

# Health benefits of chia in the daily diet

## Dear editor

I would like to include a letter that explains the health benefits of Chia in the daily diet, as this is a topic of interest to food scientists as well as other health professionals, especially due to the content of fiber, EPA, calcium and other nutrients that Chia has to offer. Chia has an interesting cultural history and is readily available in a variety of grocery stores and other markets.

## Background and use of chia

Chia, or *salvia hispanica* is an annual herbaceous plant of the *Lamiaceae* mint and is believed to have originated in Central America (historically called Chia). Chia is actually the Mayan word for strength. Additionally, chia seeds have been part of the Incan, Mayan, Aztec, and Native American cultures for many years. In fact, the chia seeds were used by the Aztecs as their main energy source (Cleveland Clinic, Plant Sources of Omega 3s, chia seeds.<sup>1</sup> Chia is used orally for exercise performance, hypertension, metabolic syndrome, diabetes, pruritus, reducing the risk of cardiovascular disease, and weight loss.<sup>2</sup> The color of Chia seed varies from black, grey and black spotted to white, and the shape is oval, with a size range of 1 to 2mm.<sup>3-7</sup>

## Nutrition and Chia: EPA, fiber, calcium and other nutrients

Chia seeds contain Alpha-linolenic acid (ALA) and fiber (Medline Plus. NLM, NIH. Omega 3. NLM, NIH Medline Plus. Omega 3.<sup>8</sup> Alpha-linolenic acid (ALA) converts to long-chain PUFAs (polyunsaturated fatty acids), including EPA (Eicosapentaenoic Acid), making Chia an attractive alternative to fish-oil supplements and fish to attain their EPA.<sup>9-12</sup> Omega-3 fatty acids play a crucial role in normal growth and development and brain function (University of Maryland Medical Center, website UMM.edu).<sup>13</sup>

Fiber is a substance in plants. Dietary fiber include nuts and seeds, fruits and vegetables and whole grains.<sup>14</sup> As a source of fiber, Chia helps promote satiety and contributes to normal elimination. In fact, Chia contains a significantly higher percentage of fiber than corn, rice, oats, wheat, or barley. This is reinforced by the USDA data, which indicates a fiber content of 34.4g per 100g, or 9.8g per ounce (28.35g) for Chia.<sup>15</sup>

Chia seeds provide more 2-3x the calcium of milk, salmon and other rich sources of calcium; Chia seeds, 3.5 oz or 100g, supply 631mg Calcium; this is greater than 1 cup of 1% lowfat milk, which provides 314 mg calcium and greater than 3.5 oz or 100g of canned pink salmon (with bones), which provides 215mg Calcium [calcium values pulled from Chia, 1% milk, and canned pink salmon, accordingly as referenced in: (United States Department of Agriculture (USDA). Agricultural Research Service (ARS). National Nutrient Database for Standard Reference. Release 28. Basic Report: 12006, Seeds, chia seeds, dried.<sup>15</sup>

All in all, nutrients supplied from Chia seeds provide about 10 grams of fiber per ounce (about 2 tablespoons) and contain protein and minerals including calcium, iron, zinc, and magnesium (Academy of Nutrition and Dietetics).<sup>16</sup>

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Based on the nutritional benefits provided by Chia, one can suggest at least 2 tablespoons daily to help in meeting one's daily fiber need as well as to supply Omega 3, calcium, and other mentioned nutrients in the diet. Advances in food technology and processing are additional considerations for the future of chia.

## Acknowledgements

None.

## Conflict of interest

Author declares that there is no conflict of interest.

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