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Background and Objective

- Cardinal migraine-associated symptoms (nausea/vomiting, photophobia, and phonophobia) can impose significant disability and are a central focus of clinical care and research. However, little is known about how they unfold across the full migraine cycle from the patient's perspective
- The Migraine Clinical Outcome Assessment System (MiCOAS) project is an FDA-funded project focused on integrating patient input into the development of migraine clinical outcome assessments
- The objective of the current work was to describe differences in within-person patterns of cardinal migraine-associated symptoms across the phases of the migraine cycle

Methods

- N=40 individuals with self-reported, medically diagnosed migraine were screened to confirm diagnosis before participating in semi-structured interviews
- Interviews explicitly probed symptoms by headache phase using standardized open-ended questions where participants were asked to describe their “typical” experience during migraine phases (Table 1)
- Within-person patterns of symptom endorsement were described across migraine phases for the 3 specific cardinal symptoms (nausea/vomiting, photophobia, and phonophobia)
- Data were summarized using descriptive statistics (n, %) and by conditional branching pattern analyses with tree diagrams

Table 1. Description of migraine phases

Phase	Description
Pre-Headache	“the period of time between when your migraine attack begins up until the onset of your headache pain”
Headache	“the period of time during your migraine attack when you experience headache pain”
Post-Headache	“the period immediately after your headache pain subsides”
Interictal	“the time period in-between your migraine attacks”

Results

- Participants ranged from 21-70 years old, 77.5% were female, 67.5% were White, and 50% had chronic migraine
- Across participants, the most reported cardinal migraine-associated symptom by phase was:
 - Pre-headache: Photophobia (75%, n=30)
 - Headache: Photophobia (80%, n=32)
 - Post-headache: Photophobia (30%, n=12)
 - Interictal: Photophobia, Nausea/Vomiting (12.5%, n=5)
- Within-person symptom patterns varied across phases (Figure 1a-1c)
- The most common pattern entailed symptoms exclusively occurring during both pre-headache and headache phases
 - Nausea/vomiting: 27.5% (n=11)
 - Photophobia: 40% (n=16)
 - Phonophobia 27.5% (n=11)

- Symptoms were often reported during pre-headache, but not headache (Nausea/vomiting: 17.5%, n=7; Photophobia: 12.5%, n=5; Phonophobia 20.0%, n=8)

Conclusions

- There were common within-person patterns of symptom endorsement across phases that may support potential patient phenotypes, but results also suggested heterogeneity in the patient experience
- Findings highlight the importance of leveraging patient-centered research to better inform clinical practice and research

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Figure 1. Within-person patterns of symptom endorsement: nausea/vomiting (a), photophobia (b), phonophobia (c)

