

**Excerpt from 3Rs on Coconut Flour *Readings*Researches*Recipes*
HEALTH AND WEALTH FROM COCONUT *Series***

Published by:

Philippine Coconut Authority

Department of Agriculture

With financial assistance from:

Technology Application & Promotion Institute Department of Science and Technology

C. Healthful and Medicinal Products from Coconut

1. Coconut Oil

In the late 80's in the USA, coconut oil received a severe beating from a well-funded smear campaign launched by the American Soybean Association (ASA). Coconut oil was maligned as "poisoning America." The soybean people and their well-paid PR practitioners alleged that "the intake of coconut oil raises cholesterol level in the blood, thereby increasing the risk of heart attack. This ASA campaign and the Philippine coconut industry's spirited, well-researched, and strong defense of coconut oil brought to the fore the need to compare in a scientific manner the qualities of coconut oil vis-à-vis soybean and other vegetable oils.

In researches undertaken by three American authorities and three Filipino scientists, they found out that coconut oil:

- Raises good cholesterol
- Does not raise total cholesterol, i.e., it is a neutral fat (populations with high coconut oil dietary intake have low incidence of coronary heart disease).
- Is richest in medium chain triglycerides (MCTs) that provide instant energy
- Has anti-cancer activity
- Provides anti-microbial benefits against many pathogens

The renowned doctors to whom we owe a debt of gratitude for their dedicated research efforts are mentioned in PCA's poster that says: COCONUT OIL, OK FOR YOUR HEALTH! They are:

Dr. George L. Blackburn

Cancer Research Institute

Deaconess Hospital, Boston Massachusetts and

Harvard Medical School

United States of America

Dr. Conrado S. Dayrit
College of Medicine
University of the Philippines
Vice President
United Laboratories, Inc.
President
National Academy of Science and Technology

Mary G. Enig, Ph. D.
Enig Associates, Inc.
United State of America

Dr. Hans Kaunits
Professor of Pathology (retired)
Columbia University
New York, USA

Dr. Clara Y. Lim Sylianco
University of the Philippines

The name of Dr. Virginia Babayan should have been included in the poster. But she had already died when the poster was being designed so no approval was secured to include her name. But she had done a lot of research work whose findings corroborate those found out by these five authorities.

Dr. Walter Willet, A Harvard nutrition expert and a prominent research on diet and heart diseases, also found out that the coconut oil is beneficial to one's health. He says that the coconut oil has a neutral effect on cholesterol level. He says that:

- 62% of the coconut oil is composed of 8-12 carbon fatty acids, classified as MCTs. (MCTs are quickly and easily digested and converted into energy unlike the Long Chain Triglycerides (LCTs) found in animal fats and in soybean, canola, safflower, sunflower, corn and cottonseed oils.)
- the cause of at least 30,000 heart disease deaths a year in the USA is not coconut oil, but the transfatty acids (TFAs) of partially hydrogenated vegetable oils such as soybean, corn, cottonseed and canola.

Our very own expert on this issue, the indefatigable Dr. Conrado S. Dayrit (President, National Academy of Science and Technology; Emeritus Professor, UP College of Medicine; among other distinctions) pointed out that (Dayrit, 1992:168):

“Of the 12 regions of the Philippines, Bicol has the highest intake of fat from coconut because they cook most food in coconut milk. 62.5% of the dietary fat of

Bicolanos is from coconut. Despite this, the Bicolano mortality rate from coronary and cerebrovascular disease is the lowest among the five important regions of Luzon.”

Dr. Desar Recto of the Council of Preventive Cardiology admits that oil from coconut is good cholesterol (HDL) and can help soften or clear the bad cholesterol (LDL) that accumulates in the arteries. He further says that coconut oil does not develop blockages in the arteries and can prevent further obstruction later on (Macrohon, 1995:L5)

Dr. Jose Yulde, President of the Philippine Heart Association who said, echoes Dayrit’s findings and Recto’s admission:

“I come from Bicol where coconut oil is used in most of our dishes. But based on our observation, we did not observe a significant increase of coronary disease incidence in the population.”

In support of the findings of these authorities, the following table (Coconuts Today, 1994:81) will drive home the point that oil from coconut has minimal, if any, cholesterol.

Fats or Oil	Cholesterol Content (ppm)
Coconut Oil	0-4
Palm Oil	18
Soybean Oil	28
Corn Oil	50
Butter	3150
Lard	3500

Here are some facts about MCTs from coconut oil as the brochure of the US Coconut for Coconut Research/Information says:

COCONUT OIL is uniquely rich (48%) in the twelve carbon fatty acid (lauric acid) which is generally classified as medium chain. Intestinal absorption and body transport of medium chain fatty acids differs from those of the longer chain. They are also more readily converted to energy. Body turnover rate of lauric acid is thus likely to be faster and storage in body fat is minimal.

Fatty acids of twelve carbons or less do not require carnitine to enter mitochondria (Blackburn *et al*, 1989). Because of their rapid utilization for energy, the shorter chain fatty acids do not provide a large substrate pool for VLDL incorporation by the liver (Bach and Babayan, 1982).

The use of MCT has been suggested in the treatment of weight reduction of humans (Bach and Babayan, 1982). In lieu of the longer chain triglycerides (LCT), as those derived from soybean oil, corn oil, butterfat and other animal fats, the ingestion of a meal containing MCT results in a higher resting metabolic rate (RMR) for the individual,

indicating a greater consumption of energy in calories, thus preventing the deposition of fat (Mascioli *et al*, 1989).

2. Medicinal Benefits from Coconut

a. Coconut oil's monolaurin: Cure for AIDS

Beyond common and often homegrown medicinal applications of coconut and its products, there has been, of fresh vintage, a spate of reports on new discoveries of coconut's health benefits. Most notable among these are recent claims that coconut oil or compounds in coconut oil can cure the dreaded acquire immune deficiency syndrome (AIDS) by destroying or ensuring the destruction of the AIDS causing human immune deficiency virus (HIV).

The idea that coconut oil or its compounds could metamorphose into the long-sought cure for AIDS started as far back as three years ago. The unthinkable was germinated and fed by glowing reports that HIV patients in the Caribbean island was responding positively to increased consumption of coconut. The idea was all the more fueled by findings of US scientist Jon J. Kabara that HIV was among the bacteria and virus that could be killed by coconut-based soap and detergents upon contact (Nuguid, 1999).

Consistent with its mission to undertake researches on high value products from coconut, PCRDF plunged into a pioneering research on the use of monolaurin as antidote to HIV. The PCRDF funded project involves the collaboration of UNILAB (capsulizes the monolaurin from statistical PCRDF design, validation and technical monitoring of results of clinical tests) and San Lazaro Hospital (PCRDF's NEWSCOPE, 1999).

This experiment culminated in February 1999 when the world's first formal clinical tests were conducted. The tests, which were part of a formal study that ran six months, were conducted in the Philippines at the San Lazaro Hospital by a team headed by Dr. Eric Tayag (PCRDF's NEWSCOPE, 1999).

The six-month study and therapeutic tests were conducted with the participation of fifteen (15) HIV positive patients. The fifteen volunteers were divided into three (3) groups. Two of these groups were given monolaurin in capsule form with one group getting a higher dosage. The third group also took monolaurin but in its natural form after extraction from coconut oil (Nuguid, 1999).

PCRDF says the results have been encouraging enough for the team to schedule "an expanded study that involve a minimum of 45 to a maximum 150" AIDS and HIV-positive patients. In its second issues for 1999 of NEWSCOPE, PCRDF disclosed that the clinical tests show "that the viral load on the number of HIV viruses in the bloodstream of the patients was reduced" (PCRDF's NEWSCOPE, 1999). Viral load or count was one of two base indicators of whether the volunteers were responding positively to monolaurin. The other defining indicator was white blood cell count.

The process by which coconut oil can kill the dreaded HIV virus is quite simple. Coconut oil is composed of several fatty acids. Roughly half of these fatty acids are lauric acid which is formed into monolaurin when ingested into the human body. Monolaurin is a monoglyceride that has established potent antiviral, antibacterial and anti-protozoal properties. This means that monolaurin destroys bacteria, virus and protozoa including the AIDS virus.

Laboratory experiment reveal that monolaurin's potential for being an effective cure for AIDS lies in its ability to "breakdown the fat coating of enveloped viruses" such as the HIV virus (PCRDF's NEWSCOPE, 1999). This fat or lipid coating of the HIV virus insulates it from effects of anti-viral drugs as well as attacks by CD-4 cells or white blood cells which form the body's defense against viruses. Tests tend to show the monolaurin breaks down the HIV virus' protective envelope by solubilizing the lipids and phospholipids in the envelope surrounding the virus (Enig, 1999). With its defenses down, the HIV virus can now be vulnerable to attacks by white blood cells or to the effects of anti-viral drugs. This is one of the reasons why researchers are also exploring the possible synergistic effects monolaurin can have on the HIV virus in tandem with antiretroviral or "cocktail" drugs developed by First World Western countries (PCRDF's NEWSCOPE and Philippine Free Press, 1999). Unlike monolaurin, which exhibits serious potentials of being an HIV cure, these cocktail antiretrovirals do not actually cure HIV patients but only prolong their life expectancy.

b. Other promising coconut fatty acids

Aside from Lauric acid, which promotes monolaurin in the human body, other promising medium chain fatty acids in coconut oil are capric acid (C-10), caprylic acid (C-8), and myristic acid (C14). All these fatty acids and the monoglycerides they produce in the body possess antiviral properties but, concededly, lauric and monolaurin have demonstrated comparatively greater antiviral propensities and capacities (Enig, 1999).

Recently, monocaprin, which is produced in the human body from capric acid, has been shown to have similar effects as monolaurin on the HIV virus. Additionally, the same experiments conducted in Iceland reveal that monocaprin also displays potentials for curing herpes simplex and other venereal or sexually transmitted diseases. These Icelandic experiments, however, have not yet been tested on humans in a manner similar to the Philippine monolaurin clinical tests conducted on human HIV patients (Nuguid, 1999).

The recent cutting edge developments in the search for a cure for the most dreaded disease to have afflicted the human race show the well-nigh-bottomless untapped potentials of the once lowly regarded coconut tree. These potentials will definitely impact positively on health concerns for generations to come. Similarly, they bode well for the state of health maintenance systems and practices to come.