

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

Sutapa Ray,<sup>1</sup> Sheena K. Aurora,<sup>1</sup> John Hoekman,<sup>1</sup> Stephen B. Shrewsbury<sup>1\*</sup>

<sup>1</sup>Impel NeuroPharma, Seattle, WA \*Presenting Author



## Objectives

- To understand the experiences of individuals who suffer from migraines and how those experiences do or do not affect their daily lives
- To understand the typical pathways 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 (n=49)
  - 1-hour in-person individual-depth interviews (n=24), **OR**
  - 1-hour web-enabled telephone-depth interviews (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

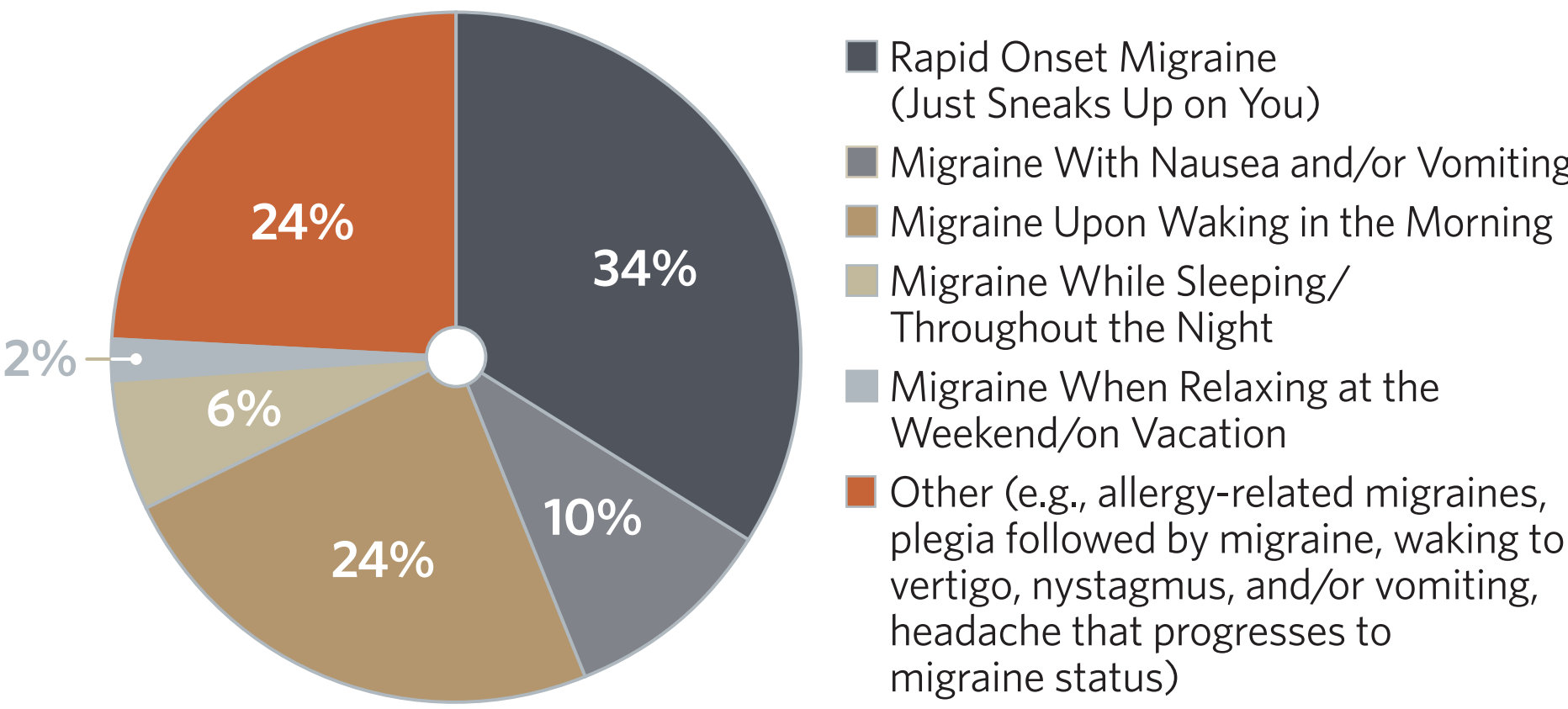
- 98% of the participants were females; 64% were aged 30 to 49
- 74% were white; 63% lived in the suburbs
- The majority had either a college (43%) or graduate (33%) degree
- 64% of participants were from households with an annual income >\$100K
- 56% of participants reported 3 to 5 migraines per month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

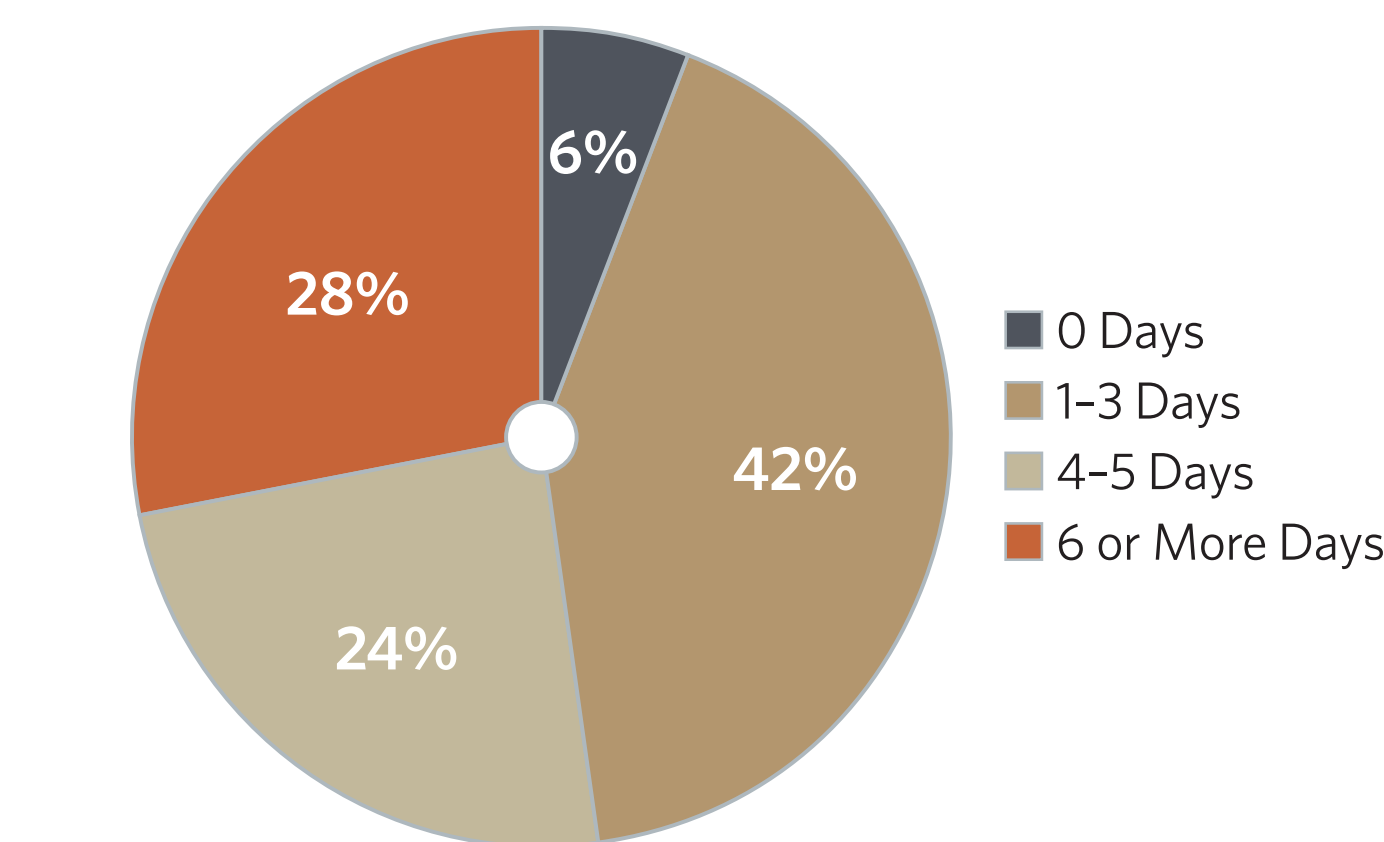
**Figure 1. Most Frequently Reported Occurrence of Migraine**



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

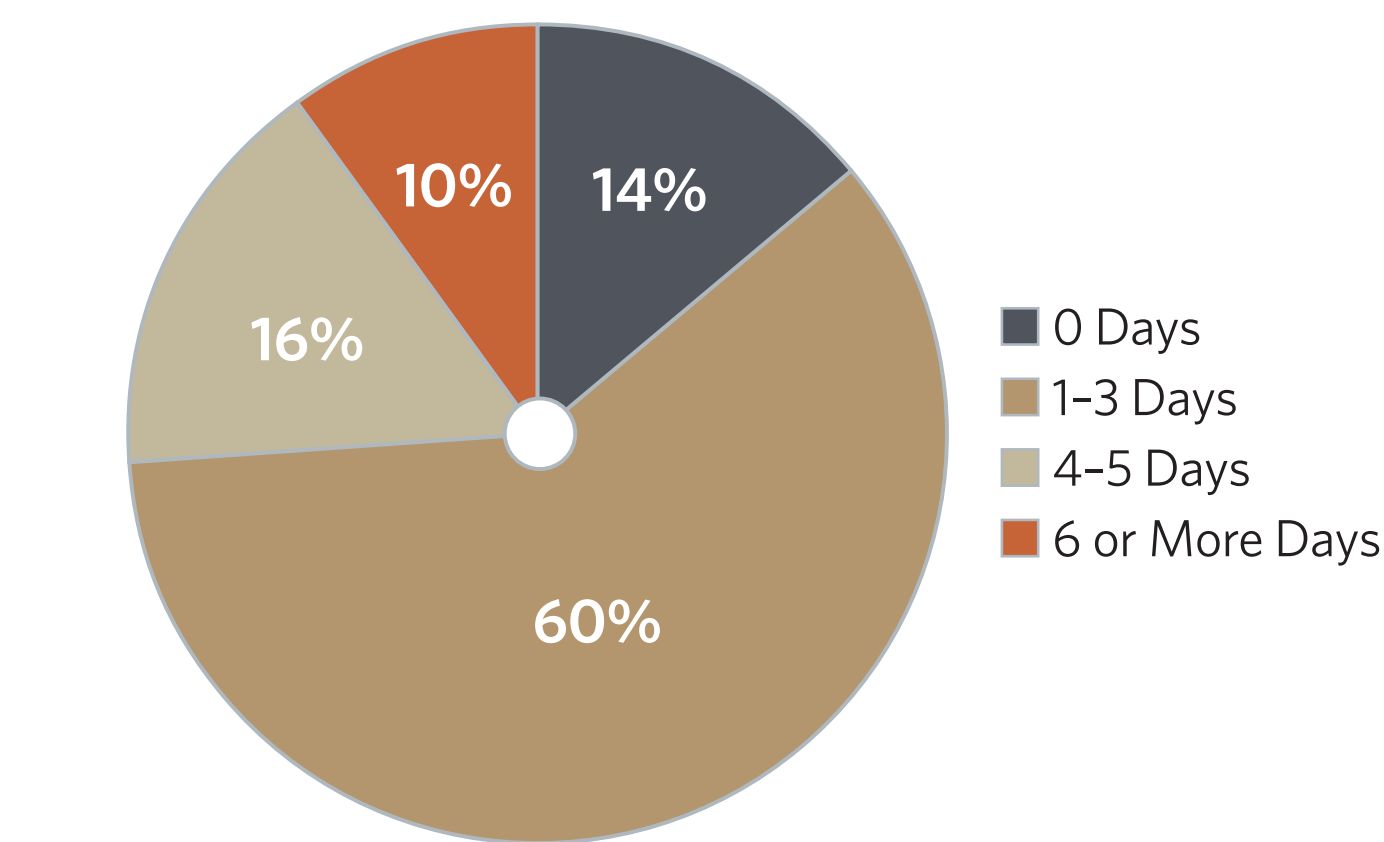
### Quality of Life

**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

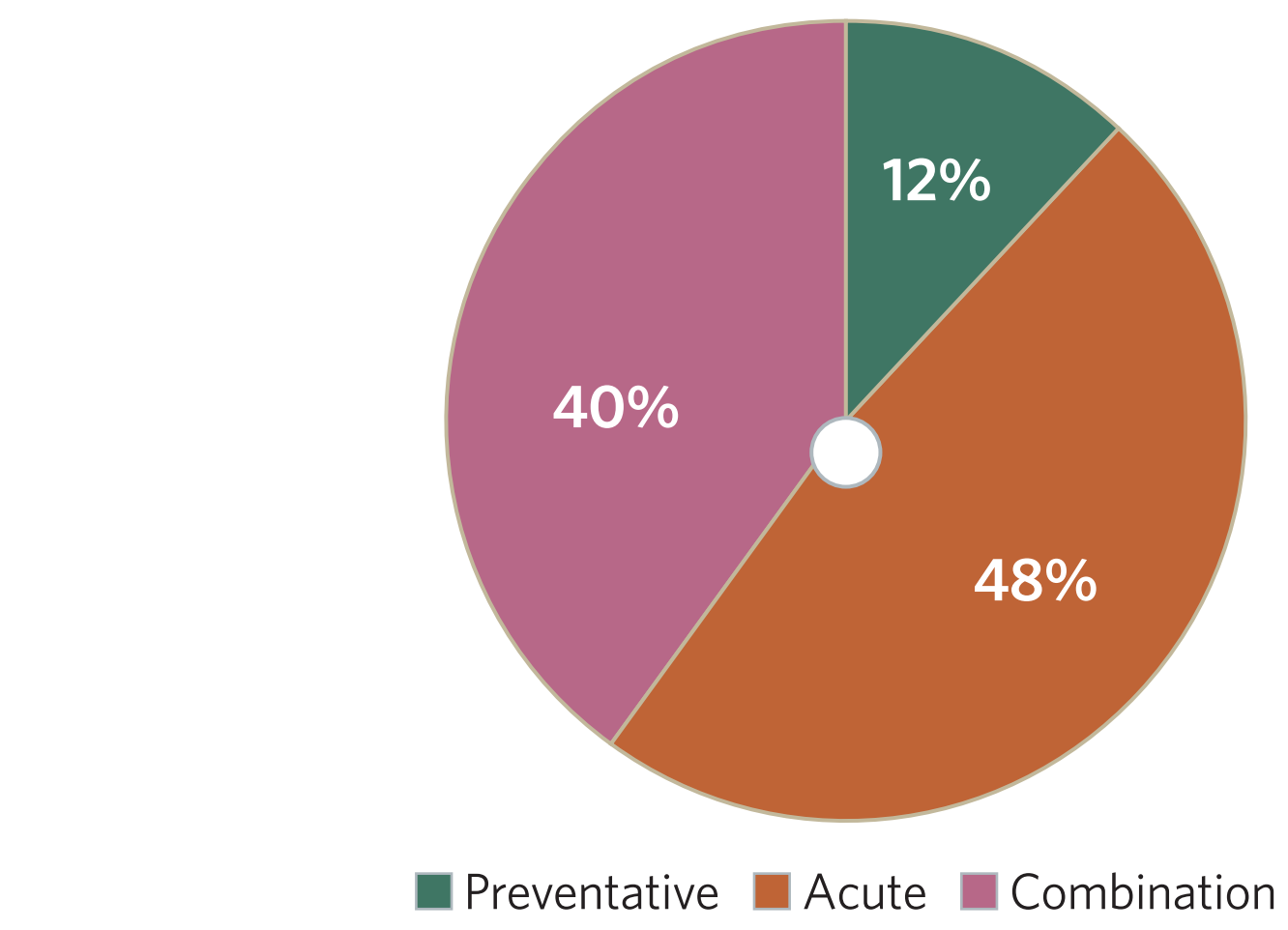
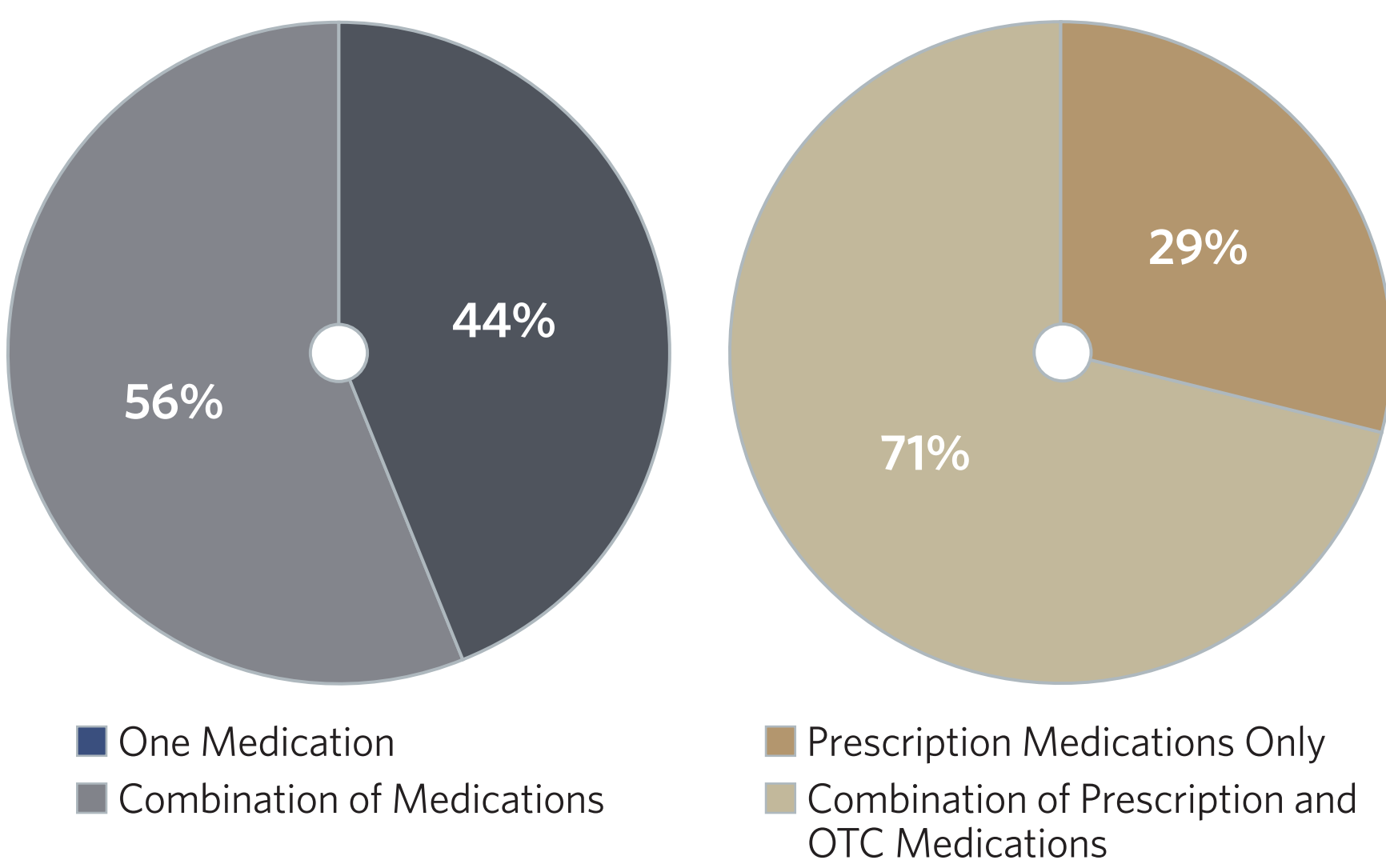
**Figure 3. Number of Days Migraine Resulted in Missed Family, Social, or Leisure Activities (Past 3 Months)**



- 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

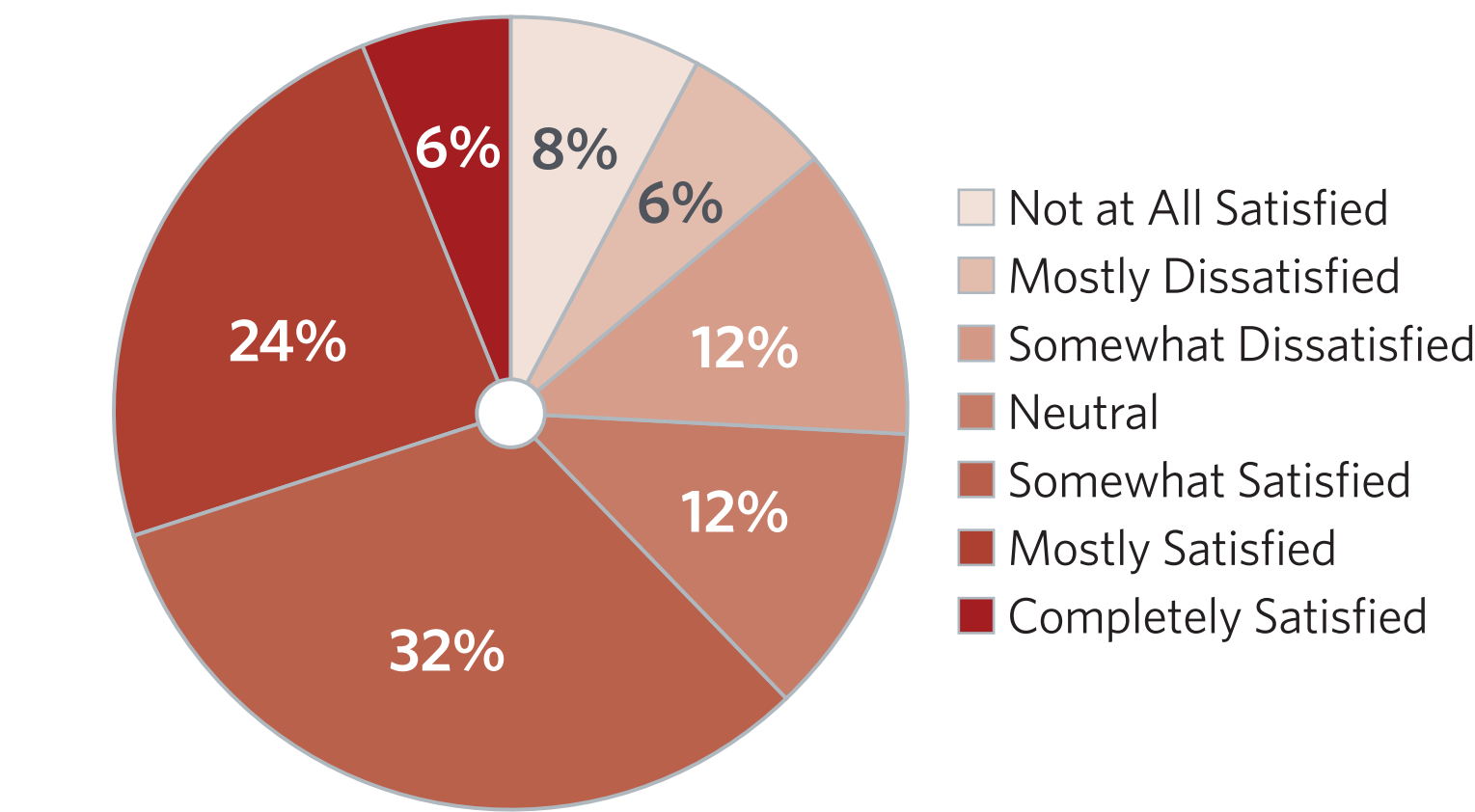
### Treatment

**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

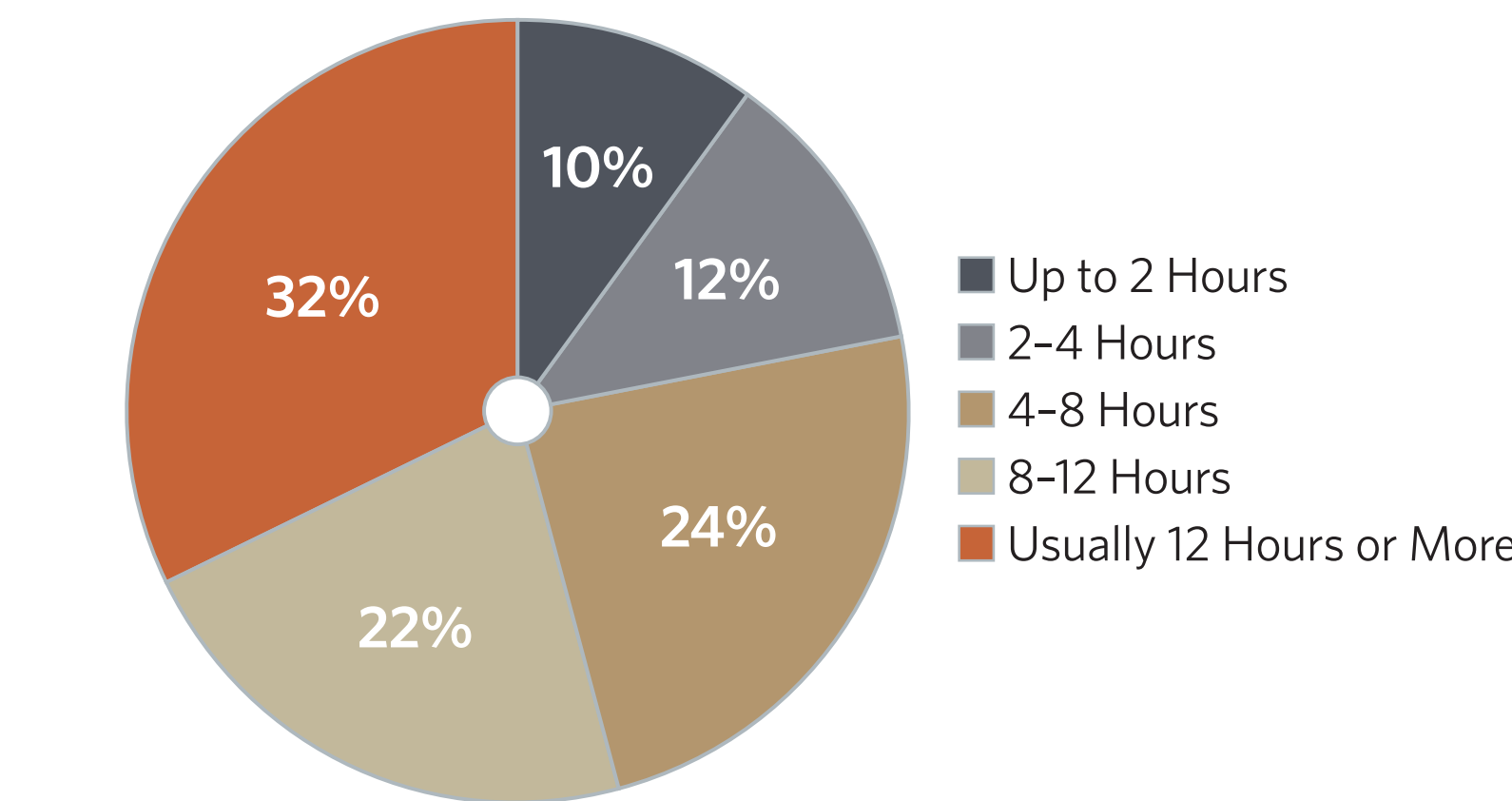
**Figure 5. Satisfaction with Current Medication**



- 38% of subjects felt 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

**Figure 6. Average Length of Time Relief Lasts**

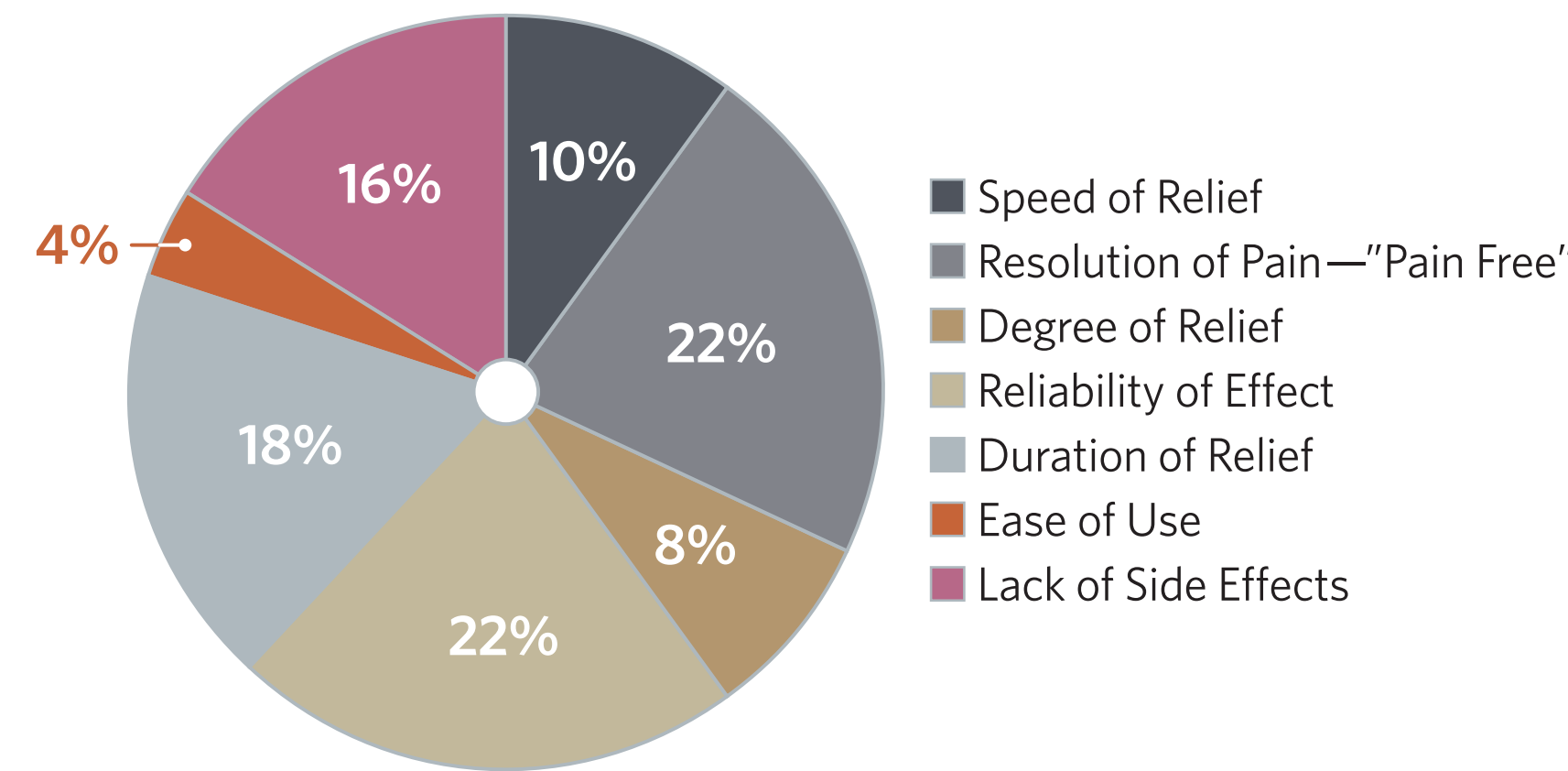


- 68% reported headache relief lasting ≤12 hours
- About 50% of participants said that they are only sometimes able to resume their normal daily activities after taking their medication
- Most are unable to fully function for the remainder of the day due to side effects or incomplete relief

### 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 in Current Medication**



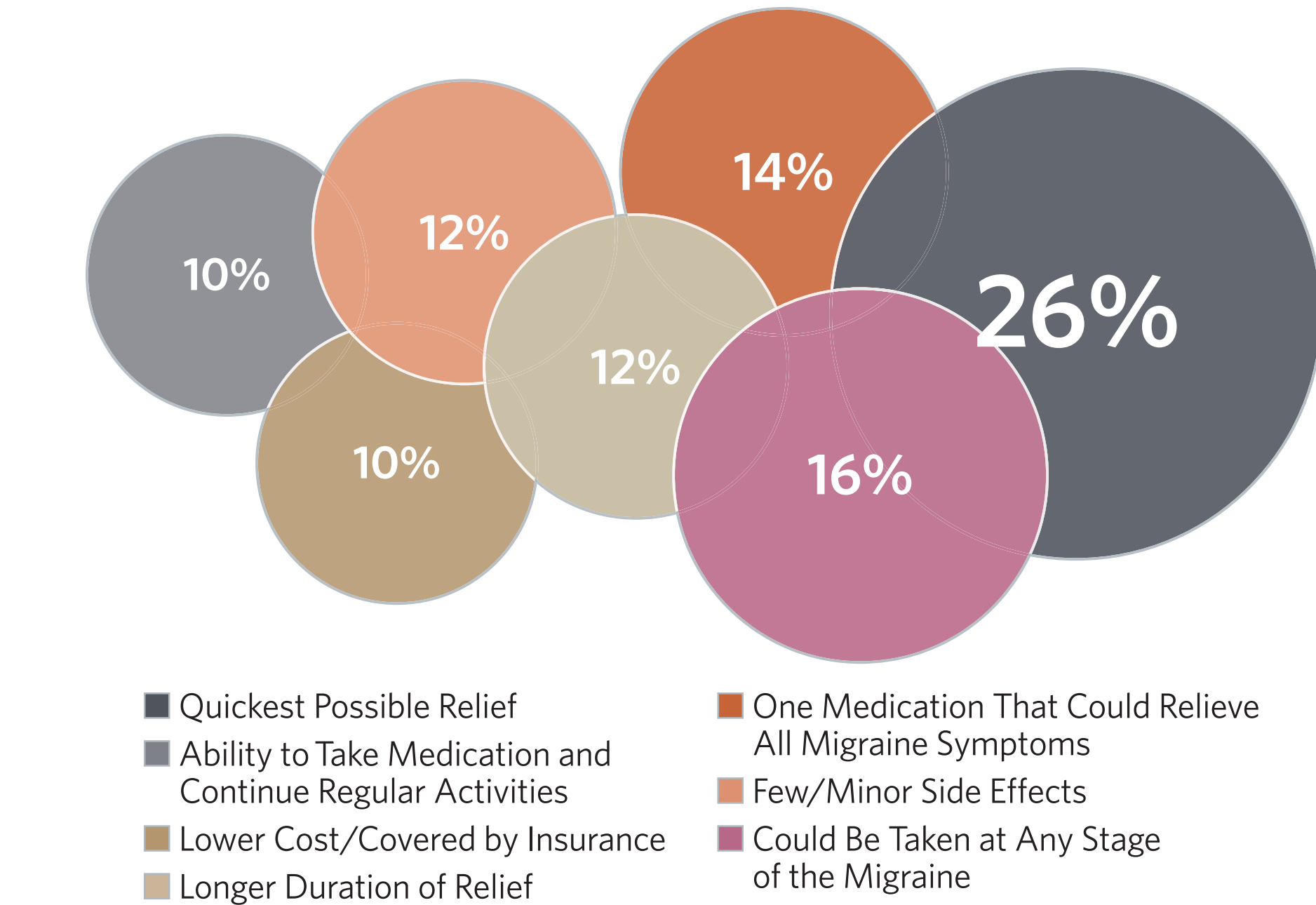
- Survey participants felt that speed of relief (10%), reliability of effect (22%), and duration of effect (18%) were lacking in their current treatments

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

**Disclosures** SR, SKA JH, and SBS are full-time employees and stockholders of Impel NeuroPharma.

### 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 minutes)
  - 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
  - One medication to relieve all symptoms

## 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 hope that it would be quicker, more effective, and more consistently relieve their symptoms

### Unmet Needs

- Participants described their ideal medication as fast-acting (15 to 30 minutes), 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