



Concise Commentary: Gluten-Free Diets—You've Gotta Believe in Something

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Celiac disease (CD) is an autoimmune disease primarily affecting the small intestinal mucosa that mainly manifests as malabsorption and can be accompanied by numerous inflammatory and neoplastic conditions. The observation that the disease regresses with withdrawal of dietary gluten, in addition to data obtained from extensive basic investigations, strongly supports that an immunological reaction to gluten as the primary environmental disease triggers [1]. The actual prevalence of CD in the USA and other Western nations is ~ 1% (i.e., 3 million Americans) [2]. In recent years, a new entity termed non-celiac gluten sensitivity (NCGS) has been introduced, which, although characterized by symptoms that are reported to be related to the ingestion of gluten, is not CD. The prevalence of NCGS according to self-reported gluten avoidance studies is 0.5–13% of the general population [3, 4].

In this issue of *Digestive Diseases and Sciences*, Rabinowitz et al. [5] evaluated patients with CD and with NCGS, reporting their beliefs concerning the effects of gluten on health status, the safety of vaccines, and the influence of gluten-free (GF) food products on overall well-being. The authors conducted a web-based survey; the questionnaire was completed by 1886 out of 8406 subjects (i.e., 27%),

of whom 217 stated that they had with NCGS, whereas 1291 were diagnosed with CD, with otherwise comparable characteristics [4]. The data provided by the CD and NCGS participants were compared by using multivariate analysis. Interestingly as shown in summary table (condensed from tables 1–3 of the Rabinowitz paper [Table 1]), the subset of subjects with NCGS differed significantly from CD patients with regard to six items. A minority of participants (~ 7 to 25%) did not believe information provided by established resources such as the US Food and Drug Administration, international professional gastroenterological societies, or nonprofit patient-centered celiac societies. A striking 30–35% of both groups rated online sources as the most reliable.

Overall, the paper further emphasizes the disparate beliefs of CD patients and of NCGS participants, the latter possibly with an a priori opposition to information derived from research conducted by the medical establishment [6]. Of interest, the authors correctly underscore the negative economic aspects of following a GFD due to its higher costs and to its possible medical ill effects if taken outside of a supervised medical setting, and also highlight the possible dire public health consequences of vaccine avoidance [7, 8].

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Table 1 (Adapted from [5])

Question	Answer	NCGS (%)	CD (%)	<i>p</i>
Are vaccines safe for CD pts?	No	41.3	26.4	.0001
Are you refusing vaccination?	Yes	30.9	24.2	.007
Are you refusing GMO foods?	Yes	47.0	27.8	.0001
Is your diet based only on organic products?	Yes	28.6	12.2	.0001
Is a gluten bad for everyone?	Yes	31.3	16.3	.0001
Is GFD improving energy and concentration?	Yes	40.3	20.7	.0001

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