

The Patient Journey in Knee OA: Variations in Patient Characteristics and Treatment by Physician Specialty

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Background

- Knee osteoarthritis (OA) affects 32.5 million US adults¹
- Knee OA may be diagnosed and treated by multiple specialties and comprises conservative and pharmacological treatments, intra-articular (IA) injections, and surgery
- Guidelines provide recommendations in idealized settings, but little documentation exists in real-world settings. This study aimed to assess patient characteristics and treatment patterns across 4 specialties: rheumatologists (RH), orthopedists (OS), sports medicine (SM) physicians, and pain specialists (PS)

Discussion and Conclusions

- Pain specialists saw more patients with pain syndromes/higher BMIs. Rheumatologists saw more patients with rheumatoid conditions. Patients treated by orthopedists used significantly more OTC NSAIDs/APAP than patients treated by rheumatologists
- The primary reason for treatment discontinuation was lack of efficacy (except for opioids [safety])
- Safety concerns were the second-line reason for treatment discontinuation for prescription NSAIDs and COX-2 inhibitors
- Although differences in patient characteristics and comorbidities existed across specialties, treatment strategies were similar. Newer treatments may provide additional options for existing treatments that have efficacy or safety concerns

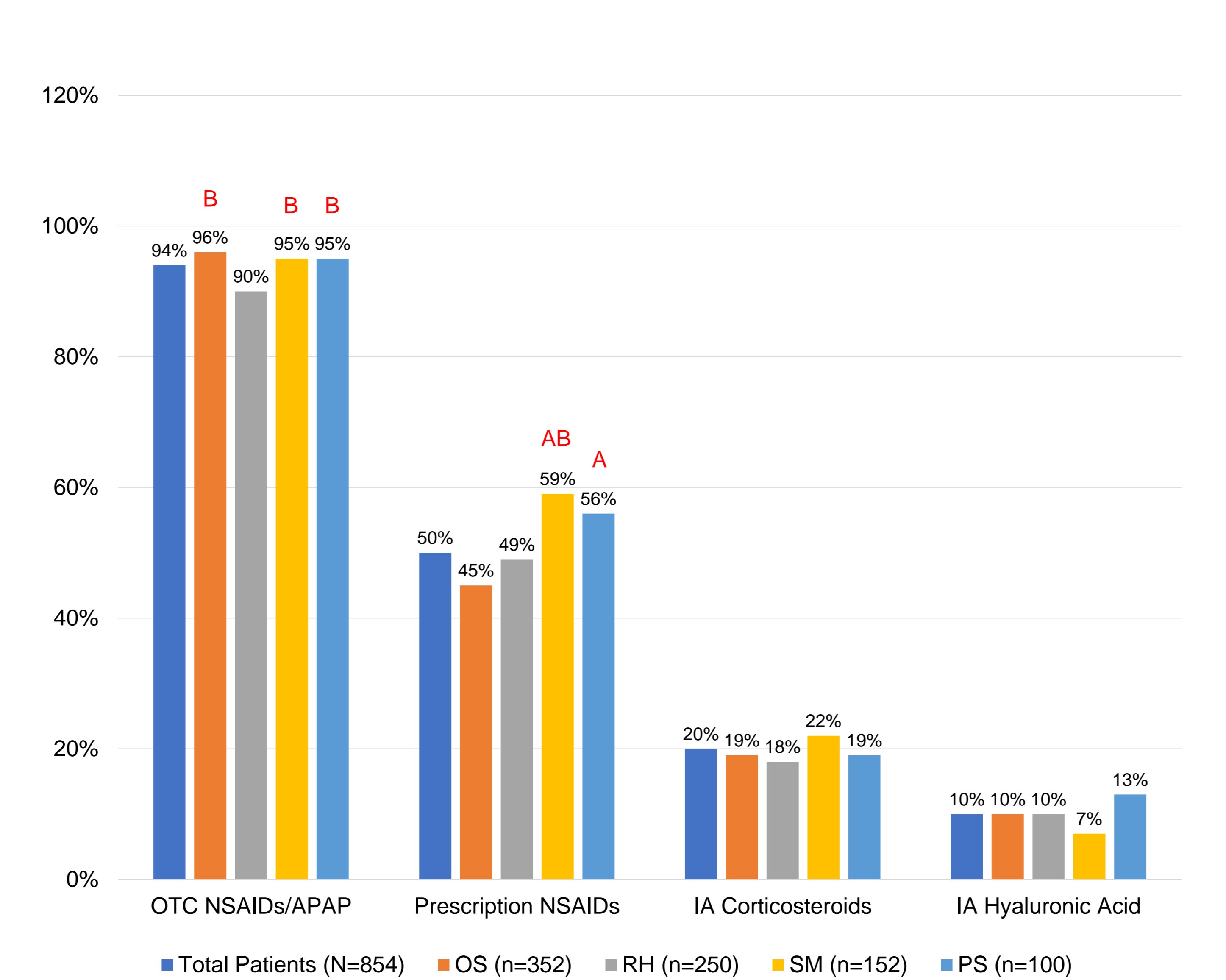
Results

Table 1. Demographic and Clinical Characteristics Stratified by Diagnosing Physician

	Total Patients N=854	Orthopedists (OS) n=352	Rheumatologists (RH) n=250	Sports Medicine (SM) n=152	Pain Specialists (PS) n=100
Mean age	65.2	65.5 ^C	65.4 ^C	63.3	66.3 ^C
65 years of age or older (total)	56% (n=476)	56% (n=198) ^C	58% (n=145) ^C	47% (n=71)	62% (n=62) ^C
Male	49% (n=419)	53% (n=185) ^B	42% (n=106)	51% (n=77)	51% (n=51)
Female	51% (n=435)	47% (n=167)	58% (n=144) ^A	49% (n=75)	49% (n=49)
Mean BMI	30.7	30.2	29.8	33.0 ^{AB}	31.6 ^{AB}
BMI ≥35	22% (n=189)	17% (n=61)	18% (n=45)	32% (n=49) ^{AB}	34% (n=34) ^{AB}
Not currently employed (total)	59% (n=503)	57% (n=201)	60% (n=150)	52% (n=79)	73% (n=73) ^{ABC}
- Due to functional dysfunction	7% (n=30)	5% (n=8)	7% (n=10)	5% (n=3)	15% (n=9) ^{ABC}
Mean pain (0–10 NRS)	5.6	5.5	5.5	5.5	6.5 ^{ABC}
Bilateral OA (total)	50% (n=428)	41% (n=146)	62% (n=96) ^{ACD}	49% (n=77)	51% (n=49)
Comorbidities					
Average # of comorbidities	2.6	2.3	2.6 ^A	2.8 ^A	3.2 ^{AB}
Hypertension	57% (n=485)	59% (n=206)	57% (n=142)	57% (n=87)	50% (n=50)
Obesity	38% (n=326)	33% (n=117)	40% (n=99) ^A	46% (n=70)	40% (n=40)
Hyperlipidemia	33% (n=279)	28% (n=98)	36% (n=89) ^A	41% (n=63) ^{AD}	29% (n=29)
Type 2 diabetes	25% (n=210)	22% (n=76)	22% (n=54)	33% (n=50) ^{AB}	30% (n=30) ^A
Chronic back pain	21% (n=182)	17% (n=60)	19% (n=48)	24% (n=36) ^A	38% (n=38) ^{ABC}
Anxiety/depression	19% (n=160)	17% (n=59)	16% (n=41)	21% (n=32)	28% (n=28) ^{AB}
CVD	18% (n=155)	18% (n=64)	15% (n=38)	17% (n=26)	27% (n=27) ^{ABC}

Key: Statistical significance, P<0.1; A: versus orthopedists, B: versus rheumatologists, C: versus sports medicine physicians, D: versus pain specialists

Figure 1. First-Line Treatments



Key: Statistical significance, P<0.1; A: versus orthopedists, B: versus rheumatologists

Table 2. Reasons for Discontinuation

Treatment (Are Using or Have Used); n (%)	Duration (Mean)	DC'd % (n)	Top Reasons for Discontinuation†
OTC NSAIDs, patches, or creams; n=660 (73%)	4.4 years	27% (177)	48% (n=85) lack of efficacy 37% (n=66) worsening of symptoms 15% (n=26) residual symptoms 19% (n=33) unknown
Acetaminophen; n=606 (71%)	4.8 years	28.5% (173)	57% (n=98) lack of efficacy 25% (n=44) worsening of symptoms 13% (n=23) residual symptoms 20% (n=35) unknown
Prescription NSAIDs (oral or topical); n=561 (66%)	3.7 years	31.5% (177)	38% (n=67) lack of efficacy 27% (n=47) safety concerns 19% (n=33) side effects 14% (n=24) unknown
COX-2 inhibitors; n=261 (31%)	2.6 years	49.4% (129)	41% (n=53) lack of efficacy 21% (n=27) safety concerns 18% (n=23) cost 13% (n=17) unknown
Opioids; n=173 (20%)	3.2 years	32% (55)	51% (n=28) safety concerns 36% (n=20) side effects 16% (n=9) lack of efficacy 18% (n=10) unknown
Prescription antidepressants; n=89 (10%)	3.0 years	25% (22)	36% (n=8) lack of efficacy 18% (n=4) side effects 36% (n=8) unknown
Injectables			
IA corticosteroids; n=512 (60%)	1.4 years	82.4% (422)	17% (n=73) lack of efficacy 14% (n=59) cost of medication 12% (n=50) worsening of symptoms 48% (n=201) unknown
IA hyaluronic acid; n=187 (22%)	2.0 years	52.4% (98)	61% (n=60) lack of efficacy 22% (n=22) worsening of symptoms 12% (n=12) residual symptoms 9% (n=9) cost 10% (n=10) unknown

†Reasons for discontinuation are not mutually exclusive.

Methods

- Physicians with >2 years of practice and >10 knee OA patients per week were interviewed about their 2 most recent knee OA patients. Interviews (structured questions and answers) assessed demographics, referrals, comorbidities, time to treatment, and lines of treatment
- Multiple responses were allowed for first-line treatments and reasons for discontinuation, which resulted in totals >100%
- As this study was designed to assess effect modifications, a confidence level of 90% was used
- Interviews were conducted between March and April 2019. This project was exempt from IRB review and HIPAA consent

Limitations

- Limitations include potential selection bias, confounding by risk factors, inability to show causation, small sample size, and missing data
- Treatment duration was identified before COVID-19

References

1. United States Bone and Joint Initiative: The Burden of Musculoskeletal Diseases in the United States (BMUS), Fourth Edition. Rosemont, IL.
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