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Hemp Seeds: Exploring Their Potential in Promoting Human Health

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ABSTRACT

Introduction: Hemp (*Cannabis sativa L.*) is herbaceous plant, member of the *Cannabaceae* family. These tiny, brown seeds are abundant in High value nutrients as Proteins, Lipids, carbohydrate, vitamins and minerals. On other hand they are rich in biologically active compounds as Terpenes, Flavonoids, phytosterols, carotenoids, and phytocannabinoids.

Purpose: This review highlights the potential benefits of hemp seed and focus on its composition and nutritional benefits to human body.

Methodology: A comprehensive search on databases of Pub Med, MDPI, Scopus, web of science and Google Scholar was carried out using keywords such as „hemp seeds“, “therapeutic effects”, “health benefits“, “omega-3 fatty acids“, “cannabinoids“, and “inflammation”. Narrative review of research papers ensures the presence of polyunsaturated omega-3 fatty acids—Alpha-Linolenic Acid (ALA) and omega-6-Linoleic Acid (LA) —are essential for the heart health. Vitamin content has potential to meet or even exceed the Recommended Daily Allowance (RDA). Bioactive compounds secreted by seeds include terpenes, phenolic compounds, alkaloids, phytocannabinoids, beta-tocopherol, gamma-tocopherol, alpha-tocopherol and delta-tocopherol.

Result: Hemp seeds provide nearly 500-600 kcal/100 gm energy and contain approximately 25% of digestible protein, give a nutritional advantage due to absence of protease inhibitor. Remarkable lipid profile with polyunsaturated fatty acids such as linoleic acid (omega-6) and alpha-linolenic acid (omega-3) with a high content of essential fatty acids such as stearidonic acid and Gamma-Linolenic Acid (GLA). Health benefits of carbohydrate are associated with positive effects on the digestive tract, cholesterol reduction, and blood glucose level management. Hemp seeds are packed with essential minerals phosphorous, potassium, magnesium, zinc, sodium that support bone health, muscle and nerve functions, blood sugar regulation and immune support. The allergenicity of hemp seeds is very low which makes Hemp Protein Isolate (HPI), containing approximately 86% edestin, a promising option for hypoallergenic foods.

Conclusions: Presence of all nine amino acids makes it a great choice for vegans and vegetarians. The potential of hemp seeds to support a balanced and healthful diet is highlighted by their combination of macronutrients, micronutrients and other advantageous substances like phytosterols and antioxidants.

Implication: Hemp seeds being rich in nutrients, can boost protein intake and improve heart health and aid digestion by introducing them in diet.

Keywords: Hemp seeds, Alpha-linolenicacid, Alpha-linoic acid, Amino acid

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