

Optimization of Healthy Fats in One's Daily Diet

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Abstract

With regards to carbohydrates and sugar being omnipresent in many of the processed foods available commercially, much of the cause could be attributed to the dietary guidelines as a result of some highly regarded scientific studies in the United States of America (USA) more than forty years ago. Those studies gave a bad name to dietary fats. The 2015 dietary guidelines regarding fats as an essential nutrient in one's daily diet, is a sorely-awaited document, which tries to undo those years of mistakes and miss-steps. The objective of the current work is to help in interpreting the important findings and conclusions of the 2015 USA dietary guidelines, and to help and encourage the general public to willingly make changes in their diet for better nutritional and thus, health benefits. Real foods are referenced for easy instruction and understanding.

Keywords: Cholesterol; Trans Fats; Saturated Fats; Unsaturated Fats; Coconut Oil; AGE

Recent History

In the eighties and nighties, there was an ongoing joke (both written and cartoon) about a new Indian immigrant to the USA. Asked his reason for coming to the USA, he stated that he wanted to come to a country where even the poor people were fat.

The irony of it was that indeed the American poor were fat, but they were an unhealthy group rather than a healthy group. (Anyone who is fat, rich or poor, can be unhealthy) The poor were (in many cases without choice) induced to buy the cheaper foods. Carbohydrates from grains are in general cheaper than meat and fish. Hence, processed foods were prepared to contain more carbohydrates from grains rather than from fresh vegetables and fruits or meat or fish. They were also made tasty by sugar and salt since most carbohydrates from grains are quite tasteless. The more expensive meats and fat were less accessible. Hence, the problem of obesity in the USA, even to this day of the second decade into the twenty-first century.

Background

In [1], it was concluded that higher saturated fat (SFA) intake does not correspond to higher risks of cardiovascular disease (CVD). The emphasis was to optimize fat intake, and not to reduce total fat consumption. This reversed about forty years of advice to reduce total fat consumption. In the United States of America (USA) the advice comes every five years, in the form of reports from the Dietary Guidelines Advisory Committee (DGAC).

In [1], it was concluded that reducing calories from SFA or total fats with any type of carbohydrates is not effective to reduce risks of cardiovascular disease (CVD). In the USA, much of the SFA was replaced by sugar and refined carbohydrates. The stress here is that this dietary status in the Standard American Diet (SAD) should no longer be promoted.

Reference [2] is a juried commentary about [1]. In [1], one significant amendment was the removal of dietary cholesterol as a "nutrient of concern." This was unexpected by the general public, but is in line with more recent scientific research which discovered no appreciable relationship between dietary cholesterol and serum cholesterol [1] or clinical CVD in general populations [3]. It was pointed out by the DGAC report that more than seventy percent of the population consumed products from refined grains.

Dietary Guidance with respect to Fats

In the human body, many cell types utilize glucose or fatty acids for energy. Specifically, heart and skeletal muscle favor fatty acids to glucose. Vitamins A, D, E, and K are fat-soluble. In other words, these vitamins are metabolized and conveyed along with fats.

According to Dr. Steven Masley, for easier consumer understanding, there are three principal types of fats [4]. The noxious ones are categorized as 'Bad Fats'. They include trans fats and toxic fats; the later are animal fats with hormones and pesticides.

The second category is 'Neutral Fats' and include clean saturated fats, that is saturated fats from clean, organic animals [4]. Clean animals are ones which are not pumped with growth hormones. 'Organic' is a designation given by the United States Department of Agriculture (USDA).

The third category is 'Smart Fats' or beneficial fats [4]. These are avocados, olive oil, nuts, (organic, farm-raised eggs contain more Omega 3 fats than factory-raised ones if the farm-raised hens are fed flax), fats from wild-caught seafood and others. Tree nuts like walnuts are preferred to ground or peanuts, which may cause allergic reactions. Olive oil, avocado oil, nuts (including cashews) contain monounsaturated fats, which reduce low-density lipoprotein (LDL) cholesterol in the body [5]. The review work [6] concluded that a diet with nonhydrogenated unsaturated fats helped to protect against coronary heart disease (CHD).

Coconut oil is a category by itself, according to some (including Masley) because research has shown that even though it is mostly saturated fat, it is different in that most of its fatty acids are of the medium-chain kind. This fatty-acid type is named medium chain triglyceride (MCT). They have also been named medium chain fatty acids or MCFA. It is common knowledge in the field that coconut oil is about half lauric acid; natural coconut oil is the superlative source of lauric acid. There are three other MCTs in coconut oil [5], i.e. caproic acid (C6), caprylic acid (C8) and capric acid (C10). Lauric acid (C12) is highly-priced in world markets since it is a powerful antimicrobial agent, employed for the preserving of food and in drugs and nutraceuticals [7]. These facts are used to clarify the issue and thus counter Dr. Steven Masley's classification of coconut oil as 'controversial' and being under investigation/research, and alleviate it to a position of 'Smart Fats'. The use of the term 'MCT oil' in world markets, for oils with hardly any lauric acid (which has been removed from coconut oil via separation processes), is a twist brought on by the commercial sector. MCT oil is under suspicion for its purported health benefits because of the absence or low content of lauric acid. Un-manipulated coconut oil with its full natural content of more than fifty percent lauric acid, should not be under suspicion about its health benefits [8,9]. Reference [10] supports Masley's statement that natural coconut oil with lauric acid is controversial.

Dr. Mark Hyman [11] used a 'Smart Fats' or healthy fats diet to replace carbohydrates in hundreds of his diabetic patients, resulting in positive results. 'Eating fat cause fat' is not true. This is as evidenced in [1] Dr. Mark Hyman [11] used a 'Smart Fats' or healthy fats diet to replace carbohydrates in hundreds of his diabetic patients, resulting in positive results. 'Eating fat cause fat' is not true. This is as evidenced in [1]. It was reported in Part B. Chapter 2: 2015 DGAC [1]; "Themes and Recommendations: Integrating the Evidence (Page 2) reports: The overall body of evidence examined by the 2015 DGAC identifies that a healthy dietary pattern is higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meats; low in sugar-sweetened foods and drinks and refined grains."

'Food is just calories' is not right. Hyman stated that "Food is also information" [11], which is in line with Masley [4] They have cultivated human taste-buds in the laboratory. Hyman stated [11], "They can see which carb and sugar combinations can best induce addiction, in the lab". Hyman stated that profit, and not health, is the ulterior motive of most of the food processing industry.

In the 2015 dietary guidelines report [1], "Cholesterol is no longer a nutrient of concern for overconsumption." In the 1980 first governmental dietary guidelines, fat was not given a good name. The 1990 dietary guidelines showed carbohydrates and sugar at the bottom of the food pyramid, the category which is allowed the largest quantity. Fat was at the top of the pyramid, the category which is allowed the least relative quantity.

One of Hyman's patients ate only fats instead of carbohydrates [11]. Her cholesterol level dropped. She lost twenty pounds in about three weeks. In [12,13], Hyman explained the difference in calories the following way: "In a study of 154 countries that looked at the correlation of calories, sugar, and diabetes, scientists found that adding 150 Calories a day to the diet barely raised the risk of diabetes in the population, but if those 150 Calories came from soda, the risk of diabetes went up by 700 percent."

Mark Hyman is a medical doctor and nutritionist who found from his practice that not all calories are the same [11-13]. Fats increase the metabolism of the body. A large-scale study showed that the cohort under study lost weight with a calorie-restrictive diet, which included healthy fats [11,13]. In other words, the cohort was successful in reducing their weight when they ate healthy fats instead of carbohydrates.

Cholesterol is one factor that contributes to heart attack. France and Switzerland were excluded from Dr. Ancel Keys' studies [14,15] in the 1950's. These are countries where the popular diet is one with high fats, but the peoples do not have high rates of heart attack cases. Cholesterol makes up a lot of the body cells, including sex hormones. Eating the right kind of fats can improve (by decreasing) cholesterol content in the blood. The right kind of cholesterol is high density lipoprotein (HDL which are in larger sizes), caused by consumption of fats [11]. The bad kind of cholesterol is low density lipoprotein (LDL which are in small sizes), caused by consumption of sugar [11].

'Bad fat' is trans fat or shortening. "Shortening can still be good after 30 years," Hyman claimed in [11]. He was comparing shortening to good foods which all die or deteriorate after a specified period of time; hence, the long life of shortening cannot be good or healthful. The U.S. Food and Drug Administration (FDA) has given the food industry a long time to eliminate trans fat from its food products for sale.

Omega 3 fatty acids can be derived from chia seeds, walnuts, olive oil, avocados, fish, squids. The ratio of Omega 3: Omega 6 in any beneficial fats should be high, because much of the processed foods commercially available have the inverse ratio high. Before the processed foods were widely available (say, before the Second World War), the natural fats sources gave an average of 1:1 for Omega 3: Omega 6 fatty acids. It is theorized that since the processed foods are providing very high Omega 6: Omega 3 ratios (that is thought to be pro-inflammatory and leading to an unhealthy state), the optimal nutritional solution is to try to move the balance back to a 1:1 ratio for the Omega fatty acids under discussion. It is popularly accepted that Omega 3 fatty acids are anti-inflammatory and Omega 6 fatty acids are pro-inflammatory.

Omega 6 fatty acids are found in corn oil and canola oil. Most omega 6's oils are refined and contain hexane. When they are heated to high temperatures, they release noxious substances.

Dietary saturated fats do not raise saturated fats in the blood. Sugar does. Coconut oil was used exclusively by some peoples living in the atolls of the South Pacific [16]. Heart disease was low in their population. The saturated fat intake of these peoples did not correlate to higher incidences of heart disease. However, saturated fats in the blood is bad. "This is caused by sugar consumption," stated Hyman [11].

How does one lose weight? Grass-fed butter, grass-fed meats (without hormones and pesticides) are recommended. Refined sugar should be eliminated [17]. Sugar should be treated as a recreational drug [11]. Eat 'Smart Fats' and lean protein, and necessary fiber from vegetables and fruits. Daily diet should be approximately in the ratio of 5 servings: 5 servings: 10 servings of beneficial fats: lean protein: fiber (from vegetables, fruits, nuts and seeds). Take wild caught salmon, tuna, sardines, with low mercury. Eat slow carbohydrates with phytonutrients e.g. whole grains, cruciferous vegetables e.g. broccoli, sweet potatoes, green leafy vegetables of all kinds. Avoid gluten because intestines become more porous and enables the person to crave more carbohydrates and sugar [18-20].

The World Health Organization (WHO) and other public health authorities worldwide use eggs as their basic standard for appraising the quality of protein in other foods. Egg protein is usually denoted as High Biological Value (HBV). Eggs are given a mark of 100% on the HBV scale. The superior quality of egg protein is built on its types of amino acids. All the different types of vitamin B occur in eggs, including choline, a brain food.

To reach an optimum weight for oneself, one should reduce meat consumption (from the Standard American Diet or SAD with its hamburgers and hot dogs). Limit egg consumption to two a day; organic eggs have higher Omega 3 fatty acids than eggs from factory-raised chickens. Lauric acid is the healthful or 'Smart Fat' in coconut oil. It is a brain food; it speeds up metabolism; it burns the belly fat.

Develop your own custom meal plan for the week using the general guidelines provided. Save money, and become healthier by cooking your own meals. You should take back a hundred percent control of your daily diet. The SAD is too dependent on highly processed foods, canned foods and drinks, and fast foods with preservatives.

Cautionary Notes about Cooking Oils and Temperatures

Another point to be mindful about is the temperature to which smart oils are heated. Polycyclic aromatic hydrocarbons (PAHs) and Heterocyclic amines (HCAs) were substances studied in [21]. These compounds are created when muscle meat is heated at high-temperatures, i.e. at above 300°F. Hence, meats and animal oils should not be heated above 300°F to avoid PAHs and HCAs. This fact has nothing to do with the smoking or burning of the oils.

Acrylamide is a noxious Mallard reaction end product, being created when asparagine goes into reactions with natural sugars present in high carbohydrate (and low protein) food items that are cooked at elevated temperatures. Reactions begin to occur at 248°F (120°C) [22]. Non-meats should be cooked at below 250°F (248°F rounded up for easy recollection) for acrylamide not to be created [23].

The following paragraph is quoted from the Arthritis Foundation online [24]:

"Although some AGEs (Advanced Glycation End products) are not bad, high levels of the compounds in the tissues and blood can trigger an inflammatory response and have been linked to the recent epidemics of diseases like diabetes and cardiovascular disease."

Soy oil, corn oil and canola oil are not recommended because of the hexanes formed during the high temperature processing they underwent [11]. In addition, if these oils are used for cooking at high temperatures, the bad substances mentioned above are formed, which are not beneficial for health. As stated in [24], AGEs are formed in many popular dishes worldwide because the taste is improved when many foods are heated at high temperatures. Cooking methods using high temperatures include roasting, barbequing, and baking methods.

Discussion and Conclusion

The 2015 dietary guidelines regarding fats as an essential nutrient in one's daily diet, is one that is needed to turn around about forty years of misinformation and interpretation regarding the consumption of fats among the U.S. population. Since the USA is looked up to as a leader in many fields in the world, the misinformation has also affected the peoples of many other countries around the world. The objective of the current work is to help in interpreting the important findings and conclusions of the 2015 USA dietary guidelines, and to help the people worldwide have a healthier and better attitude towards fats. Cold-pressed, organic natural coconut oil with their lauric acid content intact, could be promoted as healthful to consume. Eggs retain their status as good protein quality. Neither cholesterol in eggs or shrimps should be a dietary concern.

Popular national dishes like roast chicken, Tandoori chicken, barbequed ribs, Peking roast duck, tempura, satay, should be considered as treats which should not be consumed often on a regular basis. The problem comes from the high temperature products formed when these particular favorites are cooked. More humble foods like double-fried Belgian or French fries should also be eaten as special treats only.

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