Determinants of Patient Satisfaction in Celiac Disease Care

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Background and Goals: There are little data examining patient satisfaction with celiac disease (CD) care. We sought to assess how satisfied patients are with their CD care, and to determine the influencing factors.

Study: We distributed an online questionnaire to adults receiving programmatic updates from a CD referral center, querying aspects of CD care and using disease-specific validated instruments to measure quality of life and dietary adherence. The univariable and multivariable analyses were performed using satisfaction as a binary outcome comparing grouped "satisfied" and "very satisfied" respondents to "neutral," "dissatisfied," and "very dissatisfied" respondents.

Results: Three hundred eighty-seven (22%) individuals completed the survey, and 229 met the inclusion criteria of biopsy-proven CD. Seventy-nine individuals (34.5%) reported being "very satisfied" with their CD care, 82 (35.8%) "satisfied," 46 (20.1%) "neutral," 14 (6.1%) "dissatisfied," and 8 (3.5%) "very dissatisfied." On multivariable analysis, reporting that physicians spend ample time managing CD needs ($P = 0.013$), and having CD-antibody levels checked yearly ($P = 0.003$), were positive predictors of patient satisfaction. Factors that were not correlated with patient satisfaction included symptom severity ($P = 0.268$), quality of life ($P = 0.13$), and following with a CD specialist ($P = 0.139$).

Conclusions: The majority of patients we surveyed were satisfied with their CD care. We found that patients report higher satisfaction when they feel physicians spend time caring for their CD needs and when they receive annual CD-antibody testing. On the basis of our study, these factors are more important than disease severity, seeing a CD specialist, and quality of life in determining patient satisfaction with CD care.

Key Words: satisfaction, celiac, autoimmune, gluten, dietitian

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Celiac disease (CD) is a genetically linked autoimmune disease affecting ~1% of the world population that is triggered by the ingestion of gluten, a protein found in wheat, barley, and rye.[1] The consumption of gluten triggers an immune-mediated response that can cause abdominal pain, diarrhea, weight loss, fatigue and other systemic symptoms. Untreated CD can also cause long-term complications such as osteoporosis, neurologic disorders (ataxia/peripheral neuropathy), iron deficiency anemia, and malignancy.[1,2] Currently, CD treatment is limited to a strict adherence to a gluten-free diet (GFD) which can be difficult to follow.[3–5]

CD studies have shown that close knit patient-doctor relationships can be the mainstay of enhanced dietary adherence and more positive attitudes toward the disease and its management.[6,7] To further cultivate these patient-physician relationships, physicians need a better understanding of the factors that influence their patients' satisfaction with CD care. Improving patient satisfaction has not only been linked to improved rates of medication or treatment adherence in many different fields of medicine,[8–10] but also has been shown to improve health outcomes, lower cost of health care, and improve patients' engagement in their care.[11]

Although prior studies examining patient satisfaction in chronic illnesses such as inflammatory bowel disease,[12] rheumatoid arthritis, and diabetes exist,[13] CD studies have been limited to patients' quality of life,[14] symptom severity,[15] satisfaction with dietary counseling,[16] and attitudes toward CD.[17] To our knowledge, there are no studies examining the degree of patient satisfaction with CD care and the determinant factors. In this study, we aimed to better understand patients' perceptions and degrees of satisfaction with their CD care.

MATERIALS AND METHODS

Adults aged 18 years and older were invited to complete an online questionnaire between September, 2014 and January, 2015. The questionnaire was created using SurveyMonkey (a web-based survey program), and distributed by the Celiac Disease Center of Columbia University to a randomly selected subset of the email distribution list of people who have signed up to receive research and programmatic information/updates from the center. The distribution list not only includes people with CD, but also family members of those with CD and people without a diagnosis of CD. In addition, patients associated with this list do not necessarily receive their health care at Columbia University Medical Center. Only respondents who reported having biopsy-proven CD were included in the analysis. Approval for this study was obtained from the Institutional Review Board of Columbia University Medical Center.

We designed a survey that included questions pertaining to patient demographics, disease-specific characteristics, psychosocial impacts of CD, adherence to CD care guidelines, and overall measures of satisfaction with physicians and CD care. Most questions within the survey

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were graded on a 5-point Likert scale, including the questions pertaining to overall satisfaction with CD care and satisfaction with CD care providers. Two validated CD-specific questionnaires were also included in the survey: Celiac Disease-Quality of Life index (CD-QOL) and the Celiac Dietary Adherence Test (CDAT).[14,15] CD-QOL scores were reverse coded such that higher scores indicate a higher quality of life. Severity was assessed by asking "I feel that my symptoms are," with responses based upon a 5-point Likert scale of 1-severe, 2-moderate, 3-mild, 4-minimal or 5-absent. The complete questionnaire is included in the Appendix (Supplemental Digital Content 1 http://links.lww.com/JCG/A292).

The univariable and multivariable analyses were performed using overall patient satisfaction with CD care as a binary outcome comparing respondents reporting "satisfied" and "very satisfied" outcomes to those reporting "neutral," "dissatisfied," and "very dissatisfied" outcomes. The Pearson χ^2 and the Fisher exact tests were used to compare categorical variables, and logistic regression was used to create a multivariable model to determine independent predictors of CD care satisfaction. Statistical analysis was performed with STATA software, version 13 (STATA Corp., College Station, TX).

RESULTS

The questionnaire was sent to 1774 individuals and it was completed by 387, yielding a 22% response rate. Of these 387 respondents, 368 individuals answered the question pertaining to their CD status. 139 were excluded due to a self-report of not having CD (n = 63) or not having a biopsy-confirmed diagnosis of CD (n = 76), leaving 229 individuals who met the inclusion criteria of patients ≥ 18 years of age who had biopsy-proven CD (Table 1). The mean age of included respondents was 49 years, with the majority being women (81.7%) who identified as Non-Hispanic white (93.8%). Most respondents reported having a college or graduate level degree (93.4%), and 45% were followed in a specialized CD center. A total of 29 states were represented.

Most patients within the cohort presented with gastrointestinal symptoms, either classical (diarrhea predominant) or nonclassical symptoms (abdominal pain or bloating), whereas 27.5% were diagnosed after having sequelae of the disease such as anemia and osteoporosis, and 7.9% were diagnosed based on screening of high-risk groups. Within this sample of patients, CD was diagnosed a mean of 10.1 years before completion of the survey. Among the cohort, the number of years with symptoms before diagnosis was relatively evenly distributed between <1 year (20.5%), 1 to 4 years (27.9%), 5 to 10 years (15.7%), and >10 years (26.6%).

Patient satisfaction with CD care was high overall, as 34.5% reported being "very satisfied," and 35.8% reported being "satisfied." For further comparison, these 2 groups were classified as being satisfied with their CD care, whereas those who reported feeling "neutral" (20.1%), "dissatisfied" (6.1%), or "very dissatisfied" (3.5%) with their CD care were classified as being not satisfied.

When comparing the dichotomized groups of satisfied and not satisfied individuals, the type of practitioner managing the patient's CD was associated with satisfaction levels. The overall satisfaction rate of 70.3% was not significantly different among those whose CD management was done by a primary-care provider (68%, $P = 0.586$), dietitian (76%, $P = 0.536$), or gastroenterologist (73%, $P = 0.479$) but was higher among those who reported following with a CD specialist (81%, $P = 0.004$) (Table 2). Conversely, following with a naturopath (29%, $P = 0.026$) or identifying as not having CD follow-up care (41%, $P \leq 0.001$) was associated with significantly lower levels of satisfaction. Having >1 provider for CD care management did not appear to significantly influence patient satisfaction (73%, $P = 0.550$).

Those who do see a provider for CD care reported higher satisfaction if they felt that their physician or dietitian was readily available if needed (87%, $P \leq 0.001$), management of their CD was addressed at least once per year by a physician (86%, $P \leq 0.001$), the physician caring for their CD spent ample time managing CD needs (93%, $P \leq 0.001$), and that their physician caring for their CD was knowledgeable about the disease (85%, $P \leq 0.001$). Other factors that had a significant influence on satisfaction with CD care include: whether patients felt that the emotional or psychiatric components of living with CD had been addressed (83%, $P = 0.005$), whether celiac antibody levels were checked yearly (88%, $P \leq 0.001$), whether patients had been referred to a dietitian if they did not already follow with one (72%, $P = 0.011$), and whether symptoms were persistent despite a GFD (77%, $P = 0.012$). In addition, being satisfied with one's medical providers, being seen at a specialized CD care center, and being satisfied with the physician who first made the diagnosis of CD, did appear to be associated with CD care satisfaction.

On univariable analysis, satisfaction was not associated with dietary adherence as measured by the CDAT score (11.25 vs. 12.10, $P = 0.069$, Table 3). There was, however, a statistically significant difference when comparing the results of the CD-QOL test, with satisfied individuals reporting a higher quality of life (75.90 vs. 69.18, $P = 0.002$). Similarly, those who identified as being satisfied with their care reported less severe symptoms (higher symptom severity score) than those who reported being unsatisfied with their CD care (3.18 vs. 2.75, $P = 0.0195$).

On multivariable analysis, reporting that the physician spent ample time caring for CD needs (odds ratio, 8.94, 95% confidence interval, 1.6-50.1, $P = 0.013$) and that antibody levels were checked annually (odds ratio, 14.37, 95% confidence interval, 2.5-82.1, $P = 0.003$) were independently associated with being satisfied with CD care (Table 4). Other factors, such as age, sex, symptom severity and following with a celiac specialist were not associated with satisfaction with CD care.

DISCUSSION

In this study, we found that when patients report that their provider spends ample time managing CD needs and checks yearly celiac antibody levels, patient satisfaction is higher. Other factors that we hypothesized would lead to higher satisfaction levels, specifically symptom severity, following with a CD specialist, or being a member of a celiac support group, did not appear to influence overall satisfaction with CD care.

Understanding the factors that lead to patient satisfaction and how to apply such findings have been an increasing focus of the medical field over the past 2 decades. Although there is much debate about how patient satisfaction impacts health outcomes, health care spending,

TABLE 1. Demographics of Patients with Biopsy-Proven Celiac Disease

Patient Characteristics	N (%)
Age group (y)	
18-20	9 (3.9)
21-30	29 (12.7)
31-40	38 (16.6)
41-50	37 (16.2)
51-60	54 (23.6)
61-70	39 (17.0)
71-80	19 (8.3)
> 80	4 (1.7)
Gender	
Male	42 (18.3)
Female	187 (81.7)
State	
NY	121 (53.8)
NJ	38 (16.9)
Other	66 (29.3)
Race	
Non-Hispanic white	213 (93.8)
African American	0 (0)
Hispanic	9 (4.0)
Asian/Pacific Islander	1 (0.4)
Other	4 (1.8)
Education	
Grade/middle school	0 (0)
High school	15 (6.6)
College	114 (50.0)
Graduate school	99 (43.4)
Employment	
Working	146 (64.6)
In-between jobs	8 (3.5)
Retired	49 (21.7)
Unemployed	13 (5.8)
Caretaker	5 (2.2)
Disabled	5 (2.2)
Average number of years ago diagnosed with CD (y)	10.1
Length of symptoms before diagnosis? (y)	
No symptoms	21 (9.2)
< 1	47 (20.5)
1-4	64 (27.9)
5-10	36 (15.7)
> 10	61 (26.6)
Presenting symptoms?	
None/screening	18 (7.9)
Classic diarrhea/nonclassical	148 (64.6)
Other (Osteoporosis, anemia)	63 (27.5)
Satisfaction with celiac disease care	
Very satisfied	79 (34.5)
Satisfied	82 (35.8)
Neutral	46 (20.1)
Dissatisfied	14 (6.1)
Very dissatisfied	8 (3.5)

and health care utilization, understanding patient satisfaction will allow physicians to engage their patients more effectively and provide better care for their patients.[18–20] With CD in particular, improved patient-physician relationships and regular dietary follow-up correlate with better gluten-free adherence and a more positive outlook on living with CD.[6,7,21]

In our study, we found the characteristics of our patient population to be comparable with those reported in the literature for CD and other chronic illnesses. As such, similar to the demographics of other CD studies, the majority of respondents in our study were educated women.[16,17] In addition, we found an overall level of satisfaction in our cohort (70.3%) to be similar to those reported in other patient satisfaction studies on chronic illnesses.[12] Although we found that there was no significant difference in satisfaction with CD care if patients had symptoms for > 5 years before diagnosis, there was a trend toward lower satisfaction with a longer duration of symptoms. Analogous findings in patients with inflammatory bowel disease have been described.[13]

To determine if patient satisfaction with CD care correlated with the type of provider seen, we surveyed patients about follow-up care for their CD disease. Just as Bidaut-Russell and colleagues found that there was no statistically significant difference in patient satisfaction between patients seeing a generalist or specialist for care, receiving celiac care from a primary-care physician, dietitian, or gastroenterologist was not associated with higher levels of patient satisfaction on univariable analysis. We did find, however, that if patients do not have CD care or follow with a naturopath, they reported lower satisfaction levels on univariable analysis. In contrast, if an individual reported being cared for by a celiac specialist, we found that this was correlated with a higher overall satisfaction with CD care on univariable analysis, but not on multivariable analysis. We additionally hypothesized that those who followed with more than one provider for their CD care may do so because of lower satisfaction, but this did not appear to be the case.

Although the specific provider of CD care may not be a significant predictor of patient satisfaction, we found that many contributing factors stem from the patients' perspectives about their providers and their relationships. Similar to results obtained in prior studies, if patients consider their provider to be available when needed, is knowledgeable, and addresses their emotional/psychiatric needs, they report overall higher levels of satisfaction.[13] The one determinant, however, that predicted patient satisfaction both on univariable and multivariable analysis, was whether patients felt the physician caring for their CD spent ample time managing their CD needs. Studies examining patients' perceptions of care have shown similar results: more specifically, patients report that shorter appointment times diminish the quality of the provider-physician relationship.[22] A similar finding was noted in a CD study where patients reported higher GFD adherence if they felt that they were given a detailed explanation of CD.[23] In accordance with previously published findings, our results suggest that if patients perceive that their physician takes adequate time to manage their CD needs, it may improve both patient satisfaction and GFD adherence. Simply having CD care addressed at least once per year by a physician, however, did not appear to be a predictor of satisfaction on logistic regression. This again suggests that satisfaction with care is correlated with the time given to the care of the patient and to the delivery of information, rather than other metrics such as frequency of assessments.

To determine if perceived physician adherence to CD care guidelines drives satisfaction, we included questions based on the American College of Gastroenterology and American Gastroenterological Association guidelines regarding CD management.[24,25] Many of these questions were significantly associated with satisfaction on univariable analysis, indicating that perceived adherence to guidelines (more testing and intervention) led to improved patient satisfaction. If patients reported yearly bloodwork and celiac antibody levels, repeat esophagogastroduodenoscopy, or

TABLE 2. Factors Associated With Celiac Care Patient Satisfaction

Variables	n/N (%) Satisfied	n/N (%) Not Satisfied	*P*
Approximately how many years ago were you diagnosed? (y)	10.5	9.1	0.21
Length of symptoms before diagnosis (y)			
< 5	99/132 (75)	33/132 (25)	0.07
≥ 5	62/97 (64)	35/97 (36)	
Presenting symptoms			
None/screening	16/18 (89)	2/18 (11)	0.09
Classic diarrhea/nonclassical	98/148 (66)	50/148 (34)	
Other (Osteoporosis, anemia)	47/63 (75)	16/63 (25)	
Who do you follow with for celiac disease management?			
Primary-care physician	44/65 (68)	21/65 (32)	0.59
Registered dietitian/ nutritionist	16/21 (76)	5/21 (24)	0.54
Gastroenterologist	60/82 (73)	22/82 (27)	0.48
Celiac specialist	76/94 (81)	18/94 (19)	≤0.01*
Naturopath	2/7 (29)	5/7 (71)	0.03*
I don't have follow-up	14/34 (41)	20/34 (59)	≤0.01*
Other	2/4 (50)	2/4 (50)	0.58
Who do you follow with for celiac disease management?			
Follow with ≤1 provider	117/169 (69)	52/169 (31)	0.55
Follow with >1 provider	44/60 (73)	16/60 (27)	
Is management of celiac disease addressed at least once per year by a physician?			
Yes	125/145 (86)	20/145 (14)	≤0.01*
No	22/50 (44)	28/50 (56)	
How often have the emotional/psych impacts of living with celiac disease been addressed?			
≥ Once	89/107 (83)	18/107 (17)	≤0.01*
Never	58/88 (66)	30/88 (34)	
Are celiac antibody levels checked yearly?			
Yes	98/111 (88)	13/111 (12)	≤0.01*
No	37/66 (56)	29/66 (44)	
If not followed by nutritionist/dietitian ever referred to one?			
Yes	103/143 (72)	40/143 (28)	0.01*
No	22/43 (51)	21/43 (49)	
Yearly bloodwork? (Hemoglobin, Ca, Fe, etc.)			
Yes	147/197 (75)	50/197 (25)	≤0.01*
No	13/27 (48)	14/27 (52)	
Has a medical professional discussed how celiac disease can impact your bone health?			
Yes	133/178 (75)	45/178 (25)	0.01*
No	22/40 (55)	18/40 (45)	
Offered or had a bone density scan?			
Yes	129/181 (71)	52/181 (29)	0.37
No	27/42 (64)	15/42 (36)	
Persistent symptoms despite gluten-free diet?			
No	89/116 (77)	27/116 (23)	0.01*
Yes	61/100 (61)	39/100 (39)	
Repeat esophagogastroduodenoscopy with biopsy since diagnosis?			
Yes	103/137 (75)	34/137 (25)	0.05*
No	58/92 (63)	34/92 (37)	
Offered or received flu vaccine this year?			
Yes	148/206 (72)	58/206 (28)	0.13
No	13/23 (57)	10/23 (43)	
Offered/received pneumovax?			
Yes	59/81 (73)	22/81 (27)	0.44
No	82/121 (68)	39/121 (32)	
Member of celiac disease support group?			
Yes	51/66 (77)	15/66 (23)	0.14
No	110/163 (67)	53/163 (33)	
Have you been an active member of the celiac disease support group in the last year?			
Yes	21/27 (78)	6/27 (22)	0.90
No	29/38 (76)	9/38 (24)	
Do you go to a specialized celiac disease care center?			
Yes	82/103 (80)	21/103 (20)	≤0.01*
No	79/126 (63)	47/126 (37)	
Satisfied with primary-care physician?			
Yes†	130/165 (79)	35/165 (21)	≤0.01*
No‡	24/55 (44)	35/55 (56)	
Satisfied with GI or celiac disease doctor?			
Yes†	146/193 (76)	47/193 (24)	≤0.01*
No‡	4/17 (24)	13/17 (76)	
Satisfied with my nutritionist/dietitian?			
Yes†	47/50 (94)	3/50 (6)	≤0.01*
No‡	18/29 (62)	11/29 (38)	
Satisfied with my doctor who diagnosed my celiac disease?			
Yes†	127/165 (77)	38/165 (23)	≤0.01*
No‡	34/64 (53)	30/64 (47)	
My physician who cares for my celiac disease is readily available if needed?			
Yes†	130/149 (87)	19/149 (13)	≤0.01*
No‡	17/46 (37)	29/46 (63)	
The nutritionist/dietitian who cares for your celiac disease is available if needed?			
Yes†	66/73 (90)	7/73 (10)	≤0.01*
No‡	12/24 (50)	12/24 (50)	
The physician caring for my celiac disease spends ample time managing my celiac disease needs?			
Yes†	125/134 (93)	9/134 (7)	≤0.01*
No‡	22/61 (36)	39/61 (64)	
I feel that my physician who cares for my celiac disease is knowledgeable about celiac disease?			
Yes†	126/149 (85)	23/149 (15)	≤0.01*
No‡	21/46 (46)	25/46 (54)	

*Statistical significance.
†Yes—strongly agree/agree.
‡No—strongly disagree/disagree/neutral.

discussion about how CD impacts bone health, they also reported higher levels of satisfaction with their CD care. Prior studies have shown similar findings, specifically that more testing and in depth explanations of illness related issues from a provider, lead to better perceived care.[26–28] Furthermore, Peck et al[29] found that among the tests expected during a physician visit, blood tests are often the ones most frequently requested.[30] Upon multivariable analysis, we found a similar result, notably that having CD-antibody levels checked yearly was an independent predictor of patient satisfaction. This may be reflective of the fact that more testing typically leads to increased correspondence between providers and patients as these results are discussed. It should be noted though, that although performing these tests seems to improve patients' satisfaction with CD care, certain testing may often not be indicated and can lead to increased consumption of health resources. As Wessels et al[31] describes, most patient with detectable nutritional deficiencies upon diagnosis of CD often have normalization of labs once on a GFD, and may not need repeat testing. Taken together, these findings suggest that careful consideration and discussion should take place before additional testing, to help guide patient expectations and provide efficient care. In our study, other interventions, such as being offered vaccines or a bone density scan, may not have been significant predictors of satisfaction with CD care because patients often receive these interventions

TABLE 3. Celiac Disease Quality of Life (CD-QOL), Celiac Disease Adherence Test (CDAT), and Symptom Severity as Predictors of Satisfaction With Celiac Care

Score	Overall Mean (SD)	Satisfied vs. Not Satisfied	*P*
CD-QOL†	73.9 (15.17)	75.90 ± 1.11 vs. 69.18 ± 2.01	≤0.01*
CDAT	11.50 (3.25)	11.25 ± 0.26 vs. 12.10 ± 0.37	0.07
Symptom severity (severe-1, moderate-2, mild-3, minimal-4, absent-5)	3.05 (1.28)	3.18 ± 0.11 vs. 2.75 ± 0.14	0.02*

*Indicates statistical significance.
†Scores for CD-QOL were reverse coded and totaled (higher score indicates higher quality of life).

TABLE 4. Multivariable Regression Examining Patient Factors Associated With Increased Satisfaction With Celiac Care

Variables	Odds Ratio	95% Confidence Interval	*P*
Age (y)	0.98	0.94-1.03	0.48
Sex			
Female	0.10	0.006-1.61	0.10
Do you follow with a celiac disease specialist for management of your celiac disease?	0.23	0.034-1.61	0.14
Do you follow with a naturopath for management of your celiac disease?	0.06	0.001-2.62	0.14
Is the management of your celiac disease addressed at least once per year by a physician?	1.28	0.26-6.31	0.76
Does your doctor check your celiac antibody levels yearly?	14.37	2.52-82.11	≤0.01*
If you are not followed by a nutritionist or dietitian were you ever referred to one for dietary management?	1.42	0.28-7.28	0.68
Have you continued to have symptoms despite adherence to a gluten-free diet?	1.89	0.32-11.20	0.49
Have the emotional/psychiatric impacts of living with celiac disease been addressed at least once per year by a physician?	2.17	0.54-8.65	0.27
My physician who cares for my celiac disease is readily available if needed†	3.53	0.78-16.02	0.10
The physician caring for my celiac disease spends ample time managing my celiac disease needs†	8.94	1.59-50.12	0.01*
I feel that my physician who cares for my celiac disease is knowledgeable about celiac disease†	2.08	0.35-12.44	0.42
I feel that my symptoms are (severe-1, moderate-2, mild-3, minimal-4, absent-5)	1.54	0.72-3.32	0.27
Celiac disease quality of life survey score (scored: 20-100)‡	1.05	0.99-1.11	0.13

*Statistical significance.
†Responses were recorded using a Likert scale and analyzed as a binary outcome (1-strongly agree/agree vs. 0-neutral/disagree/strongly disagree).
‡Scores for CD-QOL were reverse coded and totaled (higher score indicates higher quality of life).

through other health care modalities, rather than through their CD providers.

In addition to provider and patient care specifics, we also assessed whether symptom severity and other patient related items were significant predictors of satisfaction with CD care. As expected, those who reported being satisfied with their individual providers, followed at a specialized celiac center, reported less severe symptoms, and had a higher score on the CD-QOL survey, also reported higher levels of satisfaction regarding their CD care on univariable analysis. These factors however, were not found to be significant predictors on logistic regression, suggesting that provider satisfaction, persistent symptoms, and perceptions of one's health are less predictive of satisfaction with CD care. Similar results exist in the literature, specifically showing that self-reported health status scores in rheumatoid arthritis and diabetic patients are not significant predictors of patient satisfaction.[13] In addition, we found that neither being a member of a CD support group nor a patients' perceived adherence to a GFD on the CDAT predicted satisfaction with CD care.

One limitation of our study is the low response rate; however, this is not unexpected as the center's mailing list includes individuals who do not have CD, or are family members of those with CD, who were not our intended subjects for this study. We used this method of recruitment specifically to reach a diverse range of individuals, only some of whom have visited our center. In addition, direction of causality cannot be inferred from our observational data, and as with any survey, response bias may exist. Strengths of this study include its use of validated disease-specific scales measuring quality of life and disease adherence.

Based upon our results, the majority of patients we surveyed were satisfied with their CD care. However, in accordance with previously published findings on patient satisfaction, patients tend to report higher satisfaction when they feel their physician spends ample time caring for their CD needs and when they receive annual CD-antibody testing. We recommend that physicians set expectations for future testing as well as spend time understanding and addressing CD-specific concerns beginning at the initial visit. Although 1 limitation of this undertaking is the time needed to do so, physicians may find that these interventions improve overall patient satisfaction and limit unnecessary testing and health care expenditures in CD care.

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