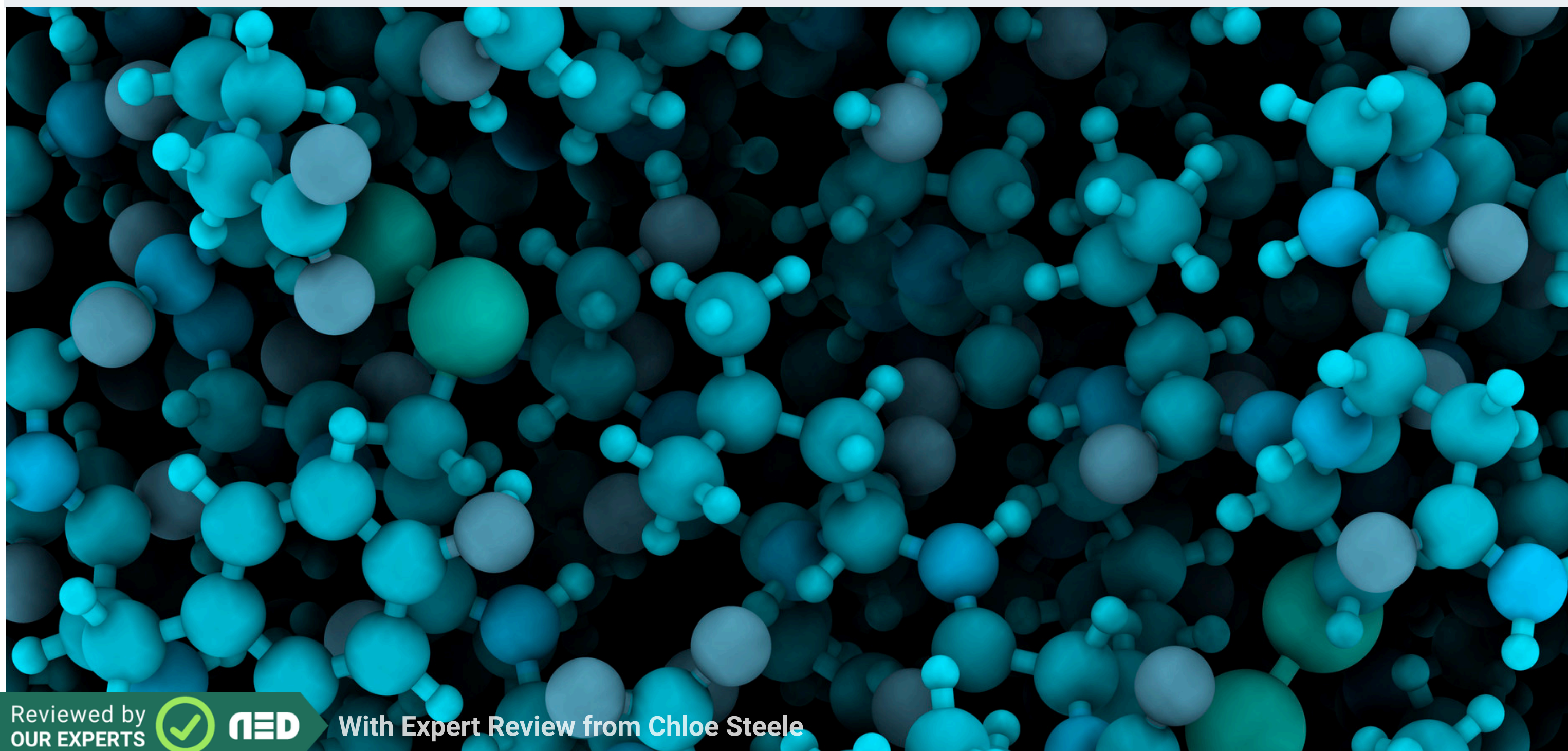




Efficacy of digestive enzyme supplementation in functional dyspepsia: a monocentric, randomized, double-blind, placebo-controlled, clinical trial

HAMMAD ULLAH, ALESSANDRO DI MINNO, ROBERTO PICCINOCCHI, ET AL.
JOURNAL: BIOMEDICINE & PHARMACOTHERAPY = BIOMEDECINE & PHARMACOTHERAPIE 2024;169():115858



Reviewed by  With Expert Review from Chloe Steele

Functional dyspepsia (FD) affects up to 40% of the population and, with its underlying causes often poorly understood, can be challenging to treat. Deficiency or dysfunction of digestive enzymes has been implicated in the development of dyspeptic symptoms, raising the possibility that digestive enzyme supplementation may offer a therapeutic approach.

This randomised controlled trial involving 120 individuals with functional dyspepsia investigated the efficacy and tolerability of a fungal-fermented, multi-enzyme supplement.

Participants received two capsules per day, providing 400 mg of a broad-spectrum digestive enzyme blend containing protease, amylase, lipase and cellulase, for two months. Following supplementation, participants with functional dyspepsia reported improvements in quality of life, sleep and pain severity, with no side effects reported.

The authors concluded that supplementation with digestive enzymes was well tolerated and effective in improving symptoms associated with functional dyspepsia. ■



Oral Multienzyme Supplementation Alters Postprandial Plasma Nutrient Concentrations after a Mixed Meal in Healthy Middle-Aged and Older Adults: a Randomized, Double-Blind, Placebo-Controlled, Crossover Trial

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JOURNAL: THE JOURNAL OF NUTRITION 2026;156(4):101400

From around the age of 50, gastrointestinal function can begin to decline. Combined with reduced appetite and food intake, this may contribute to malnutrition, weight loss and muscle wasting. Digestive enzyme supplementation may enhance protein digestion and absorption and assist with healthy ageing.

This randomised control crossover trial investigated whether enzyme supplementation modulates postprandial plasma amino acid concentrations when ingested with a standardised mixed meal.

Participants received two capsules containing protease, lipase, amylase, and glucoamylase with each of their two largest daily meals for three-weeks. While overall amino acid availability was unchanged, digestive enzymes accelerated the time taken for leucine to reach peak concentration, suggesting faster protein digestion and amino acid absorption. Post-meal glucose and non-esterified fatty acids were also higher, consistent with enhanced carbohydrate and fat digestion. Interestingly, responses varied between individuals, suggesting that factors such as body composition, BMI and sex may influence who responds to digestive enzymes.

The authors concluded that multi-enzyme supplementation may enhance aspects of macronutrient digestion and nutrient bioavailability in middle-aged and older adults. However, whether these acute changes translate into meaningful metabolic or long-term health benefits remains to be established ■

Acute Effects of Oral Microbial Protease Co-ingestion with Whey Protein on Postprandial Plasma Amino Acid Concentrations, Appetite, and Satiety in Healthy Adults: a Randomized, Double-Blind, Placebo-Controlled, Crossover Clinical Trial

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JOURNAL: JOURNAL OF APPLIED PHYSIOLOGY (BETHESDA, MD. : 1985) 2024;136(2):349-361

Ageing and certain disease states can impair protein digestion and absorption, potentially compromising the availability of amino acids required for muscle protein synthesis. Amino acid availability within the gastrointestinal tract may also influence the release of appetite-regulating hormones, including GLP-1 and PYY.

Increasing protein intake is one strategy to address reduced amino acid availability, but consuming larger quantities of protein can be challenging, particularly for older adults with reduced appetite.

Digestive enzyme supplementation may provide an alternative approach by increasing the release of amino acids from dietary protein. In a randomised controlled trial of 12 adults, researchers investigated the acute (240 minute) effects of co-ingesting whey protein concentrate with three microbial proteases. Protease supplementation increased the absorption of essential amino acids and branched-chain amino acids, reduced plasma ghrelin, and increased reported fullness and satiety. No differences were observed in total amino acids, leucine, plasma glucose or insulin. The authors concluded that co-ingestion of whey protein with proteases enhanced the digestion and absorption of essential and branched-chain amino acids, highlighting a potential strategy for improving protein utilisation without increasing the quantity of protein consumed. ■