

A Look at Gluten-Free Diets for Non-celiac/Non-gluten-sensitive Persons

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Abstract In recent years the trend of following a gluten-free diet for individuals that do not suffer from celiac disease or non-celiac-gluten-sensitivity has grown, with followers claiming a multitude of benefits. Despite the popularity, research into the existing literature related to the topic paints a different picture. Media posted by popular sources as well as peer-reviewed sources claim that adhering to a gluten-free diet without a diagnosis may actually lead to negative side effects such as an increased food cost with lower nutritional content, nutrient deficiencies, and weight gain. Existing literature also suggests that claimed advantages, such as increased athletic performance, may be due to the placebo effect.

Keywords: celiac disease, gluten, gluten-free, non-celiac-gluten-sensitivity, gluten-free diet

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1. A Growing Trend

In 2016, a popular medical website reported that the results from a Gallup poll from the previous year had shown that following a gluten-free diet was one of the most popular diet fads in the U.S., claiming that one in five people followed a gluten-reduced or gluten-free diet [1]. The website continued to cite popular celebrities that have taken up the trend and wrote of factors such as a perceived weight loss effect associated with the diet. An article from 2017 claimed that 3.1 million people in the U.S. were avoiding gluten [2]. Despite the popularity of the diet rising not only in the U.S., but worldwide, and many claiming that following it has an array of various health benefits, scientific studies have routinely shown a different stance on whether or not a gluten-free diet is actually beneficial, or healthy at all, for people without celiac disease or non-celiac gluten-sensitivity.

2. Increased Food Cost

For those sensitive to gluten, removing or restricting it in their diet can be a huge relief. However, for those that are not sensitive to gluten it may unnecessarily increase the financial costs of their diet. "The costs of prepared gluten-free foods are generally higher than the cost of the foods being replaced. The expense of following a gluten-free diet can be substantial, especially if your diet includes foods that aren't naturally gluten-free" [3]. This lines up with other sources looking at the cost comparisons between gluten-containing and gluten-free

diets. According to one study, the average Canadian household with kids afflicted with celiac disease saved C\$130/month over households with non-celiac kids on the low end, but spent C\$263/month more on average, and C\$656/month more on the high end in food costs [4]. This average cost increase when buying food can place unnecessary financial burdens on non-celiac/non-gluten-sensitive families and individuals that wish to adhere to a gluten-free diet.

3. Nutritional Content

Even though they cost more money at the grocery store, gluten-free foods tend to be worse from a nutritional standpoint than their gluten-containing counterparts. One gluten-related website has a page titled "The Gluten Free Diet: Facts and Myths," in which they respond to popular myths surrounding gluten-free diets. Their response to the myth that "A gluten-free diet is healthier" was that the absence of gluten would not relate directly to diet quality, but rather that overall food choices play a bigger role [5]. They go on to say that a person that chooses to replace gluten-containing foods with an increased intake of fruits, vegetables, and other healthy foods could lead to a healthier diet. But, they also say that "On the other hand, this same person could easily substitute gluten-free breads, pastas and cookies into the diet, without increasing intake of healthful gluten-free foods like vegetables and fruits. In this case a person may experience a reduction in diet quality, since many gluten-free processed foods are lower in fiber, vitamins, and minerals than their gluten-containing counterparts." The idea that gluten-free food substitutes are generally less nutritious on average is one

that has been confirmed by scientific study. One such study compared the dietary compositions of gluten-containing and gluten-free menus using two different methods and found that the gluten-free foods they analyzed were “not nutritionally superior except for sodium, and in several respects are actually worse [6].” Many in the general population may believe otherwise, but research seems to indicate that gluten-free products are not generally nutritionally superior to their gluten-containing counterparts despite costing more on average.

4. Effects on Weight Gain

Although studies have shown a negative difference in nutritional value between gluten-containing and gluten-free food replacements, many proponents of the gluten-free diet claim that it can have benefits in other ways such as weight loss or an increase in athletic performance. A peer-reviewed feature from 2016 on the topic of “Caring for Hospitalized Patients with Celiac Disease” talks about celiac disease and nursing considerations for patients with celiac disease [7]. One consideration mentioned is that some patients may be at risk for obesity because “many processed gluten-free foods are high in fat and sugar and low in fiber.” They go on to say that “of patients following a gluten-free diet, 81% will gain weight, including those who are already overweight.” This peer-reviewed feature seems to directly conflict with the popular consensus that following a gluten-free diet is an efficient weight loss strategy.

5. Athletic Performance

In terms of athletic performance, there is little hard evidence to show that non-celiac or non-gluten-sensitive individuals see any benefit from following a gluten-free diet. A double-blind study tested thirteen competitive endurance cyclists that did not have a positive screening for celiac disease or a history of irritable bowel syndrome [8]. The cyclists were given either a gluten-containing or a gluten-free diet for seven days and performed a 45-minute ride as well as a 15-minute time trial and had their blood analyzed. The study concluded that a short-term gluten-free diet had no effect on athletic performance, gastrointestinal symptoms, well-being, or inflammatory markers. These diets are increasingly popular among athletes, but the study seems to indicate that it’s not the gluten making athletes feel more energetic and focused. It may just be a placebo, the result of being on any diet in general, which can cause people to be more conscious of what they’re eating and make them feel like they’re making healthier food choices.

6. Nutrient Deficiencies

Aside from having little to no benefits for non-celiac/non-gluten-sensitive individuals, adhering to a gluten-free diet may actually have associated health risks. According to one article, following a gluten-free diet may lead to deficiencies in nutrients like iron, calcium, fiber, folate,

thiamin, riboflavin, and niacin [9]. Suffering from a deficiency in these nutrients can lead to symptoms like shortness of breath, heart palpitations, swelling in the tongue and mouth, hair loss, reproductive problems, vomiting, diarrhea, and depression [10,11,12]. Additionally, one research paper concluded that those following gluten-free diets may be more likely to reduce their consumption of whole grains, which could lead to an increase in cardiovascular risk [13]. Removing gluten-free foods from your diet can often mean removing the nutrients commonly found in those gluten-containing foods as well, which can be problematic if not properly counterbalanced.

7. Conclusion

Although the public consensus is that following a gluten-free diet may be healthier or lead to weight loss or an increase in athletic performance, there is little scientific evidence to support these claims. Despite this, the amount of non-celiac/non-gluten-sensitive individuals following the diet is growing. According to scientific research, however, it is not recommended for non-celiac or non-gluten-sensitive individuals to follow a gluten-free diet as to avoid financial burden and the risk of nutrient deficiencies with little to no added benefits.

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