

Acai benefits cholesterol levels: Rat study

By Stephen Daniells, 05-Jan-2010

Source:-Natural Ingredients.com

http://www.nutraingredients.com/Product-Categories/Antioxidants-carotenoids/Acai-benefits-cholesterol-levels-Rat-study/?utm_source=Newsletter_Product&utm_medium=email&utm_campaign=Newsletter%2BProduct

The pulp of açai berries may counter the effects of a high-fat diet and reduce the risk of developing high blood cholesterol levels, says a new study with rats from Brazil.

Animals fed a high-fat diet and supplemented with açai pulp had lower levels of total and non-HDL cholesterol, compared to animals just eating a high-fat diet, according to findings published in *Nutrition*

“This is the first study, to our knowledge, addressing the potential benefits of açai intake in the cholesterol profile,” wrote the researchers, led by Maria Lucia Pedrosa from the Federal University of Ouro Preto

“We observed that the addition of açai pulp in the hypercholesterolemic diet had a hypocholesterolemic effect by reducing cholesterol levels (total and non-HDL), which could be explained by a lower food intake and higher faecal excretion,” they added.

High cholesterol levels, hypercholesterolaemia, have a long association with many diseases, particularly cardiovascular disease (CVD), the cause of almost 50 per cent of deaths in Europe, and reported to cost the EU economy an estimated €169bn (\$202bn) per year

Super fruits from Central and South America

Açai berries (pronounced ah-sigh-ee) have long formed part of the staple diet of Indian tribes. With the appearance of a purple grape and taste of a tropical berry, it has been shown to have powerful antioxidant properties thanks to a high level of anthocyanins, pigments that are also present in red wine

It is presently being sold in a number of countries, including New Zealand, Australia, South America, Japan, USA, and the Middle East

Commenting independently on the study, açai expert Dr Alex Schauss from US-based contract research organization AIBMR told NutraIngredients that the study does provide *in vivo* experimental evidence that açai pulp can improve mammalian lipid profiles in response to a high fat diet

Regarding the safety data, Dr Schauss added that *“açai does not appear to cause liver damage as evidenced by the fact that açai does not alter activities of several liver enzymes. This is important since liver damage is a common phenomenon when a drug is taken for a long period of time”*

Study details

Pedrosa and her co-workers used female Fischer rats and divided them into four groups: Two groups consumed a standard diet, and two groups consumed a high fat diet containing 25 per cent soy oil and 1 per cent cholesterol. One standard diet group and one high fat diet group received additional açai pulp at a level of 2 per cent

After six weeks, the researchers noted an increase in blood levels of total and non-HDL cholesterol and a decrease in levels of HDL cholesterol in the high-fat diet only animals. Such changes were attenuated in the açai-supplemented high-fat diet animals

The researchers did not directly examine the mechanism behind the effects but noted that the benefits may not be solely due to the polyphenol content of the fruit

“These results suggest that the consumption of açai improves antioxidant status and has a hypocholesterolemic effect in an animal model of dietary-induced hypercholesterolemia,” concluded the researchers

Future study

AIBMR’s Dr Schauss noted that future studies should focus on using a better high fat mouse model. *“There is a published rodent diet that is close to a typical high fat American diet or McDonald diet that could be used,”* he said. He also said that the length of intervention should be increased to six months, while the effects of açai pulp on lipids can be further investigated by looking at both liver and blood vessel morphology, signalling pathways, LDL levels and cardiovascular functions.

Source: *Nutrition*

Published online ahead of print, doi: 10.1016/j.nut.2009.09.007

“Diet supplementation with açai (Euterpe oleracea Mart.) pulp improves biomarkers of oxidative stress and the serum lipid profile in rats”

Authors: M. Oliveira de Souza, M. Silva, M. Eustaquio Silva, R. de Paula Oliveira, M.L. Pedrosa