



Enhanced Vitamin C Delivery: A Systematic Literature Review Assessing the Efficacy and Safety of Alternative Supplement Forms in Healthy Adults.

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Vitamin C is an important antioxidant that supports immune function and helps the body fight infections. When people do not get enough vitamin C from their diet, supplements can be helpful. This systematic review of 14 studies (13 of which were randomised control trials) aimed to assess different forms of vitamin C supplements, such as liposomal-encapsulated ascorbic acid and slow-release ascorbic acid, to see if they are more effective and better absorbed by the body compared to traditional vitamin C supplements.

The review gathered and analysed existing studies to assess the safety and effectiveness of calcium ascorbate EC, vitamin C lipid metabolites, liposomal-encapsulated vitamin C, and sustained release vitamin C in healthy adults.

The findings suggest that these alternative forms may improve how well vitamin C is absorbed and retained in the body, potentially enhancing its benefits for immune health. Calcium ascorbate EC had the highest quality of evidence to support it and was better tolerated and with fewer gastrointestinal side effects probably due to its neutral pH.

It was concluded that newer, alternative forms of vitamin C, with increased bioavailability may have potential health benefits over traditional forms. This study could be used by healthcare professionals to understand the potential advantages of alternative vitamin C supplements for improving immune function. ■



Liposomal delivery enhances absorption of vitamin C into plasma and leukocyte:
a double-blind, placebo-controlled, randomized trial.

RALF JÄGER, MARTIN PURPURA, GRANT M TINSLEY, ET AL.
JOURNAL: EUROPEAN JOURNAL OF NUTRITION
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The aim of this randomised control trial of 27 participants (19 men and 8 women) was to examine how well a special form of vitamin C (LipoVantage), delivered in liposomes (fat bubbles that can carry nutrients), is absorbed in the body compared to standard vitamin C. The results showed that both forms of vitamin C were absorbed by the body. But the liposomal form of vitamin C was absorbed better into the bloodstream and white blood cells than the standard vitamin C. It was concluded that liposomal vitamin C significantly increased vitamin C absorption in the blood and white blood cells possibly due to the protection the liposomes provide against breakdown in the gut. This study could be used by healthcare professionals to understand the potential benefits of liposomal vitamin C for improving absorption in the body. ■

Gut microbiota links vitamin C supplementation to enhanced mental vitality in healthy young adults with suboptimal vitamin C status: A randomized, double-blind, placebo-controlled trial.

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JOURNAL: BRAIN, BEHAVIOR, AND IMMUNITY 2025;128():179-191

There are thought to be connections between the gut microbiota and the brain through what is known as the gut-brain axis. Recent research in humans has shown that high-dose vitamin C consumption may impact gut microbiota. This study investigated how vitamin C supplementation might enhance mental vitality in healthy young adults who had low levels of vitamin C. Researchers focused on the role of gut microbiota (the community of microorganisms living in the digestive system) and how it may influence mental health.

The findings suggest that improving vitamin C status through supplementation can positively affect mental vitality, potentially due to changes in the gut microbiota and related neurological (brain-related) and immunological (immune system-related) responses.

It was concluded that vitamin C supplementation promotes gut microbiota balance in healthy young adults with suboptimal vitamin C levels, which was correlated with improvements to indicators of mental vitality. This study could be used by healthcare professionals to understand the potential benefits of vitamin C supplementation on mental vitality in young adults with low vitamin C status. This highlights the importance of nutrition in mental health, particularly for those with suboptimal vitamin C levels. ■

The Administration of Resveratrol and Vitamin C Reduces Oxidative Stress in Postmenopausal Women-A Pilot Randomized Clinical Trial.

JOSÉ ROMO-YAÑEZ, AURORA BELMONT-GÓMEZ, ET AL.
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Postmenopausal women often experience increased oxidative stress due to hormonal changes, which predisposes them to poorer health outcomes such as heart disease. Resveratrol is a naturally occurring plant chemical, which may have antioxidant and heart protective effects and is recommended to be used in tandem with vitamin C.

This randomised control trial of 46 women with insulin resistance aimed to investigate the effects of resveratrol and vitamin C on oxidative stress in postmenopausal women.

The results showed that the group receiving both resveratrol and vitamin C experienced a significant reduction in markers of oxidative stress. There were no effects of supplementation on measures of insulin resistance.

It was concluded that combining these two antioxidants may effectively lower oxidative stress levels in postmenopausal women, which could help mitigate risks associated with cardiovascular and metabolic issues. ■