

Apple Cider Vinegar – An Ancient Remedy with Modern Benefits

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STORY AT-A-GLANCE

- › Apple cider vinegar (ACV) is believed to help with blood sugar control and weight management, offering benefits for those managing diabetes and obesity
- › Containing acetic acid, ACV possesses antimicrobial and antioxidant properties, which could aid in preventing infections and reducing oxidative stress
- › Some studies suggest that ACV improves cholesterol levels and support heart health, though more research is needed to confirm these effects
- › ACV is often used as a natural remedy for various ailments, but scientific evidence supporting these uses is limited
- › Side effects of ACV include tooth enamel erosion and digestive issues if consumed improperly, highlighting the importance of proper usage and moderation

Could apple cider vinegar (ACV) be the key to better managing your diabetes and cholesterol levels? According to a recent study, it might be more effective than you think.¹

According to a 2023 study,² participants who consumed ACV regularly experienced significant reductions in HbA1c and fasting blood sugar. Additionally, total cholesterol and triglycerides showed noticeable improvements, suggesting ACV could be a valuable addition to your diabetes management plan.

But the benefits don't end there. Other scientific investigations are discovering ACV's advantages for weight management, protecting against harmful bacteria and promoting gut health.

An Overview of Apple Cider Vinegar

Vinegar is a widely used product that's been revered for thousands of years, dating back to 5,000 BC.³ There are numerous types used today, but one that's gaining a lot of attention is apple cider vinegar. A type of vinegar produced from fermenting apples,⁴ ACV is now a staple in many kitchens, and is revered for its tangy flavor and health benefits. According to an article in the South China Morning Post:

"Apple cider vinegar ... is mostly water — nearly 94% — and also contains a tiny bit of iron, calcium, magnesium, zinc, sodium, sugar and potassium.

*Apple cider vinegar was considered to have healing powers to disinfect wounds and treat infections or insect bites. More recently, it gained attention during the COVID-19 pandemic as a potential immunity booster. It is also sold in powder, tablet, capsule and gummy form."*⁵

The interest in ACV has surged, especially for its role in controlling blood sugar and improving cholesterol profiles. The acetic acid in ACV, which comprises 5% to 6% of the vinegar,⁶ is believed to be the key component responsible for these benefits, acting as an antimicrobial agent and weight management aid.

Scientific studies are beginning to shed light on the health benefits of apple cider vinegar. Research indicates that ACV can indeed help control blood sugar levels, particularly in Type 2 diabetics.^{7,8} Acetic acid enhances the uptake of glucose by your body's cells, promoting more stable blood sugar levels throughout the day.

Beyond blood sugar regulation, apple cider vinegar is also associated with modest weight loss and improved satiety. Consuming it with meals appears to enhance metabolism and fat oxidation, thereby supporting weight management efforts.

The antimicrobial properties of ACV are another area of interest. It has been shown to kill harmful bacteria and fungi, aiding in infection prevention. Its role in gut health is also noteworthy, as the fermentation process of ACV aids nutrient absorption and digestion, enhancing digestive enzyme activity and gut motility.

While the benefits of apple cider vinegar are promising, it's important to approach its use with caution. ACV is best incorporated as part of a balanced diet, not as a standalone remedy. Understanding both the advantages and the safe practices of ACV consumption is essential for maximizing its benefits.

Apple Cider Vinegar Lowers Blood Sugar and Cholesterol in Diabetics

A recent study published in the *Frontiers in Clinical Diabetes and Healthcare*⁹ also found that incorporating ACV into the daily diet of Type 2 diabetics led to significant reductions in HbA1c, cholesterol and triglycerides. By reducing these lipid levels, ACV contributes to better cardiovascular health, offering a dual benefit for individuals managing diabetes.¹⁰ According to the researchers:

“The results of our study showed a significant decrease in FBG, HbA1C, total cholesterol, LDL, LDL/HDL ratio, cholesterol/HDL ratio, and an increase in insulin hormone in ACV group. In addition, we observed an increasing tendency in HDL levels ... It seems that consuming ACV as a functional food along with medications can reduce cardiovascular disease risk factors in diabetic patients.”

The mechanism behind these effects is again primarily attributed to the acetic acid present in ACV. Acetic acid slows down the process of gastric emptying, which in turn prevents rapid spikes in blood glucose levels after meals. These properties make ACV a valuable addition to diabetes management strategies, helping reduce reliance on conventional medications.¹¹

ACV Enhances Weight Loss and Reduces Caloric Intake

Studies^{12,13} have also found that incorporating apple cider vinegar (ACV) into daily meals significantly aids in weight loss and improves feelings of fullness. In a 2019 study published in the *Nutrients* journal,¹⁴ participants who consumed ACV alongside their meals reported a noticeable reduction in hunger, leading them to consume fewer calories overall.

The mechanism behind this effect also lies in the acetic acid present in ACV. Acetic acid is known to boost the metabolic rate, which means your body burns more calories even while at rest. Additionally, it enhances fat oxidation, the process by which your body breaks down fat for energy. This dual action supports weight management and contributes to a healthier body composition over time.^{15,16}

Moreover, ACV helps regulate appetite.¹⁷ By promoting a sense of satiety, ACV helps reduce the temptation to snack on unhealthy foods between meals. This regulation of hunger signals helps you to be more mindful of your food intake, making it easier to maintain a balanced and calorie-controlled diet.

Regular consumption of ACV can lead to modest but consistent weight loss and a reduction in body fat percentage. These changes are particularly beneficial for individuals striving to achieve or maintain a healthy weight. By integrating ACV into their daily routine, individuals will support their weight management goals more effectively.¹⁸

ACV's Antimicrobial Benefits Support Skin Health

Other research shows that apple cider vinegar (ACV) has strong antimicrobial properties, effectively killing harmful bacteria and fungi that lead to infections.¹⁹

Published in the *Scientific Reports* journal, the researchers found that ACV helps protect against pathogenic bacteria like *E. coli*, *Candida albicans* and *Staphylococcus aureus*.

According to the authors:

“ACV can have multiple antimicrobial effects directly on E. coli, S. aureus and C. albicans. ACV addition can also decrease induced inflammatory cytokine release during mononuclear leukocyte infection and increases monocyte phagocytic capacity. Mechanisms include alteration of the microbial protein physiology destroying structural pathogenic proteins and metabolic enzymes.

Collectively our results highlight the potent antimicrobial and therefore beneficial actions of ACV.”²⁰

The acidity in ACV helps maintain the skin’s natural pH balance, creating an environment that discourages the growth of unwanted microbes. This balance is crucial for preventing skin infections and promoting overall skin health.²¹

ACV Supports Gut Health by Enhancing Probiotics and Digestion

ACV is a fermented product, which means it contains natural probiotics – good bacteria that are essential for a healthy gut microbiome. These probiotics help maintain a balance of gut bacteria, which is crucial for effective digestion and overall immune function.

The acetic acid in ACV also has prebiotic properties, which are essential in increasing the growth of good gut bacteria. By introducing these beneficial microbes into your digestive system, ACV aids in breaking down food more efficiently, allowing your body to absorb essential nutrients better.

Regular consumption of ACV can therefore lead to a healthier gut environment, which is linked to numerous health benefits, including better immune response and improved mental health. A balanced gut microbiome supports the body in fighting off harmful bacteria and reduces inflammation, contributing to overall wellness. According to an article in Good Rx:

“[W]hen you have a healthy mix of these bacteria, it can strengthen your immune system. This means your body can tell the difference between bad

germs and helpful ones. And this helps prevent sickness and diseases, like autoimmune disorders.”²²

How to Incorporate ACV Into Your Daily Routine

Despite these benefits, it’s important to recognize that ACV must not be considered as a treatment for the aforementioned health conditions, but rather incorporated as part of a balanced diet and healthy lifestyle.

Combining ACV consumption with regular exercise and a nutritious diet provides more comprehensive support for your blood sugar and cholesterol levels, gut health and weight management efforts. In a CNET article, Marisa Moore, MBA, RDN, LD, a registered dietitian nutritionist, advises:

“It’s important to remember that no one food is a silver bullet. If you choose to incorporate apple cider vinegar, do so safely and with a focus on maintaining a balanced whole diet for your overall health and well-being.”²³

You must remember that the acetic acid in apple cider vinegar is corrosive, and when ingested in undiluted forms frequently, can damage your teeth, throat and mouth.²⁴ Instead of consuming straight ACV, dilute it in a glass of water or fresh juice before drinking it – this will make it more palatable. Here are a few more tips to help you use ACV safely:²⁵

- Avoid ingesting more than 4 tablespoons a day. If you’re new to this, start with 1 tablespoon daily to prevent digestive issues.
- Consider using a straw when drinking diluted ACV to keep it from harming your teeth.
- Gargle with water after drinking, just to make sure your teeth enamel is safe from its corrosive effects.
- It’s best to ingest ACV raw, as adding it to your food while cooking will damage most of the beneficial acetic acid.

Sources and References

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