



A New Paradigm in Alimentation, Preventing Obesity and Diabetes Type 2

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"The true cause of obesity - what your doctor is not telling you, replacing carbs with good fats"

Abstract

Obesity and especially diabetes type 2 is a prevailing problem throughout the globe. This has to do with the type of eating behavior, as processed carbs (stripped from their germ and husk) are now the main staple diet and they come in different form being laced with taste enhancers and sugar to make them more palatable, but also to increase sales and profit of the food company.

Carbs never were the staple diet in ancestral times, and our metabolism has not had the time to fully adapt to this new type of diet which may take up to several thousands of years.

Thus we should revert back into the ol` days when fats (the good ones) used to be the staple diet and where times of feast were closely followed by times of famine. Getting from a carb burner into a fat burner is the solution for many of to-days ailments, especially obesity and type 2 diabetes.

Keywords: Diabetes Type 2; Obesity; Carbs

Introduction

The excessive use of high carb-glycemic foods in today`s world, the typical western diet, is the cause of overweight but also of Diabetes type 2 and overall data shows that it will increase within the next years to come. Presently up to 48% of the population can be considered as being obese, affecting their potential abilities in life and paving the road for other diseases like hypertension, diabetes and even cancer.

Conventional medicine has little to offer aside from the advice to exercise more and reduce the intake of food or even choose a more drastic procedure like a banding or a gastric bypass operation, called Roux-en-Y. The latter is the ultimate in weight-loss surgery that involves creating a small pouch from the stomach and connecting the newly created pouch directly to the small intestine. After gastric bypass, swallowed food will go into this small pouch of stomach and then directly into the small intestine, thereby bypassing most of the stomach and the first section of the small intestine. Gastric bypass is one of the most common types of bariatric



Figure 1

surgery in the US and other western countries. Gastric bypass is done when diet and exercise haven't worked or when the patient has serious health problems because of weight gain. What however can you a doctor recommend your patient as none of the above interventions are satisfactory?

We should look how our ancestors had eaten several thousands years ago- a time at which we as human sapiens had to adapt in order to survive. This survival mechanism genetically is still active inside of us-the problem is that we have been preprogrammed the wrong way since our childhood, and carbs allegedly are an absolute must. Nothing could be further from the truth and we have to rethink what we eat, why we eat and what should be avoided.

We do not live for the sake of eating, we eat in order to live

it's always the high load of carbohydrates found in bagels, buns, bread loafs, cookies, snacks, toasts, potatoes, pizzas, pasta, etc. which are being metabolized into fats and deposited around the visceral, internal organs or within the subcutis. What however, is the actual component in food that leads into obesity?

It's the amount of highly processed carbs you eat throughout the day (snacks in between) which all adds up to the fat storage sites as it is not being used for the immediate generation of energy, rather it is stored when times of famine may arise. This is an old metabolic safety regulation, because in former decades there were times of feast and more often there were times of famine. For these days our body was designed to store excessive energy in the form of fat to be used when food scarcity would arise. However, in to-days world-at least in the more affluent western societies-there is no famine. People have an abundance of food available and these foodstuffs mainly consist of carbs, which are broken down in the body to single glucose molecules in order to be reabsorbed through the villi if the gut from where they are shuttled to the liver to be turned into fat molecules, which then are shipped to the storage sites with the help of insulin. But people, in spite this knowledge, keep on eating more of the wrong type of macronutrients than they really need. This is because the cause of all these inborn circuits of survival mechanisms, where everything is directed to get sufficient food (specifically if it cheap) because this meant either survival or dying. So, when the thought of food surfaces within your mind different circuits are activated which subconsciously draw you into this trap of eating the wrong type of a staple diet.

The addiction circuit

Making you hooked on foods and overeating since it gives you this feeling of pleasure after eating. This is closely connected to the dopaminergic reward circuitry being related to the addiction to food within the brain- an archaical circuitry between the Nucleus accumbens and the ventral tegmental area. When activated it results in the release of a happy hormone dopamine. Everything what gives you pleasure, like eating, making sex, driving a hot-rod car, etc. will enforce this circuitry, similar to the effects of an opi-

oid like heroine or a stimulant like amphetamine. Activating this circuitry and done too often you are hooked on it, looking for a way to get this kick many more times. This can be demonstrated nicely with the addictive part of sugar which lightens those reward areas within in the brain, which are also used by an addictive drug like cocaine (Figure 2).

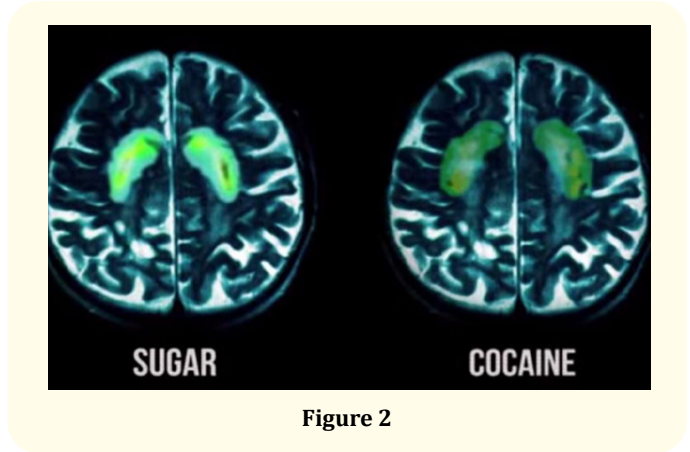


Figure 2

Positron-emission tomography (PET) of individuals using cocaine or sugar, both of which activate the rewarding system within the brain as demonstrated by a high lightening of this area. When given the opportunity to gorge on tasty-and often fattening food, this brain circuit stimulates other regions of the brain, including some previously known to regulate eating.

- The satiety center within the hypothalamus, where the hunger hormone ghrelin and the satiety hormone leptin bind. Since carbohydrates result in the release of high amounts of insulin preventing the satiety hormone from binding within the hypothalamus, the hunger hormone takes over making you to eat more than actually needed.
- The routine circuitry, which is activated once you feel hungry and it directs your thoughts to those places where you previously had found an abundance of foodstuff.
- Also, the food conservation of energy circuit lets you choose that kind of food that needs the least effort and energy in order to get hold onto. The fast food industry has cleverly taken benefit of this circuit by creating those drive-in food outlets where the least effort is needed in order to feed yourself.
- And lastly, the cramming of food circuitry, which was designed to get as much of the food you can eat into your belly, even beyond the point of satiety, just to have as much reserve

as possible for the forthcoming times of food scarcity. This is a very ancient circuit and you can see it in the wilderness where carnivores eat as much as they possibly can just to have an abundance of energy reserve that will guarantee their survival within the next months. This very circuitry is being subconsciously activated by those all-you-can-eat restaurants. During this kind of behavior, it is also interesting to note how carnivores, after having chased down the antelope, first go for the internal organs which are loaded with fats, only thereafter they go for the muscle meat. This is because the fatty substrate inherits more energy than pure proteins and to a much higher extent than carbohydrates.

The truth about obesity is that exercise will never result in weight reduction- this is similar to the proposal to reduce calories intake all of which is a fad, only feeding the different companies who all propose that their special diet is the latest in weight reduction but actually only fills their pockets.

Exercise is a good for wellness but not for weight loss

- Primarily, for optimal health and disease prevention net carbs, which is the total carbohydrates minus fiber should be kept below 40 or 50 grams per day. Primary culprits include all forms of sugar, as well as most grains, which are processed into flour from which you get bread, buns, pizza, pasta, but also the legumes (beans, lentils, peas) as they are rapidly turned into sugar in your body. The dogmatic belief that "a calorie is a calorie" has done much to contribute to the ever-worsening health of the Western world. It's one of the first things dieticians learn in school, and it's completely false. Calories are not created equal. The source of the calories makes all the difference in the world.
- Groundbreaking research by Dr. Robert Lustig, MD shows that sugar may be the culprit, but fructose is even worse. According to Lustig, fructose is "isocaloric but not isometabolic" [1038]. What this means is that identical calorie counts from fructose and glucose, fructose and protein, or fructose and fat, will cause entirely different metabolic effects. One of the reasons for this is due to the fact that different nutrients provoke different hormonal responses, and those hormonal responses determine how much fat your body will accumulate and hold on to. Research shows [1038] that calories gathered from bread, refined sugars and processed foods promote overeating and fat storage due to the high insulin level whereas calories from whole vegetables, protein and fiber decrease hunger. According to a meta-review [1039], once you reach 18 percent of your daily calories from added sugar, there's a two-fold increase in metabolic harm that promotes pre-diabetes and diabetes.

Why Diets and Exercise alone fail to correct overweight

Most overweight people have tried dieting. Most have failed to lose any significant weight. Or they lost weight and then gained it all back, plus an additional few pounds (ping-pong effect). Why is that ? The short answer is that this failure is due to using an ineffective and/or unsustainable approach. One of the keys to long-term weight management is healthy metabolism and mitochondrial function (those little power plants within every cell of your body generating ATP, the energy to function) and many diets actually create more dysfunction rather than correcting it. Calorie counting is one of the many ineffective weight loss strategies being touted as beneficial for the past decades. It doesn't work in the long term and the reason for this is because calories have different metabolic influence, depending on their source and starvation diets don't work either. So, the question remains what causes this weight gain which can be aggravated by eating lots of metabolically harmful calories. What kind of calories fall under this category?

Fats in obesity not an oxymoron (= stupid idea)

Fats are primarily digested by means of bile, which is produced in the liver and expelled into the gut together with lipase, an enzyme able to break down fats into glycerol and fatty acids. They thereafter are reabsorbed by the villi in the gut lining (the enterocytes) in order to enter the lymphatic system which later ends up in the greater thoracic lymphatic duct in the thorax entering the blood system. The fate of fatty acids is the diction into lipoproteins named LDL (the alleged villain) and HDL (the good guy) triglycerides and phospholipids. Most of the LDL however comes from the transformation of glucose into fatty acids within the liver which is activated by insulin the cut down on the high blood glucose level. Triglycerides on the other hand are also produced by the adipose tissue (adipocytes) which are activated by the hormone glucagon whenever there is a need.

Cholesterol in general is not bad because it serves many purposes:

1. It is the basic structure of all cell membranes giving it stability and flexibility.
2. Only with cholesterol new cells can be formed in the body to replace old ones
3. Cholesterol is a necessary part in the formation of bile by the liver, to make fats (by means of maculation within the gut) resorbable.
4. Cholesterol is the basic structure of many hormones like cortisol, aldosterone, testosterone, progesterone, estrogen, etc.

5. Cholesterol is a necessary adjunct in order to synthesize Vitamin D, an important vitamin (some also claim it to act like a hormone) in health. This is reflected by the fact that every cell within the body carries specific Vit D receptors, which act like antennas picking up the signal to activate the specific cell function.

Conventional medicine, due to a large multinational study within the 50th by Angel Keys, has markedly vilified fats as unhealthy being a forerunner of arteriosclerosis and of cardiovascular disease. In his 7 nation study Angel Keys (who also acted as an advisor for the government) has falsely demonstrated that those nations with the highest consumption of saturated fats also had the highest incidence of cardiovascular diseases. Later however, it was revealed that the data had been fabricated as he only had chosen those nations that would fit into his correlation curve. Industry at that time picked up the notion that cardiovascular diseases are initiated by fats, so the fat level in patients had to be dropped in order to stay healthy. This misconception is still carried on till to-day resulting in the synthesis of several so-called statins or cholesterol-lowering drugs, who by means of inhibiting a necessary enzyme in the conversion of fatty acids into cholesterol. This HMG-CoA reductase enzyme is also stimulated by insulin producing LDL however at the same time (as a similar metabolic pathway for Q10 synthesis is used), results in a severe decline of this mitochondrial substrate in order to produce sufficient ATP. Thus, as a major side effects of cholesterol-lowering agents which are prone to develop are (for more see table in section on medication related side-effects)

- Severe muscle breakdown with pain, also affecting the heart muscle leading into myocardial insufficiency
- Reduction in neuronal function with loss of memory, later leading into dementia
- It's also been established that within a few years of taking statins, the drug increases the risk of type II diabetes by 49% resulting in a full blown diabetes in 1 out of 100 patients [779].

The latest studies on the effect of fats on body function and health demonstrate clearly, that LDL actually is not the villain as portrayed in the past-it's only the oxidized small fraction of LDL that will induce inflammation and arteriosclerosis within the vessel lining. But more importantly the ratio of LDL/HDL (which should be between 1-2) is a much more reliable parameter in order to determine cardiovascular health and identify a possible threat for the patient. Other fatty acids like the omega-3s which are alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA) are much more important for inhibiting

inflammation and they are specifically found in fish (from the Mediterranean sea), in salmon, eggs, walnut, almonds, pistachio, flax-, hemp- and soy-oil, while the other oils from vegetables (sunflower, thistle, canola, peanut, palm kernels, soy, or corn) have a higher portion of omega-6 fats, which is highly proinflammatory (see table). The latter is nicely reflected in the different relation of omega-3 vs omega 6 and their respective smoke point, making those oils with a higher smoke point more attractive for cooking. The oil industry however wants the customer to believe that the vegetable oils (which are way cheaper) are the utmost in a healthy way of cooking. For instance, canola (in former times called rapeseed) oil, now is labelled as a bio-product with superior health qualities- nothing could be further away from the truth, since this label is not protected, the company can name their product anything they like, and canola oil (which in former times could only be used as a lubricant because of its pungent taste) with a chemical trick, now became palatable. It is a total misconception using such vegetable oils for frying, since during the refining process these oils are turned into oxidized trans-fats and aggressive radicals, resulting in hardening and stiffening of membranes of the inside vascular cell lining.

Type of oil	Omega-3 content mg	Omega-6 content mg	Smoke point °C
Corn (maize)	157	7224	178
Canola, unrefined	1279	2610	107
Canola, refined	0	4950	204
Peanut, refined	103	1318	107
Olive, extra virgin	44.1	382	232
Butter	0.2	0.3	207
Ghee	128	1300	150
Palm	128	1300	250
Lard	128	1300	235
Coconut virgin	NA	243	260
Avocado	134	1754	216
Grape seed	7196	6953	232
Cotton seed	1404	1715	221
Flax seed	917	7141	218
Walnut	378	6807	220
Soybean-non hydrog.	0	6807	917
Soybean-hydrogenat.	NA	6116	378
Safflower, unrefined	0.1	12.7	234
Safflower, refined	NA	NA	266
Grape seed	13.5	9395	204
Cod liver	2664	126	NA

Table 1

The different oils, their respective omega-3, omega-6 content (in a table spoon =14 g) and their smoke points when heated. From the above it can be derived that the hydrogenated, refined forms have a much higher smoke point making them more a proinflammatory. This was done by the oil industry in order to attract the housewives to use these oils for frying, so that frying became an art of cooking only since the early 50th. Before boiling was the main cooking procedure. NA= no data available

And although fats still are vilified by many doctors, they are the solution to the problem since fats do not make you fat ! Period !- and carbs are not essential for survival-what is needed are fats, proteins, minerals and vitamins in order to keep the body machinery running. Thus, the ketogenic diet (60% fats, 20% of non-processed carbs as they are found in cabbage, salads, roots, some fruits etc., and only 20% of proteins) present an optimal solution which the body has adapted to in the times of a hunter and gatherer.

Avoiding all pizzas, potatoes, pasta, legumes, sugary cereals, rice and maize, while trading these nowadays carb loads for a high fat, low carb and moderate protein diet will put you on the safe side of your health journey.

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