that lasts after the traumatic event has ended (35). They may avoid situations or people that remind them of the event, and they may have strong negative reactions to something like a loud noise or an unexpected touch (35). Symptoms of PTSD usually begin within 3 months of the traumatic incident, but sometimes begin years after (35). To be considered PTSD, the symptoms must last more than a month and be severe enough to interfere with relationships or work (35). PTSD can occur at any age and affects 3.5% of the U.S. population with women being more likely to be affected than men (36). Hispanics, Blacks, and Native Americans have higher rates of PTSD than non-Hispanic whites (32). Rape is the most common trigger of PTSD and childhood sexual abuse is a strong predictor for developing PTSD in one's lifetime (36). Approximately 3.3% of pregnant women and 4% of postpartum women have PTSD (37). Women are susceptible to developing PTSD as a result of childbirth (37). Risk factors associated with postpartum PTSD include negative subjective birth experiences, having an operative birth, history of mental health problems, and lack of support (37). Studies support an association between postpartum PTSD with lower birth weights and lower rates of breastfeeding (37). Usually, psychotherapy or medications is used to treat PTSD or a combination of the two (34, 35). The medications most used to treat the symptoms of PTSD are the antidepressants, SSRIs and SSNIs (34, 35).

### **Obsessive-Compulsive Disorder (OCD)**

OCD is a chronic and long-lasting disorder in which a person has uncontrollable, reoccurring thoughts (*obsessions*) and/or behaviors (*compulsions*) that they feel the urge to repeat over and over (38). The compulsions, such as hand washing, checking on things or cleaning, can interfere with a person's daily life (38). People with OCD have difficulty stopping the obsessive thoughts or the compulsive actions even though they are very distressing and recognize their thoughts and behaviors are excessive (38). OCD occurs in 1.0% of the U.S. population with women and men being equally affected (36). The average age of onset is 19 years old with one-third of affected adults having first experienced symptoms in childhood (36). The causes of OCD are unknown but there are some risk factors associated with it including genetics, childhood trauma, and brain abnormalities (39). People with mild to moderate forms of OCD are usually treated with either cognitive behavioral therapy (CBT) or medication (38). Usually, a high dose of SSRIs is recommended to treat OCD, but it can take up to 12 weeks to notice an improvement (39). In severe forms of OCD, it is



recommended that both medication and CBT be used (39). Given the relatively large number of studies regarding their safety in the perinatal period for OCD patients SSRIs are the first-line medications (30).

### **Personality Disorders**

Personality disorders, including obsessive-compulsive personality disorder (different from OCD), narcissistic personality disorder, antisocial personality disorder, and borderline personality disorder, are an “enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual’s culture” (1, 36). Behaviors are pervasive and inflexible, often resulting in distress and impairment (1). The person’s way of thinking, feeling, and behaving is different from the expectations of society and causes problems functioning (40). Personality disorders affect at least two of these areas: the way a person thinks about oneself and others, the way a person responds emotionally, the way a person relates to other people, or the way a person controls their behavior (40). Personality disorders are not usually diagnosed until a person is over the age of 18 because prior to that age a person’s personality is still developing (40). It is estimated that 9% of the U.S. population has at least one personality disorder (36). There are no medications specifically used to treat personality disorders, but psychotherapy can be effective (40). Medications, such as antidepressants, anti-anxiety medication or mood stabilizing medication, may be helpful in treating some symptoms under the care of a psychiatrist (40).

### **Bipolar Disorders**

Bipolar disorder (formerly known as manic depressive disorder or manic depression) is a mental illness that causes changes in a person’s mood that affects their daily life (41, 42). These mood shifts are known as manic (elevated or agitated) or depressive (sad and hopeless) (41, 42). During depressive episodes, approximately 25-50% of those with bipolar disorder attempt suicide (12). Sometimes people may have a mixed episode, feeling both manic and depressive symptoms at the same time (42). The symptoms of a mood can last from days to weeks and vary in intensity (41). People with bipolar disorders are more likely to have other mental illnesses like anxiety, eating disorders, substance use issues or chronic medical conditions such as diabetes, obesity, or heart disease (12, 41). The lifetime prevalence of bipolar disorder in the U.S. is 4.4% (12). Of those 4.4% diagnosed with bipolar disorder 82.9% have severe impairment (12). The exact cause of bipolar disorders is not known, but genetics, hormones, and an imbalance in brain chemistry are believed to play a role (12, 42). Bipolar disorders also tend to run in families with the average age of onset being 25 years old (42).

Medications are the treatment of choice for bipolar disorders with mood stabilizers like antiseizure medications with lithium being used the most commonly (12). These medications are believed to affect the chemical imbalances in brain (42). Lithium and sodium are similar in chemical bonding, so it is necessary for those taking lithium to have a stable, moderate intake of salt to keep lithium levels steady (12). Simple information based on the Dietary Approaches to Stop Hypertension (DASH) diet could be useful to those taking lithium (12). Mood stabilizers may also cause other side effects that could affect a person’s nutritional status including weight gain, increased thirst, nausea, vomiting, and diarrhea (12).

The postpartum period is a vulnerable time for illness relapse in bipolar women (43). Women with bipolar disorder who discontinued their medication during pregnancy had a significantly higher risk of relapsing during the postpartum period (approximately 65% vs 25%) than those who remained taking their medication (6). The effect of lithium use on a breastfed baby is not as well studied (43). Lithium is excreted in human milk (23). Both the American Academy of Pediatrics and the National Library of Medicine (LactMed) provide guidelines for lithium use during breastfeeding but when lithium therapy is continued during the perinatal period it requires close monitoring of the breastfeeding dyad (23, 43). Infant

monitoring includes checking for over-sedation, restlessness, hydration status, and changes in growth and development (23).

### **Schizophrenia**

Schizophrenia is a serious mental illness that can be severely disabling if not treated (44). It is characterized by delusions, hallucinations, disorganized speech and behavior, and other symptoms that cause social or occupational dysfunction (44). For a diagnosis, symptoms must have been present for six months and have been active for at least one month (1). Schizophrenia affects 1% of the U.S. population (45). It occurs equally in men and women but tends to be diagnosed earlier in males (1, 44). Symptoms appear in males in their late teens or early twenties and in females in their twenties or thirties (12). Genetics is estimated to be responsible for 80% of schizophrenia cases (12). People with schizophrenia also have higher mortality rates due to higher rates of heart disease, liver disease, and diabetes (12, 45). These diseases appear to be more related to fat metabolism than dietary fat intake as schizophrenia appears to be associated with altered metabolism (12). Studies of patients with schizophrenia have shown them to have three times the amount of visceral fat when compared to those with equal total body fat (12). They also have reduced energy needs which may be related to antipsychotic medications frequently used in the treatment of schizophrenia (12). Antipsychotic medications are associated with increased appetite and weight, with some patients gaining as much as 25-60 pounds over the first few years after starting medication (12, 44).

People with schizophrenia are at increased risk for substance use disorders. Their lifetime risk of having a serious drug or alcohol problem is 47% compared to 16% for the general population (46). High rates of substance use are associated with poor medical compliance, clinical decline, violence, and suicide. Some researchers think that the genetic risk for schizophrenia also increases the likelihood of substance use and an increased use of substances in adolescence may both increase the risk for developing a later substance use disorder and serve as an additional risk factor for the appearance of psychotic symptoms. (46)

Women with schizophrenia are more likely to have increased rates of stillbirths and neonatal deaths (23). This may be due to the illness, other medical conditions, lifestyle factors, or social issues (23). Pregnant women with schizophrenia who take antipsychotics are more likely to be obese, smoke, use alcohol, drugs, other medications, and have pre-existing diabetes and hypertension (23). Antipsychotics may increase the risk of gestational diabetes mellitus (GDM), obesity, and gestational hypertension (23). These conditions can lead to adverse maternal and neonatal outcomes such as fetal growth abnormalities, preterm birth, and congenital malformations (23). Since most antipsychotics are sedating for adults, it is recommended that breastfed infants are monitored for sedation as some cases in infants have been reported (24).

### **Attention-Deficit/Hyperactivity Disorder (ADHD)**

Attention-deficit/hyperactivity disorder (ADHD) is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development (1). Inattention includes behaviors such as wandering off task, difficulty keeping focus, and disorganization (47). Hyperactivity includes moving constantly, excessively fidgeting, tapping, or talking (47). Impulsivity includes hasty acts that occur without thought and may have a high potential for harm (47, 48). To be diagnosed with ADHD the child must exhibit symptoms before age twelve and consistently show signs of inattention, hyperactivity and impulsivity that is inappropriate for their age and cannot be contributed to other causes (1, 12). These symptoms must be present in more than one setting (1). Many parents first observe excessive motor activity when the child is a toddler, but the symptoms are difficult to distinguish from highly variable normative behaviors before age four (1). ADHD is most often identified during elementary school years when the inattention becomes more prominent and impairing (1). In most individuals with ADHD, symptoms of motoric hyperactivity become



less obvious in adolescence and adulthood, but difficulties with restlessness, inattention, poor planning, and impulsivity persist (1). Severe impairment is more likely to be present when an ADHD diagnosis occurs at or before four years of age (1). In the U.S., 9.5-11% of children have been diagnosed with ADHD with nearly 2/3 of those having another behavioral diagnosis (12). Male children are two times as likely to have ADHD compared to female children (1). It is estimated that 2.5% of adults have ADHD (48). Many adults do not even realize that they have ADHD (47). Adults with undiagnosed ADHD may have a history of problems at school, work, or with relationships (48). In adults, hyperactivity may manifest as extreme restlessness or wearing others out with their activity (1, 48). Impulsive behaviors may manifest as social intrusiveness (e.g., interrupting others excessively) and/or as making important decisions without consideration of long-term consequences (e.g., taking a job without adequate information) (1). In the U.S., Black and Hispanic population rates of ADHD tend to be lower than for White populations suggesting that culturally appropriate practices are relevant in assessing ADHD (1).

The causes of ADHD are not understood but genetics play a role (1, 12, 48). Other potential causes or risk factors include premature delivery or low birth weight, alcohol, drugs, or tobacco use during pregnancy, environmental exposure to lead or pesticides at a young age, or brain injury (1, 12, 48). Standard treatment for ADHD includes both behavior therapy and medication (12). Stimulants are usually used as medications and can cause a reduced appetite and problems with gaining weight (12). Stimulants work by increasing the brain chemicals dopamine and norepinephrine, which play essential roles in thinking and attention (48). With long-term use, this has resulted in lower adult height and potentially negative effects on bone mineralization (12). Nutrition treatment should focus on maximizing interest in eating and eating before medications are taken so they do not affect appetite (12). For children who need to gain weight, calorie dense foods can be offered; bribes or coercion that pressure a child to eat are not effective (12). While the research on diet and its impact on ADHD remains inconclusive, most researchers agree that treatment should include decreasing processed foods, increasing foods high in omega-3 fatty acids, and assuring appropriate weight gain and growth (12).

Medications used to treat ADHD are being more commonly prescribed during pregnancy because if it is not properly treated it can result in risk-taking behavior, potentially placing the mother and fetus in danger (23). There is evidence to support that adequate treatment of ADHD may decrease substance use in the mother (23). However, there is also research that shows the stimulant methylphenidate is associated with an increased risk of low Apgar score at delivery that is not seen in untreated women with ADHD (23). Infants may also have neonatal withdrawal syndrome after being exposed to methylphenidate (23). The data is limited regarding the safety of ADHD medications during the pregnancy and lactation, but it currently does not suggest a link between methylphenidate and congenital malformations (23).

### Implications for WIC Nutrition Services

WIC can improve the management of mental illnesses through WIC foods, nutrition education, counseling, and referrals to community resources. The table below provides WIC nutrition services recommendations specific to the disease state:

### WIC Nutrition Services Recommendations for Mental Illnesses

All types of Mental Illnesses	<ul style="list-style-type: none"> <li>● Make referrals (or encourage continued visits) to the primary health care provider and/or other appropriate mental health and social service programs to initiate and/or maintain treatment.</li> <li>● Reinforce and support the treatments and therapies prescribed by the participant's health care provider.</li> <li>● When appropriate, encourage regular, healthy, meals and snacks that are simple and easy to prepare (12).</li> <li>● Encourage carbohydrate sources from whole grains, vegetables, and fruits to aid in maintaining stable blood sugar levels. Rapid increases in blood glucose can result in an increase in the release of insulin, which in turn raises adrenaline and cortisol which can cause changes in behavior and mood (12).</li> <li>● Encourage oily fish such as salmon, sardines, and tuna which are high in eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) as the essential Omega-3 fatty acids contribute to overall brain function and may offer some benefit for mental health condition such as depression, anxiety, and bipolar disorder (12).</li> <li>● Because a person with a mental illness may experience significant distress in social, work, or other settings, WIC professionals should seek to understand how symptom severity impacts eating and physical activity. Value Enhance Nutrition Assessment (VENA) techniques can be used to provide participant centered education and goal setting for these individuals. Goal setting should consider the level of impairment in major life activities and be cognizant of the participant's needs and barriers (5).</li> <li>● Assess for unintended changes in weight (12).</li> <li>● Assess current medications and possible drug nutrient interactions.</li> </ul>
Depression	<ul style="list-style-type: none"> <li>● Encourage food choices such as fruits, vegetables, olive oil, whole grains, low-fat dairy, and nutrient dense animal and plant protein sources (e.g., lean meats, poultry and eggs; seafood; nuts and seeds) as part of a healthy dietary pattern (12,49).</li> <li>● Encourage regular physical activity after consulting healthcare provider (50).</li> <li>● Educate about prevalence, risks, and signs of postpartum depression.</li> <li>● Provide breastfeeding education, assessment, and support (e.g., peer counseling) to women with existing depression in the perinatal period.</li> </ul>
Anxiety Disorders	<ul style="list-style-type: none"> <li>● Support gradual behavioral changes (12).</li> <li>● Encourage practices that promote mindfulness which may be helpful with anxiety (5).</li> <li>● Recommend maintaining well-balanced meals and routine mealtimes (12).</li> </ul>
PTSD and OCD	<ul style="list-style-type: none"> <li>● Support gradual behavioral changes (12).</li> </ul>
Personality Disorders	<ul style="list-style-type: none"> <li>● Support flexible variety of food choices (provide the participant options to give them the freedom to choose) (12).</li> <li>● Encourage flexible eating times if possible (12).</li> </ul>
Bipolar Disorders	<ul style="list-style-type: none"> <li>● Encourage regular simple meals and snacks that may help maintain blood sugar levels (12).</li> <li>● Assess for consistent fluid and salt intake. If taking lithium, education on following the Dietary Guidelines for Americans or the DASH diet may be appropriate (12).</li> <li>● Encourage social and physical activity (12).</li> </ul>

	<ul style="list-style-type: none"> <li>Assess for increased thirst, nausea, vomiting and diarrhea (12).</li> </ul>
Schizophrenia	<ul style="list-style-type: none"> <li>Encourage simple meals (12).</li> <li>Encourage food choices such as fruits, vegetables, nuts, fish, olive oil, low-fat dairy and reduced animal products as part of a healthy dietary pattern (12).</li> <li>Provide shopping and snack ideas (12).</li> <li>Discourage grapefruit/grapefruit juice and/or alcohol consumption with certain medications with that warning on the label: Lurasidone (Latuda), Quetiapine (Seroquel), Ziprasidone (Geodon) (12).</li> </ul>
ADHD	<ul style="list-style-type: none"> <li>Recommend eating small frequent meals (12).</li> <li>Provide suggestions for limiting distractions at meals (TV, tablets, or games) (12).</li> <li>Encourage foods rich in omega 3 fatty acids and limit intake of processed foods. (12).</li> </ul>

Stigma, prejudice, and discrimination against people with mental illness can cause people to avoid or delay treatment. Individuals with mental illness can have negative attitudes, including internalized shame, about their own condition (i.e., self-stigma). The strong family values of emotional restraint and avoiding shame in some Asian cultures, may be contrary to seeking professional help for mental illness. In addition, some African American communities distrust the mental healthcare system. Stigma not only directly affects individuals with mental illness but also the friends and family of those who seek treatment. The National Alliance on Mental Illness (NAMI) offers some suggestions about what we can do to help reduce the stigma of mental illness (51):

- Talk openly about mental health.
- Educate yourself and others about mental health so you can respond to misperceptions or negative comments by sharing accurate facts.
- Be conscious of language that is used to discuss mental health. For information see: What to Say - Tips for Talking About Mental Illnesses (makeitok.org)
- Encourage equality between physical and mental illness – normalize mental health treatment, just like other health care treatment.
- Show compassion for those with mental illness.

### Additional Resources and Information:

Brochures and Fact Sheets on mental disorders by topic from the National Institute of Mental Health:

<https://www.nimh.nih.gov/health/publications/index.shtml>

Overview of medications used to treat mental disorders:

<https://www.nimh.nih.gov/health/topics/mental-health-medications/index.shtml>

Treatment Options for ADHD in Children and Teens: A Review of Research for Parents and Caregivers

<https://www.ncbi.nlm.nih.gov/books/NBK99163/>

National Suicide Prevention Lifeline:

988 or 1-800-273-8255 or 988

<https://suicidepreventionlifeline.org/>

National Maternal Health Hotline:

1-833-9-HELP4MOMS

[National Maternal Mental Health Hotline | MCHB \(hrsa.gov\)](#)

## Clarification

Self-reporting of a diagnosis by a medical professional should not be confused with self-diagnosis, where a person simply claims to have or to have had a medical condition without any reference to professional diagnosis. A self-reported medical diagnosis (“My doctor says that I have/my son or daughter has...”) should prompt the CPA to validate the presence of the condition by asking more pointed questions related to that diagnosis.

Nutrition Risk Criterion #902; Woman or Infant/Child of Primary Caregiver with Limited ability to Make Feeding Decisions or Prepare Food, may be an appropriate risk criterion assignment for an infant or child of a WIC mother diagnosed with mental illnesses. Nutrition Risk Criterion #357 Drug-Nutrient Interactions may be assigned, as appropriate, to women taking medications for mental illnesses.

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