Prevalence and Motivations

An 2015 Australian study[1] examined the prevalence and motivations of those choosing a gluten-free diet in Australia.

Some highlights of the survey were:

- Approximately 4 times more women than men chose a gluten-free diet.
- 53% on a gluten-free diet also avoided dairy
- For 56%, the primary reason for a gluten free diet was based on symptoms, mainly gastrointestinal
- 16% chose a gluten-free diet based on medical diagnostic advice
- Those choosing a gluten-free diet had a greater receptiveness to complementary medicine than in the general population

For those who based their decision up symptoms, the top reasons with a incidence of greater than 10% are listed below.

Symptom	Incidence (%)
Bloating or wind	79
Stomach discomfort or cramps	55
Constipation	31
Diarrhoea	21
Heartburn of indigeation	16
Skin problems	14
Mucus buildup	13
Headaches	10

A list of the most common allergenic foods is listed below. Wheat does not rate highly on the list of allergenic foods.[2]

There can be variations in such lists due to how the data is collected and the regions that are involved. Apple and carrot can rate highly if fruit and vegetables are separated. This list is consistent with other allergenic list. Dairy, especially cow's milk, is particularly allergenic.

Food Item	Children	Adults	Total
Milk	2.23	1.89	1.97
Shellfish	0.55	1.91	1.60
Other	1.32	1.67	1.59
Fruits	1.14	1.61	1.50
Tree nut	1.73	1.07	1.22
Vegetables	0.45	1.29	1.10
Peanut	1.77	0.78	1.00
Egg	1.23	0.67	0.80
Wheat	0.45	0.86	0.77
Fish	0.18	0.60	0.51
Soy	0.32	0.16	0.20
Sesame	0.23	0.07	0.10
All foods	**7.14**	**8.34**	**8.07**

Comparison Standard Diet and Gluten-Fee Diet

There is a substantial difference between a standard western diet and a gluten-free diet. If a gluten-free diet is no warranted, a gluten-free diet may have unintended health consequences that are not beneficial as well as creating an additional inconvenience.

Consumption of complex carbohydrates (polysaccharides) and dietary fibre can be significantly less.

Impact of Low-Fibre Intake

The changes to the complex carbohydrate and dietary fibre has a significant impact on intestinal bacteria.[3]

Beneficial bacteria *Faecalibacterium prausnitzii, Bifidobacterium and Lactobacillus* was decreased as a result of the gluten-free diet.

Enterobacteriaceae which includes the dangerous Esch*erichia coli, Klebsiella, Salmonella, Shigella* and *Yersinia pestis* was increased.

Satiety

With the removal of complex carbohydrates, satiety can be reduced. Foods that are filling are: high in starches, complex carbohydrates and dietary fibre; high volume foods; and have low energy density.

Also tasty foods flavored with herbs, spices and other condiments are more satisfying. A list of foods and their satiety rating according to *A satiety index of common foods* are listed.[4]

The comparison is made with an equal amount of energy (1000 kJ or 240 kCalories) of food compared with white bread.

- Potatoes, boiled 323%
- Porridge, Oatmeal 209%
- Apples 197%
- Brown pasta 188%
- Beef 176%
- Baked beans 168%
- Grain bread 154%
- Cheese 146%
- Brown rice 132%
- Eggs 150%
- Bananas 118%

Immune System Response

The reduction of beneficial intestinal bacteria compromises the response to the immune system inflammatory hormones TNF-α, interferon-γ, IL-10 and IL-8.[5]

Solutions

It is certainly possible to have a healthy, gluten free diet. Legumes are an important component of a gluten-free diet (and any other diet).[6]

Carbohydrates

The pseudo-cereals (amaranth, quinoa, buckwheat), beans (particularly lentils) and nuts provide a source of dietary fibre and complex carbohydrates. Particular attention should be given to increasing the amount of legumes (beans and peas).

Protein

There is a tendency to increase the amount of animal protein in gluten-free diets due to the consumption of meat, milk and dairy products, eggs and fish. This contributes to a reduction of beneficial bacteria.

Legumes, nuts, seeds, pseudo-cereals and gluten-free cereals including millet and teff are sources of protein.

Phytonutrients

Cereals are very high in phytonutrients which can more than adequately replaced by leafy green vegetables, millet, pseudo-grains (buckwheat and quinoa), berries (particularly plums and any other dark fruits), herbs and spices.

These foods are also high in vitamins and minerals.

Related articles

What is the Problem with Wheat?
Wheat and Inflammation
Impact of a Gluten-Free Diet
Wheat and the Distorted Views of William Davis

Footnotes

1. Golley, S. et al. (2015) Motivations for avoiding wheat consumption in Australia: results from a population survey. *Public Health Nutrition*. 18 (3), 490–499.
2. Soller, L. et al. (2012) Overall prevalence of self-reported food allergy in Canada. *Journal of Allergy and Clinical Immunology*. 130 (4), 986–988.
3. De Palma, G. et al. (2009) Effects of a gluten-free diet on gut microbiota and immune function in healthy adult human subjects. *British Journal of Nutrition*. 102 (08), 1154.
4. Holt, S. H. et al. (1995) A satiety index of common foods. *European Journal of Clinical Nutrition*. 49 (9), 675–690.
5. De Palma, G. et al. (2009) Effects of a gluten-free diet on gut microbiota and immune function in healthy adult human subjects. *British Journal of Nutrition*. 102 (08), 1154.
6. Saturni, L. et al. (2010) The Gluten-Free Diet: Safety and Nutritional Quality. *Nutrients*. 2 (1), 16–34.