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Book Review

Prevention and Reversal of Diabetes Mellitus: Two Perspectives

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Barnard, Neal D. (2007). *Dr. Neal Barnard's Program for Reversing Diabetes: The Scientifically Proven System for Reversing Diabetes without Drugs*. New York: Rodale. ISBN-13: 978-1594868108

Cousens, Gabriel. (2008). *There Is a Cure for Diabetes: The Tree of Life 21-Day+ Program*. Berkeley: North Atlantic Books. ISBN-13: 978-1556436918

The focus of today's medical paradigm is clinical management; that is to say, how to best live with a disease. With Type 2 diabetes this management, often pharmacological, is as much a mindset as a methodology. However, there are doctors who operate from a different mindset, one of reversal and even cure. This is a review of two books written by two different medical doctors on prevention and reversal of diabetes mellitus, by way of plant-based diets. The first is *Dr. Neal Barnard's Program for Reversing Diabetes*, by Neal D. Barnard, MD (2007 Rodale Press). The second is *There is a Cure for Diabetes* by Gabriel Cousens, MD (2008 North Atlantic Books).

Dr. Neal Barnard discusses the efficacy of a low fat, animal product-free diet, and while he recommends healthier whole foods over processed foods, his focus on the standard glycemic index is only peripheral. He explains that diabetes is not caused by carbohydrates, but by fat, as many traditional diets such as that of the Japanese are carbohydrate-rich, and that diabetes only becomes prevalent upon adopting a high-fat western diet. Dr. Barnard's own clinical research shows that when subjects significantly limited their dietary fat, even if they still ate pasta and rice, their fasting blood sugars as well as A1C levels decreased significantly.

He describes what other published studies are demonstrating, which is that a primary cause of insulin resistance is the accumulation of intramyocellular fat – fat inside the muscle cells. Using the lock-and-key analogy of the insulin receptor and insulin, respectively, elevated levels of intramyocellular fat, in effect, block the key-hole, inhibiting the hypoglycemic process of signaling glucose transporters to migrate to the cell membrane.

One method to reduce intramyocellular fat would be to increase the number of available mitochondria to metabolize it. However, research is demonstrating that the mechanism by which the amount of intramyocellular fat is increased is the same one that turns off the genes that, in turn, upregulate the production of mitochondria. Dr. Barnard asserts that this vicious cycle can be reversed, and that cells can regain normal function, by decreasing the influx of dietary fat. The body would catabolize the existing intramyocellular fat, and thereby lower the inhibition on the production of mitochondria.

While Dr. Barnard cites additional evidence-based, health-related reasoning for avoiding dietary animal product, he believes the fat-lowering strategy is a sufficient one, as even the lowest-fat chicken breast has

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28% of its calories from fat, and 2% milk is 35% calories from fat. His recommendations focus on replacing high-fat foods with low-fat alternatives, rather than number tracking, in order to help patients adopt the plan more easily.

Dr. Gabriel Cousens also approaches diabetes from the perspective of clinical research. With over 30 years experience clinically supervising live-food vegan retreat centers, he has compiled data specific to diabetes. Dr. Cousens' philosophy agrees with standard medical thinking in that the cause of diabetes is refined carbohydrates in the diet. In addition, like Dr. Barnard, he attests that cooked animal fat and trans-fatty acids are the second major contributors to this disease.

Dr. Cousens' approach to healing diabetes is to live within a fasting blood sugar of 70-85mg/dL, and that caloric restriction, or fasting, is a "potent means of achieving this." This is just the start, but is certainly a paradigm shift for people who are more likely to live to eat, rather than eat to live. His primary approach is through a detoxification process which includes juice "feasting," or drinking several glasses a day of freshly juiced vegetables for up to 92 days. Other components of the diet include live or raw vegetables, nuts, seeds, sprouted beans and grains, and some specific cooked grains such as brown rice and barley. Individual diets will vary in the level of glycemic control, as determined by the severity of a patient's diabetes. This is especially notable with regard to the presence or absence of fruit in the diet.

At his rejuvenation center called Tree of Life, Dr. Cousens has created a 21-day comprehensive program for diabetics, in which patients implement these dietary changes. Dr. Cousens combines diet with modalities of homeopathy, ayurveda and naturopathy, and is also a proponent and facilitator of spiritual awareness in healing of the body. He has helped many patients taper off their medications, and to be able to control their blood sugar through food choices.

Doctors Barnard and Cousens both believe Type 2 diabetes is not only controllable, but curable through diet and lifestyle, and that even Type 1 diabetics can greatly benefit from their health suggestions by way of lowering their insulin dosages. Both of these doctors have conducted extensive clinical research with their patients, and documented patients' improved lab re-

sults, weight control, and increased vitality. The books were written as educational resources for patients, as well as for doctors. As patients are becoming more self-educated on their health, we as healthcare practitioners also need to stay apprised of the trends, and we can also benefit from thinking beyond what we all have learned in school.

Allopathic, or conventional, medicine has made some strides in recent years to address the dietary component of Type 2 diabetes, with the implementation of diabetes education centers. However, medical doctors increasingly focus their energy managing the diabetic polypharmacy that is commonplace. The practice of starting a patient with a low dose of one drug, and then increasing as needed, is moving to a standard whereby recently-diagnosed patients are now prescribed two or three medications at the onset. This approach may effectively correct blood glucose levels, but does not treat the underlying causes, and therefore, at best, can only be deemed a short-term, or maybe imperfect solution. It is this shortcoming that doctors Barnard and Cousens successfully address.

It should be noted that these two authors are rare nutritionally-focused MDs; it is the naturopathic doctor (ND) that may be more accessible for the average healthcare practitioner who needs to co-manage a diabetic patient with a nutrition expert. The role of NDs in interprofessional practice is, in part, clinical nutrition. Following the Hippocratic adage to let food be thy medicine, and medicine be thy food, digestive health is a cornerstone of the profession, as it is the primary route of both nutrients and toxins or irritants. While not all naturopathic physicians might corroborate the opinions and strategies of the doctors in this review, they would prioritize a whole-foods diet as the chief component of a treatment plan for a diabetic. Naturopathic physicians focus on preventative medicine in treating the underlying causes of disease, which is primarily diet for Type 2 diabetes. By working with the patient to make healthy lifestyle changes, patients reclaim some control of their health, which feeds into prevention of complications and co-morbidities which run rampant with this disease.

Interdisciplinary management of diabetes is a commonly-used strategy of healthcare systems, since the doctors don't have time (or often, the training) to handle all aspects of this prevalent and systemic disease.

The teams include doctors, nurses, dietary specialists, and behaviorists, consulted by the patient in a serial fashion. Interprofessional management is a more-or-less simultaneous approach. It would include optometrists, podiatrists, and naturopathic physicians, to name a few, working in concert to further enrich each profession, and greatly benefit the patients with Type 2 diabetes. Healthcare practitioners from various settings (MDs, NDs, DOs, DPMs, ODs, DCs, PAs, NPs, LAc, etc.) would share research findings and case studies with each other, and then work together to collaborate and fine-tune treatment strategies, patient by patient. No one strategy works for all patients, but working together can help provide more holistic treatments for diabetic patients.

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