

## THE PHARMA INNOVATION

# Anxiety: A Common Problem with Human Beings

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Anxiety is a cardinal symptom of many psychiatric disorders and an almost inevitable component of many medical and surgical conditions. Indeed, it is a universal human emotion, closely allied with appropriate fear and often serving psychologically adaptive purposes. Some responsible effects are associated with anxiety physical, emotional, cognitive and behavioral effects. Generalized anxiety disorder is most common disorder followed by obsessive-compulsive disorder, post-traumatic stress disorder. Natural medication is most prominent process of treatment of anxiety such as Ashwagandha, Kava (Piper methysticum), Valerian (Valeriana officinalis), Passionflower (Passifloraincarnata) and a standard method of treating anxiety is with psychological counseling, yoga and many different types of anti-anxiety medicines are also prescribe such as Tricyclic Antidepressant, Monoamine Oxidase Inhibitor, Benzodiazepines, Antipsychotic, Selective Serotonin Reuptake Inhibitors but these have a lot of side effects.

*Keyword:* Anxiety, Causes, Symptom, Natural Medication

### 1. Introduction

Anxiety is a cardinal symptom of many psychiatric disorders and an almost inevitable component of many medical and surgical conditions. Indeed, it is a universal human emotion, closely allied with appropriate fear and often serving psychologically adaptive purposes. A most important clinical generalization is that anxiety is rather infrequently a "disease" in itself. Anxiety that is typically associated with the former "psychoneurotic" disorder is not readily explained in biological or psychological terms; Contemporary hypothesis implicated over activity of adrenergic systems or deregulation of serotonergic system in the CNS<sup>[1]</sup>.

Anxiety is a subjective human phenomenon. The heightened level arousal and subjective feeling of fear is the feature of all major categories of

anxiety disorder. It is regarded as a particular form of behavioral inhibition that occurs in response to environmental events Stimuli association with punishment and novelty elicit inhibition of ongoing behavior increased attention to environment and increased alertness have face validity as description face of human anxiety<sup>[2]</sup>.

Anxiety is a generalized mood condition that can often occur without an identifiable triggering stimulus. As such, it is distinguished from fear, which is an emotional response to a perceived threat. Additionally, fear is related to the specific behavior of escape and avoidance, whereas anxiety is related to situations perceived as uncontrollable or unavoidable<sup>[3]</sup>. Another view defines anxiety as "a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative

events",<sup>[4]</sup>suggesting that it is a distinction between future vs. present dangers which divides anxiety and fear.

In a 2011 review of the literature,<sup>[5]</sup> fear and anxiety were said to be differentiated in four domains: duration of emotional experience, temporal focus, specificity of threat, and motivated direction. Fear was defined as short-lived, present-focused, geared towards a specific threat, and facilitating escape from threat while anxiety was defined as long-acting, future-focused, broadly focused towards a diffuse threat, and promoting caution while approaching a potential threat.

Human anxiety disorders are broadly grouped according to symptomatology and responsiveness to pharmacological and psychological treatment<sup>[6][7]</sup>. Generalized anxiety disorder and panic disorder are the two primary classifications of pathological anxiety in humans. The distinguishing feature of generalized anxiety disorder is a pervading sense of unrealistic worry about everyday life situations. In contrast, panic attacks constitute the primary symptom of panic disorder. These events are characterized as sudden, extreme fear accompanied by autonomic nervous system arousal<sup>[8]</sup>.

## 1.2 Effects Responsible For Anxiety:

### 1. Physical effects

Physical effects of anxiety may include heart palpitations, muscle weakness and tension, fatigue, nausea, chest pain, shortness of breath, stomach aches, or headaches. The body prepares to deal with a threat: blood pressure and heart rate are increased, sweating is increased, blood flow to the major muscle groups is increased, and immune and digestive system functions are inhibited (the *fight or flight* response). External signs of anxiety may include pale skin, sweating, trembling, and pupillary dilation. Someone who has anxiety might also experience it as a sense of dread or panic. Although panic attacks are not experienced by every person who has anxiety, they are a common symptom. Panic attacks usually come without warning, and although the fear is generally irrational, the perception of danger is very real. A person experiencing a

panic attack will often feel as if he or she is about to die or pass out.

### 2. Emotional effects

Emotional effects may include "feelings of apprehension or dread, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, watching (and waiting) for signs (and occurrences) of danger, and, feeling like your mind's gone blank"<sup>[9]</sup> as well as "nightmares/bad dreams, obsessions about sensations, a trapped in your mind feeling, and feeling like everything is scary"<sup>[10]</sup>.

### 3. Cognitive effects

Cognitive effects of anxiety may include thoughts about suspected dangers, such as fear of dying. "You may...fear that the chest pains [a physical symptom of anxiety are a deadly heart attack or that the shooting pains in your head [another physical symptom of anxiety] are the result of a tumor or aneurysm. You feel an intense fear when you think of dying, or you may think of it more often than normal, or can't get it out of your mind"<sup>[11]</sup>.

### 4. Behavioral effects

Behavioral effects may include withdrawal from situations where unpleasant effects of anxiety have been experienced in the past<sup>[12]</sup>. It can also be affected in ways which include changes in sleeping patterns, nail biting and increased motor tension, such as foot tapping<sup>[13]</sup>.

## 1.3 Classification of Anxiety Disorder:

### 1.3.1 Generalized Anxiety Disorder (GAD)

Generalized Anxiety Disorder (GAD) is a chronic disorder characterized by excessive, long-lasting anxiety and worry about nonspecific life events, objects, and situations. GAD sufferers often feel afraid and worry about health, money, family, work, or school, but they have trouble both identifying the specific fear and controlling the worries<sup>[14]</sup>. Their fear is usually unrealistic or out of proportion with what may be expected in their situation. Sufferers expect failure and disaster to the point that it interferes with daily functions like work, school, social activities, and relationships. That suffering from GAD shows strained look, skin is pale with increased sweating

from the hands, feet and axillae may be tearful<sup>[15]</sup>.

### 1.3.2 Panic Disorder

Panic Disorder is a type of anxiety characterized by brief or sudden attacks of intense terror and apprehension that leads to shaking, rapid heartbeat, trembling, confusion, dizziness, nausea, and difficulty breathing<sup>[16][17]</sup>. Panic attacks tend to arise abruptly and peak after 10 minutes, but they then may last for hours. Panic disorders usually occur after frightening experiences or prolonged stress, but they can be spontaneous as well. A panic attack may lead an individual to be acutely aware of any change in normal body function, interpreting it as a life threatening illness - hypervigilance followed by hypochondriasis. In addition, panic attacks lead a sufferer to expect future attacks, which may cause drastic behavioral changes in order to avoid these attacks<sup>[18]</sup>.

### 1.3.3 A Phobia

A Phobia is an irrational fear and avoidance of an object or situation. Phobias are different from generalized anxiety disorders because a phobia has a fear response identified with a specific cause. The fear may be acknowledged as irrational or unnecessary, but the person is still unable to control the anxiety that results. Stimuli for phobia may be as varied as situations, animals, or everyday objects.<sup>[19]</sup> For example, agoraphobia occurs when one avoids a place or situation to avoid an anxiety or panic attack. Agoraphobics will situate themselves so that escape will not be difficult or embarrassing, and they will change their behavior to reduce anxiety about being able to escape.

### 1.3.4 Social Anxiety Disorder

Social Anxiety Disorder is a type of social phobia characterized by a fear of being negatively judged by others or a fear of public embarrassment due to impulsive actions. This includes feelings such as stage fright, a fear of intimacy, and a fear of humiliation. This disorder can cause people to avoid public situations and human contact to the point that normal life is rendered impossible<sup>[20]</sup>.

### 1.3.5 Obsessive-Compulsive Disorder (OCD)

Obsessive-Compulsive Disorder (OCD) is an anxiety disorder characterized by thoughts or actions that are repetitive, distressing, and intrusive. It affects around 3% of the population worldwide<sup>[21]</sup>. OCD sufferers usually know that their compulsions are unreasonable or irrational, but they serve to alleviate their anxiety. Often, the logic of someone with OCD will appear superstitious, such as an insistence in walking in a certain pattern. OCD sufferers may obsessively clean personal items or hands or constantly check locks, stoves, or light switches.

### 1.3.6 Post-traumatic Stress Disorder (PTSD)

Post-traumatic Stress Disorder (PTSD) is anxiety that results from previous trauma such as military combat, rape, hostage situations, or diagnosis of a serious life-threatening illness<sup>[22][23]</sup>.

### 1.3.7 Separation Anxiety Disorder

Separation Anxiety Disorder is characterized by high levels of anxiety when separated from a person or place that provides feelings of security or safety. A sometimes separation result in panic and it is considered a disorder when the response is excessive or inappropriate. PTSD often leads to flashbacks and behavioral changes in order to avoid certain stimuli.

### 1.4 Causes:

The psychologist David H. Barlow of Boston University conducted a study that showed three common characteristics of people suffering from chronic anxiety, which he characterized as "a generalized biological vulnerability," "a generalized psychological vulnerability," and "a specific psychological vulnerability."<sup>[24]</sup> While chemical issues in the brain that result in anxiety (especially resulting from genetics) are well documented, this study highlights an additional environmental factor that may result from being raised by parents suffering from chronic anxiety themselves.

Research upon adolescents who as infants had been highly apprehensive, vigilant, and fearful finds that their nucleus accumbens is more

sensitive than that in other people when selecting to make an action that determined whether they received a reward. This suggests a link between circuits responsible for fear and also reward in anxious people. As researchers note "a sense of 'responsibility,' or self-agency, in a context of uncertainty (probabilistic outcomes) drives the neural system underlying appetitive motivation (i.e., nucleus accumbens) more strongly in temperamentally inhibited than no inhibited adolescents"<sup>[25]</sup>.

Neural circuitry involving the amygdala and hippocampus is thought to underlie anxiety<sup>[26]</sup>. When people are confronted with unpleasant and potentially harmful stimuli such as foul odors or tastes, PET-scans show increased blood flow in the amygdala<sup>[27][28]</sup>. In these studies, the participants also reported moderate anxiety. This might indicate that anxiety is a protective mechanism designed to prevent the organism from engaging in potentially harmful behaviors.

### 1.5 Various factors responsible for the cause of anxiety<sup>[29]</sup>.

#### 1.5.1 Environmental and external factors

- Trauma from events such as abuse, victimization, or the death of a loved one
- Stress in a personal relationship, marriage, friendship, and divorce
- Stress at work
- Stress from school
- Stress about finances and money
- Stress from a natural disaster
- Lack of oxygen in high altitude areas

#### 1.5.2 Medical factors

Anxiety is associated with medical factors such as anemia, asthma, infections, and several heart conditions. Some medically-related causes of anxiety include:

- Stress from a serious medical illness
- Side effects of medication
- Symptoms of a medical illness
- Lack of oxygen from emphysema, or pulmonary embolism (a blood clot in the lung)

### 1.5.3 Substance use and abuse

It is estimated that about half of patients who utilize mental health services for anxiety disorders such as GAD, panic disorder, or social phobia are doing so because of alcohol or benzodiazepine dependence. More generally, anxiety is also known to result from:

- Intoxication from an illicit drug, such as cocaine or amphetamines
- Withdrawal from an illicit drug, such as heroin, or from prescription drugs like Vicodin, benzodiazepines, or barbiturates.

### 1.6 Genetics

Family history of anxiety increases the likelihood that a person will develop it. That is, some people may have a genetic predisposition that gives them a greater chance of suffering from anxiety disorders.

### 1.7 Brain chemistry

People with abnormal levels of certain neurotransmitters in the brain are more likely to suffer from generalized anxiety disorder. When neurotransmitters are not working properly, the brain's internal communication network breaks down, and the brain may react in an inappropriate way in some situations. This can lead to anxiety.

### 1.8 Symptoms of Anxiety<sup>[30]</sup>

People with anxiety disorders present a variety of physical symptoms in addition to non-physical symptoms that characterize the disorders such as excessive, unrealistic worrying. The following is a list of physical symptoms associated with GAD:

- Trembling
- Churning stomach
- Nausea
- Diarrhea
- Headache
- Backache
- Heart palpitations
- Numbness or "pins and needles" in arms, hands or legs
- Sweating/flushing
- Restlessness
- Easily tired

- Trouble concentrating
- Irritability
- Muscle tension
- Frequent urination
- Trouble falling or staying asleep
- Being easily startled

Post-traumatic stress disorders have a range of symptoms that are unique to this form of anxiety. Frequent symptomatic behaviors include:

- Flashbacks or nightmares of re-experiencing the trauma
- Avoidance of people, places, and things that are associated with the original event
- Difficulty concentrating or sleeping
- Closely watching surroundings (hypervigilance)
- Irritability and diminished feelings or aspirations for the future

### 1.9 Diagnosis:

The physician will take a careful medical and personal history, perform a physical examination, and order laboratory tests as needed. There is no one laboratory test that can be used to diagnose anxiety, but tests may provide useful information about a medical condition that may be causing physical illness or other anxiety symptoms.

To be diagnosed with generalized anxiety disorder (GAD), a person must:

- Excessively worry and be anxious about several different events or activities on more days than not for at least six months
- Find it difficult to control the worrying
- Have at least three of the following six symptoms associated with the anxiety on more days than not in the last six months: restlessness, fatigue, irritability, muscle tension, difficulty sleeping, difficulty concentrating

### 1.10 Treatment of Anxiety Disorder

The treatment of anxiety disorders has evolved considerably in the past 50 years. There was early use of alcohol and barbiturates to treat anxiety, but both were associated with significant problems. The situation changed in the 1950s and 60s, when the benzodiazepines were developed as effective anxiolytics; these agents are still

commonly used today. The benzodiazepines work quickly and are generally well tolerated. Their primary disadvantages are initial sedation, ataxia, in coordination, impaired memory, and cognition and, after chronic administration, physiological dependence and the potential for withdrawal symptoms upon discontinuation. Some of these adverse effects occur more frequently in older patients. The current faculty has also observed occasional undesirable behavioral disinhibition in pediatric patients and in patients with a comorbid Cluster B Personality Disorder (Antisocial, Borderline, Histrionic, or Narcissistic).

People with a history of or propensity for alcohol or drug abuse are at risk for abusing benzodiazepines. Due to their lack of significant antidepressant effects, these drugs are also not optimal for long-term monotherapy treatment of patients with generalized anxiety disorder (GAD) or other anxiety disorders. As a result, there has been a continued search for new anxiolytic agents. Tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs) proved to be effective in the treatment of some anxiety disorders, but enthusiasm for their use is limited by side effects, especially during long term therapy.

Over the past several years, the selective serotonin reuptake inhibitors (SSRIs) have become first-line monotherapy for the anxiety disorders, because they are generally better tolerated and have a broader spectrum of efficacy than older agents. Benzodiazepines are now recommended as adjunctive treatment for anxiety disorders and as monotherapy for those intolerant of or unresponsive to other agents<sup>[31]</sup>.

Anxiety can be treated medically, with psychological counseling, or independently. Ultimately, the treatment path depends on the cause of the anxiety and the patient's preferences. Often treatments will consist of a combination of psychotherapy, behavioral therapy, and medications.

### 1.11 Medicine Treatment

Medical treatments for anxiety utilize several types of drugs. If the cause of the anxiety is a physical ailment, treatment will be designed to

eliminate the particular ailment. This might involve surgery or other medication to regulate a physical anxiety trigger. Often, however, medicines such as antidepressants, benzodiazepines, tricyclics, and beta-blockers are used to control some of the physical and mental symptoms<sup>[32]</sup>.

### 1.12 Anti-anxiety Medications List<sup>[33]</sup>

#### List of Antidepressant Drugs for Anxiety

- Citalopram (Celexa)
- Duloxetine (Cymbalta)
- Escitalopram (Lexapro)
- Fluoxetine (Prozac)
- Fluvoxamine (Luvox)
- Paroxetine (Paxil)
- Sertraline (Zoloft)
- Trazodone (Desyrel)
- Venlafaxine (Effexor XR)

#### List of Tricyclic Antidepressant Drugs for Anxiety

- Clomipramine (Anafranil)
- Desipramine (Norpramin)
- Doxepin (Sinequan)
- Imipramine (Tofrani)

#### List of Monoamine Oxidase Inhibitor Drugs for Anxiety

- Isocarboxazid (Marplan)
- Phenelzine (Nardil)
- Selegiline (Emsam)
- Tranylcypromine (Parnate)

#### List of Benzodiazepines Used to Treat Anxiety

- Alprazolam (Xanax)
- Chlordiazepoxide (Librium) Clonazepam (Klonopin)
- Diazepam (Valium)
- Lorazepam (Ativan)
- Oxazepam (Serax)

#### List of Anticonvulsants Used to Treat Anxiety

- Divalproex (Depakote, Depakote ER)
- Gabapentin (Neurontin)

- Pregabalin (Lyrica)

#### List of Beta-Blockers for Anxiety

- Atenolol (Tenormin)
- Nadolol (Corgard)
- Propranolol (Inderal, Betachron E-R, InnoPran XL)

#### List of Antipsychotic Drugs Used to Treat Anxiety

- Molindone (Moban)
- Olanzapine (Zyprexa)
- Quetiapine (Seroquel) Risperidone (Risperdal)

### 1.13 Selective Serotonin Reuptake Inhibitors – SSRIs for Anxiety

SSRIs are nonaddictive medications and are generally taken long-term. An anti-anxiety effect from SSRIs is usually seen in 2-4 weeks depending on how fast the dosage is increased. SSRIs for anxiety are known to be helpful for:

- Generalized anxiety disorder (GAD)
- Panic disorder
- Obsessive-compulsive disorder (OCD)
- Social phobia

### 1.14 Benzodiazepines for Anxiety

Benzodiazepines can be used to treat virtually any type of anxiety including:

- Panic attacks
- Situational anxiety
- Adjustment disorder

### 1.15 Antipsychotic Anxiety Medication

While the name "antipsychotic" suggests the drug is used to treat psychosis, antipsychotics are used in many other ways as well and taking one does not indicate the presence of psychosis. Antipsychotics are often used to improve the effectiveness of other anxiety medication. Antipsychotics may also be used on their own, but are considered a second choice antianxiety medication.

Antipsychotics are long-term treatment options mostly used in the treatment of generalized anxiety disorder. Both older and newer, known as

typical and atypical, antipsychotics can be used as anxiety drugs but the older, typical antipsychotics have a greater likelihood of side effects.

### 1.16 Blood Pressure Drugs for Anxiety:

#### a. Beta-Blockers

This type of drug is known as an antihypertensive agent. In other words, these are drugs designed to decrease blood pressure. Antihypertensive may have a positive effect on the physiological effects of anxiety. These antianxiety drugs are designed to be taken at the time of anxiety but their effect may be felt for up to one week afterwards. Beta-blockers also belong in this class of medication and several beta-blockers for anxiety have been shown useful.

Drugs in this class are mostly considered investigational in the area of anxiety. However, studies have shown that beta-blockers may be useful in situational / performance anxiety as well as post-traumatic stress disorder.

#### b. Anticonvulsant Anxiety Medications

Anticonvulsants are sometimes prescribed off-label as anxiety medications. This may be due to their ability to increase a chemical in the brain known as gamma-amino butyric acid (GABA). GABA tends to calm the central nervous system which is helpful in those with anxiety.

### 1.17 Self Treatment<sup>[32]</sup>

In some cases, anxiety may be treated at home, without a doctor's supervision. However, this may be limited to situations in which the duration of the anxiety is short and the cause is identified and can be eliminated or avoided. There are several exercises and actions that are recommended to cope with this type of anxiety:

- Learn to manage stress in your life. Keep an eye on pressures and deadlines, and commit to taking time away from study or work.
- Learn a variety of relaxation techniques. Information about physical relaxation methods and meditation techniques can be found in book stores and health food shops.

- Practice deep abdominal breathing. This consists of breathing in deeply and slowly through your nose, taking the air right down to your abdomen, and then breathing out slowly and gently through your mouth. Breathing deeply for too long may lead to dizziness from the extra oxygen.
- Learn to replace "negative self-talk" with "coping self-talk." Make a list of the negative thoughts you have, and write a list of positive, believable thoughts to replace them. Replace negative thoughts with positive ones.
- Picture yourself successfully facing and conquering a specific fear.
- Talk with a person who is supportive.
- Meditate.
- Exercise.
- Take a long, warm bath.
- Rest in a dark room.

### 1.17 Counseling

A standard method of treating anxiety is with psychological counseling. This can include cognitive-behavioral therapy, psychotherapy, or a combination of therapies.

Cognitive-behavioral therapy (CBT) aims to recognize and change the patient's thinking patterns that are associated with the anxiety and troublesome feelings. This type of therapy has two main parts: a cognitive part designed to limit distorted thinking and a behavioral part designed to change the way people react to the objects or situations that trigger anxiety.

For example, a patient undergoing cognitive-behavioral therapy for panic disorder might work on learning that panic attacks are not really heart attacks. Those receiving this treatment for obsessive-compulsive disorder for cleanliness may work with a therapist to get their hands dirty and wait increasingly longer amounts of time before washing them. Post-traumatic stress disorder sufferers will work with a therapist to recall the traumatic event in a safe situation to alleviate the fear it produces. Exposure-based therapies such as CBT essentially have people

confront their fears and try to help them become desensitized to anxiety-triggering situations. Psychotherapy is another type of counseling treatment for anxiety disorders. It consists of talking with a trained mental health professional, psychiatrist, psychologist, social worker, or other counselor. Sessions may be used to explore the causes of anxiety and possible ways to cope with symptoms.

### 1.18 Naturopathic Treatment

A Canadian study finds that naturopathic treatment including the herbal remedy ashwagandha, deep breathing exercises, dietary counseling, and a standard multi-vitamin supplement significantly reduced symptoms of anxiety. This was the first study to evaluate the potential of naturopathic treatment to **treat anxiety**<sup>[34]</sup>.



### 1.19 Ashwagandha (WithaniaSomnifera)<sup>[34]</sup>

#### Common name:

Sanskrit - Ashwagandha

Hindi -

English - winter cherry

Asgandh

#### Chemical constituents:

Methanol

Hexane

Diethyl ether

### 1.20 These are some of the natural remedies that are being explored for anxiety mentioned below.<sup>[35-38]</sup>

#### 1) Passionflower (*Passifloraincarnata*)



#### Common name:

Astrophea, Baldwinia, Ceratosepalum, Cieca, Decaloba, Granadilla, Hollrungia, Murucuja, Pentaria and Tetrastylis.

#### Chemical constituents:

Coumarin derivatives

Maltol,

Alkaloid

Flavonoids (vitexin, isoorientin, schaftoside, isoshaftoside, and chrysin)

The herb passionflower (*Passifloraincarnata*) was used as a folk remedy for anxiety and insomnia. Two studies involving a total of 198 people examined the effectiveness of passionflower for anxiety. One study found passionflower to be comparable to benzodiazepine drugs. There was also improvement in job performance with passionflower and less drowsiness with

passionflower compared with the drug mexazolam, however, neither was statistically significant. Side effects of passionflower may include nausea, vomiting, drowsiness, and rapid heartbeat. The safety of passionflower in pregnant or nursing women, children, or people with kidney or liver disease has not been established. There have been five case reports in Norway of people becoming temporarily impaired mentally after using a combination product containing passionflower. It's not known whether the other ingredients in the supplement played a role.

Passionflower should not be taken with sedatives unless under medical supervision. Passionflower may enhance the effect of pentobarbital, a medication used for sleep and seizure disorders.

Passion flower may also be used as a natural treatment for anxiety but it's thought passionflower's effects are not as strong as either kava or valerian. Passionflower may interact with sedatives, blood thinners and antidepressants.

## 2) Valerian



### Common name:

Great Wild Valerian, Amantilla, Setwall, Setewale Capon's Tail, Set-Well, English Valerian, Belgian Valerian, Common Valerian, German Valerian, Heliotrope, Garden Heliotrope, Fragrant Valerian, Vandal Root, Amantilla and Capon's Tail.

### Chemical constituents:

Alkaloids  
(actinidine, chatinine, shyanthine, valerianine, and valerine.)  
Gamma-amino butyric acid  
Isovaleramide  
Isovaleric acid  
Iridoids  
Sesquiterpenes  
Flavanones

The herb valerian (*Valeriana officinalis*) is best known as a herbal remedy for insomnia. Valerian is also used in patients with mild anxiety, but the research supporting its use for anxiety is limited. For example, researchers with the Cochrane Collaboration reviewed studies on valerian for anxiety. Only one study met their quality criteria. It was a four-week study comparing valerian, the medication diazepam (Valium), and a placebo in 36 people with generalized anxiety disorder. No statistically significant differences were found between the groups, perhaps due to the small size of the study.

Valerian is usually taken an hour before bedtime. It takes about two to three weeks to work and shouldn't be used for more than three months at a time. Side effects of valerian may include mild

indigestion, headache, palpitations, and dizziness. Although valerian tea and liquid extracts are available, most people don't like the smell of valerian and prefer taking the capsule form.

Valerian shouldn't be taken with many medications, especially those that depress the central nervous system, such as sedatives and antihistamines. Valerian shouldn't be taken with alcohol, before or after surgery, or by people with liver disease. It should not be used before driving or operating machinery. Consultation with a qualified health practitioner is recommended. For more information about valerian, read the Valerian Fact Sheet.

Valerian is native to Europe and its roots are used to induce sedation. Some, but not all, studies have shown that valerian is helpful in treating insomnia and the United States Food and Drug Administration lists valerian as "generally recognized as safe." Valerian may cause withdrawal if stopped after long-term use. While this is a natural treatment for anxiety, it is still known to interact with other drugs like antihistamines, cholesterol-lowering drugs and sedatives.

### 3) Kava



#### Common name:

Kava kava, awa, kava pepper

#### Chemical constituents:

Kavalactones  
Benzoic Acid  
Cinnamic Acid  
5-Dihydroyangonin  
Desmethoxyyangonin  
Dihydrokawain  
Flavokawin A And B  
Kawain  
Methysticin  
Pipermethystine  
Native to Polynesia, the herb kava (*Piper methysticum*) has been found to have anti-anxiety effects in humans.

The United States Food and Drug Administration (FDA), however, has issued an advisory to consumers about the potential risk of severe liver injury resulting from the use of dietary supplements containing kava. To date, there have been more than 25 reports of serious adverse effects from kava use in other countries, including four patients who required liver transplants.

Kava is a plant found in the South Pacific and its roots are used for relaxation without sedation. Research has shown kava is a safe and effective natural anxiety remedy; however, other research shows no evidence of the effectiveness of kava. Kava may cause serious liver damage and is known to interact with other drugs like alcohol, anticonvulsants and antipsychotics.

#### 4) Bodywork

Massage therapy, shiatsu, and other forms of bodywork are widely used to diminish muscle tension, relieve stress, and improve sleep.

#### 5) Mind/Body Techniques

Mind/body breathing exercises, physical exercise, yoga, tai chi, self-hypnosis, meditation, and biofeedback are just some of the stress reduction techniques used for anxiety. Try different techniques and determine which routine you can stick to with a hectic schedule.

Diaphragmatic Breathing, Step-by-Step  
The Relaxation Response  
Mindfulness Meditation.

## 6) Gamma-amino butyric Acid (GABA)

GABA is an amino acid that is known to play a role in the physiology of anxiety. Some prescription drugs for anxiety work by affecting GABA receptors in the brain. The degree to which orally ingested GABA supplements can reach the brain, however, is unknown.

## 7) Aromatherapy

Plant essential oils can be added to baths, massage oil, or infusers. Essential oils that are used for anxiety and nervous tension are: bergamot, cypress, geranium, jasmine, lavender, Melissa, neroli, rose, sandalwood, ylang-ylang. Lavender is the most common and forms the base of many relaxing blends<sup>[35-38]</sup>.

## 8) Supplements with L- theanine to Reduce Anxiety<sup>[39-42]</sup>

L-theanine is a naturally occurring amino acid found in green tea, raises GABA levels and has few if any side effects. It produces calmness without drowsiness. It also improves mental clarity and focus. "L-theanine acid stimulates the production of alpha brain waves, creating a state of deep relaxation and mental alertness similar to what is achieved through meditation. Second, L-theanine is involved in the formation of the inhibitory neurotransmitter, gamma amino butyric acid (GABA). GABA influences the levels of two other neurotransmitters, dopamine and serotonin, producing the key relaxation effect"<sup>[39-42]</sup>.

A poor diet may result in anxiety symptoms and some supplements are thought to be natural anxiety remedies. For example, a lack of B12 in the diet is known to contribute to stress and anxiety. Some also suggest that increasing intake of omega-3 fatty acids can also act as a natural anxiety remedy.

### 1.21 Other Natural Remedies for Anxiety<sup>[35-38]</sup>

Calcium  
Chamomile  
Pantothenic acid  
Magnesium  
B vitamins

## 2. Reference

1. Stain M.B, Uhde,T.W. Biology of anxiety disorders. In: Schatzberg,A.F.,&Nemeroff,C.B, editor.The American Psychiatric Press text book of Psychopharmacology.Washington:American Psychiatric Press.1988(2):609-28.
2. Gopala Krishna, H.N., Saibitha P., Sudhakar P.E. Screening Methods for Anxiolytic Activity: Study Designs for evaluation of drug acting on CNS in animals; Kasturba Medical College, Manglore.14-15.
3. Ohman, A. (2000). Fear and anxiety: Evolutionary, cognitive, and clinical perspectives. In M. Lewis & J. M. Haviland-Jones (Eds.). Handbook of emotions. (pp.573-593). New York: The Guilford Press.
4. Barlow, David H. (November 2002). "Unraveling the mysteries of anxiety and its disorders from the perspective of emotion theory". American Psychologist 55 (11): 1247–63.PMID11280938. <http://psycnet.apa.org/journals/amp/55/11/1247.pdf>
5. Sylvers, Patrick; Jamie Laprarie and Scott Lilienfeld (February 2011). "Differences between trait fear and trait anxiety: Implications for psychopathology". Clinical Psychology Review 31 (1): 122–137. doi:10.1016/j.cpr.2010.08.004.
6. Nutt DJ. The pharmacology of human anxiety. Pharmacology & Therapeutics. 1990; 47 (2):233–266. [Pub Med]
7. Weiss SJ. Neurobiological alterations associated with traumatic stress. Perspectives in Psychiatric Care. 2007; 43 (3):114–122. [Pub Med]
8. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV-TR. Washington, DC: American Psychiatric Association; 2000.
9. Smith, Melinda (2008, June). Anxiety attacks and disorders: Guide to the signs, symptoms, and treatment options. Retrieved March 3, 2009, from Helpguide Web site: [http://www.helpguide.org/mental/anxiety\\_types\\_symptoms\\_treatment.htm](http://www.helpguide.org/mental/anxiety_types_symptoms_treatment.htm)
10. (1987-2008). Anxiety Symptoms, Anxiety Attack Symptoms (Panic Attack Symptoms), Symptoms of Anxiety. Retrieved March 3, 2009, from Anxiety Centre Web site: <http://www.anxietycentre.com/anxiety-symptoms.shtml>.
11. (1987-2008). Anxiety symptoms - Fear of dying. Retrieved March 3, 2009, from Anxiety Centre

- Web site: <http://www.anxietycentre.com/anxiety-symptoms/fear-of-dying.shtml>
12. Barker, P. (2003) *Psychiatric and Mental Health Nursing: The Craft of Care*. Edward Arnold, London.
  13. Barlow, David H.; Durand, Vincent (2008). *Abnormal Psychology: An Integrative Approach*. Cengage Learning. p. 125. ISBN 0534581560.
  14. Calleo J, Stanley M (2008). "Anxiety Disorders in Later Life: Differentiated Diagnosis and Treatment Strategies". *Psychiatric Times* 26 (8).
  15. *Psychiatry*, Michael Gelder, Richard Mayou, John Geddes 3rd ed. Oxford; New York: Oxford University Press, c 2005 p. 75
  16. *Depression and anxiety* 27:93-112, 2010.
  17. Marquez (N.D). *Panic Disorder Respiratory Subtype: Psychopathology, Laboratory Challenge Tests, and Response to Treatment*.
  18. American psychiatric association 2000.
  19. Bourne, Edmund J. (2011). *The Anxiety & Phobia Workbook* 5th ed.. New Harbinger Publications. pp. 50–51. ISBN 572244135.
  20. "Webmd. Mental Health: Social Anxiety Disorder". Webmd.com. Retrieved 2010-04-14.
  21. Phil Barker (7 October 2003). *Psychiatric and mental health nursing: the craft of caring*. London: Arnold. ISBN 978-0-340-81026-2. Retrieved 17 December 2010.
  22. American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV*. Washington, DC: American Psychiatric Association. ISBN 0-89042-061-0.
  23. Fullerton, CS; Ursano, Wang (2004). "Acute Stress Disorder, Posttraumatic Stress Disorder, and Depression in Disaster or Rescue Workers". *Am J Psychiatry* 161: 1370–1376.
  24. Bar-Haim Y, Fox NA, Benson B, Guyer AE, Williams A, Nelson EE, Perez-Edgar K, Pine DS, Ernst M. (2009). Neural correlates of reward processing in adolescents with a history of inhibited temperament. *Psychol Sci*. 20(8):1009-18. PMID 19594857
  25. Rosen JB, Schulkin J (1998). "From normal fear to pathological anxiety". *Psychol Rev* 105 (2): 325–50. doi:10.1037/0033-295X.105.2.325. PMID 9577241.
  26. Zald, D.H.; Pardo, JV (1997). "Emotion, olfaction, and the human amygdala: amygdala activation during aversive olfactory stimulation". *Proc Nat'l AcadSci (USA)* 94 (8): 4119–24. doi:10.1073/pnas.94.8.4119. PMC 20578. PMID 9108115.
  27. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pmcentrez&artid=20578>
  28. Zald, D.H.; Hagen, M.C.; &Pardo, J.V (1 February 2002). "Neural correlates of tasting concentrated quinine and sugar solutions". *J. Neurophysiology* 87 (2): 1068–75. PMID 11826070. <http://jn.physiology.org/cgi/content/full/87/2/1068>.
  29. <http://www.medicalnewstoday.com/info/anxiety/what-causes-anxiety.php>.
  30. <http://www.medicalnewstoday.com/info/anxiety/symptoms-of-anxiety.php>.
  31. Stahl SM. Antidepressants: the blue-chip psychotropic for the modern treatment of anxiety disorders. *J Clin Psychiatry*. 1999; 60(6):356-357.
  32. <http://www.medicalnewstoday.com/info/anxiety/anxiety-treatments.php>.
  33. <http://www.healthypace.com/anxiety-panic/anxiety-disorders/anxiety-medications-antianxiety-medications-reduce-anxiety>
  34. <http://www.emaxhealth.com/1275/61/33243/naturopathic-treatment-significantly-improves-anxiety.html>
  35. Andreatini R, Sartori VA, Seabra ML, Leite JR. Effect of valepotriates (valerian extract) in generalized anxiety disorder: a randomized placebo-controlled pilot study. *Phytother Res*. 16.7 (2002): 650-654.
  36. Ernst E. Herbal remedies for anxiety - a systematic review of controlled clinical trials. *Phytomedicine*. 13.3 (2006): 205-208.
  37. Miyasaka LS, Atallah AN, Soares BG. Valerian for anxiety disorders. *Cochrane Database Syst Rev*. 2006 Oct 18;(4):CD004515.
  38. Miyasaka L, Atallah A, Soares B. Passiflora for anxiety disorder. *Cochrane Database Syst Rev*. 2007 Jan 24;(1):CD004518.
  39. Ed Sharpe. *L-Theanine: The Essence of Mellow in a Capsule*. The Delano Report, 2003.
  40. Kristi Monson, PharmD; Arthur Schoenstadt, MD. *L-Theanine*. eMedTv, March 2008.
  41. Kristi Monson, PharmD; Arthur Schoenstadt, MD. *Xanax*. eMedTv, July 2007.
  42. Carolyn Perrini, CLS, CNC. *L-Theanine: How a Unique Anxiety Reducer and Mood Enhancer Increases Alpha Waves and Alertness*.