Physician management of celiac disease: a comparison of disease knowledge, diagnosis, and patient management between gastroenterologists and primary care physicians in Germany, Italy, Spain, and the United States – findings from a real-world survey

Niamh Harvey[1], Hannah Knight[1], Rachael Meadows[1], Grace O'Neill[1], Fatima Dawod[1], Rina Lukanova[1], Julia McBeth[2], Marilyn Geller[2]
[1]Adelphi Real World, Bollington, Manchester, United Kingdom;
[2]Celiac Disease Foundation, Woodland Hills, California, United States

Presented at Digestive Disease Week (DDW), 6-9 May 2023. EP66

Background

- Both gastroenterologists (GIs) and primary care physicians (PCPs) are involved in the diagnosis and management of celiac disease (CeD).
- However, there is little known about the differences between these physician groups in disease knowledge and approaches to diagnosing and managing CeD patients.

Objective:

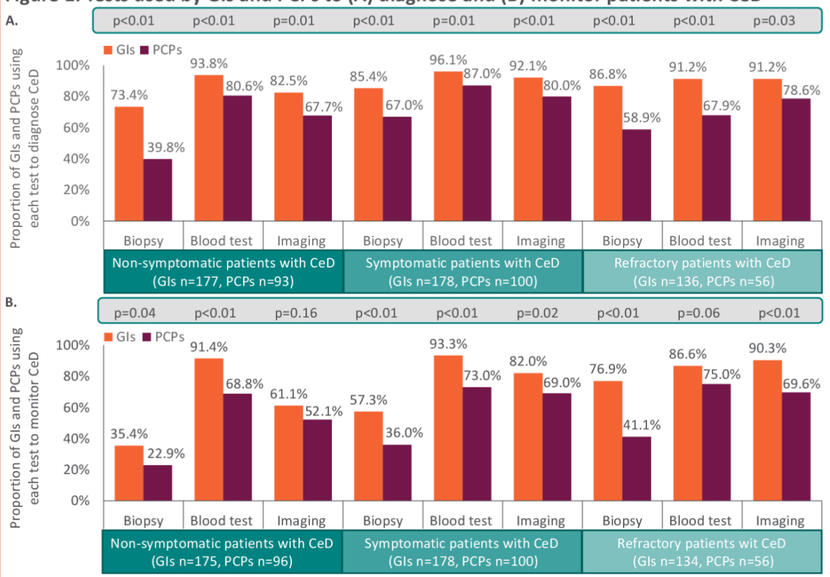
- We aimed to explore the differences in disease knowledge and approaches to diagnosing and managing CeD patients between GIs and PCPs.

Methods

- Data were extracted from the Adelphi Disease CeD Specific Programme™[1], a cross-sectional survey with retrospective data collection of GIs and PCPs actively involved in the management of patients with CeD in Germany, Italy, Spain, and the United States (US) from July 2021-January 2022.
- The DSP methodology has been previously validated and published [2,3].
- GIs/PCPs were required to be personally responsible for the management and treatment decisions for at least eight patients with CeD per month. They completed an attitudinal survey reporting their treatment practices, covering themes regarding methods to diagnose and monitor CeD, factors determining Marsh classification[4], disease progression, disease severity, and remission as well as perceptions on degree of villus atrophy and gluten intake.
- GIs-reported and PCPs-reported data were compared using t-test, Fisher's exact and Chi-squared tests, as appropriate; p-values <0.05 were considered statistically significant. Analyses were performed using STATA 17.0[5].

Results

Figure 1. Tests used by GIs and PCPs to (A) diagnose and (B) monitor patients with CeD

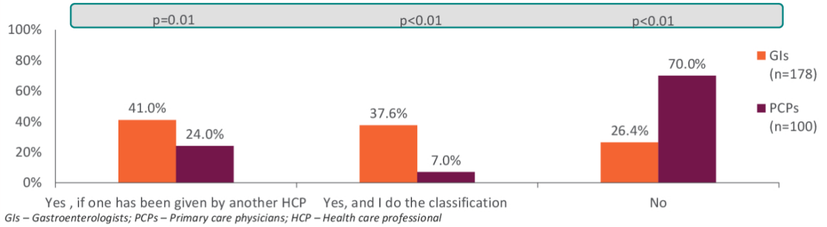


GIs – Gastroenterologists; PCPs – Primary care physicians; CeD – Celiac disease; Disease type; non-symptomatic, symptomatic, refractory

Results continued

- The analysis included a total of 178 GIs (Germany n=41, Italy n=39, Spain n=40, the US n=58), and 100 PCPs (Germany n=20, Italy n=21, Spain n=20, the US n=39).
- GIs reported higher use of biopsies, blood, and imaging tests for patient diagnosis and monitoring compared to PCPs (p<0.05; *Figure 1*).
- Use of the Marsh classification was low among PCPs, with 70.0% stating they do not use the measure, compared to 26.4% of GIs (p<0.01; *Figure 2*).
- Irrespective of villus atrophy level (mild, marked or complete), PCPs stated they 'didn't know' whether villus atrophy was reversible or not for a greater proportion of patients compared to GIs (p<0.01; *Table 1*).
- GIs were significantly more likely than PCPs to take villus atrophy/recovery and test/serological results into account when determining disease severity (GIs 75.3%, PCPs 54.0%, p<0.01), and remission status (GIs 72.5%, PCPs 51.0%, p<0.01; *Figure 3*).
- GIs were more likely to measure disease progression through the loss/regression of villus atrophy than PCPs (GIs 75.3%, PCPs 47.0%, p<0.01; *Table 2*).
- Significant differences were seen in perceived safe level of gluten intake for patients with CeD (p<0.01*; Table 2*), with GIs (57.5%) stating there is no safe level compared to PCPs (35.4%).
- In addition, 17.0% of PCPs didn't know whether gluten intake is acceptable for non-symptomatic patients (vs 8% of GIs, p=0.02; *Table 2*).
- More than 50% of GIs and PCPs believe increased awareness/education for PCPs on CeD would help facilitate early diagnosis (*Figure 4*).

Figure 2. GIs- and PCPs-reported use of Marsh classification



GIs – Gastroenterologists; PCPs – Primary care physicians; HCP – Health care professional

Figure 3. Top three factors GIs and PCPs used to (A) determine CeD severity and (B) determine if a patient is in remission

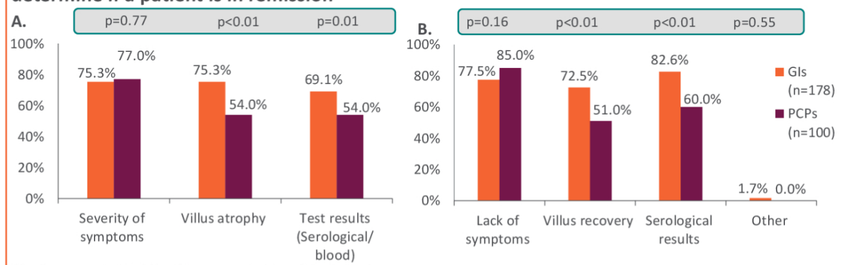


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Table 1. GIs and PCPs perception of reversibility of villus atrophy

In what percentage of patient's with CeD is the villus atrophy…		GIs (n=178)	PCPs (n=100)	p-values
Mild villus atrophy	Reversible, mean (SD)	74.1 (31.3)	48.1 (40.4)	<0.01
	Nonreversible, mean (SD)	13.0 (17.4)	13.9 (19.7)	0.70
	Don't know, mean (SD)	12.9 (30.3)	38.1 (46.5)	<0.01
Marked villus atrophy	Reversible, mean (SD)	59.4 (31.1)	33.8 (31.6)	<0.01
	Nonreversible, mean (SD)	26.1 (24.2)	25.7 (25.8)	0.89
	Don't know, mean (SD)	14.5 (31.0)	40.6 (45.5)	<0.01
Complete villus atrophy	Reversible, mean (SD)	43.3 (32.7)	17.6 (24.1)	<0.01
	Nonreversible, mean (SD)	37.5 (31.6)	33.9 (36.3)	0.38
	Don't know, mean (SD)	19.2 (34.2)	48.6 (46.5)	<0.01

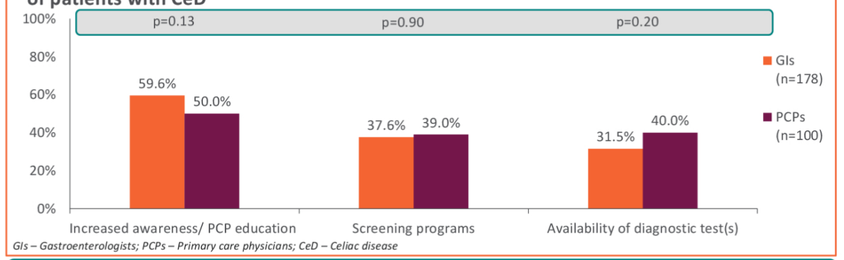
GIs – Gastroenterologists; PCPs – Primary care physicians; SD – Standard deviation

Table 2. GIs- and PCPs-reported patient diagnosis and management practices

	GIs	PCPs	p-values
How do you measure disease progression? n (%)	n=178	n=100	
Test results (serological/ blood)	137 (77.0)	61 (61.0)	0.01
Villus atrophy/ degree of villus loss or regression	134 (75.3)	47 (47.0)	<0.01
How the patient is feeling/ quality of life	113 (63.5)	75 (75.0)	0.06
Persistence of symptoms	112 (62.9)	68 (68.0)	0.43
Progressive constitutional symptoms	86 (48.3)	51 (51.0)	0.71
Imaging tests (endoscopy)	84 (47.2)	43 (43.0)	0.53
Other	1 (0.6)	0 (0.0)	1.00
Is there a safe level of gluten intake for patients with CeD to ingest? n (%)	n=160[a]	n=79[a]	<0.01
Yes, patients can safely intake a level of gluten	8 (5.0)	8 (10.1)	
Varies between type of CeD	15 (9.4)	16 (20.3)	
Depends on the patient	45 (28.1)	27 (34.2)	
No safe level	92 (57.5)	28 (35.4)	
	n=178	n=100	
Physicians selecting 'Don't know'	18 (10.1)	21 (21.0)	0.02
If the patient is non-symptomatic, is gluten intake acceptable? [b] n (%)	n=164[a]	n=83[a]	0.61
Yes	30 (18.3)	18 (21.7)	
No	134 (81.7)	65 (78.3)	
	n=178	n=100	
Physicians selecting 'Don't know'	14 (7.9)	17 (17.0)	0.03

GIs – Gastroenterologists; PCPs – Primary care physicians; SD – Standard deviation; CeD – Celiac disease; [a]Physicians not selecting 'don't know' ; [b]When phrasing this question to physicians, no distinction was made between products with levels of gluten ≤20 parts per million and products free of all gluten

Figure 4. Top three attributes GIs and PCPs believe would help facilitate the early diagnosis of patients with CeD



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Conclusions

- Our study demonstrates that there are significant differences in the diagnosing and monitoring, testing frequency, confidence in use of Marsh classification, and factors used to determine disease severity and remission between GIs and PCPs, with a large knowledge gap observed among PCPs regarding the reversibility of villus atrophy and safety around gluten intake.
- This highlights a need for further education for PCPs and increased awareness to improve the consistency of care received by CeD patients.

Disclosures

- JM and MG are employees of Celiac Disease Foundation
- NH, HK, RM, GO, FD and RL are employees of Adelphi Real World
- The DSP and all associated data are wholly owned by Adelphi Real World

References

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