

Safety of gluten-free foods ●



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The nutritional quality of gluten-free diets (GFD) has been debated recently across mainstream media, with concerns expressed that gluten-free (GF) foods are often high in salt, sugar and fats and some research linking a GFD to health problems such as metabolic syndrome.¹ There are also reports of nutritional deficiencies of protein, fibre and micronutrients² in patients with coeliac disease (CD), though on-going absorption problems can in part explain some of these deficiencies. Whilst a GFD is not recommended for the general population without CD or symptoms related to gluten ingestion, it is still the safest treatment for those with CD,³ particularly if GF whole foods and grains are consumed to support both micronutrient and fibre intake. Media reports about the nutritional quality of GF foods raise important issues but to date have rarely

considered how food safety issues such as contamination with gluten may impact on those with gluten-related disorders, in particular CD where symptoms may be persistent.

Regulation around allergen labelling in food was introduced in the European Union (EU) in 2005.³ This legislation specified that allergens such as gluten, wheat, rye, barley and oat had to be detailed in the main list of ingredients. EU legislation from 2009 specified GF food had to have ≤ 20 parts per million (ppm) of gluten, or ≤ 20 mg gluten per kg.³ Evidence suggests that intakes of just 50mg gluten per day are enough to illicit changes in small bowel histology for patients with CD.⁴ Contamination below the level of 20 ppm is generally considered safe and under 10 mg a day of gluten is not thought to cause abnormal histology in most coeliac patients.⁵

A recent study published in the journal *Nutrients* reported on the safety aspects of GF foods and specifically detailed findings relating to gluten contamination risk.⁶ Over 3000 GF products were analysed across an eighteen-year period from 1998 to 2016. The analysis undertaken in Spain is one of the largest research projects on GF foods and has some important findings for health professionals working with those with CD.⁶

The data presented showed that in general, grain based foods for people with CD have become better with less contamination through the period of the study.⁶ However, there were increases in the number of samples of GF white flour with gluten contamination at 100 mg/kg in the period of 2013–2016.⁶ GF white flour is used extensively in home cooking and baking, hence this finding is very concerning, especially as contamination over the 20mg/kg threshold specified in the EU GF foods legislation can be problematic for patients with CD.





The study also showed that more than three quarters of oat samples tested were contaminated with gluten,⁶ hence health professionals working with patients with CD should consider highlighting the importance of buying certified GF oats and oats-based products. The study also reported on many foods that are naturally GF such as the wholegrains buckwheat and quinoa.⁶ It should be noted that contamination was reported in samples of both buckwheat and lentils.⁶ This is particularly interesting for those giving dietary advice to patients with CD, although the primary goal of nutritional counselling with regards to a GFD should be to encourage the consumption of a healthy balanced diet with intake of moderate amounts of sugars, saturated fats and inclusion of healthy fats.

The study also reports that cheaper GF foods have higher levels of gluten contamination,⁶ suggesting more control around manufacture has cost implications. Health professionals should be aware that this may be more of an issue for lower income patients, who may opt for cheaper GF options and in doing so may have more risk of gluten exposure.³ This is particularly an issue as GF

food prescriptions in the UK are now under threat and many patients with CD are having to source and buy GF foods themselves. The ongoing regulation and control of certified GF foods alongside on-going assessment of contamination levels is of paramount importance to ensure the safety of coeliac patients.

References

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