

Impact and Burden of Episodic, Acute Migraine (I-BEAM): A Patient Experience Study

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Objectives

- To understand the experiences of individuals who suffer from migraines and how those experiences do or do not affect their daily life
- To understand the typical pathway to migraine diagnosis and treatment and the drivers and barriers along the way
- To understand migraine sufferers' satisfaction levels with current treatments and unmet needs as they pertain to desires for new therapies

Methods

- Participants (N=50; all US residents) were recruited via social media and referrals
- 15-minute online Quantitative Survey (n=50)
 - Provided detailed diagnosis and treatment information
 - Allowed for a closer look at past and current treatments and level of satisfaction
 - Included in-depth questions about nature and duration of migraines and triggers
- Qualitative Interviews
 - 1-hour in person individual-depth interviews (IDIs; n=24), OR
 - 1-hour web-enabled telephone-depth interviews (TDIs; n=25)
 - Qualitative interviews provided:
 - Context surrounding diagnosis and treatment in terms of drivers and barriers
 - Emotional context surrounding treatments, medication, and care received
 - Multi-faceted look at the effects of migraine on daily life

Results

Participant Statistics

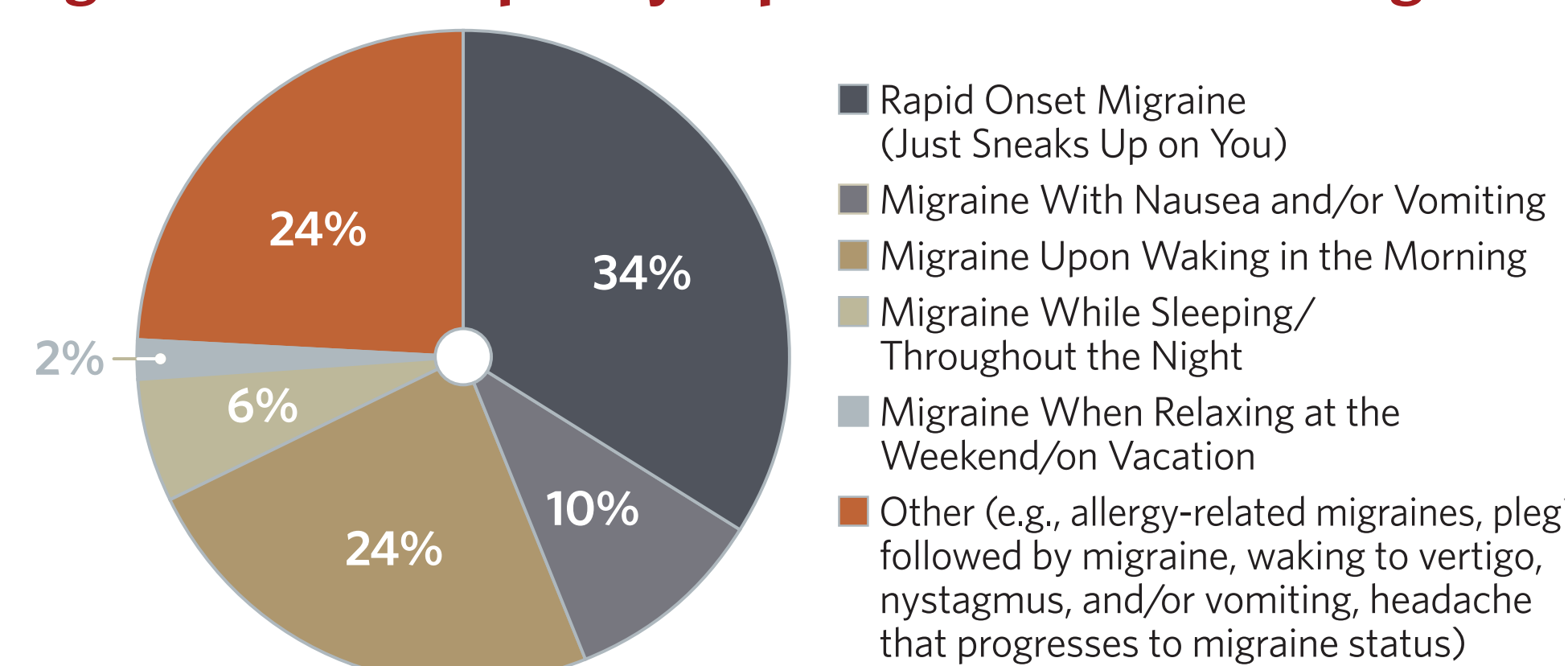
- 98% of the participants were females; 64% were aged 30 to 49
- 74% were white; 63% lived in the suburbs
- The majority had either a college (43%) or graduate (33%) degree
- 71% of participants were from households with an annual income >\$100K
- 56% of participants reported 3 to 5 migraines per month
- 46% reported 4 to 8 migraine days per month

Development of Migraines

- Chronic migraine can develop in childhood, at/during puberty, and through injury
- Individuals with a family history of migraines were most likely to self-diagnose or reach diagnosis more quickly
- Those who experienced childhood migraines typically did not receive a diagnosis until late teens or adulthood at which point diagnosis was typically by the PCP
- Migraines that developed at puberty were generally diagnosed by a gynecologist
- 26% of participants reported suffering from migraines for >20 years
- Most noted that increased migraine frequency and/or severity was the impetus for speaking to a physician about the condition and getting treatment
- Approximately 42% of participants said that their migraines peaked during their late 20s-mid 30s
- When asked to identify their most common migraine triggers (using a scale of 1 to 7 where 1=never causes a migraine and 7=always causes a migraine), participants identified stress (4.28) as the most likely trigger. Other high frequency triggers included hormones/menstrual cycle (4.04), lack of sleep (3.94), environmental factors (3.76), and missing meals (3.62)

Types of Migraine

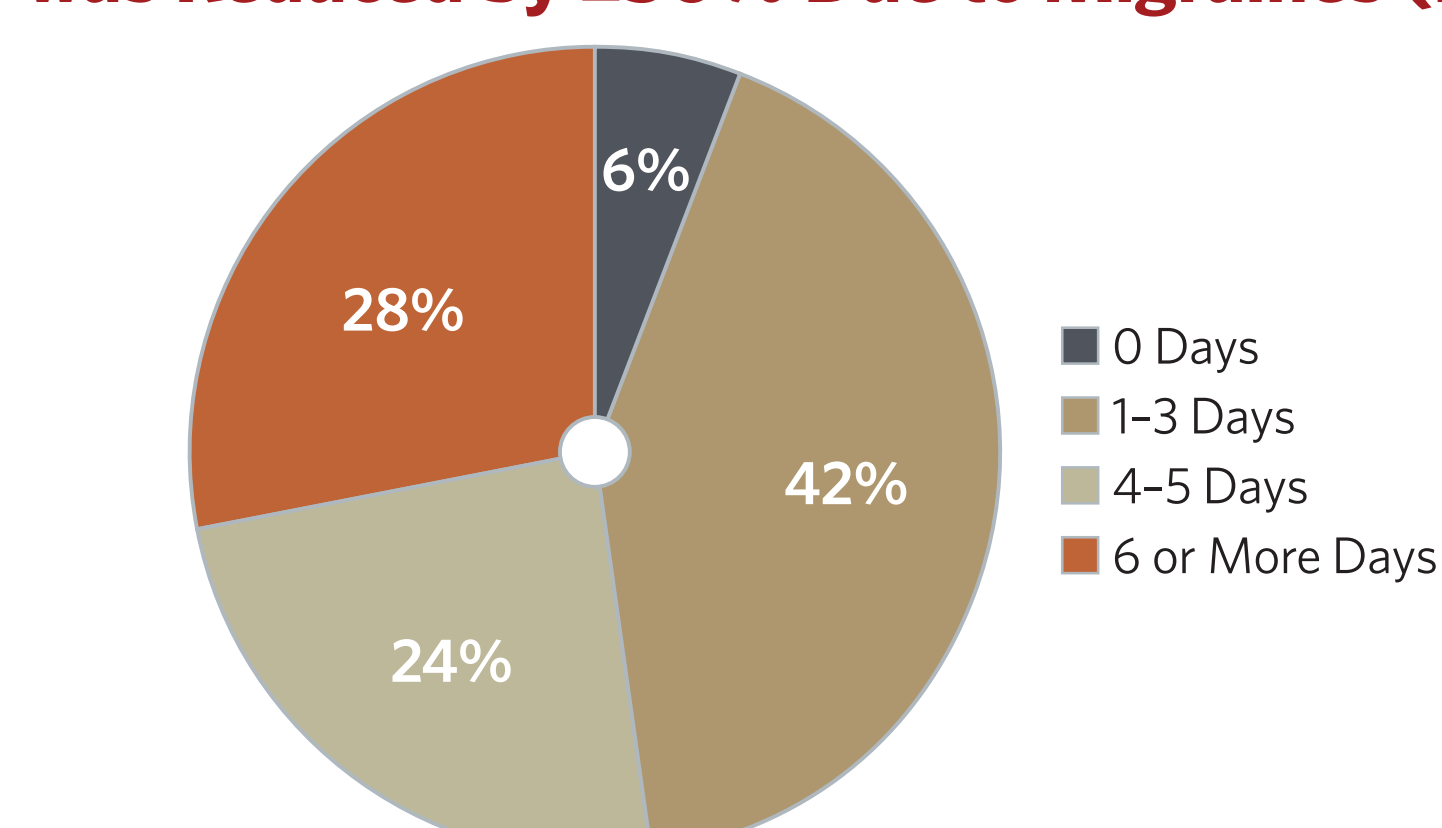
Figure 1. Most Frequently Reported Occurrence of Migraine



- The most frequently reported types of migraines were rapid onset migraine (34%) and migraine upon awakening in the morning (24%)

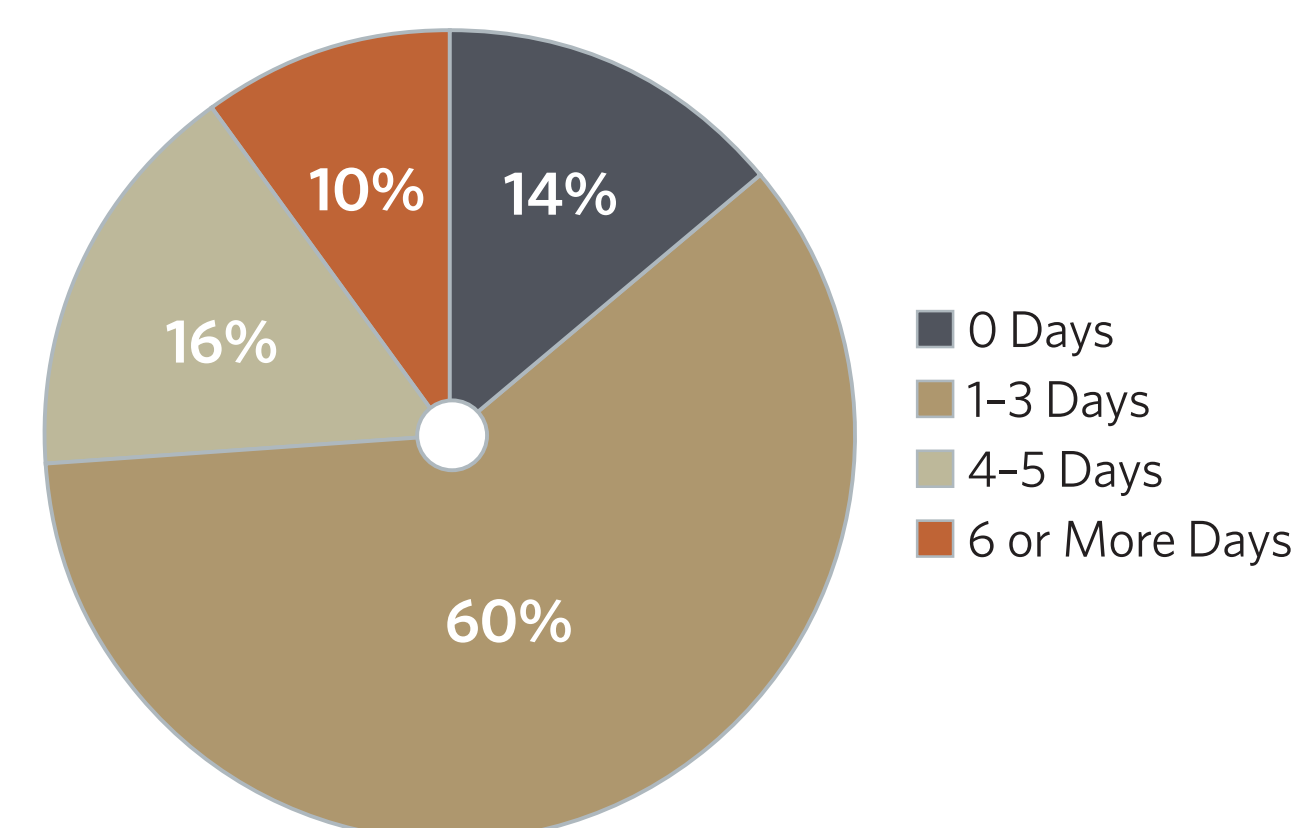
Quality of Life

Figure 2. Number of Days Productivity at Work or School was Reduced by ≥50% Due to Migraines (Last 3 Months)



- Almost all participants (94%) reported that their migraines reduce their productivity at work or school
- 48% and 18% reported missing work or school because of headaches 1 to 3 days and more than 3 days, respectively, in the last 3 months
- 28% of participants reported making major life changes (such as changing jobs or leaving college) because of their migraines

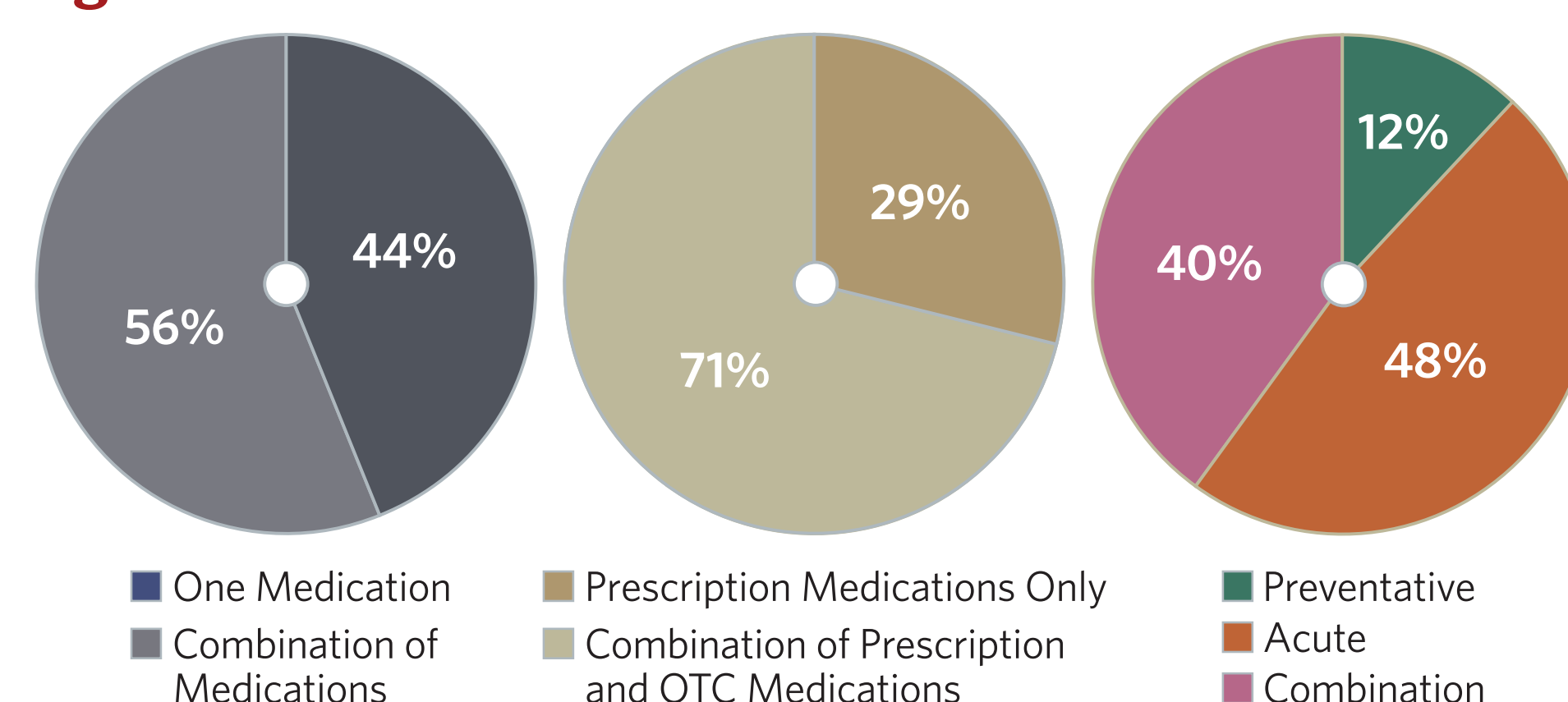
Figure 3. Number of Days Migraine Resulted in Missed Family, Social or Leisure Activities (Past 3 Months)



- Most participants said that migraines greatly affect their social and family lives and cause them to cancel plans or withdraw from social or leisure activities with some frequency
- Although they received emotional support from family and partners, most participants feel that non-sufferers do not fully understand what they go through
- Participants expressed frustration over missing many activities and their own attempts to predict and prevent their migraines

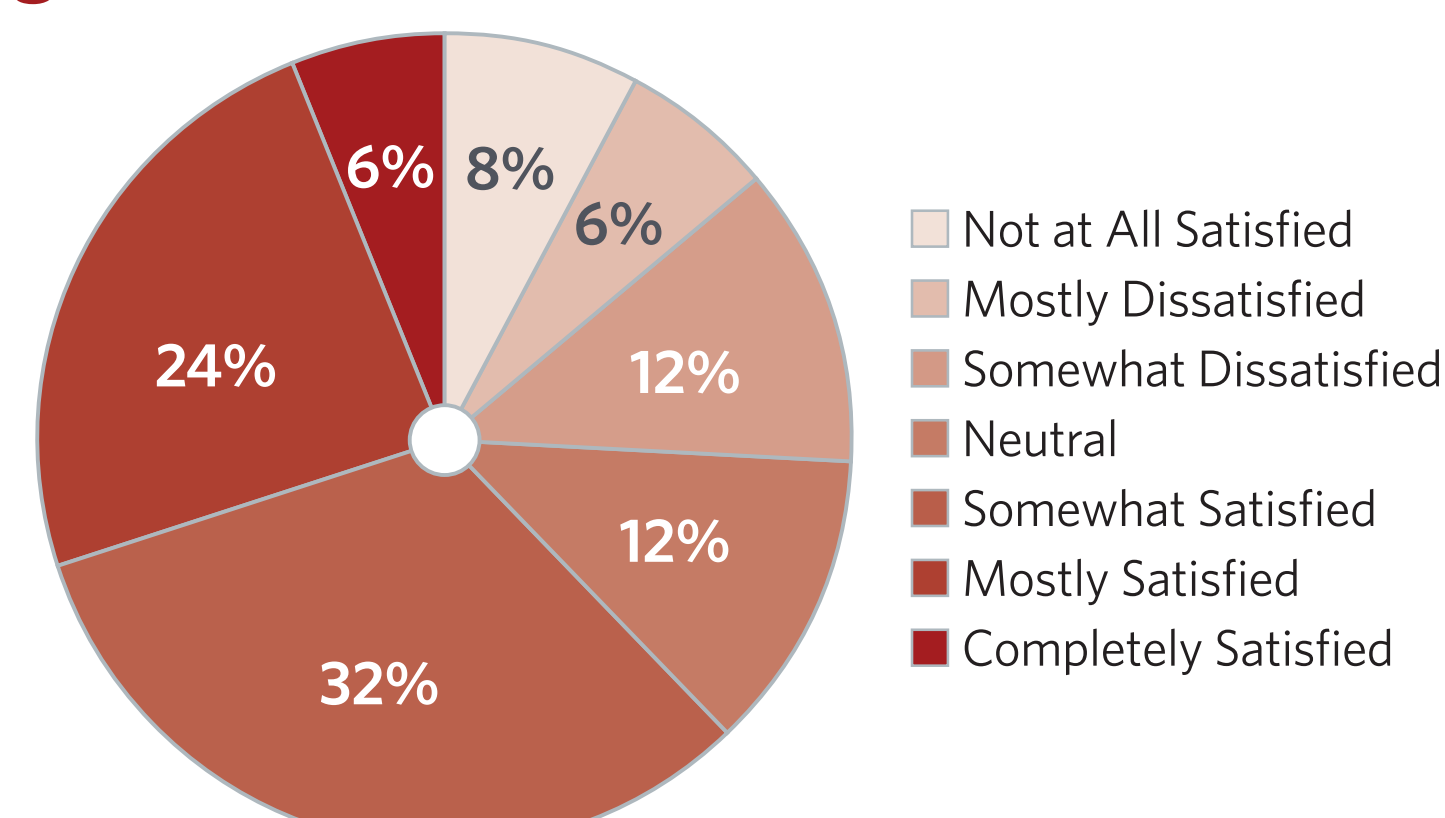
Treatment

Figure 4. One Medication or Combination of Medications



- Those who use a combination of Rx meds typically use a preventative daily, and an acute when needed
- Some use OTC meds for lower severity migraines and reserve Rx meds for more painful migraines or busier days
- Others use OTC meds as a first step to diminish pain or symptoms before taking prescribed meds
- 58% of participants who use acute prescription medications are reluctant to use them unless "absolutely necessary"
- 64% of participants reported that nausea and/or vomiting prevented them from taking their prescription migraine medication

Figure 5. Satisfaction with Current Medication



- 38% of subjects were either neutral or dissatisfied with their current medication
- Only 6% were completely satisfied with their current medication
- 72% rated their satisfaction with "Pain Free Achievement" as somewhat dissatisfied or worse
- Some also stated that they suffer "rebound" migraines after taking their medications
- 40% of participants expressed dissatisfaction with the time it takes to receive relief from their medication
- 64% have switched medications at least once, and up to 5 times in the past 3 years
 - 56% of participants switched due to lack of efficacy, e.g., no effect, incomplete effect, or inadequate length and/or speed of effect
 - 13% of participants switched due to side effects

Conclusions

Typical Migraine Experience

- The typical migraine sufferer has tried many different treatments, medications, and remedies over the course of their journey with the disease, mainly with incomplete levels of satisfaction
- The two most common types of migraines are rapid-onset migraine and early morning migraine
- Most participants would be open to trying a new treatment in the hopes that it would be quicker, more effective, and more consistently relieve their symptoms

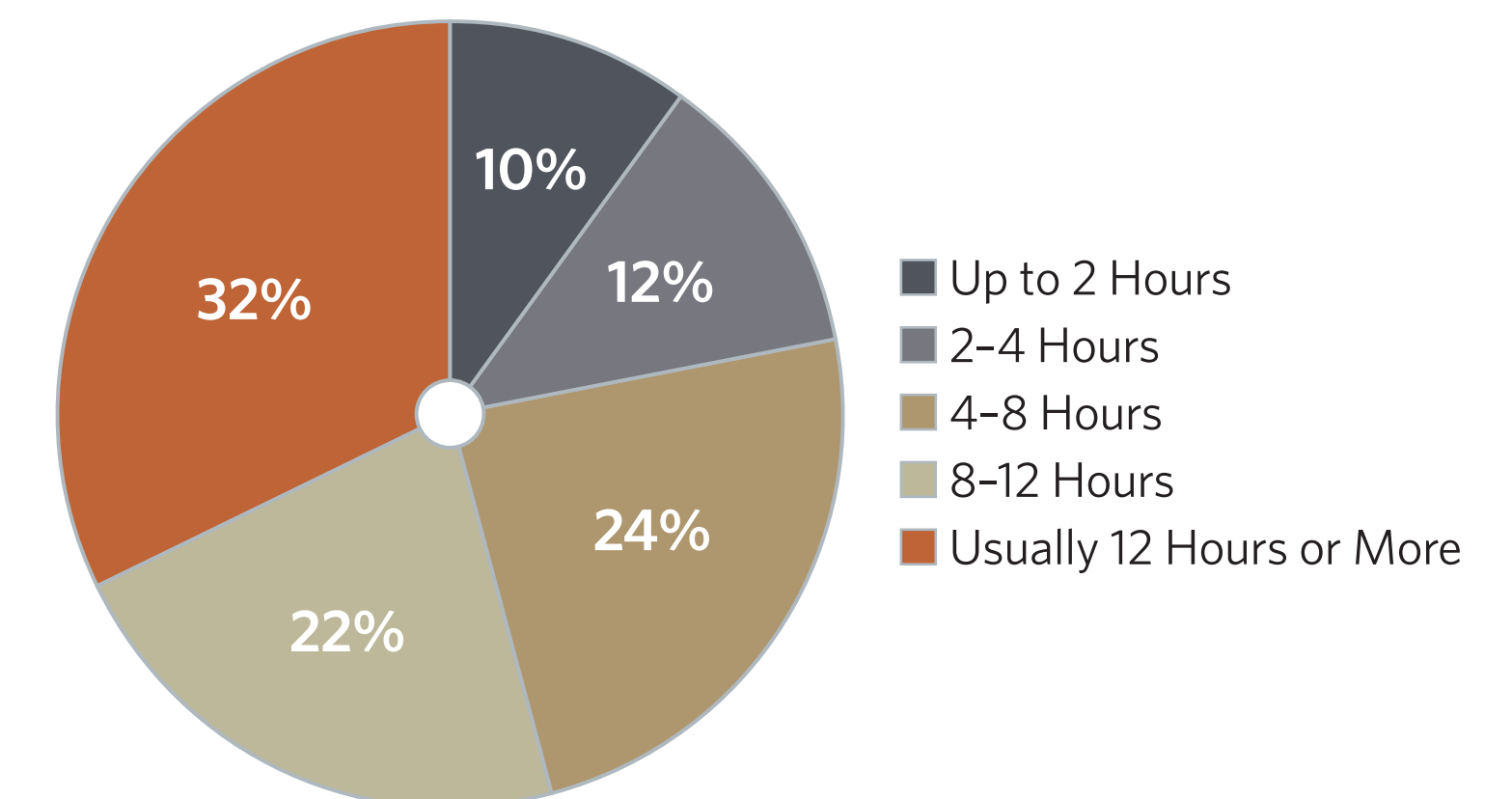
Unmet Needs

- Participants described their ideal medication to be fast acting (15 to 30 mins), long lasting (12-24 hours) and providing complete or near complete relief and would prefer a medication that they could take any time during the migraine
- Many were willing to accept minor side effects as a tradeoff for increased speed and efficacy
- Impel NeuroPharma is developing INP104 (POD®-DHE) to potentially address these unmet needs

Acknowledgments This study was sponsored by Impel NeuroPharma. The Curry Rockefeller Group, LLC, provided editorial support, funded by Impel NeuroPharma.

Disclosures Drs Ray and Shrewsbury are both full time employees of Impel NeuroPharma.

Figure 6. Average Length of Time Relief Lasts

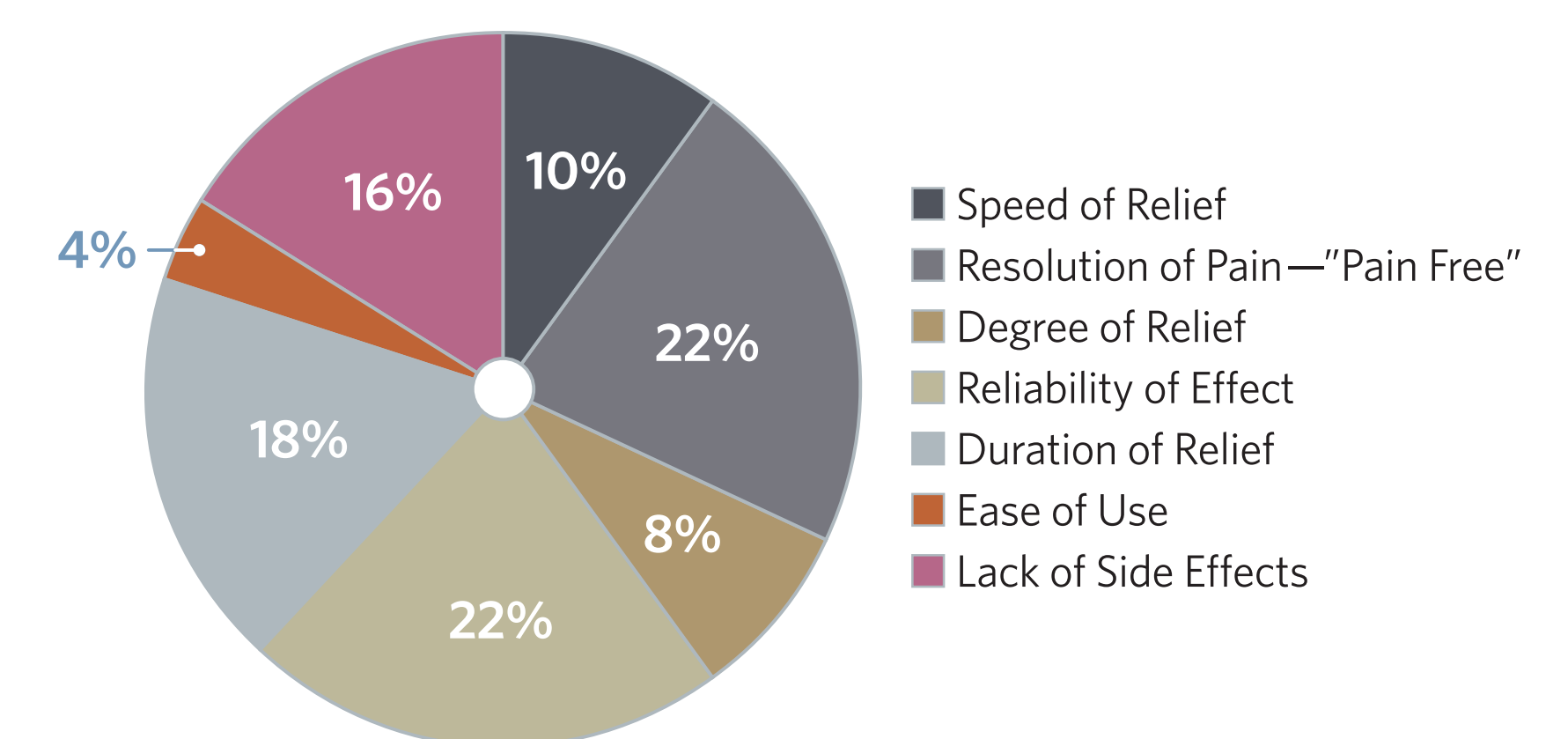


- 68% reported headache relief lasting ≤12 hours
- About 50% of participants said that they are only sometimes able to resume their normal daily activities after taking their medication
- Most are unable to fully function for the remainder of the day due to side effects or incomplete relief

Participants Seeking Emergency Medical Attention for Migraines Within the Past Year (%)

- 30% of participants sought emergency medical attention for their migraines during the last year
- 20% of these individuals were admitted to a hospital for >18 hours
- 62% of participants reported that they regularly see a physician specifically for their migraines
 - 32% report being seen by this physician every 3 months; 48% are seen every 6 months

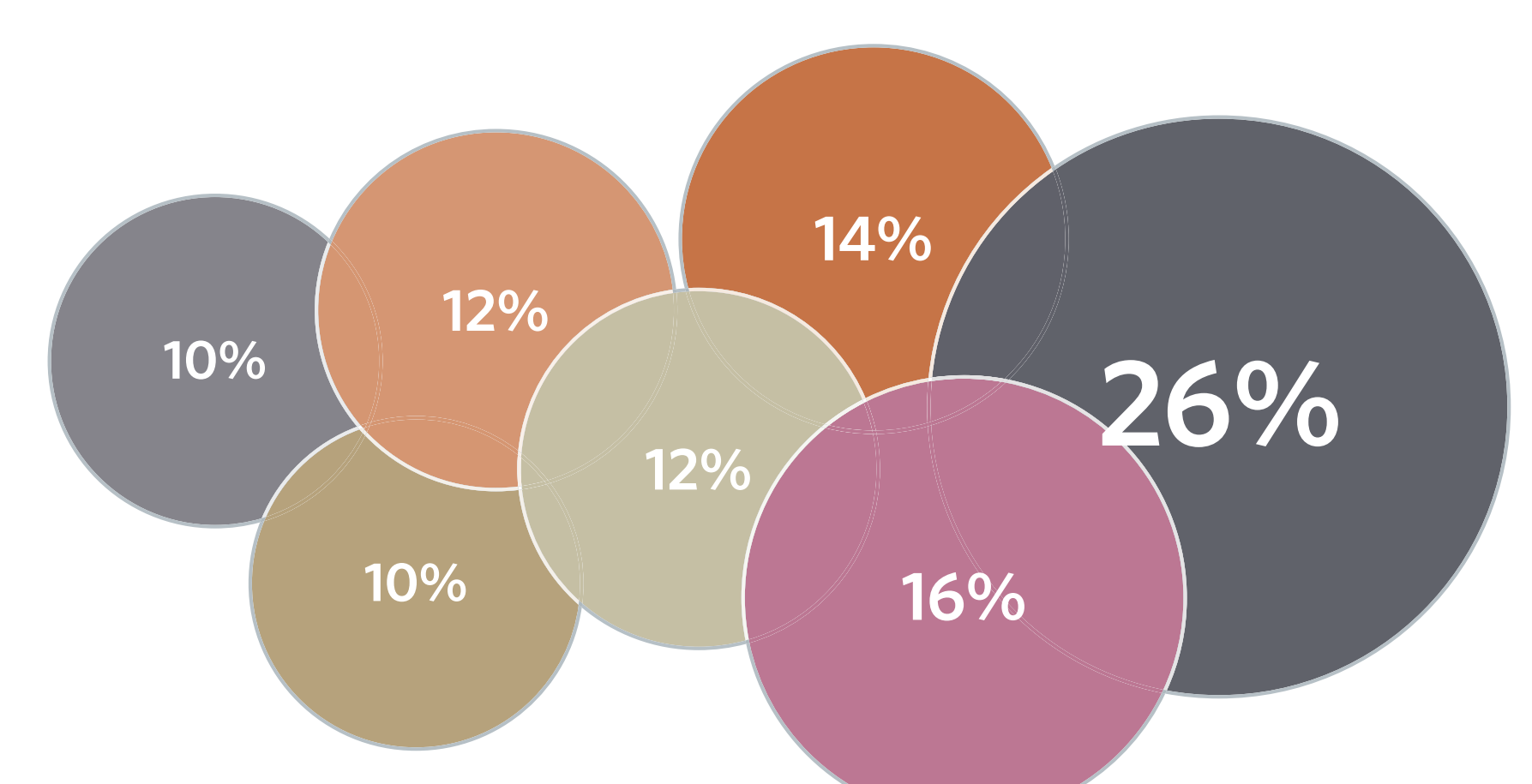
Figure 7. Participant Views on What Is Most Lacking From Current Medication



- Survey participants felt that speed of relief (22%), reliability of effect (22%) and duration of effect (18%) were lacking with their current treatments

Ideal Treatment

Figure 8. Medication Features of Most Interest to Patients



- The most mentioned features of an ideal acute migraine medication included:
 - Fast acting (15-30 mins)
 - Long-lasting (12-24 hours)
 - Providing complete or near complete relief
 - Able to be taken any time during the migraine
 - Having few or no side effects; although, many are willing to accept minor side effects as a tradeoff for increased speed and efficacy

