

Optimal Acute Treatment Is Associated with Productivity Gains in People with Migraine: Results from the Chronic Migraine Epidemiology and Outcomes (CaMEO) Study

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CONCLUSIONS

In people with migraine, better optimized acute treatment is associated with less lost productive time
Optimizing acute treatment may lead to a reduction in indirect costs

RESULTS

Participants

- Out of 16,789 CaMEO respondents with migraine, 14.6% (n=2455) met all inclusion criteria and were included in this analysis
- MHD frequency was ≤3 MHDs in 48.1% of respondents, 4–7 MHDs in 24.5%, 8–14 MHDs in 15.4%, and ≥15 MHDs in 11.9% (Table 2)

Table 2. Baseline Characteristics by Acute Treatment Optimization

	Number of Positive mTOQ-5 Responses				
	≤1 (n=273)	2 (n=310)	3 (n=463)	4 (n=596)	5 (n=813)
Age, y, mean (SD)	39.2 (10.3)	41.2 (11.0)	40.9 (10.7)	42.0 (11.1)	43.9 (11.7)
Sex, female	215 (78.8)	249 (80.3)	369 (79.7)	460 (77.2)	615 (75.6)
College degree (≥4-year)	128 (46.9)	160 (51.6)	242 (52.3)	303 (50.8)	416 (51.2)
Income (yearly)					
<\$30,000	35 (12.9)	41 (13.2)	56 (12.1)	60 (10.1)	65 (8.0)
\$30,000–49,999	49 (18.1)	54 (17.4)	88 (19.0)	111 (18.7)	150 (18.5)
\$50,000–74,999	71 (26.2)	86 (27.7)	129 (27.9)	135 (22.7)	203 (25.0)
≥\$75,000	116 (42.8)	129 (41.6)	190 (41.0)	288 (48.5)	393 (48.5)
Insurance	245 (89.7)	288 (92.9)	426 (92.0)	563 (94.5)	760 (93.5)
Monthly headache day frequency					
≤3 days/month	104 (38.1)	129 (41.6)	205 (44.3)	266 (44.6)	478 (58.8)
4–7 days/month	70 (25.6)	82 (26.5)	124 (26.8)	138 (23.2)	188 (23.1)
8–14 days/month	50 (18.3)	55 (17.7)	71 (15.3)	112 (18.8)	91 (11.2)
≥15 days/month	49 (17.9)	44 (14.2)	63 (13.6)	80 (13.4)	56 (6.9)

mTOQ-5, 5-Item Migraine Treatment Optimization Questionnaire; SD, standard deviation.

Self-Reported Prescription Acute Headache Medication Use

- The most commonly reported acute prescription medications were triptans (40.7%), prescription NSAIDs (37.7%), and opioids (36.3%) (Table 3)

Table 3. Acute Medication Use by Acute Treatment Optimization

	Number of Positive mTOQ-5 Responses				
	≤1 (n=273)	2 (n=310)	3 (n=463)	4 (n=596)	5 (n=813)
Any over-the-counter medication use*	240 (87.9)	271 (87.4)	434 (93.7)	533 (89.4)	701 (86.2)
ibuprofen	125 (45.8)	138 (44.5)	207 (44.7)	273 (45.8)	288 (35.4)
Acetaminophen	111 (40.7)	137 (44.2)	204 (44.1)	250 (41.9)	307 (37.8)
Acetaminophen/aspirin/caffeine combo	118 (43.2)	119 (38.4)	188 (40.6)	216 (36.2)	289 (35.5)
Naproxen sodium	99 (36.3)	110 (35.5)	169 (36.5)	213 (35.7)	259 (31.9)
Aspirin	52 (19.0)	62 (20.0)	95 (20.5)	117 (19.6)	142 (17.5)
Prescription medication use					
Triptan	129 (47.3)	123 (39.7)	165 (35.6)	243 (40.8)	338 (41.6)
Prescription NSAID	95 (34.8)	126 (40.6)	185 (40.0)	235 (39.4)	285 (35.1)
Opioid	100 (36.6)	114 (36.8)	199 (43.0)	214 (35.9)	264 (32.5)
Barbiturate	20 (7.3)	35 (11.3)	46 (9.9)	63 (10.6)	69 (8.5)
Isometheptene	12 (4.4)	13 (4.2)	17 (3.7)	20 (3.4)	21 (2.6)
Ergotamine	3 (1.1)	7 (2.3)	18 (3.9)	16 (2.7)	17 (2.1)

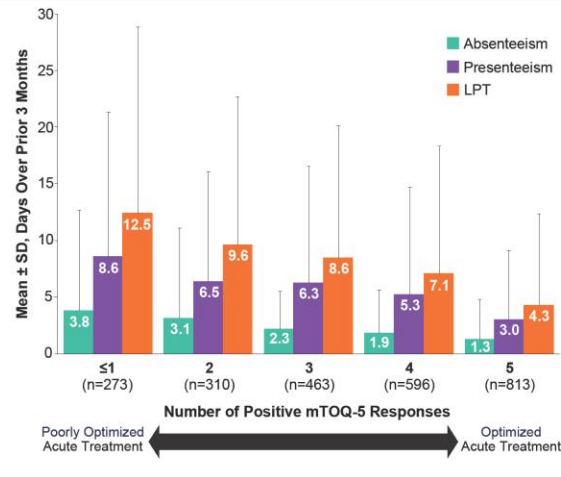
* Respondents may endorse use of more than one type of medication at a time.
mTOQ-5, 5-Item Migraine Treatment Optimization Questionnaire; NSAID, nonsteroidal anti-inflammatory drug.

Lost Productive Time by Acute Treatment Optimization Score

- Across the full analysis population, a greater number of positive mTOQ-5 responses was associated with lower mean 3-month LPT, absenteeism, and presenteeism days (Figure 1)

– Mean 3-month LPT ranged from 12.5 days in the poorly optimized (mTOQ-5 score ≤1) subgroup vs 4.3 days in the well-optimized (mTOQ-5 score 5) subgroup

Figure 1. Mean 3-Month Absenteeism, Presenteeism, and LPT by Treatment Optimization

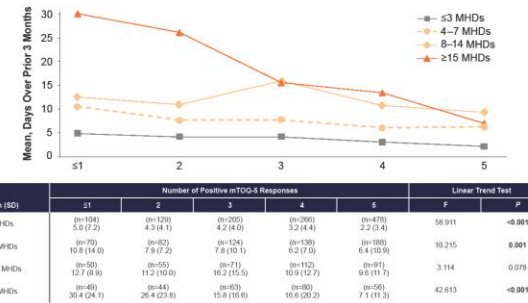


LPT, lost productive time; mTOQ-5, 5-Item Migraine Treatment Optimization Questionnaire; SD, standard deviation.

Lost Productive Time by Treatment Optimization Across MHD Category

- Across nearly all MHD groups, lower mean 3-month LPT days were observed in the optimized group compared with the suboptimized group (Figure 2)
- Linear trend test showed a significant relationship ($P < 0.01$) between mean LPT and treatment optimization for all MHD groups except for 8–14 MHDs ($P = 0.078$)

Figure 2. Mean 3-Month LPT by Acute Treatment Optimization and MHD Group

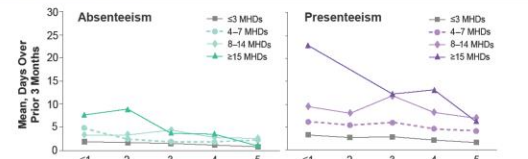


LPT, lost productive time; MHD, monthly headache day; mTOQ-5, 5-Item Migraine Treatment Optimization Questionnaire; SD, standard deviation.

Absenteeism and Presenteeism by Treatment Optimization Across MHD Category

- A similar relationship with acute treatment optimization was observed for mean 3-month absenteeism and presenteeism days across MHD groups (Figure 3)

Figure 3. Mean 3-Month Absenteeism and Presenteeism by Acute Treatment Optimization and MHDs



MHD, monthly headache day; mTOQ-5, 5-Item Migraine Treatment Optimization Questionnaire; SD, standard deviation.

INTRODUCTION

Background

- Migraine is a chronic disease with episodic attacks defined by symptoms of moderate to severe headache pain, photophobia, phonophobia, and nausea¹
- Migraine-associated disability results in absence from work (absenteeism) and lost productivity while at work (presenteeism), both of which contribute to substantial economic burden on individuals, employers, and society^{2,3}
- An acute treatment regimen can be considered optimized when it consistently resolves pain and restores function with minimal need for repeat dosing or rescue medications and is well tolerated with minimal adverse events⁴
- The relationship between acute treatment optimization and lost productive time (LPT) has not been previously reported

Objective

- To test the hypothesis that optimization of acute treatment is associated with greater work productivity across the spectrum of monthly headache day (MHD) frequency in persons with migraine

METHODS

Study Design

- The CaMEO Study was a longitudinal web-based survey conducted September 2012 to November 2013 that identified and characterized people who met modified criteria for migraine consistent with the *International Classification of Headache Disorders*, 3rd edition⁵
- This analysis included survey respondents who reported current use of preselected prescription acute medications, were employed full-time (>35 hours/week), and completed both the Migraine Disability Assessment Scale (MIDAS) and the 5-Item Migraine Treatment Optimization Questionnaire (mTOQ-5)

Outcomes

- Absenteeism was defined by MIDAS Question 1 (days missed work/school in the prior 3 months)
- Presenteeism was defined by MIDAS Question 2 (additional days with productivity reduced by ≥50% in the prior 3 months)
- LPT was defined as the sum of absenteeism and presenteeism days
- Headache frequency groups included those with 0–3, 4–7, 8–14, or ≥15 MHDs
- Mean 3-month absenteeism, presenteeism, and LPT were calculated for MHD and treatment optimization (mTOQ-5 total score) subgroups

Characterizing Acute Treatment Optimization

- The number of positive (“yes”) responses on the mTOQ-5 was used to quantify acute treatment optimization (dichotomous scoring method)
- Total scores ranged from poorly optimized (mTOQ-5 score ≤1) to well-optimized (mTOQ-5 score=5)

Table 1. mTOQ-5 Items (Dichotomous Yes/No Response Options)

*The following questions refer to the times when you take treatment for your headaches. Please choose the answer which most closely fits your experience in the past 4 weeks (or the most recent time you treated your headache with medication). (Yes/No)

- Were you able to quickly return to your normal activities (ie, work, family, leisure, social activities) after taking your headache medication?
- Could you count on your headache medication to relieve your pain within 2 hours for most attacks?
- Did one dose of your headache medication usually relieve your headache and keep it away for at least 24 hours?
- Was your headache medication well tolerated?
- Were you comfortable enough with your headache medication to be able to plan your daily activities?

ADDITIONAL INFO

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