Delaware Valley Institute of Fertility & Genetics
Conceptions
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Ketogenic Diet and Fertility

The last few decades different approaches have been advanced to address medical epidemics such as obesity, diabetes, and for women in reproductive age, polycystic ovaries syndrome (PCOS) and its cause of infertility. One of the most common measure is a diet. In the recent past almost every year a new diet is introduced, frequently sponsored by a celebrity with popular appeal that endorses it. Beside the financial principle, there are two reasons for the frequency in the introduction of these diets. One, there is a great need for them and second they do not work!

Let's think for a minute, without exemption all these diets work by reduction of caloric intake assisted with expenditure of energy, in other words curbing food consumption with the addition of an exercise program. These are measures to address the obesity and the medical problems that obesity consequently causes to metabolism, cardiovascular, reproductive and others systems of the body. But the obesity is the symptom, not the cause! We know that. How many times did we embarked on a diet and exercise program that led to considerable body weight reduction and made us so proud? But if we cannot keep up with it, or we take a brake, body weight comes back with vengeance. Therefore it is not surprising that one of the "selling" points in these diet programs is sustainability, and of course that introduces the financial interest.

One of the latest diets introduced is the "Ketogenic diet". It acquired that name because of the almost exclusive consumption of fat, more that 70%, at the expense of the other macronutrients, proteins and carbohydrates. Such an excessive intake of fat leads to the production of ketones, hence the name. This is not the first high fat, low carbohydrates diet introduced, it comes on the heels of Paleo and Atkins diets that were introduced in the 1970s and in 2003 respectively. There are a few things to consider. First of all, the difference in body weight loss for the participants in ketogenic diet after a year, was only 2 pounds as compare to those that undertook a low fat diet, something that had no medical significance. Second, those that undertook low fat diet had a greater body fat loss and higher energy expenditure. Participating in a ketogenic diet deprives the individual from the consumption of whole grains, fruits and vegetables that carry important and necessary vitamins and minerals. High fat diet cause many vitamin and mineral deficiencies. Third it is known that obesity causes glucose intolerance due to insulin resistance and this perpetuates and augments the problem. Any body weight reduction, by any diet, increases insulin sensitivity. In randomized studies lasting for over a year there was no difference between ketogenic diet and low fat diets in improving insulin sensitivity. As a matter of fact whole grains, fruits and vegetables can increase insulin sensitivity without a reduction in the body weight. Also is well known that grains reduce, in a dose-depended manner, the risk for coronary

heart and cardiovascular disease, the incidence of cancer and mortality from all causes. Japanese, Greeks and populations of the Blue zone exceed 50% in their carbohydrate intake and enjoy longevity. By contrast serious problems can occur from ketogenic diet; it can cause an increase in the serum LDL & apo-B-lipoprotein, it might cause cardiac arrhythmias, pancreatitis, and nephrolithiasis. Also Ketogenic diet can cause less serious side effects; halitosis, muscle cramps, diarrhea or constipation and "keto flu" symptoms. All in all the Ketogenic diet is not any better than its predecessors and addressing the underlying cause of obesity and its adverse effects is preferable, safe and yields sustained benefits without relapses.

Obesity is associated also with PCOS and ovulatory aberrations. Body weight reduction is recommended and in many instances metformin is prescribed to those patients that have these conditions and attempting pregnancy. It is hoped that these steps will reduce the insulin resistance and consequently the insulin production and in turn that could improve the pregnancy success rate. Although the goal is to achieve pregnancy, this is not, by any means, the end but rather the beginning of a long journey. Understanding the pathophysiology of the underlining processes, its intricate mechanisms and appreciation of the effects that all these changes bring about is important. It does not concern only the wellbeing of the patient and the chances for conception, but the course of the pregnancy and, most importantly, the long term effects on the offspring.

At DVIF&G we have mastered all these issues and we do not prescribe just "diets" or diet pills but we undertake a rather comprehensive approach that corrects the underlining medical problem that safeguards the course of the pregnancy and delivers a healthy baby.

Joshi S et al. JAMA 2019

1963 Weight Watchers
1971 Grapefruit diet
1975 Cookie diet
1977 Slimfast
1978 Scarsdale diet
1980 Cabbage Soup diet
1981 Beverly Hill diet
1985 Jenny Craig
1988 Liquid diet
1991 Low Fat Foods
1994 Ornish diet
1995 Zone diet
1996 Blood diet
2000 Subway diet
2003 Atkins & South Beach diet
2006 Master Cleanse
2007 Raw Food diet
2008 Nutrisystem
2009 Fertility & Special K diet
2010 Apple Sider Vinegar & Baby Food diet
2011 Duke diet 2011
2012 Juicing 2012
2013 Gluten free eating
2015 Whole30
2016 Goop diet
2017 Ketogenic diet