

# **Stress Reduce Herbal Tea**

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**Abstract:** *Blue tea is a natural drink made from the petals of the butterfly pea flower (Clitoria ternatea). It doesn't contain caffeine and is known for its bright blue color. Blue tea is full of antioxidants, which can help improve memory, reduce stress, and keep skin and hair healthy. When you add lemon juice to it, the color changes from blue to purple, which makes it fun and popular in food and drinks. This summary looks at what blue tea is made of, how it is made, its health benefits, and why it's becoming more popular in the health and food industries.*

*Blue tea is a drink made from the butterfly pea flower. It doesn't have any caffeine, so it's a good choice for people who want a healthy drink without feeling more awake. The tea has a bright blue color, and when you add lemon juice, it changes to purple. This makes it fun and interesting to drink.*

*Blue tea has special things called antioxidants that help keep your body healthy. They may help your brain work better, reduce stress, and keep your skin and hair looking good. Some people also drink it to help with digestion and to relax.*

*More and more people are starting to enjoy blue tea. It is now used in drinks, sweets, and even in colourful recipes. This abstract talks about what blue tea is, how it helps the body, and why people like it so much*

**Keywords:** Refreshing beverage, Butterfly pea flower, Herbal tea ,Antioxidants, Natural color ,Caffeine-free ,Floral aroma , Health benefits ,Relaxation, Blue pigment ,Color-changing tea ,Detox ,Anti-inflammatory, Thai tea, Brewing

## **I. INTRODUCTION**

Blue tea is a drink made from the flowers of a plant called butterfly pea. It gets its name because the tea turns a bright blue color when the flowers are soaked in hot water. If you add lemon, the color changes to purple!

This tea doesn't have caffeine, so it's a good choice if you want a relaxing drink. People like it not only because of its beautiful color but also because it may be good for health. Some say it helps with memory, digestion, and skin. It also tastes light and earthy, and some use it in food and drinks to add color naturally.

**Blue Tea – A Colourful and Healthy Drink**

Blue tea is a special kind of herbal tea made from the flowers of the butterfly pea plant (Clitoria ternatea). These flowers turn the water a bright blue color when you soak them in hot water. If you add lemon juice or anything sour, the tea changes color from blue to purple or pink. It looks very cool and is fun to drink!

**No Caffeine:**

Unlike black or green tea, blue tea doesn't have caffeine. That means it won't make you feel jittery or keep you awake. It's a great option for people who want a calm and relaxing drink.

**Possible Health Benefits:**

**Good for the brain:** It may help improve memory and focus.

**Supports digestion:** It can help with stomach problems and bloating.

**Rich in antioxidants:** These help protect your body from damage and aging.

**Good for the skin and hair:** Some people say it helps make your skin clear and your hair strong.

**Other Uses:**

People use blue tea in fancy drinks and cocktails because of its beautiful color.

It's also used in cooking to color rice, desserts, or even noodles naturally—without any chemicals.



Taste:

Blue tea has a mild, earthy taste. You can drink it hot or cold. Many people like to mix it with lemon, honey, mint, or other herbs for more

Butterfly pea flower–

Butterfly pea flower is a bright blue flower that grows mostly in Southeast Asia. People use it to make a special blue tea, which has no caffeine.

The tea is pretty because its color changes when you add something sour like lemon—it goes from blue to purple or pink!

This flower is also used in traditional medicine to help with things like memory, stress, and eye health. It has antioxidants that help keep your body healthy.

To make tea, you just soak the dried or fresh flowers in hot water for a few minutes.

Herbal tea-

Herbal tea is a warm drink made by putting plants, flowers, or herbs in hot water. It's different from regular tea because it usually doesn't have caffeine.

People drink herbal tea because it tastes good and can help with things like calming down, stomach problems, or feeling better.

Some popular herbs for tea are peppermint, chamomile, and ginger.

Antioxidant-

Antioxidants are helpers in your body that stop bad things called free radicals from causing damage.

Free radicals can make you sick or old faster.

You get antioxidants from healthy foods like fruits, veggies, and some teas. They keep you feeling good and healthy.

Natural color –

Natural color comes from things in nature like plants and fruits, not from chemicals.

People use these colors to make food and drinks look bright and pretty.

For example, blue from butterfly pea flower, red from beets, and yellow from turmeric.

Natural colors are usually better and healthier than fake colors.

Caffeine free-

Blue tea is made from butterfly pea flowers. It has no caffeine.

That means it won't make you feel nervous or keep you awake at night.

You can drink it any time—even before bed. It's a calm and healthy drink.

Floral aroma-

Floral Aroma (Butterfly Pea Flower Tea):

Blue tea has a light, gentle smell that's a mix of flowers and fresh plants. It's not strong, but it's calming and relaxing — like being in a garden after it rains. Some people say it smells a bit like green tea or a soft flower like chamomile.

You can also mix it with other herbs like lemongrass or mint to make the smell even nicer.

Health benefits-

Health Benefits of Blue Tea

Rich in Antioxidants – Helps protect your body from damage by harmful molecules (free radicals).

Supports Brain Health – May improve memory and focus by boosting blood flow to the brain.

Reduces Stress and Anxiety – Has calming effects that help you relax and feel less stressed.

Good for the Skin – Antioxidants can help keep your skin healthy and glowing.

Supports Healthy Hair – Some believe it helps strengthen hair and prevent greying.

Aids Digestion – Can soothe the stomach and support good digestion.

Anti-Inflammatory Properties – May help reduce swelling and pain in the body.

Supports Eye Health – Contains a compound that may help improve night vision and protect the eyes.

Caffeine-Free – Great for people who want a relaxing drink without caffeine.

Natural Detox – Helps flush out toxins and keeps your body refreshed.



Refreshing beverage-

Blue tea is a cool and tasty drink that's fun and healthy. It has a soft flower taste and a pretty blue color. You can drink it hot or cold. When you add lemon, it changes color from blue to purple – like magic! It doesn't have caffeine, so it won't keep you awake. It's great for relaxing and staying fresh on a warm day.

Relaxation-

Feeling Relaxed After Blue Tea –

Blue tea helps you feel calm and relaxed. If you're tired or stressed, it can help you feel better. The soft flower smell and gentle taste make you feel peaceful. It's a nice drink to have when you want to rest or before going to sleep.

Blue pigment-

Blue Color in Blue Tea –

The blue color in blue tea comes from a natural thing in the flowers called anthocyanin. This makes the tea look bright blue. If you add lemon or something sour, the color changes to purple or pink. It's a natural color and makes the tea fun to watch!

Color changing-

Color-Changing Blue Tea –

Blue tea, made from butterfly pea flowers, is a special tea that changes color when you add lemon or something sour. It starts out bright blue, and then turns purple or pink. This happens because the natural blue color in the flowers reacts to the sour juice. It's a cool and fun tea to drink!

Anti-inflammatory-

Anti-Inflammatory –

Anti-inflammatory means something that helps reduce swelling, pain, or redness in your body. Blue tea has natural ingredients that can help calm down these problems and make you feel better if you have aches or soreness.

The disease in which blue tea is helpful-

Blue tea (from *Clitoria ternatea*, or butterfly pea flower) is helpful in managing or preventing the following conditions due to its rich antioxidant, anti-inflammatory, and neuroprotective properties:

Diseases/Conditions Blue Tea May Help With-

1. Obesity

Aids in weight loss by boosting metabolism and reducing fat accumulation.

How Blue Tea Helps in Weight Loss (Obesity):

Burns Fat Faster

Blue tea helps your body burn more fat.

Makes You Less Hungry

It can help you feel full, so you eat less.

Cleans Your Body

It works like a natural detox, removing waste and water from your body.

Reduces Belly Fat

It may help reduce fat, especially around your stomach.

Fights Body Swelling (Inflammation)

It helps calm your body, which supports weight loss.

How to Drink It:

Drink 1 or 2 cups a day.

Best before meals.

Don't add sugar. You can use lemon or mint for taste.

Note:

Blue tea helps when you also eat healthy and stay active. It's not a magic solution, but a good natural support.

2. High Blood Pressure (Hypertension)

Improves blood circulation and relaxes blood vessels.

How Blue Tea Helps in High Blood Pressure:

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Helps Blood Flow Better

Blue tea makes your blood vessels relax, so blood moves more easily.

Lowers Stress

It has a calming effect, which helps lower stress and high blood pressure.

Removes Extra Salt and Water

It helps your body get rid of extra salt, which can lower your blood pressure.

Protects the Heart

It has antioxidants that keep your heart and blood vessels healthy.

How to Drink It:

Drink 1 cup a day.

Don't add sugar. You can add a bit of lemon for taste.

Important: Blue tea can help, but don't stop your medicine without asking your doctor.

### 3. Anxiety and Stress Disorders

Has calming and adaptogenic effects that reduce stress and promote relaxation.

How Blue Tea Helps with Anxiety and Stress:

Makes You Feel Calm

Blue tea helps your mind relax and feel peaceful.

Lowers Stress

It can help reduce the stress hormones in your body.

Helps You Sleep Better

Drinking it at night can help you sleep well and feel rested.

Lifts Your Mood

It can make you feel more happy and relaxed.

How to Drink It:

Drink 1 cup when you feel stressed or before bed.

Don't add sugar. You can add a little lemon or honey.

Note:

Blue tea is helpful, but if you feel very anxious or sad often, it's best to talk to a doctor.

### 4. Cognitive Decline / Alzheimer's Disease

Enhances memory and brain function by increasing neurotransmitter levels.

How Blue Tea Helps with Memory and Brain Health:

a. Helps You Remember Better

Blue tea can make your brain work better and help you remember things.

b. Protects Your Brain

It stops damage to brain cells that happens as you get older.

c. Calms Your Brain

It reduces swelling and keeps your brain healthy.

d. Helps Brain Cells Talk to Each Other

It helps your brain cells send messages faster so you can think clearly.

How to Drink It:

Drink 1 or 2 cups every day.

Don't add sugar. You can add a little lemon if you want.

Remember:

Blue tea helps, but it's not a cure for serious brain problems. Always listen to your doctor.

### 5. Arthritis and Joint Inflammation

Reduces inflammation and oxidative stress in joints.

How Blue Tea Helps in Arthritis and Joint Pain:

a. Reduces Pain and Swelling

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Blue tea helps to calm swollen and painful joints.

b.Protects Joints

It has antioxidants that protect your joints from damage.

c.Makes Movement Easier

When swelling goes down, it's easier to move your joints without pain.

d.Soothes the Body

It has a cooling and calming effect that helps your body feel better.

How to Drink It:

Drink 1 or 2 cups every day.

Best to drink it warm.

Don't add sugar. You can add lemon or a little honey.

Remember:

Blue tea helps, but it's not a medicine. Keep taking your regular treatment and talk to your doctor if pain continues.

6.Skin Disorders (e.g., aging, acne)

Antioxidants improve skin health, promote collagen production, and fight aging.

How Blue Tea Helps in Skin Problems:

a. Fights Skin Damage

Blue tea has antioxidants that protect your skin from pollution, sun, and aging.

b.Reduces Pimples and Acne

It has anti-inflammatory and antibacterial properties that help reduce acne and skin redness.

c.Slows Down Aging

It helps reduce wrinkles, fine lines, and dark spots by improving skin health.

d.Gives Glowing Skin

It improves blood flow and removes toxins, which can give you clear and glowing skin.

How to Use Blue Tea for Skin:

Drink It:

Drink 1–2 cups a day to keep skin healthy from the inside.

No sugar. Add lemon or mint if you like.

Use It on Your Face (Optional):

Let the tea cool.

Soak a cotton ball and gently wipe your face.

Can be used as a natural toner.

Note:

Blue tea can help skin health, but for serious skin problems, it's best to see a doctor or dermatologist.

7.Respiratory Conditions (e.g., asthma, bronchitis)

Traditionally used to ease cough and inflammation in the airways.

How Blue Tea Helps with Breathing Problems:

Calms Cough and Sore Throat

Blue tea helps your throat feel better and reduces coughing.

Makes Breathing Easier

It helps open your lungs, so you can breathe more easily.

Reduces Swelling in Lungs

It brings down swelling that causes breathing trouble.

Fights Germs

It can help your body fight infections like cold, cough, or flu.

Clears Mucus

Blue tea helps to remove mucus from your chest.

How to Drink It:

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Drink 1 warm cup a day, especially when you have a cough or cold.

You can add lemon or ginger to make it stronger.

Remember:

Blue tea helps, but if you have asthma or serious breathing problems, see a doctor.

8 .Urinary Tract Infections (UTIs)

Has mild diuretic properties which may help flush toxins.

How Blue Tea Helps in UTI:

Cleans the Urinary Tract

Blue tea helps flush out bacteria from the urinary system by making you pee more.

Fights Infection

It has antibacterial properties that help your body fight the infection.

Reduces Burning and Pain

It can help soothe the burning feeling during urination.

Lowers Inflammation

It reduces swelling and irritation in the bladder and urinary tract.

How to Drink It:

Drink 1–2 cups of warm blue tea daily when you have UTI symptoms.

Don't add sugar. Add lemon for extra cleansing effect.

Remember:

Blue tea can help give relief, but UTIs need medical treatment too. Always take the antibiotics your doctor gives.

9.Eye Strain and Vision Problems

Contains anthocyanins that improve blood flow to the eyes and support vision.

How Blue Tea Helps with Eye Strain and Vision:

Protects the Eyes

Blue tea has antioxidants (like anthocyanins) that protect your eyes from damage caused by screens, pollution, or aging.

Reduces Eye Strain

It helps relax tired eyes, especially after long hours of reading or using phones and computers.

Improves Blood Flow to Eyes

It boosts blood circulation, which can keep your eyes healthy and improve vision.

May Support Night Vision

The compounds in blue tea may help you see better in low light.

How to Use It:

Drink 1 cup daily to support eye health.

You can also cool the tea and use it to wash your eyes gently (only if it's clean and plain).

Note:

Blue tea helps support healthy eyes, but it's not a cure for serious vision problems. Always see an eye doctor if needed.

Formulation of blue tea-

Blue Tea with Citric Acid & Ascorbic Acid (1







#### Blue tea powder

Ingredient	Quantity	Purpose
Purified water	950 ml	Based / solvent
Dried butterfly pea flowers	1.5 - 2 gram	Color, antioxidant , flower
Citric acid	0.3-0.4 gram	PH control, flower, Enhancement, preservative effect
Ascorbic acid	0.2 – 0.5 gram	Antioxidant, color , stabilizer , preservative
Lemon juice (Optional)	5 – 10 ml	Flover and color shift (Optional)
Sweetener (sugar/honey/stevia)	As desired 5 – 15 gm	Flover

#### Preparation Steps:

1. Infusion: Steep butterfly pea flowers in ~250 ml of hot water (90–95°C) for 10–15 minutes. Strain and cool.
2. Mixing: In a sanitized container, combine the infusion with the rest of the water, sweetener (if any), citric acid, and ascorbic acid. Stir thoroughly to dissolve.
3. pH Check: Ensure the final pH is between 3.2–4.0. This range helps maintain color stability and improve microbial safety.
4. Optional Pasteurization: For better shelf life, heat to 70–80°C for 15–30 seconds, then bottle hot in sterilized containers.
5. Storage: Refrigerate immediately. Best consumed within 2–4 weeks if unopened and stored cold.



**Notes**

Citric acid lowers pH, which inhibits microbial growth and enhances the tea's citrusy profile.

Ascorbic acid prevents oxidation, maintains color vibrancy, and boosts shelf stability naturally.

For clean-label products, this is a consumer-friendly alternative to synthetic preservatives



**REFERENCES**

Dr. Norihiko Terahara (Japan)

He studied the blue color in the butterfly pea flower and found that the same compounds that give it color are also strong antioxidants, which help protect your body from damage.

Dr. G.K. Nguyen (Singapore)

He discovered special proteins in the flower that might be useful for medicine and health because they stay stable in the body and have healing properties.

Dr. Rachael Ajmera and Dr. Amy Richter (Healthline website)

They reviewed research and found that blue tea may help with:

Weight loss

Controlling blood sugar

Healthier skin and hair

Scientists at Udayana University (Indonesia)

They wrote a paper showing that butterfly pea (blue tea) has:

Antioxidants

Anti-inflammatory effects

Benefits for diabetes

Dr. Al Sears (USA)

He says blue tea can help your brain work better, reduce stress, and lower blood pressure.

Dr. Chris Mohr (USA)

He talks about how blue tea has strong antioxidants, which help protect your body and may improve memory and focus.

Dr. Song Yin Wa

She says blue tea helps with skin health, slows aging, and can make you feel calmer and more focused.

Dr. Pulok Mukherjee (India)

He studies how blue tea is used in Indian traditional medicine (Ayurveda). He says it helps with memory, relaxation, and reducing stress.





Dr. Neeti Jain (India)

She found that blue tea might help with anxiety, depression, and learning ability.

Dr. Al Sears (USA)

He says blue tea helps your brain work better, reduces stress, and may help lower blood pressure.

Dr. Chris Mohr (USA)

He explains that blue tea has strong antioxidants—these protect your body from damage and may help your memory and relaxation.

Dr. Song Yin Wa

She says blue tea can help you look younger, improve your skin, and make your brain sharper.

Dr. Pulok Mukherjee (India)

He found that blue tea is used in Indian traditional medicine to help with memory, stress relief, and feeling calm.

Dr. Neeti Jain (India)

She says blue tea might help with anxiety, depression, and learning.

