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Episodic and Chronic Migraine in Primary Care

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Abstract

Objective—Inform migraine care model development by assessing differences between patients with chronic migraine and episodic migraine in current state of treatment, disability, patient satisfaction, and quality improvement opportunities.

Background—Efficient and focused use of scarce resources will be needed to address challenges within large populations of migraine patients.

Methods—We deployed a cross-sectional survey study of randomly selected migraine patients within a community primary care practice.

Results—There were 516 survey respondents (516/1804 (30%) response rate). Chronic migraine patients were more likely than episodic migraine patients to report care from a neurologist (76/110 (69%) vs. 229/406 (56%); $p=0.0026$), and higher disability according to the MIDAS and HIT-6 questionnaires ($p<0.0001$). Chronic migraine patients were less likely than episodic migraine patients to report overall satisfaction with care (16/110 (38%) vs. 156/406 (66%), $p=0.0002$), satisfaction with access to care (17/110 (33%) vs. 176/406 (68%), $p<0.0001$) and advice they needed (16/110 (31%) vs 160/406, (62%), $p<0.0001$). Most patients with migraine had been offered triptan medications 377/516 (78%). Overall, 156/516 (31%) of individuals were currently taking any medication for migraine prevention, and 208/516 (40%) including botulinum toxin injections. Chronic migraine patients were more likely to be taking preventive medication (39/110 (36%) vs 117/406 (29%), $p=0.0191$) and report familiarity with the diagnosis of medication overuse headache than patients with episodic migraine (80/110 (81%) vs 256/406 (69%), $p=0.0178$).

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Conflict of Interest Statement:

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Conclusions—We observed differences between patients with chronic and episodic migraine and expected care delivery improvement opportunities for migraine patients in primary care. CM patients report higher levels of disability and less satisfaction with access to perceived needed medical advice and care. These findings support the need to further develop and study novel care models to efficiently and effectively deliver high quality care and expertise in limited supply to a diverse migraine population.

Keywords

Population health; Quality measures; Care model; Utilization; Primary Care; Survey

Migraine prevalence remains high and is associated with increased health care utilization, disability, poor quality of life, work absenteeism and loss of productivity^{1–5}. Migraine is one of the most common conditions presenting to both a primary care and general neurology practice^{4, 6, 7}, both of which face projected shortages of providers^{8–10}. Efficient and focused use of scarce resources will be needed to address the challenges within large populations of migraine patients. As the American health care system payment models shift from a fee-for-service to value-based programs with increased focus on population health, a significant opportunity exists to develop high value care models for common neurological conditions such as migraine¹¹.

Previous surveys of migraine populations have demonstrated a number of migraine care improvement opportunities. We know that triptan medications may be underutilized¹² and opiate and barbiturate containing combination medications may be over-utilized, both of which contribute to the risk of medication overuse headache and other complications¹³. First-line preventive migraine medications may also be underutilized, increasing the risk of transformation from episodic to chronic migraine^{14–17}. Medication overuse headache is common and important to both prevent as well as diagnosis and treat when recognized¹⁸. Resources required to care for a migraine population likely differ based on the frequency of headache and phenotype of episodic migraine (EM) or chronic migraine (CM)¹⁹. Patients with CM have greater disability than those with EM,^{20–22} suggesting a greater need for headache specialists to participate in care of patients with CM.

We deployed a survey with the hypothesis that differences exist in the care of patients with EM and CM and to assess if care models tailored to these populations would be of interest to this population. Specifically, we sought to measure the current state of treatment and level of disability for our community practice patients based on EM or CM status, assess satisfaction with their current migraine care, identify gaps in high quality care according to the American Academy of Neurology quality measures²³, and describe areas for opportunity in care delivery based on EM and CM status.

Methods

Study population

All patients aged 18 years or older with any migraine specific ICD-9 or ICD-10 diagnosis code between May 1, 2014 and April 1, 2017 within the Mayo Clinic Employee and

Community Health practice in Rochester, MN were identified. The Employee and Community Health practice is comprised of Internal Medicine, Family Medicine, and Integrated Community Specialists (including Neurology²⁴) serving the primary care needs of 155,000 individuals residing in Olmsted County and adjacent communities. We identified a total of 5,239 migraine patients based on ICD-9 and ICD-10 diagnosis code. A simple random sample of 1,804 patients was selected for a paper-based cross-sectional survey study with a predetermined goal of collecting 500 patient responses (assuming a response rate of approximately 30%). These goals were based on our prior experience conducting similar surveys of this population. No statistical power analysis was calculated prior to the study. A second survey was mailed to the patient one month later if no response was received. The Mayo Clinic Institutional Review Board reviewed and approved the project (# 17-004871) and granted an exception for written informed consent.

Measures

Electronic Medical Record and Registration

Prior to sampling, we collected patient-level information from the medical record and patient registration files to decrease the number of survey items needed to be collected from the patient. These factors included age, gender, marital status, race, and ethnicity.

Questionnaire

Migraine Phenotype, and Disability and Quality of life—We assessed characteristics of the patient's migraine symptomology and experience, including history of self-reported migraine aura, headache frequency and severity. Patients reporting more than 15 headache days per month for more than three months were categorized as CM and the remaining patients were categorized as EM. Patients with EM reporting an average of greater than 2 headache days per week were defined as frequent EM (F-EM) and those reporting an average of two or less headache days per week were defined as infrequent EM (I-EM). Disability and quality of life were assessed using the Migraine Disability Assessment (MIDAS)^{25–27} and the Headache Impact Test – 6 (HIT-6)²⁸ and utilization of the Family Medical Leave Act (FMLA) form as a proxy measure for how migraine may be impacting the patient's ability to work.

Treatment and Patient Satisfaction—We assessed whether candidates for daily preventive therapies, defined by report of average headache frequency more than 2 headaches per week, were offered or treated with preventive medication. We inquired about frequency of triptan use, opiates, over-the-counter medications and combination analgesics including butalbital and caffeine to determine the burden of medication overuse headache and knowledge of this diagnosis. Types of care consultation, utilization of alternative therapies and patient confidence in their current treatment plan and ability to self-manage were also assessed.

Analysis—Data were summarized using frequencies and percentages for categorical and ordinal variables, and median and ranges for continuous variables. We compared distributions of demographic and clinical variables across questionnaire response status and

migraine type using chi-square tests for categorical variables and the Wilcoxon rank sum test for continuous variables. Respondents who failed to respond to a particular question on the survey were excluded from any analyses related to that question. All statistical tests were two-sided, and all data management and statistical analyses were performed using Statistical Analysis Software (SAS) Version 9.3 (Cary, NC, USA). Statistical significance was defined by $p < 0.05$.

Results

Demographics, Migraine Phenotype, and Disability and Quality of Life

The survey response rate for the first mailing was 309/1804 (17%) and for the second mailing 226/1486 (15%) for a total response rate of 516/1804 (30%). Of these, 16 patients indicated that they refused to participate and 3 others did not meet inclusion criteria, resulting in a final sample size of 516. Compared to individuals who failed to respond to the questionnaire, respondents were older (median 47.3 vs. 38.0 years, $p < 0.0001$), more predominantly female (86.4% vs. 79.9%, $p = 0.001$), more likely to be married (65.9% vs. 50.6%, $p < 0.0001$), and more predominantly Caucasian (95.0% vs. 84.3%, $p < 0.0001$). The demographics, assessment of disability, and quality of life characteristics comparing CM and EM phenotypes are summarized in Table 1 and comparison of I-EM and F-EM are summarized in Table 2. Patient reported frequency of headaches was consistent with diagnosis of CM²⁹ in 110/516 (21%) and EM in 406/516 (79%). Of EM patients who provided enough information for sub-categorization, 237/395 (60%) were I-EM and 158/395 (40%) F-EM. CM patients were more likely to report care from a neurologist than patients with EM (76/110, (69%) vs. 229/406, (56%); $p = 0.0026$). The level of disability according to the MIDAS and HIT-6 questionnaires were significantly higher in patient with CM compared to those with EM ($p < 0.0001$ for each). The level of disability was also higher for those with F-EM compared to those with I-EM ($p < 0.0001$ for each). Despite the high level of disability, only 65/516 (13%) of all patients reported use of the FMLA. Usage did not differ across CM vs. EM ($p = 0.1913$), but F-EM patients reported higher usage than those with I-EM (20/237 (17%) vs. 26/158 (9%), $p = 0.0242$). The median emergency department visits per year was 0 (range 0-8) with an averaged 0.3 visits per year without significant difference between groups. CM patients were more likely than EM patients to report migraine with aura (88/110 (80%) vs. 280/406 (69%), $p = 0.0492$); no such differences were found in I-EM vs. F-EM patients. CM patients also reported an earlier age at onset of migraine than EM patients (median 17.5 vs. 20 years, $p = 0.0385$). Patients with F-EM were more likely to be female than patients with I-EM (94% vs 83%, $P = 0.0008$). No other variables differed significantly across CM and EM groups or across F-EM and I-EM groups.

Treatment and Patient Satisfaction

The current and past treatment across migraine type comparing CM and EM are summarized in Table 3 and comparison of I-EM and F-EM are summarized in Table 4. Most patients with migraine had been offered triptan medications 377/516, (78%). Patients with F-EM were more likely to be offered triptan than those with I-EM (129/158 (88%) vs. 161/237 (71%), $p = 0.0003$). Overall, the percent of individuals currently taking any oral medication for migraine prevention was only 156/516 (31%); and 208/516 (40%) including botulinum toxin

injections CM patients were more likely to be taking preventive oral medication than those with EM (39/110 (36%) vs 117/406 (29%), $p=0.0191$) and there was no difference between those with F-EM 49/158 (32%) and I-EM 64/237 (28%). Botulinum toxin treatment was reported more frequently in patients with CM compared to EM (19/110 (17.6%) vs. 33/406 (8.3%); $p=0.0152$) and in those with F-EM compared to I-EM (19/158 (12.3%) vs. 12/237 (5.2%), $p=0.0205$). Overall, 127/516 (25%) reported receiving a prescription for an opiate at any time to treat their migraine and 18/516 (3.5%) of all patients reported current use of an opiate with no differences between groups. The total rate of current opiate use more than an average of two days per week was $< 4/516$ (1%). Barbiturate or caffeine containing combination medications were commonly prescribed 134/516 (26%) with no differences between groups. Of all patients using combination analgesics only 32/516 (6%) reported a frequency of use of daily of more than half of the days per month consistent with medication overuse. CM patients were more likely to report familiarity with the diagnosis of medication overuse headache than patients with EM (80/110 (81%) vs 256/406 (69%), $p=0.0178$) with no difference between those with F-EM and I-EM.

CM patients were much less likely to report that they were very satisfied with their care 16/110 (38%) than patients with EM 156/406 (66%), $p=0.0002$. CM patients were also less likely than EM patients to report they were very satisfied with the access to the care they needed (17/110 (33%) vs. 176/406 (68%), $p<0.0001$) or to the advice they needed (16/110 (31%) vs 160/406 (62%), $p<0.0001$). Those with F-EM were less likely to be very satisfied with the care received than patients with I-EM (47/158 (55%) vs 105/237 (71 %), $p=0.0357$). Those with F-EM were also less likely to be very satisfied with the access to the care advice they needed (44/158 (48%) vs 110/237 (69%), $p=0.0035$).

Discussion

To the best of our knowledge our survey study uniquely assesses a specific well-defined community patient population with an aim to inform changes to the care model serving the study population. We observed that CM patients, the most disabled group, reported less overall satisfaction with their care and with access to the care and advice needed when compared to those with EM. Similar to previous investigations,¹⁹ we observed patient-reported underutilization of preventive and triptan medications. Our findings confirm that patient needs and health care resource utilization differ based on the frequency of migraine and support distinguishing those with F-EM and I-EM¹⁹.

Patients with CM in our survey reported a low rate of preventive medication use (36.1%) and botulinum toxin (17.6%). Our survey did not capture those that may use both a preventive medication and botulinum toxin intended for prevention. These findings are similar to a prior survey of the United States population in which patients which 33% of patients CM reported use of preventative medication even though 87% of patients with CM received care for their headaches³⁰. The CM patients in both studies were also least satisfied with their care³⁰. The reasons for these findings remain unclear. Possible explanations for this include lack of medication efficacy, intolerable side effects, patient acceptance of daily medication, lack of understanding of therapy, and active effective treatment with non-medication options such as botulinum toxin or supraorbital stimulation. The rate of botulinum toxin treatment in

CM was lower than we expected for such a disabled group of patients suggesting that some patients may benefit from knowing more about this treatment option. Although dissatisfaction from an often difficult to treat disabling disease may explain these differences, improvement of the care model to meet the needs of this complex population require further study.

Some examples of reported care model interventions that successfully improved migraine outcomes and patient satisfaction include use of group-based model triaging uncomplicated care to a nurse practitioner and complex care to a headache specialist³¹ or development of “centers of excellence” for migraine care³². These models rely heavily on access to face-to-face encounters with a headache specialist care team and may not be scalable to large populations of migraine patients, particular if headache expertise is limited. Similar to other investigators,¹⁹ our data demonstrate differing care needs, disability, and utilization associated with migraine frequency; this data supports further development of care pathways in which patients with more frequent and debilitating migraine are triaged to specialty resources.³³ Given the high rate of disability and low patient satisfaction with current migraine care, our study suggests early involvement of specialists in the care of patients with CM and F-EM. Non-traditional electronic consultations or curbside collaboration between specialists and primary care providers may be appropriate and efficient ways of developing patient-centered care plans, especially for patients with I-EM. Patients with debilitating migraine may benefit from improved access to clinical appointments, migraine education, and provider advice. Qualitative studies are needed to better understand the dissatisfaction of CM patients in particular. These findings will be used to further develop and study triage along care pathways within our current Integrated Community Neurology^{24, 34} practice model in which neurologists are co-located with primary care teams and utilize electronic consultations, curbside telephone consultations, and face-to-face visits. Although approximately 25% of patients in this practice have headache we have not yet developed nor studied a specific care pathway for migraine patients.

We were surprised by how few patients reported utilization of FMLA despite reporting high rates of disability based on the MIDAS and HIT-6 scores. Although survey respondents may have been more resilient and able to attend work compared to survey non-respondents, findings suggest that the burden of migraine may be underreported or recognized in the work place. This finding supports further consideration and study of the possibility that our population may struggle with the stigma of migraine³⁵ and whether stigma may be a barrier to seeking better care for migraine. Educating our trainees, referring providers, care teams, and adapting our clinical education and future care models to use de-stigmatizing language is suggested^{36, 24}

Strengths of our study include a large random sample of a well-defined community population of patients likely to truly have migraine who were not tertiary referral patients. The demographics and age of onset were typical of migraine as well as the frequency of EM and CM when compared to the literature³⁷ suggesting our results are generalizable to similar populations; our findings may be useful for other health care systems working to develop care models to serve the migraine population.

Our study has several limitations. First, the relatively low survey response rate may have biased the findings if patients with more severe symptoms were more likely to respond. We found that respondents differed from non-respondents with regard to age, gender, marital status and race. We did not observe response did not differ by migraine type, limiting the possibility of confounding by response. Second, use of patient-reported headache frequency to diagnosis headache type is likely not as accurate as a detailed headache history from a specialist, and lack of actual prescription data limits the reported accuracy of medication prescription or current use of opiates, preventive and triptan medications. We included both over-the-counter and prescription combination medications in the same survey question. Based on our clinical experience, ease of access, and limited use of opiates, we suspect that most patients in our survey were using over-the-counter rather than prescription combination medication therapies contributing to risk for medication overuse headache. Most patients reported a history of migraine aura based a definition adapted from a pre-visit questionnaire used by our headache subspecialty clinic. This is discordant with the previously reported frequency incidence of migraine aura³⁸ suggesting that patients may have a poor understanding of migraine aura or the definition was unclear. We only included patients with a diagnosis of migraine and recognize that under-diagnosis of migraine is an important problem to consider in any effort to improve the outcomes of all patients within a population.

Conclusion

Our survey identifies differences between patients with CM and EM and confirms expected opportunities to improve care of patients with migraine in our population. We observed that CM patients are less satisfied with our current care model than patients with EM. The observed differences support development and further study of care pathways that align migraine care expertise and resources based on migraine frequency and disability. Qualitative studies may be needed to further explore the dissatisfaction of CM patients and identify additional improvement opportunities.

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Abbreviations:

EM	Episodic migraine
CM	Chronic migraine
F-EM	Frequent episodic migraine
I-EM	Infrequent episodic migraine

MIDAS	Migraine Disability Assessment
HIT-6	Headache Impact Test – 6
FMLA	Family Medical Leave Act

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Table 1.

Comparisons of Demographics, Disability and Quality of Life Characteristics Across Migraine Type

	Chronic Migraine (n=110)	Episodic Migraine (n=406)	Total (n=516)	p value¹
Age, median (range)	47.7 (18-79)	47.2 (18-89)	47.4 (18-89)	0.5947
Gender, n (%)				0.3474
Female	92 (83.6%)	354 (87.2%)	446 (86.4%)	
Male	18 (16.4%)	52 (12.8%)	70 (13.6%)	
Marital Status, n (%)				0.6269
Single	29 (26.4%)	89 (21.9%)	118 (22.9%)	
Married/Life Partner	70 (63.6%)	271 (66.7%)	341 (66.1%)	
Widowed/Divorced	11 (10.0%)	46 (11.3%)	57 (11.0%)	
Race, n (%)				0.6229
White	106 (96.4%)	384 (94.8%)	490 (95.1%)	
Non-white	4 (3.6%)	21 (5.2%)	25 (4.9%)	
Age at Onset of Migraine, median (range)	17.5 (3-70)	20 (3-69)	20 (3-70)	0.0385
Self Reported Migraine Aura, n (%)	88 (80.0%)	280 (69.1%)	368 (71.5%)	0.0492
Emergency Room Visits / Year, median (range)	0 (0-6)	0 (0-8)	0 (0-8)	0.1016
Ever evaluated or treated by neurologist, n (%)	76 (69.1%)	229 (56.4%)	305 (59.1%)	0.0026
MIDAS				< 0.0001
Little/no Disability	5 (5.1%)	145 (39.0%)	150 (31.9%)	
Mild	7 (7.1%)	68 (18.3%)	75 (16.0%)	
Moderate	19 (19.4%)	73 (19.6%)	92 (19.6%)	
Severely disabled	67 (68.4%)	86 (23.1%)	153 (32.6%)	
HIT-6				< 0.0001
Class I	0 (0.0%)	61 (15.0%)	61 (11.8%)	
Class II	7 (6.4%)	80 (19.7%)	87 (16.9%)	
Class III	12 (10.9%)	62 (15.3%)	74 (14.3%)	
Class IV	87 (79.1%)	177 (43.6%)	264 (51.2%)	
Use of Family Medical Leave Act, n (%)	18 (17.3%)	47 (12.1%)	65 (13.2%)	0.1913

Column totals may not sum to total number of individuals due to missing values for some variables.

¹P-values calculated using chi-square tests for categorical variables and Wilcoxon rank sum tests for continuous variables.

Table 2.

Comparisons of Demographics, Disability and Quality of Life Characteristics Across Episodic Migraine Types

	Infrequent Episodic Migraine (I-EM, n=237)	Frequent Episodic Migraine (F-EM, n=158)	Total (n=395)	p value¹
Age, median (range), years	47.3 (18-89)	46.6(19-84)	46.8 (18-89)	0.1644
Gender, n (%)				0.0008
Female	195 (82.3%)	148 (93.7%)	343 (86.8%)	
Male	42 (17.7%)	10 (6.3%)	52 (13.2%)	
Marital Status, n (%)				0.3108
Single	47 (19.8%)	41 (25.9%)	88 (22.3%)	
Married/Life Partner	165 (69.6%)	99 (62.7%)	264 (66.8%)	
Widowed/Divorced	25 (10.5%)	18 (11.4%)	43 (10.9%)	
Race, n (%)				0.4833
White	14 (5.9%)	6 (3.8%)	20 (5.1%)	
Non-white	222 (94.1%)	152 (96.2%)	374 (94.9%)	
Age at Onset of Migraine, median (range), years	22.0	18.0	20.0	0.0117
Self Reported Migraine Aura, n (%)	168 (71.2%)	104 (65.8%)	272 (69.0%)	0.4929
Emergency Room Visits / Year, median (range)	0 (0-5)	0 (0-8)	0 (0-8)	0.3749
Ever evaluated or treated by neurologist, n (%)	129 (54.4%)	97 (61.4%)	226 (57.2%)	0.2543
MIDAS				<0.0001
Little/no Disability	113 (51.8%)	27 (18.5%)	140 (38.5%)	
Mild	38 (17.4%)	29 (19.9%)	67 (18.4%)	
Moderate	35 (16.1%)	36 (24.7%)	71 (19.5%)	
Severely disabled	32 (14.7%)	54 (37.0%)	86 (23.6%)	
HIT-6				<0.0001
Class I	50 (21.1%)	10 (6.3%)	60 (15.2%)	
Class II	55 (23.2%)	22 (13.9%)	77 (19.5%)	
Class III	38 (16.0%)	23 (14.6%)	61 (15.4%)	
Class IV	78 (32.9%)	96 (60.8%)	174 (44.1%)	
Use of Family Medical Leave Act, n (%)	20 (8.9%)	26 (17.0%)	46 (12.2%)	0.0242

Column totals may not sum to total number of individuals due to missing values for some variables.

¹P-values calculated using chi-square tests for categorical variables and Wilcoxon rank sum tests for continuous variables.

Table 3.

Comparisons of Current and Past Treatment Across Migraine Type.

Survey Question	Chronic Migraine (n=110)	Episodic Migraine (n=406)	Total (n=516)	p value
Have you ever been offered a triptan?	81 (81.8%)	296 (77.5%)	377 (78.4%)	0.4118
Do you currently use your triptan medication?	48 (59.3%)	204 (69.2%)	252 (67.0%)	0.0553
Are you currently taking a medication for migraine prevention?	39 (36.1%)	117 (29.0%)	156 (30.5%)	0.0191
Are you currently treated with botulinum toxin injections?	19 (17.6%)	33 (8.3%)	52 (10.3%)	0.0152
Are you familiar with medication overuse or rebound headache?	80 (80.8%)	256 (68.6%)	336 (71.2%)	0.0178
Have you ever been prescribed an opiate for migraine?	31 (28.7%)	96 (24.0%)	127 (25.0%)	0.4122
Are you currently using an opiate for migraine?	3 (2.7%)	15 (3.7%)	18 (3.5%)	0.3278
Do you use opiate more than 2 days per week?	1 (0.9%)	3 (0.7%)	4 (0.8%)	0.8567
Do you use combination analgesic such as Fiorinal, Midrin, Fioricet, Butalbital, or Excedrin?	36 (33.3%)	98 (24.4%)	134 (26.3%)	0.0868
Every Day	3 (8.6%)	2 (2.1%)	5 (3.8%)	
'Greater than half of the days each month'	14 (40.0%)	13 (13.4%)	27 (20.5%)	
'Less than half of the days each month'	18 (51.4%)	82 (84.5%)	100 (75.8%)	
How satisfied are you with the care you received for migraine at Mayo Clinic?, n (%)				0.0002
Very satisfied	16 (38.1%)	156 (65.5%)	172 (61.4%)	
Neither satisfied or dissatisfied	17 (40.5%)	70 (29.4%)	87 (31.1%)	
Very dissatisfied	9 (21.4%)	12 (5.0%)	21 (7.5%)	
Missing	68	168	236	
How satisfied are you with <u>access</u> to the care you need?, n (%)				<.0001
Very satisfied	17 (32.7%)	176 (68.0%)	193 (62.1%)	
Neither satisfied or dissatisfied	26 (50.0%)	72 (27.8%)	98 (31.5%)	
Very dissatisfied	9 (17.3%)	11 (4.2%)	20 (6.4%)	
Missing	58	147	205	
How satisfied are you with the <u>access to the advice</u> you need?, n (%)				<.0001
Very satisfied	16 (31.4%)	160 (61.8%)	176 (56.8%)	
Neither satisfied or dissatisfied	27 (52.9%)	91 (35.1%)	118 (38.1%)	
Very dissatisfied	8 (15.7%)	8 (3.1%)	16 (5.2%)	
Missing	59	147	206	
Patient provided written survey comments to improve care	61 (55.5%)	217 (53.4%)	278 (53.9%)	0.7469
Are you willing to participate in a focus group to improve care?	54 (51.4%)	282 (72.3%)	336 (67.9%)	<0.0001

Column totals may not sum to total number of individuals due to missing values for some variables. P-values calculated using chi-square tests of significance.

Table 4.

Comparisons of Current and Past Treatment Across Episodic Migraine Type.

Survey Question	Infrequent Episodic Migraine (n=237)	Frequent Episodic Migraine (n=158)	Total (n=395)	p value
Have you ever been offered a triptan?	161 (71.9%)	129 (87.8%)	290 (78.2%)	0.0003
Do you currently use your triptan medication?	115 (71.9%)	86 (66.7%)	201 (69.6%)	0.3693
Are you currently taking a medication for migraine prevention?	64 (27.9%)	49 (31.8%)	113 (29.5%)	0.4259
Are you currently treated with botulinum toxin injections?	12 (5.2%)	19 (12.3%)	31 (8.1%)	0.0205
Are you familiar with medication overuse or rebound headache?	140 (60.6%)	109 (69.9%)	249 (64.3%)	0.0893
Have you ever been prescribed an opiate for migraine?	53 (23.8%)	41 (28.1%)	94 (25.5%)	0.3928
Are you currently using an opiate for migraine?	11 (21.2%)	3 (7.3%)	14 (15.1%)	0.0826
Do you use opiate more than 2 days per week?	1 (0.4%)	2 (1.3%)	3 (21.4%)	0.3439
Do you use combination analgesic such as Fiorinal, Midrin, Fioricet, Butalbital, or Excedrin?	53 (22.8%)	43 (27.9%)	96 (24.9%)	0.2802
Every Day	1 (1.9%)	1 (2.3%)	2 (2.1%)	1.0000
'Greater than half of the days each month'	7 (13.5%)	6 (14.0%)	13 (13.7%)	
'Less than half of the days each month'	44 (84.6%)	36 (83.7%)	80 (84.2%)	
How satisfied are you with the care you received for migraine at Mayo Clinic?, n (%)				0.0357
Very satisfied	105 (71.4%)	47 (55.3%)	152 (65.5%)	
Neither satisfied or dissatisfied	35 (23.8%)	33 (38.8%)	68 (29.3%)	
Very dissatisfied	7 (4.8%)	5 (5.9%)	12 (5.2%)	
Missing				
How satisfied are you with <u>access</u> to the care you need?, n (%)				0.3306
Very satisfied	115 (70.6%)	55 (61.8%)	170 (67.5%)	
Neither satisfied or dissatisfied	42 (25.8%)	29 (32.6%)	71 (28.2%)	
Very dissatisfied	6 (3.7%)	5 (5.6%)	11 (4.4%)	
Missing				
How satisfied are you with the access to the <u>advice</u> you need?, n (%)				0.0035
Very satisfied	110 (68.8%)	44 (48.4%)	154 (61.4%)	
Neither satisfied or dissatisfied	45 (28.1%)	44 (48.4%)	89 (35.5%)	
Very dissatisfied	5 (3.1%)	3 (3.3%)	8 (3.2%)	
Missing				
Patient provided written survey comments to improve care	124 (52.3%)	88 (55.7%)	212 (53.7%)	0.5375

Column totals may not sum to total number of individuals due to missing values for some variables.

¹ P-values calculated using chi-square tests.