

Side Effects of Apple Cider Vinegar and Quantities to Consume

Apple cider vinegar, commonly known as cider vinegar, is made by fermenting apples. People have been using it for centuries to reap several health benefits. It is also a popular disinfectant and a natural preservative. As a result, the use of apple cider vinegar is prevalent in the modern world. People add apple cider vinegar to their weekly menus to reap its benefits, especially in the area of weight loss. In addition, it is a popular remedy to control blood sugar levels. However, apple cider vinegar also has side effects like so many healthy foods.

The manufacturing process includes the fermentation of apples. First, the apples are crushed and combined with yeast. Then, they are fermented. The yeast converts the sugar content of apples into alcohol and is further fermented into vinegar.

Apple cider vinegar is fermented juice from crushed apples. Like apple juice, it probably contains some pectin, vitamins B1, B2, and B6, biotin, folic acid, niacin, pantothenic acid and vitamin C. It also contains sodium, phosphorous, potassium, calcium, iron, and magnesium. In addition, it contains acetic acid and citric acid, which are used to make medicines.

Some people drink the vinegar or use it as a condiment for salad dressing. Others consume capsules or eat gummies. People also use it to prepare food preservatives, vinaigrettes, chutneys and marinades. It offers a lot of health benefits. For example, it helps lower blood glucose levels post meals by altering food absorption in the gut. In addition, people have been using it to treat diabetes, kidney stones, obesity etc. It also helps improve athletic performance and cholesterol levels.

Although apple cider vinegar finds its application as an ingredient in medicines, you should always consume it by following the recommended dietary guidelines. An uncontrolled consumption may lead to several side effects.

Nutritional Value of Apple Cider Vinegar

Apple cider vinegar contains 5-6% acetic acid. In addition, it contains essential minerals in small quantities. As per [USDA](#), 100gm of apple cider vinegar contains:

- Water: 93.81g
- Energy: 21kCal
- Protein: 0g
- Carbohydrates: 0.93g
- Fats: 0g
- Sugar: 0.4g
- Calcium: 7mg
- Phosphorus: 8mg

- Potassium: 73mg
- Sodium: 5mg

Potential Side Effects of Apple Cider Vinegar

ACV is known for its many benefits. However, it can cause side effects in some people, primarily when you consume it excessively. Small doses are generally safe and healthy. However, taking it in excess can be dangerous. Some of the possible side effects of apple cider vinegar are as follows.

1. Delayed Stomach Flushing

[Studies](#) suggest that ACV delays the passage of food into our intestines. As a result, it worsens the symptoms of gastroparesis, a condition that affects diabetic individuals. In this condition, the food remains in our stomach for a long duration. Later the food finally moves into the intestines, causing blood sugar levels to spike. Common symptoms of gastroparesis are:

- Bloating
- Nausea
- Heartburn

Planning an insulin dosage might be a challenge in people with these conditions. Therefore, it is advisable to consult a doctor to plan the food timings and insulin doses carefully. In addition, if you have gastroparesis, apple cider vinegar may not be safe. Therefore, talk to your physician before taking ACV.

2. Digestive Problems

Apple cider vinegar can cause digestive problems in some people. [Studies](#) suggest that apple cider vinegar reduces appetite by making you feel satiated. In some cases, this property of apple cider vinegar disturbs the food intake, leading to digestive issues. Although consuming ACV in small amounts helps lose weight, overconsumption causes stomach issues. In addition, the pH levels of apple cider vinegar might also cause nausea. Therefore, you should not use it to reduce your appetite. Consult your healthcare professional before taking them.

3. Bone Loss and Low Potassium Levels

[Studies](#) suggest that excess consumption of apple cider vinegar leads to Hypokalemia, Hyperreninemia and Osteoporosis. In addition, large amounts of cider vinegar can harm the kidneys and result in low blood potassium and bone loss. It causes an imbalance of electrolytes in the body, reducing the blood volume.

Overconsumption of apple cider vinegar also harms your bones by disturbing bone metabolism. Therefore, consumption of ACV for several months may affect bone health. In addition, the high pH value of apple cider vinegar reacts with bone minerals. As a result, it weakens your bones and prevents bone repair. So, you should always be careful about the consumption quantities. People with bone diseases like osteoporosis should also refrain from its consumption because apple cider vinegar can worsen the condition, resulting in severe outcomes like fractures.

4. Tooth Enamel Erosion

As per [studies](#), an acidic diet may cause dental erosion. It occurs with increasing and frequent consumption of various kinds of vinegar. Acidic beverages and foods negatively affect our tooth enamel. For example, the high pH value of apple cider vinegar leads to the loss of the protective coat on our teeth.

When vinegar comes in contact with the enamel, it releases minerals, which causes damage to the teeth' enamel. Thus, consuming vinegar in excess is harmful as it weakens the teeth. It also results in other dental problems like dental caries and tooth decay.

5. Throat Burns

[Study](#) results suggest that vinegar beverages can be corrosive agents that cause serious gastrointestinal tract injury. For example, continuous consumption of vinegar beverages can cause acidic burns and destroy the surface of the upper gastrointestinal tract, leading to oesophageal ulcers. Since it is an acidic food, apple cider vinegar also causes oesophageal burns. It is a hazard, especially for children. In addition, the substantial pH value of ACV makes it harmful, especially when consumed in a raw and undiluted form. It damages the lining of our oesophagus.

Damage to the oesophagus lining makes it difficult to swallow food, a severe health hazard. In addition, throat burns in children caused by ACV require hospital admission. Therefore, it is essential to store vinegar out of children's reach. It is also important to dilute it before use on skin or in foods.

6. Skin Burns

People opt for any quick remedy to get rid of a pimple. Most of us search for a home remedy on the internet. However, it is not always the best idea because you may come across some DIY remedies without controlled use instructions. Apple cider vinegar is one such harmful ingredient. A [study](#) demonstrates the detrimental effects of vinegar on the skin. It causes severe burns and inflammation, especially when applied directly to your skin.

Many skincare websites suggest ACV gives glowing skin. Using it in its diluted form is harmless. However, if not used right, it can harm the skin. In addition, due to its acidic nature, it might burn the skin. Therefore, it is essential to consult your dermatologist regarding the safe use of ACV.

Apple Cider Vinegar and Drug Interactions

Diuretic Drugs

Some diuretic drugs make our bodies excrete potassium. Therefore, you should not consume apple cider vinegar when on such medications. That is because the interaction between these medicines and apple cider vinegar will cause a drop in potassium levels in the body.

Diabetic Drugs

Excess intake of ACV causes an imbalance in electrolytes, especially potassium levels. It additionally disturbs the blood sugar levels in the body. Therefore, individuals who use insulin and have insulin-stimulating drugs have to be cautious. Consult your physician to know about possible interactions.

Digoxin (Lanoxin)

These medicines cause a drop in potassium levels in the blood. Consuming them in combination with apple cider vinegar can be dangerous. It can cause your potassium levels to drop.

Apple Cider Vinegar: Recommended Doses

The purported health benefits of ACV and other types of vinegar are due to the main ingredient: acetic acid. A 2016 [review](#) found that drinking 15 millilitres (ml) or one tablespoon of acetic acid every day is usually enough for a person to see potential health benefits. However, anything in excess may cause side effects. Therefore, you should consult your doctor before adding extra ACV to your diet or consume larger doses for medical purposes.

Health Benefits of Apple Cider Vinegar

1. Antioxidant Effect

Apple cider vinegar has a strong sour smell and flavour because of its acetic acid content. Apple cider vinegar is about 5-6% acetic acid. [Studies](#) suggest that this particular acid is responsible for most health benefits of apple cider vinegar.

[Study](#) findings show that ACV possesses significant antihyperglycemic and antioxidant effects in an experimental model, preventing diabetic complications in the liver and kidneys. Antioxidants help in reducing oxidative stress, making them beneficial for our health. For example, antioxidants help prevent diseases like cancer and arthritis.

2. Antimicrobial and Antibacterial Properties

Hippocrates, a Greek physician and surgeon, 460-377 BC, known as the father of medicine, used vinegar to irrigate open wounds and wrapped dressings around wounds to prevent further injury. He washed ulcers with wine, and after softening them with oil, he dressed them with fig leaves.

Apple cider vinegar can aid in killing harmful bacteria. People have been traditionally using vinegar for warts and ear infections. You can also use it to treat nail fungus, disinfect and clean. People also use it as a food preservative. Several studies suggest that it can inhibit bacteria like E.Coli, which spoils the food.

3. Antidiabetic Properties

One of the most prevalent vinegar uses is to treat type II diabetes. It is a condition characterised by increased blood glucose levels and occurs due to the inability to produce insulin. It also results in insulin resistance. [Studies](#) suggest that vinegar controls blood glucose levels.

Nonetheless, non-diabetic individuals might also benefit. It improves overall blood glucose levels by keeping them within the normal range. However, remember to consult your doctor before taking them, especially if you are on any blood-glucose-lowering (diabetic) medications.

4. Weight Loss

Vinegar is a popular ingredient for its weight loss abilities. Some studies report that it can help you lose weight.

Extra calorie consumption is one of the primary reasons for weight gain. Our bodies store these calories as fat. [Studies](#) suggest that vinegar can reduce fat storage, contributing to weight loss. It does so by improving fat metabolism in the body.

5. Improves Heart Health

Heart diseases are one of the common causes of death. Certain factors are associated with risk for heart conditions. However, Vinegar helps eradicate some of the risk factors. For example, apple cider vinegar regulates fat metabolism. In addition, [studies](#) prove that apple cider vinegar lowers triglyceride levels and lower cholesterol levels. As a result, it reduces the risk of heart diseases like atherosclerosis and stroke.

6. Beneficial for Women

ACV is beneficial for the female menstrual cycle as it relieves period pain, such as cramps. It also improves bloating cognition during these times. In addition, it helps fight other ovarian disorders.

7. Skin Health

For ages, people have been using apple cider vinegar as a remedy for skin conditions like eczema and dry skin. The skin is mildly acidic naturally. Using apple cider vinegar improves the pH levels of our skin. Additionally, it has the potential to improve our skin's protective barrier. On the contrary, alkaline soaps often worsen eczema.

[Studies](#) suggest that apple cider vinegar possesses antibacterial properties. Therefore, it helps prevent certain skin infections, primarily associated with eczema. In addition, some manufacturers use diluted apple cider vinegar in face washes to destroy bacteria and prevent spots.

It is always better to use a diluted form of apple cider vinegar. However, you should always talk to your dermatologist before using it.

The Bottom Line

Many internet sources claim that apple cider vinegar has extraordinary healthcare benefits. For example, it helps treat diseases and improves energy levels. However, not every claim is supported by science. For example, some studies suggest that it may offer health benefits like lowering blood glucose levels, destroying pathogens, and aiding in weight loss. But, at the same

time, some experimental studies also suggest that an excess of apple cider vinegar can be harmful. Therefore it is essential to stay within safe limits.

Apple cider vinegar seems to be safe when you consume it in moderation. However, taking it in excess has several adverse outcomes. In addition, it can cause side effects inside out if not used right. So, always consult a healthcare professional before using it.

Frequently Asked Questions (FAQs)

Q. What are the side effects of drinking apple cider vinegar every day?

A. Consuming a moderate amount of apple cider vinegar daily imparts various health benefits. However, there are several side effects of regular consumption of apple cider vinegar. Some of them are:

- Bloating
- Nausea
- Heartburn
- Delayed Stomach Flushing
- Digestive problems
- Bone weakness
- Low potassium levels
- Tooth enamel erosion

Q. Why is apple cider vinegar bad for you?

A. Although apple cider vinegar is beneficial for health, it may cause some side effects. For example, it is highly acidic and causes damage to the teeth enamel. In addition, its highly acidic nature harms the throat and stomach. In addition, applying undiluted apple cider vinegar to your skin causes dermatological conditions, rashes and burns. It also decreases potassium levels, which disrupts the functioning of the muscular and nervous systems.

Q. Who should not take apple cider vinegar?

A. People having diabetes medication should not consume apple cider vinegar because it may interact with diabetes medicines. In addition, people on Digoxin (Lanoxin) and other drugs of similar kinds should steer clear. Apple cider vinegar reacts with certain medications to adversely affect the body. Furthermore, people having heart health issues should refrain from using apple cider vinegar.

Q. How much apple cider vinegar per day is safe?

A. As per several studies, consuming 15ml of apple cider vinegar per day is enough to reap all its benefits. So, you should begin with small quantities, like one tablespoon per day. Then, if it doesn't affect your body metabolism after some time, you can consume a maximum of two tablespoons or 30 ml of apple cider vinegar per day. However, you should always consult your doctor for the proper doses to suit your body.

Q. Is ACV bad for your liver?

A. No, moderate consumption of apple cider vinegar is good for the liver. It helps flush out all toxins from your liver and prevents toxin buildup in the liver. It also releases antioxidants that help clean the body from within. ACV helps lower liver fat content and also aids in weight loss.

Q. Is it better to drink apple cider vinegar in the morning or at night?

A. You can take Apple cider vinegar diluted with water early morning on an empty stomach for maximum benefit. Leave a gap of 30 minutes before having meals. However, you can also take it after meals at night to flush the overall system and improve metabolism.

Q. Why does apple cider make me feel sick?

A. People with diabetic medication or other forms of medicines usually cannot bear apple cider vinegar. Further, certain people cannot handle the smell of apple cider vinegar. Moreover, you should only consume apple cider vinegar with other medications.

Q. Does apple cider vinegar affect vitamins?

A. No, apple cider vinegar improves and increases the concentration of vitamins in the body. Apple cider vinegar has acetic acid, vitamin B and C, which helps absorb minerals from the food consumed.

Q. Is apple cider vinegar good for acid reflux?

A. Yes, apple cider vinegar is suitable for acid reflux because it helps absorb various minerals in the body due to acetic acid. As a result, it balances the stomach pH and prevents the formation of excessive hydrochloric acid. As a result, it helps in averting acid reflux.

Q. Can apple cider vinegar hurt your kidneys?

A. Excessive use of apple cider vinegar can hurt your kidneys. However, if taken in limited amounts, it can help reduce toxicity levels from the blood and kidneys and help clear the flux in the body.

Q. Can you drink apple cider vinegar on an empty stomach?

A. Yes, you can take apple cider vinegar on an empty stomach with lukewarm water. It energises the body's mechanism and metabolism for the rest of the day. It also helps the body retain more nutrient material within itself.

Q. What does apple cider vinegar do for females?

A. Apple cider vinegar usually clears all forms of menstrual diseases in females. For example, it reduces bloating, menstrual pain and ovarian disorders. It also reduces the toxicity in kidneys which is beneficial for the body.

Q. Can apple cider vinegar affect your period?

A. No, apple cider vinegar does not affect your periods. However, you can have 1-2 tablespoons of apple cider vinegar 10-12 days before the periods to relieve the pain.

Q. How does apple cider vinegar delay your period?

A. So far, no research has shown any adverse effects of apple cider vinegar in delaying periods in women. Further, consuming 1-2 tablespoons of apple cider vinegar 10-12 days before periods can help alleviate any form of bloating or menstrual pain during periods.