



# Non-celiac Gluten Sensitivity or Celiac Disease, This Is Still the Question

**TO THE EDITOR:** We read with interest the article by Cha et al,<sup>1</sup> showing the prevalence of non-celiac gluten sensitivity (NCGS) of 20.7% in a Korean population aged 18-80 years, referred to gastroenterology outpatient clinics and recruited through public advertising, according to the diagnostic criteria based on the presence of gluten-related symptoms (at least once a week) with a visual analogue scale score > 8. In the period from March to September 2019, we have conducted a similar study in Southern Italy to assess the prevalence of NCGS in the general population (> 6 years) in Primary care, using a validated self-administered questionnaire.<sup>2</sup> Overall, we analyzed 2301 questionnaires (51.0% of the total), and we found a prevalence of self-reported NCGS of 8.4% (95% CI, 5.6-9.9). Our prevalence figure is lower than the one reported by Cha et al,<sup>1</sup> and the different setting of analysis could explain this dif-

ference.

The Korean study has been performed in Gastroenterology clinics of tertiary referral centers, therefore more likely to receive patients with gluten-related symptoms than in general practitioners' clinics. In support of this hypothesis is the finding of a prevalence of NCGS in the general Korean population identified by the same authors of 5.8%. The analysis of symptoms revealed a similar clinical presentation of this condition in both experiences, suggesting that NCGS patients present as irritable bowel syndrome most of the time.<sup>3</sup>

In detail, we found both intestinal (60.0%) and extraintestinal (40.0%) symptoms, primarily associated with bloating, acid reflux and/or headache or anxious-depressive disorders (Table). Similar to the Korean study, gluten-related symptoms occurred mainly in females (59.0%; median age 49 years), with rapid onset after meals (39.0% within 6 hours) and lasted at least 6 months (74.0% of cases).<sup>4</sup>

The central bias of the Korean study is that, before the diagnosis of NCGS, patients had not been tested for celiac serology, while in Italy, where celiac disease (CD) is frequent, we found that 55.0% of patients had been already tested for CD, 42.0% underwent upper endoscopy and a final diagnosis of CD was reached in 34 children (1.5%). Considering that the actual prevalence of CD in Korea is missing and there is an underutilization of diagnostic assays for this condition,<sup>5</sup> we strongly suggest testing patients with gluten-related symptoms for CD before considering the possible diagnosis of NCGS.

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**Table.** Symptoms, Reported by Children With Self-reported Non-celiac Gluten Sensitivity

Extraintestinal symptoms (40.0%)	Gastrointestinal symptoms (60.0%)
Oral ulcers 10.5% (n = 29)	Alternate bowel 36.0% (n = 100)
Anemia 20.0% (n = 55)	Diarrhea 18.5% (n = 51)
Anxiety 29.0% (n = 80)	Epigastric pain 41.5% (n = 114)
Depression 3.0% (n = 7)	Belching 20.0% (n = 55)
Joint pain 19.6% (n = 54)	Flatus 26.0% (n = 71)
Weight loss 10.2% (n = 28)	Bloating 60.0% (n = 165)
Headache 24.4% (n = 67)	Nausea 36.0% (n = 100)
Chronic fatigue 41.0% (n = 112)	Gastro esophageal reflux 69.0% (n = 189)
Muscle pain 26.5% (n = 73)	Constipated bowel 9.0% (n = 24)
Foggy mind 9.5% (n = 26)	
Skin rash 4.0% (n = 10)	
Itching 12.0% (n = 33)	

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