

Introduction

Millions of people have chosen low-carbohydrate diets for rapid weight loss. As a result, the eating patterns of one in five households have changed. Sales of carbohydrate-rich foods like rice, pasta, potatoes and orange juice dropped between 4% and 8% in 2003, while sales of high-protein, low-carbohydrate foods like meat snacks, cheese and nuts increased 4% to 9%. The United States and Canada led the world in introducing new low-carbohydrate foods in early 2004 – the United States with 661 and Canada with 49 new low-carbohydrate food products.¹

While nutrition experts continue to debate the merits of these diets, consumers are asking a question about flax: What benefits does flax offer to consumers of low-carbohydrate diets? Plenty, as it turns out. The health benefits that make flax good in regular diets make it good in low-carbohydrate diets. Here are six reasons to add flax to low-carbohydrate diets.

Six Reasons to Add Flax to Low-carbohydrate Diets

1. Flax Is Low in Digestible Carbohydrates

Low-carbohydrate diets count only the “digestible” or “available” carbohydrates like simple sugars and starch in food. These carbohydrates are digested and absorbed by the body. They supply energy to the brain, organs and muscles. By comparison, dietary fibre – what our grandparents commonly called roughage – resists being digested by bacteria in the gut and helps keep the gut working properly.

Table 1. Nutrient Content of Flax^a

Nutrient	Ground Flax (1 tbsp)	Flax Oil (1 tbsp)
Total calories (kcal)	36	124
Total carbohydrate (g)	2.3	—
Available carbohydrate (g)	0.1	—
Total dietary fibre (g)	2.2	—
Total fat (g)	3.3	14
Saturated fat (g)	0.3	1.3
Omega-3 fat (g)	1.8 ^b	8.0
Omega-6 fat (g)	0.5	2.2
Omega-6/omega-3 ratio	0.3:1	0.3:1

^a Source: *Flax—A Health and Nutrition Primer*. Winnipeg, MB: Flax Council of Canada, 2003.

^b Omega-3 fat = alpha-linolenic acid (ALA).

The Atkins diet is a popular low-carbohydrate diet. It allows 20 g of “digestible carbs” per day during the early weight-loss phase and 60-90 g daily during weight maintenance.² Similarly, the Zone diet calls for a carbohydrate intake of about 70 g to 105 g daily.³ Flax is very low in available carbohydrates. Because one tablespoon of ground flax contains only 0.1 g of available carbohydrate, flax fits in the low-carbohydrate diet.

2. Flax Is a Low GI Food

The glycemic index (GI) is a scale that rates carbohydrate-rich foods based on how much they raise blood glucose compared with a standard food. Foods rated high on the GI scale, like boiled potatoes and puffed rice cakes, are quickly digested and absorbed, causing blood glucose and insulin levels to rise quickly. Lower GI foods like chickpea hummus and beans, take longer to be digested and absorbed and cause blood glucose and insulin levels to rise slowly.

Low-carbohydrate diets limit the intake of high GI foods but allow for a few low GI foods. Small portions of low GI foods like vegetables, beans, nuts and some fruits are included in low-carbohydrate diets. Because flax is low in available carbohydrate, it would be expected to have a low GI value like meat, poultry, fish, cheese, eggs, avocados and salad vegetables, which also contain little or no carbohydrate.⁴

3. Flax Is a Good Source of Dietary Fibre

One criticism of low-carbohydrate diets is their low dietary fibre content. Indeed, the typical daily menu for the Atkins diet plan provides about 11 g of dietary fibre per day,² as shown in Table 2. This intake is roughly one-third to one-half of the recommended intake for adults.⁵ Ground flax contains 2.2 g of dietary fibre per tablespoon and can add a significant amount of dietary fibre to low-carbohydrate diets.

Table 2. Nutrient Value of a Sample Menu from the Atkin’s Diet Plan^a

Total calories (kcal)	1942
Atkins digestible carbohydrate (g)	25
Dietary fibre (g)	11
Total fat (g)	122
Saturated fat (g)	27
Omega-3 fat (g)	2
Omega-6 fat (g)	31
Omega-6/omega-3 ratio	16:1

^a Source: *Atkins RC. Dr. Atkins’ New Diet Revolution*. New York: HarperCollins, 2002, pp. 71-72 (menu plan) and pp. 492-502 (digestible carbohydrate values). Nutrient values, except for Atkins’ digestible carbohydrate, were calculated using the U.S. Department of Agriculture’s Nutrient Database, available at www.usda.gov/fnic/foodcomp.

4. Flax Is Low in Saturated Fat

Because low-carbohydrate diets include ample portions of meat, poultry, eggs, dairy products and other animal foods, they are rich in saturated fat. Two studies – one in 53 healthy, obese women⁶ and one in 10 normal weight men⁷ – found significant increases in saturated fat intakes when volunteers ate a low-carbohydrate diet. In a typical Atkins diet, a daily meal plan might provide as much as 27 g of saturated fat obtained mainly from animal foods and salad dressings.²

Flax is low in saturated fat. One tablespoon of ground flax provides 0.3 g of saturated fat. One tablespoon of flax oil provides 1.3 g of saturated fat. Adding a little flax to a low-carbohydrate diet will not increase saturated fat intake appreciably.

5. Flax Is Rich in Omega-3 Fats

People who follow low-carbohydrate diets can get the recommended amount of omega-3 fats, even if their diet is based on beef, pork and chicken. For example, the Atkins sample menu plan provides a typical intake of about 2 grams of omega-3 fat. The recommended intake of omega-3 fat is 1.1 g daily for women and 1.6 g daily for men.⁵

Some experts believe the recommended intake is too low to achieve the health benefits linked with omega-3 fats. Adding flax to the diet is an easy way to increase omega-3 fat intake. One tablespoon of ground flax provides 1.8 g of omega-3 fat. One tablespoon of flax oil provides 8 g of omega-3 fat. An adult can get the full daily recommended amount of omega-3 fat from 1 tablespoon of ground flax or 1 teaspoon of flax oil.

6. Flax Improves the Omega-6/Omega-3 Ratio

Even though omega-6 and omega-3 fats are both important to good health, many North Americans eat diets that are too rich in omega-6 fats and low in omega-3 fats. The omega-6/omega-3 ratio of these unbalanced diets is often greater than 10:1 – meaning the diet contains 10 times more omega-6 fats than omega-3 fats. For some people, the ratio may be greater than 20:1. The recommended omega-6/omega-3 ratio is between 4:1 and 10:1.⁸

Adding flax to the diet improves the omega-6/omega-3 ratio. The typical Atkins diet plan has an omega-6/omega-3 ratio of 16:1, as shown in Table 2. Adding 1 tablespoon of ground flax daily to the Atkins diet nearly doubles the omega-3 fat intake and moves the omega-6/omega-3 ratio down to about 8:1 – well within the recommended range.

Go with Flax

The jury is still out on the safety and effectiveness of low-carbohydrate diets. Significant weight loss has been reported among obese volunteers on low-carbohydrate diets, but the outcome may have been due more to decreased caloric intake and diet duration than to the diet's carbohydrate content.⁹ Low-carbohydrate diets appear to achieve greater short-term (six months), but not long-term weight loss (12 months).¹⁰ What's needed now is more evidence showing that low-carbohydrate diets are safe and help people keep excess weight off in the long-term. Regardless of the carbohydrate content of the diet, there are good reasons to eat flax.

References

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