

# #082 Preferences and Experiences of Over-the-Counter Medications for Osteoarthritis Signs and Symptoms

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## Background

Osteoarthritis (OA) affects over 32 million people in the United States, causing joint pain, stiffness, limited range of motion, and swelling. Managing OA typically involves a multimodal approach that includes pharmacological treatments, exercise, weight control, physical therapy, and sometimes surgery. Among these strategies, pharmacological treatments are the most commonly used. However, the factors that influence patients' preferences for over-the-counter (OTC) analgesic medications and their experiences with these treatments for managing OA symptoms remain unclear. Understanding these preferences and experiences is crucial for optimizing care and ensuring that patients receive the most effective and personalized treatment options.

## Objectives

Primary objectives

- To describe patients' preferences when choosing analgesic medications for the successful management of OA pain.
- To estimate the extent to which clinical, symptomatic, functional, personal, and environmental characteristics associate with the pattern of use of OA pain medications (used alone or in combination with other medications).

Secondary objectives

- To determine the relative importance of treatment attributes in the stated patient preference when choosing OTC pain medications for the successful management of OA symptoms.
- To describe the signs, symptoms, and impacts (how the signs and symptoms affect patients' day-to-day life – physically, emotionally, behaviorally, socially, or in any other way) that patients experience with OA.
- To describe the aspects associated with medication preferences that patients describe, such as the benefits experienced, what aspects of the treatment experience they prefer and whether it resolved their OA symptoms.

## Study Design

- Phase 1- Targeted Literature Review (TLR):** to identify patient preferences and factors influencing the use of OTC medications.
- Phase 2- Qualitative Phase:** Individual interviews (n=19) to reach a consensus on the most important attributes and factors to include in the construction of a conceptual model for choosing, using, and switching pain medication for managing OA symptoms.
- Phase 3- Quantitative Phase:** Longitudinal cohort study with online survey with two time points (n=1005 at entry, n=628 at follow-up) over two seasons (summer and winter) to understand medication preferences and experiences with OA medications. Included a Discrete-Choice Experiment and a conventional survey.
  - Inclusion Criteria:** Individuals with a self-reported OA diagnosis, using OTC medications regularly, being at least 18 years old, residing in the US, having internet access, and providing consent.
  - Exclusion Criteria:** Individuals with other arthritis types, recent surgery or major trauma, active inflammation, medication non-response, or using only prescription-based OTC medications.

## Participant Demographics and Clinical Characteristics

Enrollment:

- 1,736 of 18,138 screened participants were eligible and enrolled; 1,005 completed the study entry survey.
- Completed the follow-up survey: (628)

All values from follow-up survey reported in ( )

Demographic Characteristics:

Sex:

- Female 72.1% (61.9%);
- Male 27.8% (30.6%);
- Non-binary / non-conforming 0.1% (0.2%)

Race:

- White 77.0% (78.5%);
- Black or African American 12.9% (11.6%);
- Hispanic or Latino/a 5.6% (5.7%);
- American Indian/ Alaska Native 1.5% (1.3%);
- Asian 1.3% (1.3%);
- Native Hawaiian or Other Pacific Islander 0.0% (0.0%)

Self-reported OA severity:

- Minor OA 9.1% (8.0%);
- Mild OA 33.5% (29.0%);
- Moderate OA 46.9% (50.5%);
- Severe OA 10.5% (12.6%)

Symptom experienced due to OA (non-mutually exclusive):

- Pain 96.1% (95.4%);
- Stiffness 86.1% (83.3%);
- Swelling 49.6% (43.9%);
- Achiness 78.0% (76.3%);
- Reduced range of motion 69.9% (73.1%);
- Inflammation 59.4% (62.4%)

Medication switching recently:

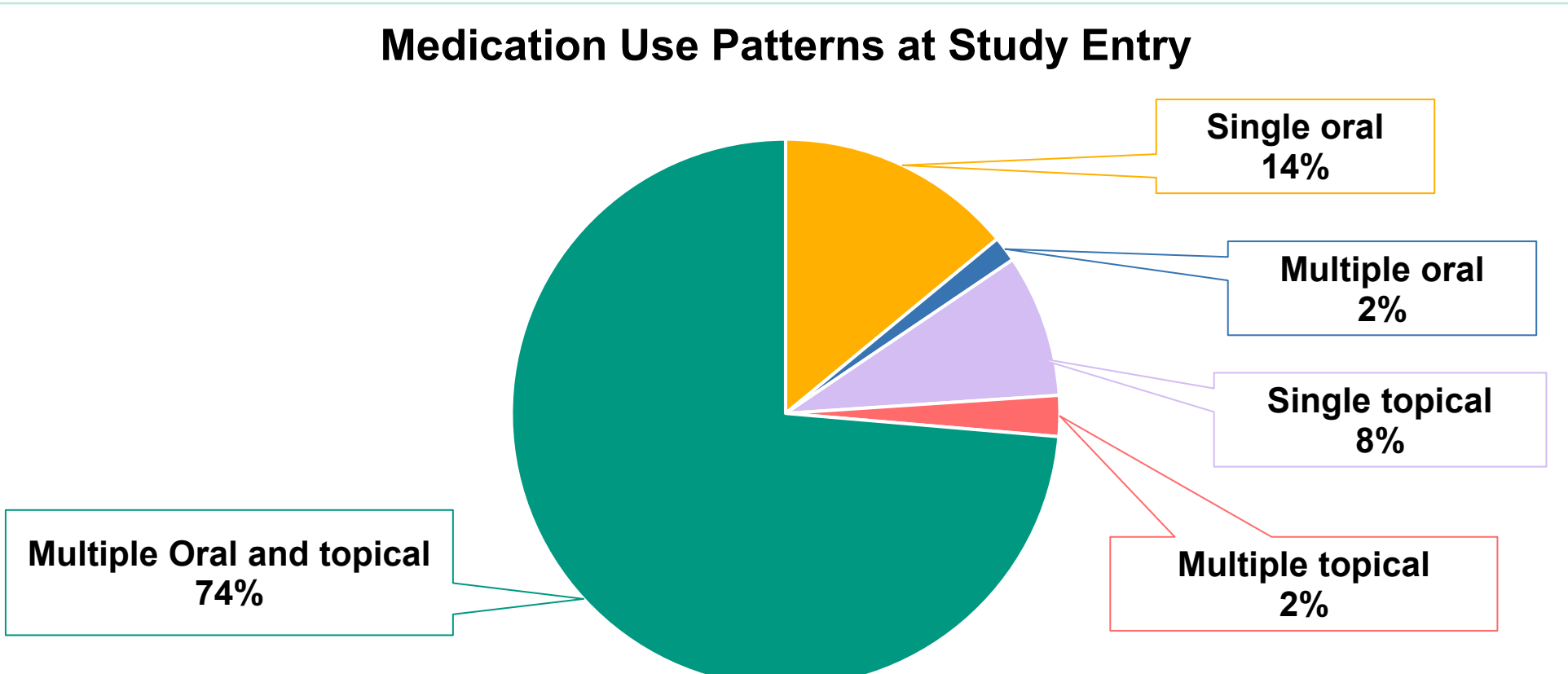
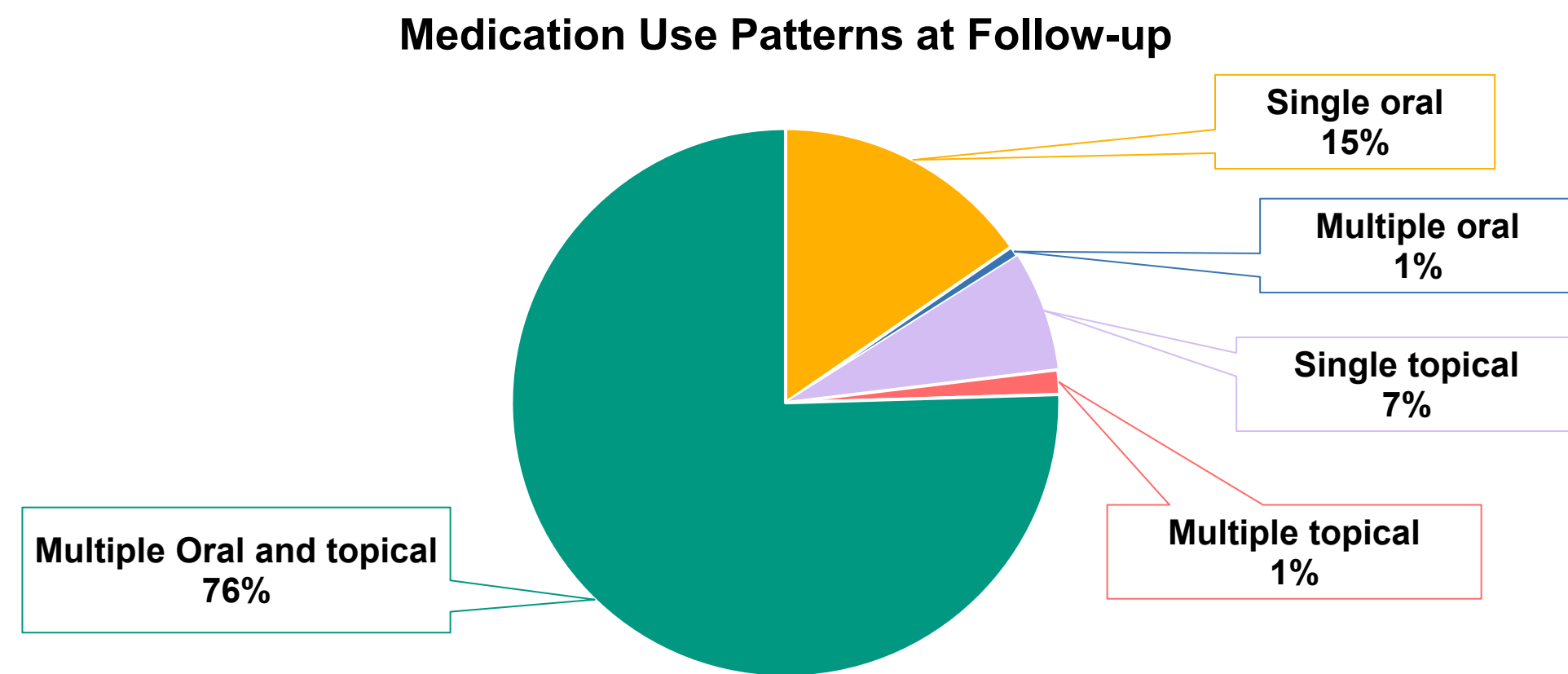
- Switched medications: 12.1% (9.2%)
- Most reported seasons for switching:
  - Inadequate symptom management;
  - Medication interactions;
  - Concerns about side effects

## Disclosures

All authors of this presentation were employees of or consultants to Johnson & Johnson Consumer, Inc, a Kenvue company.

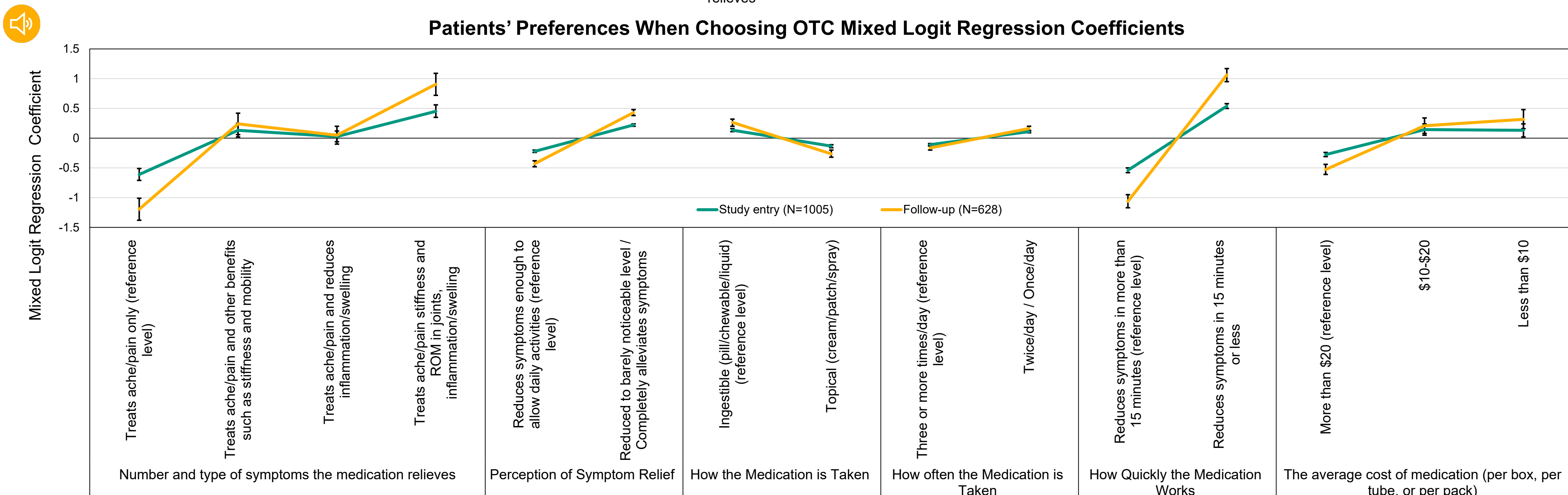
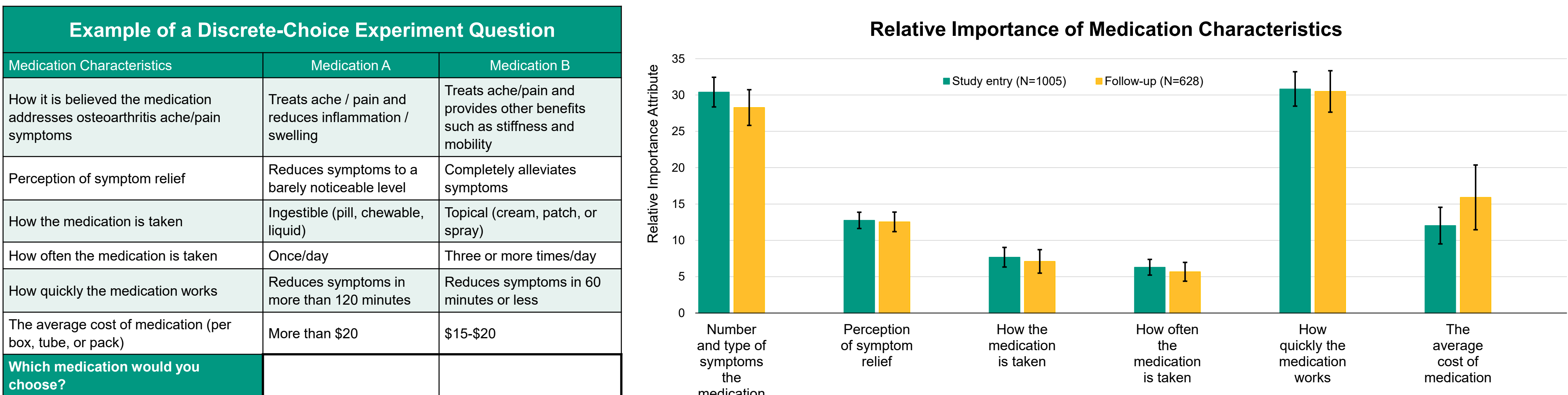
## Results

### Medication Use Patterns and Most Used Medications



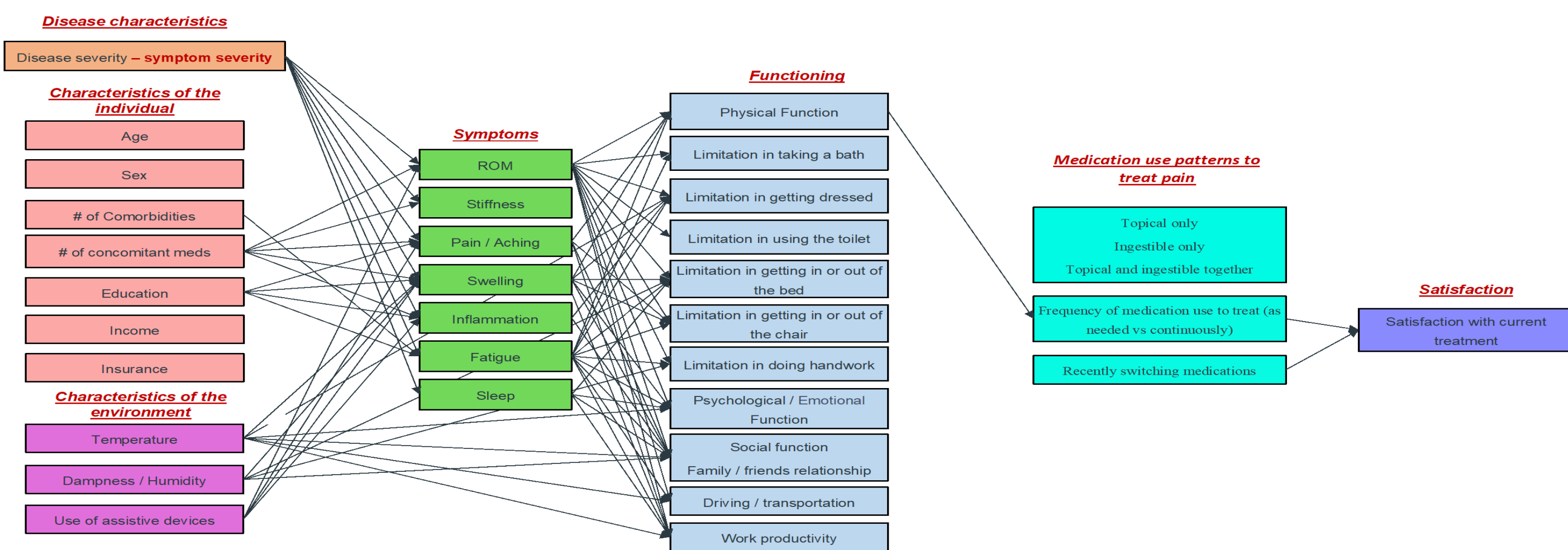
Top Two Most Used OTC Medications		
Medication use patterns	Study entry	Follow-up
Single oral medication	1 <sup>st</sup> : Acetaminophen (37.1%) 2 <sup>nd</sup> : Ibuprofen (33.6%)	1 <sup>st</sup> : Acetaminophen (41.7%) 2 <sup>nd</sup> : Ibuprofen (28.1%)
Single topical medication	1 <sup>st</sup> : Diclofenac (60.0%) 2 <sup>nd</sup> : Lidocaine (20.0%)/ Menthol (20.0%)	1 <sup>st</sup> : Diclofenac (75.0%) 2 <sup>nd</sup> : Menthol (25.0%)
Multiple oral medications	1 <sup>st</sup> : Ibuprofen (47.6%) 2 <sup>nd</sup> : Naproxen (25.0%)	1 <sup>st</sup> : Ibuprofen (54.5%) 2 <sup>nd</sup> : Naproxen (20.5%)
Multiple topical medications	1 <sup>st</sup> : Diclofenac (50.0%) 2 <sup>nd</sup> : Lidocaine (25.0%)	1 <sup>st</sup> : Diclofenac/ Lidocaine (33.3%) 2 <sup>nd</sup> : Menthol (22.2%)
Multiple oral and Topical medications	1 <sup>st</sup> Ibuprofen (24.1%) 2 <sup>nd</sup> Acetaminophen (19.9%) 1 <sup>st</sup> Diclofenac (16.2%) 2 <sup>nd</sup> Lidocaine (11.3%)	1 <sup>st</sup> Ibuprofen (25.7%) 2 <sup>nd</sup> Acetaminophen (19.7%) 1 <sup>st</sup> Diclofenac (14.4%) 2 <sup>nd</sup> Lidocaine (10.4%)

### Preferences for Medication Characteristics



### Path Analyses Results

- Greater OA disease severity, older age, female sex, and increased use of assistive devices are associated with more severe symptoms such as range of motion (ROM) limitations, stiffness, pain, swelling, inflammation, and fatigue.
- Physical function and daily activities are significantly impacted by lower range of motion, increased pain, swelling, stiffness, and fatigue, with mental health, social functioning, driving, transportation, and work productivity also affected.
- Less frequent medication use is associated with higher physical function scores, and satisfaction with current medications is higher with lower frequency of medication use and recent medication switching.
- Temperature and humidity affected OA symptoms—such as increased pain and stiffness during colder, damp conditions—these environmental factors did not significantly influence their overall medication use patterns. Additionally, consistent medication use patterns reported irrespective of seasonal variations.



## Conclusions

### Key Findings

- Preference for Rapid and Multi-Symptom Relief:**

Participants strongly preferred OTC medications that provide quick relief and address multiple patient observable symptoms, such as pain, stiffness, and range of motion (ROM).

- Oral Medications Over Topicals:**

Oral medications were favored over topical treatments due to ease of use, especially those that require less frequent dosing, making them more convenient for daily management.

- Influence of Disease Severity on Medication Use:**

Higher disease severity, particularly with limitations in ROM and swelling, was significantly associated with increased frequency of medication use, emphasizing the need for treatments that manage multiple symptoms.

- Satisfaction Tied to Effective Symptom Management:**

Participants who experienced better symptom control with fewer medications reported higher satisfaction, highlighting the importance of effective, consistent treatment strategies.

- Environmental Factors' Limited Impact on Medication Patterns:**

While participants believed temperature and humidity affected their OA symptoms, these environmental factors had minimal influence on their medication choices and usage patterns.

### Clinical Implications

Overall, the study emphasized the need for personalized treatment strategies that align with patient needs and preferences. Effective OA management should focus on rapid relief, addressing multiple symptoms, and minimizing the frequency of medication use.