Barriers to Chronic Migraine Care: Results of the CaMEO (Chronic Migraine Epidemiology & Outcomes) Study

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INTRODUCTION

- Individuals with chronic migraine (CM) have received an *International Classification of Headache Disorders, Second Edition (ICHD-2)* migraine diagnosis, and experience headache (HA) on ≥15 days per month for >3 months in the absence of medication overuse.[1]
- The prevalence of CM is estimated to be approximately 1% of the population, affecting more women (1.3%) than men (0.5%).[2]
- CM is burdensome to the individual, society, and healthcare systems,[3] yet it remains largely underdiagnosed and undertreated.[4]
- CaMEO (Chronic Migraine Epidemiology and Outcomes) is a epidemiologic survey that characterizes the clinical course, family burden, and barriers to care for individuals with CM.

OBJECTIVES

- To describe respondent self-reported HA diagnosis rates, healthcare consultation patterns, and preventive treatment knowledge and use among a large, US population-based sample of individuals with CM

METHODS

Study Design

- CaMEO is a prospective, web-based cohort study using longitudinal and cross-sectional data collection.[5]
- Quota sampling was employed to ensure that the study sample resembled the US population in terms of key demographic variables.
- Beginning in September 2012, respondents meeting the *ICHD-2* migraine criteria and agreeing to enroll in the 1-year study received email notifications to participate in multi-component web-based survey modules[5] **(Figure 1)**:
  - *Core Module* and *Barriers to Care Module* questions at study entry.
  - Additional questionnaire modules every 3 months for 1 year.

Assessment

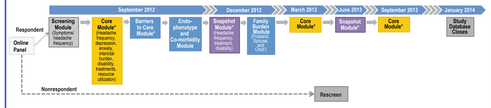
- This analysis included only participants with CM and used data from the *Barriers to Care Module*.
- Data acquisition included healthcare visits, diagnoses, current and past treatments, satisfaction with treatments, and knowledge, attitudes, and behaviors that may be barriers to optimal care. Data were also collected regarding consultation patterns and knowledge, attitudes, and behaviors specifically with regard to preventive therapies.
- Participants were asked about their healthcare professional (HCP) consulting patterns. A "Doctor" was defined as a "Prescribing HCP" (e.g., medical doctor, nurse practitioner, physician assistant, dentist). A "HA Specialist" was defined as a neurologist, "HA Specialist," or pain specialist.
  A "Nonprescribing HCP" was defined as any HCP that cannot prescribe medication (e.g., psychologist, chiropractor, massage therapist, acupuncturist, physical therapist, naturopath, natural health consultant, or any other "alternative medicine" type of HCP).
- Participants self-reported HA symptoms, and qualified as having migraine HA if they stated they experienced ≥2 pain symptoms (i.e., pain that is unilateral; pulsating, pounding, or throbbing; moderate or severe intensity; made worse by routine activity) and either nausea or both photophobia and phonophobia "less than half the time" or "half the time or more."
- Participants also reported their awareness of approaches to preventing HAs or reducing HA severity, and use of preventive treatments for HA.
- Descriptive statistics were performed.

RESULTS

Demographics and Disposition

- Of 80,783 respondents, 16,789 (20.8%) met *ICHD-2* migraine criteria and were eligible for inclusion.
  - Among the respondents who met *ICHD-2* criteria, 1,476 (8.8%) screened positive for CM and 15,313 (91.2%) for EM.

Figure 1. Study Design and Data Collection Timeline



*All assessments of headache day frequency, headache treatment, and burden will be evaluated over the previous 3-months as 12 months of data are collected.
†Proband refers to each migraine subject; spouse/significant other and children must be living in the household for ≥2 months; children include adolescent/adult children, grandchildren, and stepchildren aged 13–29 years; spouse/significant other is defined for the Proband as "currently in a relationship with a spouse, partner, or significant other."

Outcomes

- HA diagnosis rates for CM and related disorders by HCP type are presented in **Table 1**.
  - Migraine, CM, or related diagnoses were made more frequently by "HA Specialists" than other HCP types.
  - Most CM respondents did not receive a diagnosis of CM, even among those consulting "HA Specialists" **(Figure 2)**.

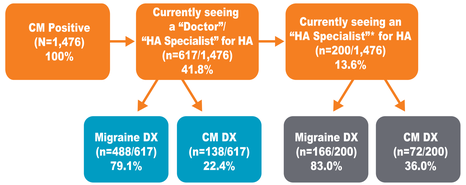
Table 1. HA Diagnosis Rates Among Those Who Met CM Criteria Who Reported Currently Seeking Care From an "HA Specialist," Other (Non–"HA Specialist") "Prescribing HCP," and/or "Nonprescribing HCP"

Diagnosis Received From an HCP* (Patient Self Report), n (%)	Among Those Who Met CM Criteria				
	"HA Specialist"[†‡] ("Prescribing HCP") (N=200)	Non–"HA Specialist" ("Prescribing HCP") (N=417)	Any "Prescribing HCP"[‡§] ("HA Specialist" and Non–"HA Specialist") (N=617)	"Nonprescribing HCP"[‡¶] (Excluding any "Prescribing HCP") (N=319)	"Nonprescribing HCP"[‡¶] (With or Without "Prescribing HCP") (N=640)
Migraine	166 (83.0%)	322 (77.2%)	488 (79.1%)	174 (54.5%)	435 (68.0%)
CDH	37 (18.5%)	58 (13.9%)	95 (15.4%)	49 (15.4%)	112 (17.5%)
CM/TM	**72 (36.0%)**	**66 (15.8%)**	**138 (22.4%)**	**35 (11.0%)**	**118 (18.4%)**
CM/TM/ CDH	91 (45.5%)	103 (24.7%)	194 (31.4%)	65 (20.4%)	181 (28.3%)

CDH=chronic daily headache; CM=chronic migraine; HA=headache; HCP=healthcare professional; TM=transformed migraine.
*May report ≥1 diagnosis.
†Neurologist/"HA Specialist"/pain specialist physician.
‡HCP that can prescribe (e.g., medical "Doctor," nurse practitioner, physician assistant, dentist).
§HCP that cannot prescribe (e.g., psychologist, chiropractor, massage therapist, acupuncturist, physical therapist, naturopath, natural health consultant, or any other "alternative medicine" type of HCP).

- Those who are currently seeing only a "Nonprescribing HCP" are the least likely to have ever received a diagnosis from any HCP of migraine, CM/transformed migraine (TM), or CM/TM/chronic daily headache.
- More CM respondents were currently seeking care from a "Nonprescribing HCP" than an "HA Specialist."

Figure 2. Respondent Self-Reported CM Diagnosis by Physician Type



CM=chronic migraine; DX=diagnosis; HA=headache; HCP=healthcare professional.
Respondents may report ≥1 diagnosis including some not reported here; totals may be >100%.
A "Doctor" was defined as a "Prescribing HCP." An "HA Specialist" was defined as a neurologist, "Headache Specialist," or pain specialist.
*"HA Specialists" are included within the "Doctor" population.

Headache Preventive Treatment History

- Only 33.5% (n=495/1,476) of respondents diagnosed with CM reported currently using a preventive pharmacologic treatment for migraine.
- Respondents with CM who sought care from an "HA Specialist" were highly likely to receive a preventive treatment (82%, n=164). Of these respondents, however, only 36% (n=72) reported receiving a diagnosis of CM or TM.
- Most respondents with CM (~80%) were aware of some form of preventive treatment, although awareness varied greatly by type of treatment **(Table 2)**.
  - Respondent awareness was increased when under the care of an "HA Specialist" **(Table 3)**.
- More respondents with CM who were under the care of an "HA Specialist" consulted a "Nonprescribing HCP" for HA **(Table 4)**.

Table 2. Awareness of Preventive Treatments and Strategies Among All Respondents With CM

Have you ever heard of the following approaches to preventing headaches or reducing the severity of headaches?	(N=1,476) n (%)
Avoiding things or activities that trigger my headaches	925 (62.7)
Taking a daily prescription medication	782 (53.0)
Receiving injections every few months	257 (17.4)
Vitamins or herbs	494 (33.5)
Biofeedback	248 (16.8)
Relaxation techniques (meditation, visual imagery, diaphragmatic breathing)	701 (47.5)
Cognitive behavioral therapy (CBT)/psychotherapy	190 (12.9)
Acupuncture	495 (33.5)
Yoga	431 (29.2)
Exercise	721 (48.8)
Weight management/dieting	511 (34.6)
No, not aware of any ways to prevent headaches or reduce their severity	264 (17.9)
Don't remember	28 (1.9)

CM=chronic migraine.

Table 3. Awareness of Preventive Treatments and Strategies Among Those With CM by Type of HCP Consulted

Have you ever heard of the following approaches to preventing headaches or reducing the severity of headaches?	Under "HA Specialist" Care (N=200) n (%)	Not Under "HA Specialist" Care (N=1,276) n (%)
Avoiding things or activities that trigger my headaches	157 (78.5)	768 (60.2)
Taking a daily prescription medication	164 (82.0)	618 (48.4)
Receiving injections every few months	69 (34.5)	188 (14.7)
Vitamins or herbs	82 (41.0)	412 (32.3)
Biofeedback	52 (26.0)	196 (15.4)
Relaxation techniques (meditation, visual imagery, diaphragmatic breathing)	111 (55.5)	590 (46.2)
Cognitive behavioral therapy (CBT)/psychotherapy	34 (17.0)	156 (12.2)
Acupuncture	78 (39.0)	417 (32.7)
Yoga	61 (30.5)	370 (29.0)
Exercise	117 (58.5)	604 (47.3)
Weight management/dieting	84 (42.0)	427 (33.5)
No, not aware of any ways to prevent headaches or reduce their severity	14 (7.0)	250 (19.6)
Don't remember	2 (1.0)	26 (2.0)

HA=headache; HCP=healthcare professional.

Table 4. Respondents Who Have Consulted a "Nonprescribing HCP" for an HA

	Under "HA Specialist" Care (N=200) n (%)	Not Under "HA Specialist" Care (N=1,276) n (%)
Chiropractor	65 (32.5)	357 (28.0)
Massage therapist	53 (26.5)	220 (17.2)
Acupuncturist	39 (19.5)	114 (8.9)
Physical therapist (PT)	39 (19.5)	91 (7.1)
Psychologist or other mental healthcare professional	32 (16.0)	86 (6.7)
Naturopath	14 (7.0)	31 (2.4)
Occupational therapist (OT)	4 (2.0)	25 (2.0)
None of the above	87 (43.5)	749 (58.7)

HA=headache; HCP=healthcare professional.

CONCLUSIONS

- Our findings suggest that rates of HA subtype diagnosis and consultation for HA were low among individuals with CM. This is a barrier to optimal care, as diagnosis is necessary for designing an optimal treatment plan, which may include diagnosis-specific treatments.
- Those meeting CM criteria who sought care from an "HA Specialist" were more likely to report having been diagnosed with CM, but also with migraine, TM, and CDH.
- Awareness of daily preventive medication for HA was high, especially among those currently seeing an "HA Specialist" (82.0%), although awareness of injection for HA prevention was low in the same group (34.5%), and even lower among those who reported that they were not currently under the care of an "HA Specialist" (14.7%).
- Additionally, knowledge and use of empirically and guideline-supported non-pharmacologic treatments for migraine prevention was low among those under the care of an "HA Specialist," and very low among those not under "HA Specialist" care.
- These data demonstrate gaps in the diagnosis, treatment, and knowledge of individuals with CM in the US and offer opportunities for improvement in care.

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Aubrey N. Manack, PhD, is an employee of Allergan, Inc.