



*Research article*

## **Quality evaluation of digital voice assistants for the management of mental health conditions**

**Vanessa Kai Lin Chua<sup>1</sup>, Li Lian Wong<sup>1</sup> and Kevin Yi-Lwern Yap<sup>2,3,\*</sup>**

<sup>1</sup> Department of Pharmacy, Faculty of Science, National University of Singapore, Block S4A, Level 2, 18 Science Drive 4, Singapore 117543, Singapore

<sup>2</sup> Department of Pharmacy, Singapore General Hospital, SingHealth Tower, 10 Hospital Boulevard, Lobby A, Level 9, Singapore 168582, Singapore

<sup>3</sup> Department of Public Health, School of Psychology and Public Health, La Trobe University, Melbourne (Bundoora), Victoria 3086, Australia

\* **Correspondence:** Email: [kevin.yap.y.l@sgh.com.sg](mailto:kevin.yap.y.l@sgh.com.sg), [k.yap@latrobe.edu.au](mailto:k.yap@latrobe.edu.au).

---

---

**Appendix 1.** Questions and answers on mental health conditions for quality evaluation of DVAs.

---

Mental Health Category	Question Subcategory	Questions	Finalized Answer
General <b>Evaluate for comprehensive-ness and not QoL domains</b>	-	1. What is mental health?	<p>Mental health includes one's:</p> <ul style="list-style-type: none"> <li>○ <b>Emotional well-being</b> (Award <b>1 point</b> as long as the idea of <u>mental health involving one's emotions/thinking/communication/learning/resilience/self-esteem</u> is mentioned.)</li> <li>○ <b>Psychological well-being</b> (Award <b>1 point</b> as long as the idea of <u>effective functioning in daily activities</u> is mentioned.)</li> <li>○ <b>Social well-being</b> (Award <b>1 point</b> as long as the idea of <u>mental health being key to relationships/contributing to society or community</u> is mentioned.)</li> </ul> <p>It also helps determine:</p> <ul style="list-style-type: none"> <li>○ <b>How one handles stress (1 point)</b></li> <li>○ <b>How one relates to others (1 point)</b></li> </ul> <ul style="list-style-type: none"> <li>● <b>Mental health is important at every stage of life, (1 point)</b> from childhood to adolescence through adulthood and aging.</li> </ul>
		2. Why is mental health important?	<p><b>Total: 6 points</b></p> <p>Mental health is important because it can help one to:</p> <ul style="list-style-type: none"> <li>○ <b>Cope with the stresses of life (1 point)</b></li> <li>○ <b>Be physically healthy (1 point)</b></li> <li>○ <b>Have good relationships (1 point)</b></li> <li>○ <b>Make meaningful contributions to one's community (1 point)</b></li> <li>○ <b>Work productively (1 point)</b></li> <li>○ <b>Realise one's full potential (1 point)</b></li> </ul>

---

- **It can affect one's physical health OR For example, mental disorders can raise one's risk for physical health problems** (Award a maximum of **1 point** for either/both of these mentioned.)

**Total: 7 points**

3. What can affect my mental health?

- **There is no single cause for mental illness. (1 point)**

**A number of factors can contribute to the risk for mental illnesses, such as:**

- **Genes OR family history (1 point)**
  - **Life experiences e.g.**
    - **Stress**
    - **History of abuse**, especially if they happen in childhood  
(Award **1 point** for mentioning any of these points)
  - **Biological factors e.g.**
    - **Chemical imbalances in the brain**  
(Award **1 point** for mentioning any of these points)
  - **Traumatic brain injury**  
(Award **1 point** for mentioning this point or the definition of it: A sudden injury that causes damage to the brain.)
  - **Mother's exposure to viruses OR toxic chemicals during pregnancy (1 point; Also accept "viral infection during pregnancy")**
  - **Use of alcohol OR recreational drugs (1 point)**
  - **Serious medical condition e.g.**
    - **Cancer**  
(Award **1 point** for mentioning any of these points)
  - **Having few friends, feeling lonely or isolated** (Award maximum of **1 point**)
- **Not caused by character flaws (1 point)** e.g. being lazy or weak.

- 
- Total: 10 points**
4. What are signs that I may have a mental health problem?
- **When it comes to emotions, it can be hard to know what is normal and what is not. (1 point)**
  - **If there are behavioral signs & symptoms that last weeks/months, one should contact a health professional. (1 point)**
  
  - **Warning signs: (Award 1 point for each)**
    - Change in **eating habits**
    - Change in **sleeping habits**
    - **Fear of gaining weight**
    - **Exercise excessively**
    - **Withdrawing from people or activities one enjoys/Loss of interest**
    - **Low energy**
    - **Periods of highly elevated energy & activity**
    - **Feeling numb**
    - **Feeling hopeless or helpless**
    - **Feeling unusually confused, angry, worried, etc.**
    - **Having unexplained aches and pains**
    - **Severe mood swings**
    - **Hearing voices or having thoughts that won't go away or thinking that someone is trying to control their mind**
    - **Thinking of harming oneself or others/Engaging in self-harm behaviors**
    - **Not being able to perform daily tasks**
    - **Substance abuse e.g. smoke, drink alcohol or use drugs**
    - **Engage in risky or destructive behavior alone or with friends**
- Total: 19 points**
5. What are mental disorders?
- Mental illnesses/disorders are serious conditions which can:
- **Affect a person's thinking (1 point)**
-

- **Affect a person's mood (1 point)**
- **Affect a person's behavior (1 point)**
- **Be occasional or long-lasting (Award 1 point for mentioning that the time course or duration varies for different mental illnesses)**
- **Affect a person's ability to relate to others (1 point)**
- **Affect a person's ability to function each day (1 point)**
  
- **Mental illness is common. (1 point)**
- **Mental illness is treatable. (1 point)**
- **Vast majority of individuals can continue to function in their daily lives. (1 point)**

**Total: 9 points**

6. What are the different kinds of mental health disorders?

- **Neurodevelopmental disorders e.g.**
  - **Autism spectrum disorder**
  - **Attention-deficit hyperactivity disorder (ADHD)**
  - **Learning disorders**

(Award 1 point for mentioning any of these points)
  
- **Schizophrenia spectrum and other psychotic disorders e.g.**
  - **Schizophrenia**

(Award 1 point for mentioning any of these points)
  
- **Bipolar and related disorders e.g.**
  - **Bipolar I disorder**

(Award 1 point for mentioning any of these points)
  
- **Depressive disorders e.g.**
  - **Major depressive episode/disorder**
  - **Persistent depressive disorder**

- 
- **Premenstrual dysphoric disorder**

(Award **1 point** for mentioning any of any of these points)

- **Anxiety disorders e.g.**

- **Generalized anxiety disorder (GAD)**
- **Panic disorder (PD)**
- **Phobias**
- **Separation anxiety disorder**
- **Social anxiety disorder**
- **Selective mutism**

(Award **1 point** for mentioning any of these points)

- **Obsessive-compulsive and related disorders e.g.**

- **Obsessive-compulsive disorder (OCD)**
- **Body dysmorphic disorder (BDD)**
- **Hoarding disorder**
- **Hair-pulling disorder**

(Award **1 point** for mentioning any of these points)

- **Trauma- and stressor-related disorders e.g.**

- **Acute stress disorder**
- **Post-traumatic stress disorder (PTSD)**

(Award **1 point** for mentioning any of these points)

- **Dissociative disorders e.g.**

- **Dissociative identity disorder (DID)**
- **Dissociative amnesia**

(Award **1 point** for mentioning any of these points)

---

- 
- **Somatic symptom and related disorders** (definition: person has physical symptoms that cause major emotional distress & problems functioning) e.g.
    - **Somatic symptom disorder**
    - **Illness anxiety disorder**(Award **1 point** for mentioning any of these points)
  
  - **Feeding and eating disorders** e.g.
    - **Anorexia nervosa**
    - **Bulimia nervosa**
    - **Binge-eating disorder**(Award **1 point** for mentioning any of these points)
  
  - **Elimination disorders** (definition: inappropriate elimination of urine or stool by accident or on purpose) (**1 point**)
  
  - **Sleep-wake disorders** e.g.
    - **Insomnia**
    - **Sleep apnea**(Award **1 point** for mentioning any of these points)
  
  - **Sexual dysfunctions** e.g.
    - **Premature ejaculation**
    - **Female orgasmic disorder**(Award **1 point** for mentioning any of these points)
  
  - **Gender dysphoria** (definition: distress that accompanies a person's stated desire to be another gender) (**1 point**)
  
  - **Disruptive, impulsive-control and conduct disorders** (definition: problems with emotional and behavioral self-control) e.g.
-

- 
- **Conduct disorder**
  - **Oppositional defiant disorder**

(Award **1 point** for mentioning any of these points)

- **Substance-related and addictive disorders** (definition: problems associated with excessive use of a substance) e.g.

- **Drugs**
- **Alcohol**
- **Caffeine**
- **Tobacco**
- **Gambling disorder**

(Award **1 point** for mentioning any of these points)

- **Neurocognitive disorders** e.g.

- **Dementia**
- **Delirium**
- **Alzheimer's disease**
- **Traumatic brain injury**

(Award **1 point** for mentioning any of these points)

- **Personality disorders** e.g.

- **Borderline personality disorders**
- **Antisocial personality disorders**
- **Narcissistic personality disorders**

(Award **1 point** for mentioning any of these points)

- **Paraphilic disorders** (definition: sexual interest that causes personal distress or impairment, or causes potential or actual harm to another) e.g.

- **Pedophilic disorder**
- **Voyeurism**



---

(Award **1 point** for mentioning any of these points)

- **Other mental disorders** (or not classified as one of the above) **(1 point)**
- **Medication-induced movement disorders** and **other adverse effects of medication** **(1 point)**

**Total: 21 points**

7. Can mental health change over time?

- **Yes OR** it's important to remember that **a person's mental health can change over time, depending on many factors. (1 point)**
- When the **demands placed on a person exceed their resources and coping abilities, their mental health could be impacted. (1 point;** Accept examples such as "working long hours", "caring for a relative", or "experiencing economic hardship".)

**Total: 2 points**

8. What should I do if I think I have a mental health problem?

- If someone thinks that he or she may have a mental health problem, **get help. (1 point)**

This is how one gets help and support:

- **Consult a doctor or mental health professional (1 point)**
- **Talk to/Stay connected with family members and friends (1 point)**
- **Find support in online forums OR join a peer support group** (Award **1 point** as long as the idea of "support groups" is mentioned.)
- **Call counselling hotline** (Award **1 point** as long as a referral to any relevant hotline or email is provided.)

**Total: 5 points**

9. Can mental conditions be cured?

---

- Mental health conditions are **treatable**. (1 point; Note that “treatable” is not the same as “curable”. Mental conditions cannot be cured/be gone forever, but they can be treated and managed.)
- People with mental health disorders **can get better**. (1 point)

With:

- **Appropriate medication (1 point)**
  - **Psychotherapy (1 point; Also accept talk therapy, counselling, or Cognitive-Behavioral Therapy (CBT))**
  - **Peer support groups OR rehabilitation services (1 point; Also accept the definition of “rehabilitation services”: training programmes that help one gain skills and mindset to manage mental health and reintegrate into society)**
- Most people who live with serious mental illnesses can **significantly reduce the impact of their illness/experience relief from their symptoms and find a satisfying measure of achievement and independence/live a satisfying life**. (1 point)

**Total: 6 points**

10. Are mental health issues hereditary?

- **Yes OR certain mental disorders tend to run in families/having a close relative with a mental disorder could mean one is at a higher risk**. (1 point)
- Many mental disorders are caused by **a combination of biological, environmental, psychological and genetic factors**. (Award 1 point as long as the idea of several factors contributing to the development of a mental disorder is mentioned.)

**Total: 2 points**

Depression

**Disease State**

11. What is depression?

Depression is:

**Evaluate for comprehensive-ness and not QoL domains**

- **A common (1 point) but**
- **Serious mood disorder/medical illness. (1 point)**

It causes severe symptoms that:

- **Affect how one feels (1 point)**
- **Affect how one thinks (1 point), and**
- **Affect how one handles daily activities, such as sleeping, eating or working. (Award 1 point as long as the idea of daily functioning being impaired is mentioned.)**

Depression causes:

- **Feelings of sadness (1 point) and/or**
- **A loss of interest in activities that a person once enjoyed. (1 point)**
- **To be diagnosed with depression, the symptoms must be present for at least 2 weeks. (Award 1 point for mentioning that the minimum duration of symptoms is 2 weeks.)**
- **Fortunately, it is also treatable. (1 point)**

**Total: 9 points**

12. What are the different types of depression conditions?

- **Major depressive episode (MDE)/Major depressive disorder (MDD)**  
(Award 1 point for mentioning either/both of the points)

The classic depression type, major depression is a state where:

- **A dark mood is all-consuming** (Award 1 point as long as idea of feeling excessively sad/down/heavy is mentioned)
- **A person loses interest in activities, even ones that are usually pleasurable. (1 point)**

- **Persistent depressive disorder (PDD) (1 point)**

- Formerly called “dysthymia”, this type of depression refers to **low mood that has lasted for at least two years but may not reach the intensity of major depression. (1 point)**
- **Disruptive mood dysregulation disorder (DMDD) (1 point)**
  - Children with disruptive mood dysregulation disorder (DMDD) have **severe and frequent temper tantrums that interfere with their ability to function at home, in school, or with their friends. (Award 1 point so long the idea of temper tantrums impacting daily functioning is mentioned.)**
- **Premenstrual dysphoric disorder (1 point)**
  - This type of depression is a **severe form of premenstrual syndrome, or PMS. (1 point)**
- **Depressive disorder due to another medical condition (1 point)**

**Total: 10 points**

13. What contributes to developing depression?

- Current research suggests that **depression is caused by a combination of genetic, biological, environmental and psychological factors. (Award 1 point as long as the idea of several factors contributing to the development of depression is mentioned.)**

**Risk factors include:**

- **Personal/family history of depression OR genetics (1 point)**
- **Biochemistry:**
  - **Differences in certain chemicals in the brain** may contribute to symptoms of depression  
(Award **1 point** for mentioning any of these points)
- **Major life changes OR Adverse life events (1 point)**

- **Trauma (1 point)**
  - **Stress (1 point)**
  - **Certain physical illness (1 point)**
  - **Medications (1 point)**
  - **Personality:**
    - People with **low self-esteem**,
    - who are **easily overwhelmed by stress**,
    - or who are **generally pessimistic** appear to be more likely to experience depression.
- (Award **1 point** for mentioning any of these points)

**Total: 9 points**

14. Can depression be genetic?

- **Yes OR Depression can run in families OR there is a higher degree of heritability (~40%) when first-degree relatives e.g. parents, children, siblings, have depression.** (Award **1 point** as long as the idea of having a higher risk of developing depression due to family history is mentioned; Answer doesn't have to specify a percentage.)

**Total: 1 point**

Symptoms

15. What depression feels like?

**Evaluate for comprehensive-ness and not QoL domains**

- **5 or more of the following, with at least one including “depressed mood” or “loss of interest/pleasure in almost all activities”:** (Award **1 point** if this criteria is being hit.)

(Award **1 point** for each of the following)

- **Depressed mood**—subjectively reported or observation by others
- **Loss of interest/pleasure in almost all activities**—subjectively reported or observation by others
- **Significant (>5% in a month) unintentional weight loss/weight gain/decrease in appetite/increase in appetite**
- **Sleep disturbance (Insomnia/Hypersomnia)**

- **Psychomotor changes (Agitation/Retardation)**, that are severe enough to be observable)
- **Tiredness, fatigue, low energy or decreased efficiency** with which routine tasks are completed
- **Sense of worthlessness or excessive, inappropriate, delusional guilt** (not merely self-reproach or guilt about being sick)
- **Impaired ability to think, concentrate or make decisions**—subjectively reported or observation by others
- **Recurrent thoughts of death** (not just fear of dying), **suicide ideation, suicide attempts**

- Causes **clinically significant distress or impairment** in social, occupational, or other important areas of functioning (Award **1 point** awarded for mentioning the impact of depression on daily functioning.)
- **Not due to physiological effects of a substance** e.g. drug abuse, medication side effects, or a medical condition (e.g. hypothyroidism) (**1 point**)
- Never been a **manic/hypomanic episode OR** Not better explained by **schizophrenia or other psychotic disorders** (Award **1 point** for mentioning that symptoms cannot be attributed to another mental condition.)
- Symptoms must be present for **most of the day, daily, for at least 2 weeks in a row (1 point)**, excluding significant weight gain/loss and recurrent thoughts of death.

**Total: 14 points**

16. How does depression differ from feeling sad?

- **Sadness is an emotional state characterized by feelings of unhappiness and low mood. (1 point)**
- **It is a normal response to situations that are upsetting, painful, or disappointing. (1 point)**

<p><b>Treatment</b></p> <p><b>Evaluate for QoL domains in addition to comprehensive-ness</b></p>	<p>17. Can depression be cured?</p>	<ul style="list-style-type: none"> <li>• <b>Unlike depression, which is persistent and longer-lasting, sadness is temporary and transitory. (1 point)</b></li> <li>• <b>Sadness can, however, turn into depression. (1 point)</b></li> <li>• <b>Depression may become a serious health condition. (1 point)</b></li> <li>• <b>It can cause the affected person to suffer greatly and function poorly at work, at school and in the family. (Award 1 point for mentioning the <u>impact of depression on one’s daily functioning</u>)</b></li> </ul> <p><b>Total: 6 points</b></p> <ul style="list-style-type: none"> <li>• <b>Depression, even the most severe cases, can be treated. (Award 1 point for mentioning that <u>depression can be treated</u>. Note: “treatable” is not the same as “curable”. Mental conditions cannot be cured/be gone forever, but they can be treated and managed.)</b></li> </ul> <p>Depression is usually <b>treated with:</b></p> <ul style="list-style-type: none"> <li>○ <b>Medications (1 point)</b></li> <li>○ <b>Psychotherapy (1 point; Also accept <u>talk therapy</u>, <u>counselling</u>, or <u>Cognitive-Behavioral Therapy (CBT)</u>)</b></li> </ul> <ul style="list-style-type: none"> <li>• <b>If these treatments do not reduce symptoms, <u>electroconvulsive therapy (ECT)</u> and <u>other brain stimulation therapies</u> (Award 1 point for mentioning <u>the option of brain stimulation treatment</u>) may be options to explore.</b></li> <li>• <b>While <u>symptoms can be alleviated</u>, (Award 1 point for mentioning that <u>symptoms can be managed</u>)</b></li> <li>• <b>depression cannot be “cured”. (1 point)</b></li> <li>• <b>Instead, <u>remission is goal</u>. (1 point; “Remission” is defined as diminishing the severity of the condition)</b></li> </ul> <p><b>Total: 7 points</b></p>
--	-------------------------------------	--

18. Which depression medication works the fastest?

- Antidepressants **may produce some improvement within the first week or two of use, (1 point)**
- yet **full benefits may not be seen for two to three months.** (Award **1 point** only if specific duration of 2–3 months is mentioned)
- Often, **symptoms such as sleep, appetite and concentration problems improve before mood lifts** (Award **1 point** for mentioning that some symptoms improve faster than others), so it is important to give medication a chance before reaching a conclusion about its effectiveness.
- Psychiatrists usually recommend that patients continue to take **medications for 6 or more months after symptoms have improved.** (Award **1 point** for mentioning the need to continue treatment even after improvement in symptoms)
- **Longer-term maintenance treatment may be suggested to decrease the risk of future episodes** for certain people at high risk. (Award **1 point** for mentioning that treatment can decrease risk of recurrence)

**Total: 5 points**

19. Which depression medication is best for me?

- No two people are affected the same way by depression and **there is no “one-size fits all” treatment. (1 point)**
- It **may take some trial and error to find the treatment that works best for a person OR One may need to try several different antidepressant medicines before finding the one (1 point)** that:
  - **Improves their symptoms (1 point)**
  - **Has manageable side effects (1 point)**
- **A medication that has helped the person or a close family member in the past will often be considered. (1 point)**

**Total: 5 points**

Anxiety

**Disease state**

20. What is anxiety?

- Anxiety is a **feeling of fear, dread, and uneasiness. (1 point)**



Evaluate for comprehensive-ness and not QoL domains

- Anxiety is a **normal reaction to stress. (1 point)**
- **It can be beneficial in some situations (1 point)** e.g.
  - It can **alert one to dangers/help one prepare and pay attention (1 point)**
  - **It can help one to cope (1 point)**
  - The anxiety **may give one a boost of energy/help one focus (1 point)**

**Total: 6 points**

21. What are anxiety disorders?

Anxiety disorders are conditions in which:

- A person **has anxiety that does not go away, (1 point)**
  - and **can get worse over time (1 point)**
- 
- Anxiety disorders **differ from normal feelings of nervousness/anxiousness (1 point),**
  - and **involve excessive fear/anxiety. (1 point)**
  - Anxiety disorders can **cause people to try to avoid situations that trigger or worsen their symptoms. (1 point)**
  - **Job performance, schoolwork and personal relationships can be affected. (Award 1 point for mentioning the impact of anxiety on daily functioning)**
  - Anxiety disorders are **the most common of mental disorders** and affect nearly 30% of adults at some point in their lives. (Award **1 point** for mentioning it is a common mental disorder; Answer doesn't have to specify a percentage)
  - But **anxiety disorders are treatable (1 point)** and a number of effective treatments are available.
  - **Treatment helps most people lead normal productive lives. (Award 1 point for mentioning that treatment can help with daily functioning)**

**Total: 9 points**

---

22. What are the types of anxiety disorders?

- **Generalized anxiety disorder (GAD) (1 point)**
    - Generalized anxiety disorder (GAD) is an anxiety disorder **characterized by excessive anxiety and worry that is not focused on a single trigger** (e.g. fear of social situations, fear of having a panic attack, or fear of a specific event/situation). **(1 point)**
  
  - **Panic disorder (1 point) and Agoraphobia (1 point)**
    - Panic disorder is an **anxiety disorder characterized by panic attack(s) and the ongoing concern about experiencing additional panic attacks. (1 point)**
    - Agoraphobia is an **anxiety disorder characterized by an intense fear or anxiety triggered by the real or anticipated exposure to a number of situations** (i.e. using public transportation, being in open spaces), which **causes clinically significant distress or impairment. (Award 1 point for mentioning that the anxiety comes in real or perceived situations that impact one's daily functioning)**
  
  - **Separation anxiety disorder (1 point)**
    - Separation anxiety disorder (SAD) is a psychological condition in which **an individual experiences excessive anxiety, fear, or distress regarding separation from home or from people to whom the individual has a strong emotional attachment** (e.g. a parent, grandparents, or siblings). **(1 point)**
  
  - **Social anxiety disorder (1 point)**
    - Social anxiety disorder is an **anxiety disorder characterized by fear of social situations wherein the individual may be exposed to scrutiny by others. (1 point)**
  
  - **Specific phobia (1 point)**
-

- **Marked fear or anxiety about a specific object or situation** (e.g. flying, heights, animals, receiving an injection, seeing blood). **(1 point)**

**Total: 12 points**

23. What causes anxiety disorders?

- The **causes of anxiety disorders are currently unknown**, **(1 point)**
- but likely **involve a combination of factors**. **(1 point)**
- The **risk factors for the different types of anxiety disorders can vary**. **(1 point)**

There are some **general risk factors for all types of anxiety disorders**, including:

- **Certain personality traits**, such as being shy or withdrawn when the person is in new situations or meeting new people **(1 point)**
- **Traumatic events in early childhood or adulthood** **(1 point)**
- **Family history of anxiety or other mental disorders** **(1 point)**; Also accept “genetic factors” or “runs in families”.)
- Some **physical health conditions** **(1 point)**, such as thyroid problems or arrhythmia.
- **Caffeine** **(1 point)**
- **Other substances/medications** **(1 point)**; Accept “alcohol” or “drugs”), can produce or aggravate anxiety symptoms.

**Total: 9 points**

24. Are anxiety and depression the same?

- Depression and anxiety are **different conditions**, **(1 point)**
- but they **commonly occur together**. **(1 point)**
- While **anxiety and depression have their own symptoms** **(1 point)** and clinical features,
- there is **some overlap**. (Award **1 point** for mentioning a slight similarity between the symptoms of both conditions)
- They also have **similar treatments**. **(1 point)**

<p><b>Symptoms</b></p> <p><b>Evaluate for comprehensive-ness and not QoL domains</b></p>	<p>25. What anxiety feels like?</p>	<p><b>Symptoms of both conditions usually improve with:</b></p> <ul style="list-style-type: none"> <li>○ <b>Psychological counselling/psychotherapy/cognitive behavioral therapy (1 point)</b></li> <li>○ <b>Medications/antidepressants (1 point), or both.</b></li> </ul> <p><b>Total: 7 points</b></p> <ul style="list-style-type: none"> <li>● <b>Excessive anxiety</b> (Award <b>1 point</b> for mentioning the <u>severity/extent of anxiety</u>)</li> <li>● Occurring <b>more days than not for at least 6 months</b>, about a number of events/activities. <b>(1 point)</b></li> <li>● <b>Person finds it difficult to control the worry. (1 point)</b></li> <li>● Anxiety and worry are associated with <b>3 or more of these symptoms</b> (Award <b>1 point</b> for mentioning <u>at least 3 symptoms as listed below</u>): <ul style="list-style-type: none"> <li>○ <b>Restlessness or feeling keyed up or on edge</b></li> <li>○ <b>Easily fatigued</b></li> <li>○ <b>Difficulty concentrating or mind blank</b></li> <li>○ <b>Irritability</b></li> <li>○ <b>Muscle tension or aches and pains</b></li> <li>○ <b>Sleep disturbance</b> (difficulty falling or staying asleep, or restless unsatisfying sleep)</li> </ul> </li> <li>● <b>Not better explained by another mental disorder (1 point)</b></li> <li>● The anxiety, worry or physical symptoms <b>cause clinically significant distress or impairment in social, occupation or other important areas of functioning</b> (Award <b>1 point</b> for mentioning <u>impact of anxiety on daily functioning</u>)</li> <li>● <b>Not attributable to the physiological effects of a substance</b> e.g. drug of abuse, medication, or another medical condition (e.g. hyperthyroidism) <b>(1 point)</b></li> </ul>
--	-------------------------------------	---

- 
26. How are anxiety disorders diagnosed?
- Total: 7 points**
- The first step is to **see a doctor. (1 point)**
- To diagnose anxiety disorders,
- A **health care provider will ask about the person’s symptoms (1 point)** and
  - **Medical history. (1 point;** This can include medications that one is taking, or medical conditions)
- The person may also have a **physical exam and lab tests to make sure that a different health problem is not the cause of their symptoms.** (Award **1 point** for mentioning the need for tests to ensure there is no physical health problem)
  - If the person doesn’t have another health problem, they will get a **psychological evaluation. (1 point;** “Psychological evaluation” is a mental health screening, where one is asked about feelings, mood, behavior patterns and other symptoms).
  - A provider may do it, or they **may be referred to a mental health professional (1 point)** to get one.
27. What anxiety attack feels like?
- Total: 6 points**
- **Without any warning or reason** (Award **1 point** for mentioning how sudden/abrupt panic attacks are),
  - **a feeling of terrible anxiety will come crashing down** on the individual. (Award **1 point** for mentioning the intensity of anxiety)
  - One may feel like they **cannot get enough air, no matter how hard they breathe.** (Award **1 point** for mentioning the idea of breathlessness)
  - One may feel as though their **heart is pounding out of their chest** (Award **1 point** for mentioning rapid heartbeat),
-

- or **think that they might die** (Award **1 point** for mentioning the feeling of being overwhelmed).
- One may be **sweating (1 point)**; Also accept “hot flushes” or “chills”) and
- **feel dizzy. (1 point)**; Also accept “feel like passing out”)
- One may feel they **have no control over these feelings (1 point)**
- and that they are **drowning and can’t think straight.** (Award **1 point** for mentioning the idea of thoughts being all over the place)
- **After what seems like an eternity** (Award **1 point** for mentioning the perceived long duration of attacks),
- one’s **breathing will slow** (Award **1 point** for mentioning gradual recovery of physical symptoms)
- and **will let go of the fear and racing thoughts** (Award **1 point** for mentioning gradual recovery of emotional symptoms),
- but they would be **totally drained and exhausted. (1 point)**

**Total: 13 points**

**Treatment**

28. How are anxiety disorders treated?

Although each anxiety disorder has unique characteristics, **most respond well to two types of treatment:**

**Evaluate for QoL domains in addition to comprehensive-ness**

- **Psychotherapy (1 point)**; Also accept “counselling”/“talk therapy”/“cognitive behavioral therapy”)
- **Medications (1 point)**
- These treatments **can be given alone OR in combination.** (Maximum of **1 point** awarded for either/both of the points)
- **Cognitive behavioral therapy (CBT)** is a type of psychotherapy that is often used to treat anxiety disorders. **CBT teaches a person different ways of thinking and behaving. (1 point)**
- **Medications will not cure anxiety disorders,** (Award **1 point** for mentioning that anxiety is not curable; Note: “treatable” is not the same as

“curable”. Mental conditions cannot be cured/be gone forever, but they can be treated and managed.)

- **But can provide significant relief from symptoms. (1 point)**

The most commonly used medications are:

- **Anti-anxiety medications** (generally prescribed only for a short period of time) **(1 point)**
- **Antidepressants (1 point)**
- **Beta-blockers (1 point)**

- Some types of medicines may work better for specific types of anxiety disorders. One **should work closely with their health care provider to identify which medicine is best for them. (1 point)**
- One may need to try more than one medicine before they can find the **right one.** (Award **1 point** for mentioning the idea of “trial and error” in finding the best suitable medication)

**Total: 11 points**

29. Which anxiety medication works the fastest?

The **most common classes of medication used to combat anxiety disorders** are:

- **Anti-anxiety drugs (1 point)**
- **Antidepressants (1 point)**
- **Beta-blockers (1 point)**

Anti-anxiety medications:

- The most common anti-anxiety medications are called **benzodiazepines. (1 point)**
- **Some benefits of benzodiazepines** are that **they are effective in relieving anxiety and take effect more quickly (within minutes) than antidepressant medications** often prescribed for anxiety. (Award **1 point** for mentioning that benzodiazepines take effect more quickly than others)

- Some drawbacks of benzodiazepines are that **people can build up a tolerance to them if they are taken over a long period of time** and they **may need higher doses to get the same effect.** (Award 1 point for mentioning the issue of tolerance)
- Some people may **become dependent on them.** (1 point)

Antidepressants:

- **Antidepressants can take time to work, so it's important to give the medication a chance before reaching a conclusion about its effectiveness.** (1 point)

Beta-blockers:

- Although **beta-blockers** are most often used to treat high blood pressure, they can **also be used to help relieve the physical symptoms of anxiety, such as rapid heartbeat, shaking, trembling, and blushing.** (Award 1 point for mentioning the benefit of these medications in managing physical symptoms)

**Total: 9 points**

30. Which anxiety medication is the best?

- Some types of medicines may work better for specific types of anxiety disorders. One **should work closely with their health care provider to identify which medicine is best for them.** (1 point)
- One **may need to try more than one medicine before they can find the right one.** (Award 1 point for mentioning the idea of “trial and error” in finding the best suitable medication)

**Total: 2 points**

31. Which anxiety medication is safest?

- When trying to decide whether or not to treat one's anxiety with medication, **it's important to weigh the pros and cons in conjunction**



**with their doctor OR balance the side effects against the benefits. (1 point)**

- It's also **important to learn about the common side effects of the anxiety medication one is considering. (1 point)**
- Side effects of anxiety medication **range from mild nuisances to more severe problems such as acute nausea or pronounced weight gain. (Award 1 point for mentioning the range of severity of side effects)**

**Total: 3 points**

32. Will anxiety medication change my personality?

- When taken correctly, antidepressants **will not change one's personality. (1 point)**
- **They will help one feel like themselves again and return to their previous level of functioning. (1 point)**
- **Rarely, people experience apathy or loss of emotions while on certain antidepressants. (1 point)** When this happens, lowering the dose or switching to a different antidepressant may help.

**Total: 3 points**

Obsessive-Compulsive Disorder (OCD)

**Disease state**

**Evaluate for comprehensive-ness and not QoL domains**

33. What is obsessive-compulsive disorder?

A disorder that is:

- **Common (1 point)**
- **Chronic/Long-lasting (1 point)**

A person has:

- **Uncontrollable, (1 point)**
- **Reoccurring thoughts/Obsessions (1 point) and/or**
- **Behaviors/Compulsions (1 point) that**
- **He or she feels the urge to repeat over and over. (1 point)**

- **Common disorder that affects adults, adolescents, and children all over the world. (1 point)**

34. Why OCD happens?

- **Most are diagnosed by about age 19.** (Award **1 point** for mentioning that most are diagnosed at a young person's age i.e. 10–24 years old<sup>1</sup>)

**Total: 8 points**

- The **exact causes of OCD aren't known.** (1 point)
- However, a **variety of factors are associated with an increased chance of developing the disorder:** (1 point)
  - **Genetic** e.g. **Having a first-degree relative** (parent, sibling or child) with OCD. (1 point)
  - **Biological** e.g. **Differences in brain structure** (in the front part and deeper structures of the brain) (1 point)
  - **Childhood trauma OR sexual trauma OR stressful life events;** (1 point)
  - **Temperamental** e.g.
    - **Experiencing sadness/anxiety/loneliness<sup>2</sup> more frequently than usual** (greater internalizing symptoms)
    - **Increased tendency to experience and react to negative emotions<sup>3</sup>** (negative emotionality)
    - **Tendency toward distress and nervousness in new situations, in childhood<sup>4</sup>** (behavioral inhibition).

(Award **1 point** for mentioning any of these points)

**Total: 6 points**

<sup>1</sup> World Health Organization. Adolescent health. Available from: <https://www.who.int/southeastasia/health-topics/adolescent-health>

<sup>2</sup> Ehrenreich SE, Underwood MK. (2016) Adolescents' internalizing symptoms as predictors of the content of their Facebook communication and responses received from peers. *Transl Issues Psychol Sci* 2: 227–237. <https://doi.org/10.1037/tps0000077>

<sup>3</sup> Kann SJ, O'Rawe JF, Huang AS, et al. (2017) Preschool negative emotionality predicts activity and connectivity of the fusiform face area and amygdala in later childhood. *Soc Cogn Affect Neurosci* 12: 1511–1519. <https://doi.org/10.1093/scan/nsx079>

<sup>4</sup> Cuncic A. Link between behavioral inhibition and social anxiety. Very Well Mind. Available from: <https://www.verywellmind.com/what-is-behavioral-inhibition-3024525>

35. What is the difference between normal behavior and OCD?

- Although everyone worries or feels the need to double-check things on occasion, **the symptoms associated with OCD are severe and persistent. (1 point)**
- People with OCD **may feel the urge to check things repeatedly OR perform routines for more than an hour each day (1 point)** as a way of achieving temporary relief from anxiety.

If OCD symptoms are not treated,

- **These behaviors can disrupt work, school, and personal relationships (Award 1 point for mentioning the impact of OCD on daily functioning and can**
- **Cause feelings of distress. (1 point)**

**Total: 4 points**

36. Can OCD come and go?

- **Symptoms may come and go, ease over time, or worsen. (1 point)**
- If one thinks they have OCD, one should **talk to their doctor about their symptoms. (1 point)** If left untreated, OCD can interfere in all aspects of life.

**Total: 2 points**

37. Does OCD ever completely go away?

- There is **no cure** for OCD. (Award **1 point** for mentioning that OCD is not curable. Note: “treatable” is not the same as “curable”. Mental conditions cannot be cured/be gone forever, but they can be treated and managed.)
- **Symptoms can be managed (1 point)** using:
- **Medication and Cognitive Behavioral Therapy (CBT).** (Award **1 point** as long as one type of treatment is specified. Also accept “psychotherapy”/ “talk therapy”/“counselling”.)

**Total: 3 points**

	38. Can OCD be genetic?	<ul style="list-style-type: none"> <li>• <b>Yes OR OCD is more common among people who have a family member who has the disorder OR People with an immediate relative (parent or sibling) with OCD are two to five times more likely to experience OCD than someone without a close relative with OCD. (Maximum of 1 point awarded as long as the idea of <u>having a higher risk of developing OCD due to family history</u> is mentioned; Answer doesn't have to specify a figure or percentage.)</b></li> </ul>
<p><b>Symptoms</b></p> <p><b>Evaluate for comprehensive-ness and not QoL domains</b></p>	39. What OCD feels like?	<p><b>Total: 1 point</b></p> <p>Symptoms of obsessions, compulsions, or both:</p> <ul style="list-style-type: none"> <li>○ <b>Obsessions OR Repeated thoughts, urges or mental images that cause anxiety (1 point) e.g.</b> <ul style="list-style-type: none"> <li>– <b>Fear of germs or contamination</b></li> <li>– <b>Unwanted forbidden or taboo thoughts</b> involving sex, religion or harm</li> <li>– <b>Aggressive thoughts towards others or self</b></li> <li>– <b>Having things symmetrical or in a perfect order.</b></li> </ul> <p>(Award 1 point for mentioning any of these points)</p> </li> <li>○ <b>Compulsions OR Repetitive behaviors that a person feels the urge to do, in response to an obsessive thought (1 point) e.g.</b> <ul style="list-style-type: none"> <li>– <b>Excessive cleaning and/or handwashing</b></li> <li>– <b>Ordering and arranging things in a particular, precise way</b></li> <li>– <b>Repeatedly checking on things</b>, such as repeatedly checking to see if the door is locked or that the oven is off</li> <li>– <b>Compulsive counting</b></li> </ul> <p>(Award 1 point for mentioning any of these points)</p> </li> </ul>
		<ul style="list-style-type: none"> <li>• <b>Person spends at least 1 hour a day on these thoughts or behaviors. (1 point)</b></li> </ul>

- **Person can't control his or her thoughts or behaviors, (1 point)**
- even when those **thoughts or behaviors are clearly excessive; (1 point)**
- Person **experiences significant problems in their daily life** due to these thoughts or behaviors **OR These symptoms interfere with all aspects of life, such as work, school and personal relationships.** (Award a maximum of **1 point** for mentioning the impact of OCD on daily functioning)

**Total: 8 points**

40. Are OCD thoughts true?

- Many people with OCD recognize that their obsessions and compulsions are **not rational.** (**1 point**; Also accept “illogical”, “doesn't make sense”, “unreasonable” etc.)
- Nevertheless, **they still feel a strong need to perform the repetitive behavior or mental compulsions.** (**1 point**) They may spend several hours every day focusing on their obsessions, performing seemingly senseless rituals.

**Total: 2 points**

41. What happens if OCD gets out of control?

- **OCD can feel really bad, but most people can be treated successfully** on a weekly outpatient basis. (Award **1 point** for mentioning that OCD is still treatable)
- In some cases, **sessions with the cognitive behavior therapist may have to be longer or more frequent (1 point),**
- or one **may need both therapy and medication. (1 point)**

When a more intensive level of care is necessary, options include:

- **Intensive outpatient/day program/partial hospital/residential programs.** (Award **1 point** for mentioning any of these points)

- **Hospitalization** usually occurs only when **patients are unable to care for themselves or they pose a danger to themselves or others. (1 point)**

**Total: 5 points**

42. Where can I go for help for OCD?

- Award **1 point** for referring one directly to a healthcare provider/mental health professional/suicide hotline, email or contact point.

*Evaluate for “immediate intervention” criterion.*

**Total: 1 point**

43. I know someone with OCD who is in crisis. What do I do?

- Award **1 point** for referring one directly to a healthcare provider/mental health professional/suicide hotline, email or contact point.

**Total: 1 point**

*Evaluate for “immediate intervention” criterion.*

**Treatment**

44. Can OCD be treated?

- **Yes OR it can be treated,** (Award **1 point** for mentioning that OCD is treatable)
- but there is **no cure.** (Award **1 point** for mentioning that OCD is not curable)
- Typically treated with **medication, psychotherapy,** or a combination of the two. (Award **1 point** as long as one type of treatment is specified. Also accept “talk therapy”, “counselling”, or “cognitive behavioral therapy”)
- Although **most patients with OCD respond to treatment,** some patients continue to experience symptoms. (Award **1 point** for mentioning that treatment can help to manage symptoms or is effective)

**Total: 4 points**

**Evaluate for QoL domains in addition to comprehensiveness**

45. How is OCD treated?

- The first step is to **talk with a health care provider about one’s symptoms**. Asking questions and providing information to a health care provider can improve one’s care. **(1 point)**
- The health care provider will **perform a physical exam** (Award **1 point** for mentioning the need for tests to ensure there is no physical health problem)
- and **ask the person about their health history** (**1 point**; This can include medications that one is taking, or medical conditions) to make sure that their symptoms are not caused by other illnesses or conditions.
- The health care provider may **refer the person to a mental health professional**, such as a psychiatrist, psychologist, social worker, or counsellor, **for further evaluation or treatment. (1 point)**

Treatment for OCD typically includes:

- Specific types of **psychotherapy** (**1 point**; Also accept “talk therapy”, “counselling”, or “cognitive behavioral therapy”),
- **Medication** (**1 point**; Also accept “Serotonin Reuptake Inhibitors” or “SSRIs”), or a combination of the two.

**Total: 6 points**

46. Will OCD symptoms get worse over time if a person does not get treated?

- If OCD is untreated, **the course is usually chronic**, (Award **1 point** for mentioning that this is a chronic/long-term medical condition)
- **often with waxing and waning symptoms**. (Award **1 point** for mentioning that symptoms often fluctuate for an individual)
- **Some individuals have an episodic course, and a minority have a deteriorating course**. (Award **1 point** for mentioning that OCD can have varying courses across different individuals)
- **Without treatment, remission rates in adults are low** (e.g. 20% for those re-evaluated 40 years later); (**1 point** for mentioning that chances of the

disease being controlled is low without treatment. Answer doesn't have to specify a percentage)

**Total: 4 points**

47. If I take medication for OCD, will I have to be on it forever?

- Many people **use medication on a temporary basis** (Award **1 point** for mentioning that one may not need to take medications on a long-term or life-long basis)
- until they **succeed in managing their symptoms through cognitive behavior therapy.** (Award **1 point** for mentioning the role of psychotherapy/counselling/talk therapy in managing symptoms)
- In **severe cases**, people may need to **use medication for longer periods of time.** (1 point)

**Total: 3 points**

Bipolar Disorder    **Disease State**  
  
**Only evaluate for comprehensive-ness and not QoL domains**

48. What is bipolar disorder?

- Bipolar disorder is a **brain disorder (1 point)**
- that causes **changes in a person's mood, energy and ability to function.** (Award **1 point** for mentioning changes in an individual's well-being)
- **People with bipolar disorder experience intense emotional states** that typically occur during distinct periods of days to weeks, called **mood episodes.** (1 point)

These mood episodes are categorized as:

- **Manic/hypomanic**—abnormally happy or irritable mood (1 point)
- **Depressive**—sad mood (1 point)
- People with bipolar disorder generally have periods of **neutral mood** as well. (1 point)
- When **treated**, people with bipolar disorder can lead **full and productive lives.** (1 point)



- 
49. How bipolar starts?
- Total: 7 points**
- Researchers are studying the possible causes of bipolar disorder. **Most agree that there is no single cause OR it is likely that many factors contribute to a person’s chance of having the illness. (1 point)**
- Factors include:**
- **Brain Structure and Functioning/**Some studies indicate that the **brains of people with bipolar disorder may differ from the brains of people who do not have bipolar disorder** or any other mental disorder. **(1 point; Also accept “biological factors”)**
    - At this time, **health care providers base the diagnosis and treatment plan on a person’s symptoms and history, rather than brain imaging or other diagnostic tests. (1 point)**
  - **Genetics OR** Research also shows that **people who have a parent or sibling with bipolar disorder have an increased chance of having the disorder themselves. (1 point; Also accept “family history”, “runs in families”)**
    - Some research suggests that **people with certain genes are more likely to develop bipolar disorder. (1 point)**
50. Who does bipolar disorder affect?
- Total: 5 points**
- **Average age of onset is 25 years old OR Bipolar disorder is typically diagnosed during late adolescence (teen years) or early adulthood. (Award 1 point for mentioning that onset or diagnosis is around a young person’s age i.e. 20–30 years old.)**
  - Occasionally, bipolar symptoms can appear in **children. (1 point)**
  - Bipolar disorder can also first appear during **a woman’s pregnancy or following childbirth. (1 point)**
-

---

**Environmental factors may trigger mood episodes in vulnerable people, such as:**

- **Stress/Sleep disruption/Drugs/Alcohol**  
(Award **1 point** for mentioning any of these points.)

**Total: 4 points**

51. What bipolar disorder does to the brain?

- Though the specific causes of bipolar disorder within the brain are unclear, an **imbalance of brain chemicals (1 point)**; Also accept “brain chemistry” or “chemical balance”)
- is believed to lead to **dysregulated brain activity OR poor ability to manage emotional response<sup>5</sup>**. (Award maximum of **1 point** for either/both of the points.)

**Total: 2 points**

52. How bipolar disorder affects the individual and their life?

People with bipolar disorder experience:

- **Periods of unusually intense emotion (1 point)**
  - **Changes in sleep patterns and/or activity levels (1 point)**
  - **Uncharacteristic behaviors—often without recognizing their likely harmful or undesirable effects. (1 point)**
  - These distinct periods are called “**mood episodes.**” (1 point)
  - **Mood episodes are very different from the moods and behaviors that are typical for the person. (1 point)**
  - During an episode, the **symptoms last every day for most of the days. (1 point)**
  - **Episodes may also last for longer periods, such as several days or weeks. (1 point)**
- 

<sup>5</sup> Cuncic A. What is dysregulation? Very Well Mind. Available from: <https://www.verywellmind.com/what-is-dysregulation-5073868>

- Bipolar disorder can **disrupt a person’s relationships with loved ones** and **cause difficulty in working or going to school**. (Award **1 point** for mentioning the impact of bipolar disorder on daily functioning)

**Total: 8 points**

53. How bipolar disorder affects relationships?

- Bipolar disorder can **disrupt a person’s relationships with loved ones (1 point)**
- and **cause difficulty in working or going to school**. (Award **1 point** for mentioning the impact of bipolar disorder on one’s daily functioning)
- Despite the mood extremes, people with bipolar disorder often don't recognize **how much their emotional instability disrupts their lives and the lives of their loved ones OR feelings of euphoria is always followed by an emotional crash that can leave one depressed, worn out—and perhaps in financial, legal or relationship trouble**. (Award **1 point** for mentioning cycles of fluctuating emotions/“ups and downs” impacting relationships with loved ones)

**Total: 3 points**

54. Can bipolar disorder be genetic?

- **Yes OR Bipolar disorder commonly runs in families OR Research shows that people who have a parent or sibling with bipolar disorder have an increased chance of having the disorder themselves**. (Award maximum of **1 point**)
- Many genes are involved, and **no one gene can cause the disorder**. (**1 point**)

**Total: 2 points**

55. Can bipolar disorder cause hallucinations?

- Sometimes, **a person with severe episodes of mania or depression may experience psychotic symptoms, such as hallucinations or delusions**. (**1 point**)

- The psychotic symptoms **tend to match the person's extreme mood. (1 point)**; Read the examples below to understand the meaning of this point.)  
For example:
  - People having psychotic symptoms during a **manic episode** may have the unrealistic belief that they are famous, have a lot of money, or have special powers.
  - People having psychotic symptoms during a **depressive episode** may falsely believe they are financially ruined and penniless, have committed a crime, or have an unrecognized serious illness.

**Total: 2 points**

56. Can bipolar disorder cause death?

- **People with bipolar disorder**, depression and other mood disorders **often have episodes when they feel extremely sad, hopeless, anxious, or confused. (1 point)**
- When these emotions get too intense, the person may **struggle with how to cope with overwhelming emotions, (1 point)**
- and for some people, **efforts at coping with distress may take the form of acts of self-injury. (1 point)**
- **Self-injuring behaviors** that occur because of difficulty coping with stress **are not a symptom of bipolar disorder, (1 point)**
- **but may happen when someone's emotional coping strategies are not well-developed OR when certain other mental health problems co-exist with bipolar disorder. (Award maximum of 1 point)**

**Total: 5 points**

Symptoms

57. What bipolar disorder feels like?

Only evaluate for comprehensive-

- **All three types** (of bipolar disorder) involve **clear changes in mood, energy, and activity levels. (Award 1 point for mentioning changes in an individual's well-being)**

These moods range from:

ness and not QoL domains

- **Periods of extremely “up,” elated, irritable, or energized behavior—known as manic episodes (1 point)**
- **to very “down,” sad, indifferent, or hopeless periods—known as depressive episodes (1 point)**
- **During an episode, the symptoms last every day for most of the day. (1 point)**
- **Episodes may also last for longer periods, such as several days or weeks. (1 point)**

**Total: 5 points**

58. How is bipolar disorder diagnosed?

- **Talking with a doctor or other licensed health care provider** is the first step. **(1 point)**
- The health care provider can **complete a physical exam and order necessary medical tests to rule out other conditions**; (Award **1 point** for mentioning the need for tests to ensure there is no physical health problem)
- The health care provider may then **conduct a mental health evaluation (1 point)**; “Mental health evaluation” is a mental health screening, where one is asked about feelings, mood, behavior patterns and other symptoms)
- **or provide a referral to a trained mental health care provider**, such as a psychiatrist, psychologist, or clinical social worker who has experience in diagnosing and treating bipolar disorder. **(1 point)**

Mental health care providers usually **diagnose bipolar disorder based on:**

- **A person’s symptoms (1 point)**
- **Lifetime history (1 point)**; refers to the lifetime history of mood episodes in an individual)
- **Experiences (1 point)**; refers to experiences of trauma, adverse life events, or history of drug abuse)

- and, in some cases, **family history**. (1 point; Also accept “genetics”, “runs in families”)

**Total: 8 points**

59. Why is bipolar disorder difficult to diagnose?

Some people have bipolar disorder for years before it is diagnosed. This may be because:

- **Bipolar disorder has symptoms in common with several other mental health disorders. (1 point)** A doctor may think the person has a different disorder, such as schizophrenia or (unipolar) depression.
- **Family and friends may notice the symptoms, but not realize that the symptoms are part of a more significant problem. (1 point)**
- **People with bipolar disorder often have other health conditions**, which can make it hard for doctors to diagnose bipolar disorder. (1 point)

**Total: 3 points**

60. How quickly does a person with bipolar disorder shift between highs and lows?

- It depends—**mood shift frequency varies from person to person. (1 point)**
- **A small number of patients may have many episodes within one day, shifting from mania** (an episode where a person is very high-spirited or irritable) **to depression**. This has been described as “**ultra-rapid cycling**”. (1 point for mentioning this phenomenon of “ultra-rapid cycling” among some people.)

**Total: 2 points**

61. What is a mixed episode?

The term may apply to either:

- **Episodes of mania with additional symptoms of depression**
- Or the opposite, **episodes of depression with additional symptoms of mania**
- Or the **presence of both symptoms of mania (“highs”) and depression (“lows”) at the same time.**

---

(Award **1 point** for any of the points mentioned)

**Symptoms of mania** include:

- **Elated or irritable mood**
- **Decreased need to sleep**
- **Racing thoughts**

(Award **1 point** for any of the points mentioned)

**Symptoms of depression** include:

- **Depressed mood**
- **Impaired sleep**
- **Feelings of hopelessness or worthlessness**

(Award **1 point** for any of the points mentioned)

**Total: 3 points**

62. Does having one manic episode necessarily mean you will have more and will have depressive episodes?

- **Not necessarily/No. (1 point)**
- However, the **majority of patients have more than one episode. (1 point)**
- **The number of episodes within a patient's lifetime varies. (1 point)**  
Some individuals may have only two or three within their lifetime while others may have the same number within a single year.
- **Frequency of episodes depends on many factors (1 point) including:**
  - The **natural course of the condition (1 point)**
  - as well as on **appropriate treatment. (1 point)**
- **Not taking medication or taking it incorrectly are frequent causes of episode recurrence. (Award 1 point for mentioning that errors in taking medication can be a cause for episode recurrence)**

**Total: 7 points**

---

**Treatment**

**Evaluate for QoL domains in addition to comprehensive-ness**

63. Will bipolar disorder ever be cured?

- Bipolar disorder is a **lifelong illness**. (Award **1 point** for mentioning that bipolar disorder is a chronic/long-term condition)
- **Episodes of mania and depression typically come back over time. (1 point)**
- **Between episodes, many people with bipolar disorder are free of mood changes, (1 point)**
- **but some people may have lingering symptoms. (1 point)**
- **Long-term, continuous treatment can help people manage these symptoms. (1 point)**

**Total: 5 points**

64. Bipolar disorder is treated with which drug?

- Certain medications can help manage symptoms of bipolar disorder. Some people may **need to work with their health care provider (1 point)** and **try several different medications before finding medications that work best.** (Award **1 point** for mentioning that there may be some “trial and error” before finding a suitable medication)

Medications generally used to treat bipolar disorder include:

- **Mood stabilizers (1 point)**
- **Second-generation (“atypical”) antipsychotics.** (Award **1 point** for mentioning the use of antipsychotics)

Treatment plans may also include:

- **Medications that target sleep (1 point)**
- **or anxiety. (1 point)**
- Health care providers often prescribe **antidepressant medication to treat depressive episodes** in bipolar disorder, **(1 point)**
- **combining the antidepressant with a mood stabilizer to prevent triggering a manic episode.** (Award **1 point** for mentioning the benefit of mood stabilizers in controlling manic episodes.)



- 
65. Can bipolar disorder be treated with diuretics?
- Total: 8 points**
- **No. (1 point)**
66. Can someone with bipolar disorder be treated without medication?
- Total: 1 point**
- **Bipolar disorder requires lifelong treatment with medications, even during periods when a person feels better. (1 point)**
- The **primary treatments** for bipolar disorder include:
- **Medications, (1 point;** Also accept “mood stabilizers”, “antipsychotics”, “antidepressants”, “benzodiazepines” or “anti-anxiety drugs”)
  - **Psychological counselling (1 point;** Also accept “psychotherapy”, “talk therapy”, “cognitive behavioral therapy”, “counselling”)
  - **to control symptoms, (1 point)**
  - and may also include **education and support groups.** (Award **1 point** for mentioning support groups)
- **People who skip maintenance treatment are at high risk of a relapse of symptoms (1 point)**
  - **or having minor mood changes turn into full-blown mania or depression.** (Award **1 point** for mentioning that the episodes can become very severe)
- Total: 7 points**
-

## Conflict of interest

No competing financial interests exist. All authors have no conflicts of interest with any of the evaluated apps or their companies in this study. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.



AIMS Press

© 2022 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)