**International Journal of Medical and Pharmaceutical Research**

Online ISSN-2958-3683 | Print ISSN-2958-3675
Frequency: Bi-Monthly
Available online on: https://ijmpr.in/

Original Article

# A Cross-Sectional Survey to Evaluate Physician Practice Patterns and Attitudes Toward Tofacitinib Use in Rheumatoid Arthritis, Ankylosing Spondylitis, and Psoriatic Arthritis

**Dr. Ajitkumar Gondane[1], Dr Nishikant Madkholkar[1], Dr Manthan Mehta[2], Dr Kushal Sarda[3], Dr Akhilesh Sharma[4]**

*[1]Manager, Alkem laboratories,*
*[2]Associate General Manager, Alkem laboratories, Mumbai,*
*[3]General Manager, Alkem laboratories, Mumbai,*
*[4]Chief Medical officer, Alkem laboratories, Mumbai*



**Corresponding Author:**

**Dr. Ajitkumar Gondane**
Manager, Alkem laboratories, Mumbai
**Email:**
ajitkumar.gondane@alkem.com

*Received: 30-04-2026*
*Accepted: 07-05-2026*
*Available online: 29-05-2026*



## ABSTRACT

**Background**: Tofacitinib, an oral Janus kinase inhibitor, has emerged as an important therapeutic option in the management of inflammatory arthritis, including rheumatoid arthritis (RA), ankylosing spondylitis (AS), and psoriatic arthritis (PsA). However, real-world data on physician prescribing patterns and perceptions in India remain limited.
**Objective**: To evaluate physician practice patterns, clinical preferences, and attitudes toward the use of tofacitinib in routine clinical practice.
**Methods**: A cross-sectional, questionnaire-based survey was conducted among orthopedic surgeons and rheumatologists across India. A total of 127 physicians participated. A central ethics committee waiver was obtained prior to the conduct of the survey (02 December 2025). Data were analyzed descriptively and presented as percentages.
**Results**: The majority of physicians reported prescribing tofacitinib either frequently (44.1%) or very frequently (40.9%). It was predominantly used for RA (90.6%), followed by PsA (19.7%) and AS (12.6%). Most physicians preferred initiating tofacitinib after failure of conventional synthetic DMARDs (68.5%), although 44.1% considered its use early in the treatment algorithm. Tofacitinib was perceived as highly effective by 73.2% of respondents, with 76.4% reporting symptomatic improvement within 1–2 weeks. In terms of symptom control, 73.2% rated it as highly effective. The drug demonstrated a favorable safety profile, with 81.1% reporting it as very safe and well tolerated. Key factors influencing preference over biologics included oral administration (87.4%), faster onset (79.5%), cost considerations (76.4%), and safety profile (77.2%).
**Conclusion**: Tofacitinib is widely utilized in clinical practice across India, particularly for RA, with physicians reporting high efficacy, rapid onset of action, and good tolerability. Its oral route, cost advantages, and favorable safety profile contribute significantly to its preference over biologic therapies.

***Keywords:*** Tofacitinib; Rheumatoid Arthritis; Ankylosing Spondylitis; Psoriatic Arthritis, Janus Kinase Inhibitors, India.

## INTRODUCTION

Inflammatory arthritis, including rheumatoid arthritis (RA), ankylosing spondylitis (AS), and psoriatic arthritis (PsA), comprises a group of chronic, immune-mediated inflammatory disorders associated with significant morbidity, progressive joint damage, functional impairment, and reduced quality of life. RA is characterized by persistent synovial inflammation leading to cartilage destruction and bone erosions, while AS primarily affects the axial skeleton causing chronic back pain and spinal stiffness, and PsA involves peripheral and axial joints along with skin and nail manifestations. These conditions are often associated with systemic and extra-articular complications, including cardiovascular, ocular, and metabolic

comorbidities, further increasing disease burden. Although advances in therapeutic strategies, including biologic agents and targeted synthetic disease-modifying antirheumatic drugs, have substantially improved disease management and clinical outcomes, achieving sustained remission or optimal disease control remains challenging in many patients due to inadequate response, intolerance, loss of efficacy over time, or safety concerns with existing therapies. [1,2]

Conventional synthetic disease-modifying antirheumatic drugs (csDMARDs), such as methotrexate, have long been the cornerstone of treatment. However, a significant subset of patients fails to achieve sustained remission or low disease activity with csDMARDs alone. The advent of biologic DMARDs (bDMARDs) has improved outcomes, but their use is often limited by high costs, parenteral administration, immunogenicity, and access-related challenges, particularly in resource-constrained settings. [3,4]

Conventional synthetic disease-modifying antirheumatic drugs (csDMARDs), particularly methotrexate, have long served as the foundation of treatment for inflammatory arthritis and have demonstrated effectiveness in reducing disease activity and slowing structural progression. However, a substantial proportion of patients fail to achieve sustained remission or low disease activity with csDMARD therapy alone, necessitating treatment escalation. The introduction of biologic disease-modifying antirheumatic drugs (bDMARDs) has significantly improved clinical outcomes and functional status in patients with rheumatoid arthritis, ankylosing spondylitis, and psoriatic arthritis; nevertheless, their use is frequently limited by factors such as high treatment costs, parenteral administration, risk of immunogenicity, and restricted accessibility, particularly in resource-limited healthcare settings. [5,6,7]

Tofacitinib, an oral Janus kinase (JAK) inhibitor, represents an important advancement in the management of inflammatory arthritis as a targeted synthetic disease-modifying antirheumatic drug (tsDMARD). By selectively inhibiting JAK1 and JAK3-mediated intracellular signaling pathways, tofacitinib modulates the activity of multiple pro-inflammatory cytokines involved in immune activation and disease progression. Clinical trials and real-world evidence have demonstrated that tofacitinib effectively reduces disease activity, improves clinical symptoms and physical function, and inhibits structural joint damage in patients with rheumatoid arthritis, while growing evidence also supports its therapeutic efficacy in psoriatic arthritis and ankylosing spondylitis. [8,9]

While global evidence supports the efficacy and clinical utility of Tofacitinib in inflammatory arthritis, limited data are available regarding physician practice patterns, prescribing preferences, and perceptions related to its use in India. Understanding real-world treatment approaches, therapeutic positioning, and clinician attitudes is essential for optimizing disease management strategies, improving patient outcomes, and identifying existing gaps in clinical practice. Therefore, the present study was conducted to evaluate the practice patterns, prescribing behavior, and perspectives of orthopedic surgeons and rheumatologists across India regarding the use of tofacitinib in the management of inflammatory arthritis.

## METHODOLOGY

This was a cross-sectional, questionnaire-based survey conducted among orthopedic surgeons and rheumatologists across India to evaluate real-world practice patterns and attitudes toward the use of tofacitinib in inflammatory arthritis, including rheumatoid arthritis, ankylosing spondylitis, and psoriatic arthritis.

A structured questionnaire was designed to capture demographic details and key clinical aspects, including frequency of prescription, indications, timing of initiation, perceived efficacy, onset of action, symptom control, safety and tolerability, and factors influencing the choice of tofacitinib over biologics. The questionnaire consisted of multiple-choice and single-best-response questions, with some items allowing multiple responses.

The survey was administered to practicing clinicians through a convenience sampling approach**,** and participation was voluntary. A total of 127 physicians completed the survey and were included in the final analysis.

An independent ethics committee waiver was obtained prior to the conduct of the survey. As the study involved anonymized responses without patient-level data, informed consent was implied through voluntary participation.

Data were analyzed using descriptive statistics. Continuous variables were expressed as mean ± standard deviation (SD), while categorical variables were presented as frequencies and percentages.

## RESULTS

A total of 127 physicians across India participated in the survey, with a mean age of 44.12 ± 11.79 years. The majority of respondents were male **(**83.5%**),** while females constituted 16.5% of the study population.

### Prescription Patterns

Tofacitinib was commonly used in clinical practice, with 56 (44.1%) of physicians reporting frequent use and 52 (40.9%) very frequent use. Only 16 (12.6%) reported occasional use, while 3 (2.4%) reported never prescribing it (Figure 1).

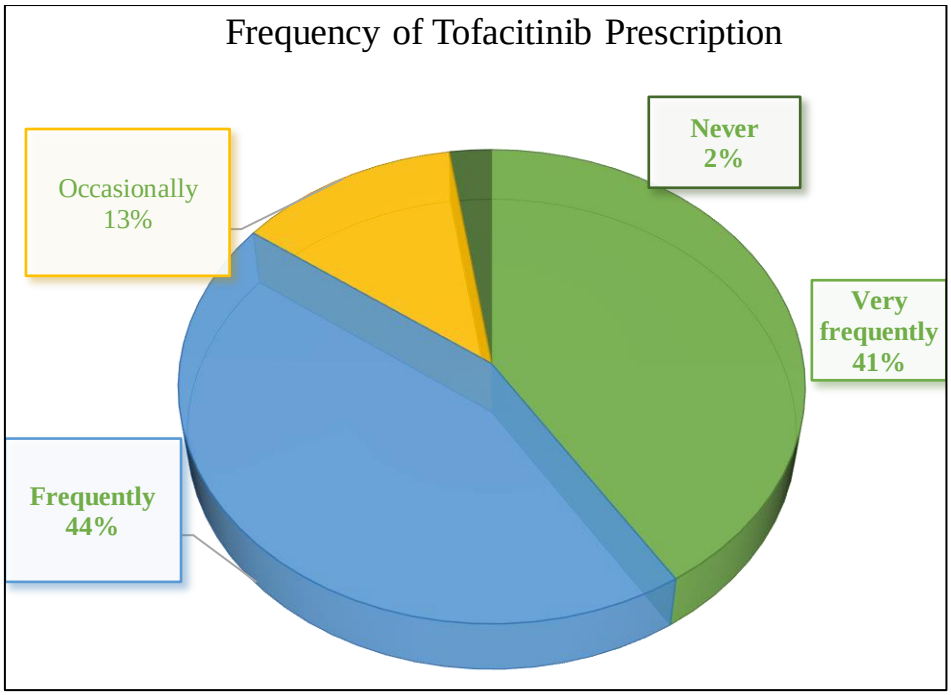


**Figure 1: Frequency of Tofacitinib Prescription**

**Indications for Use**

Tofacitinib was predominantly prescribed for rheumatoid arthritis (RA) by 115 (90.6%) physicians, followed by psoriatic arthritis (PsA) by 25 (19.7%), and ankylosing spondylitis (AS) by 16 (12.6%) (Figure 2).

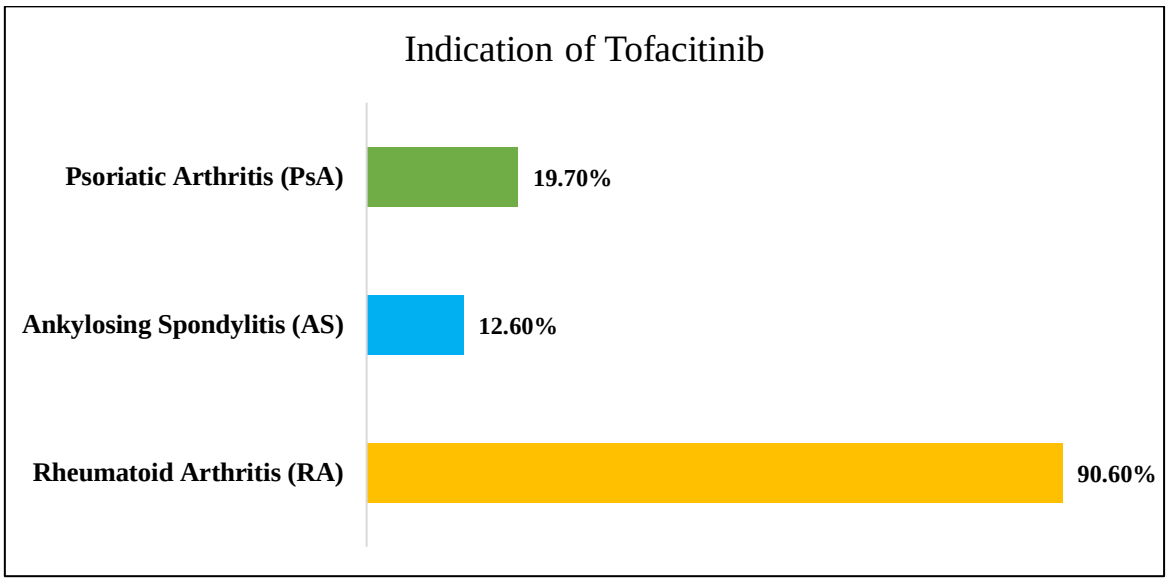


**Figure 2: Indications for Use of tofacitinib**

**Treatment Positioning**

Most physicians preferred initiating tofacitinib after failure of conventional synthetic DMARDs (csDMARDs) (87; 68.5%). Additionally, 56 (44.1%) considered its use early in the treatment algorithm, while 47 (37.0%) preferred its use after biologic failure. Around 13 (10.2%) indicated that the decision was case-dependent (Figure 3).

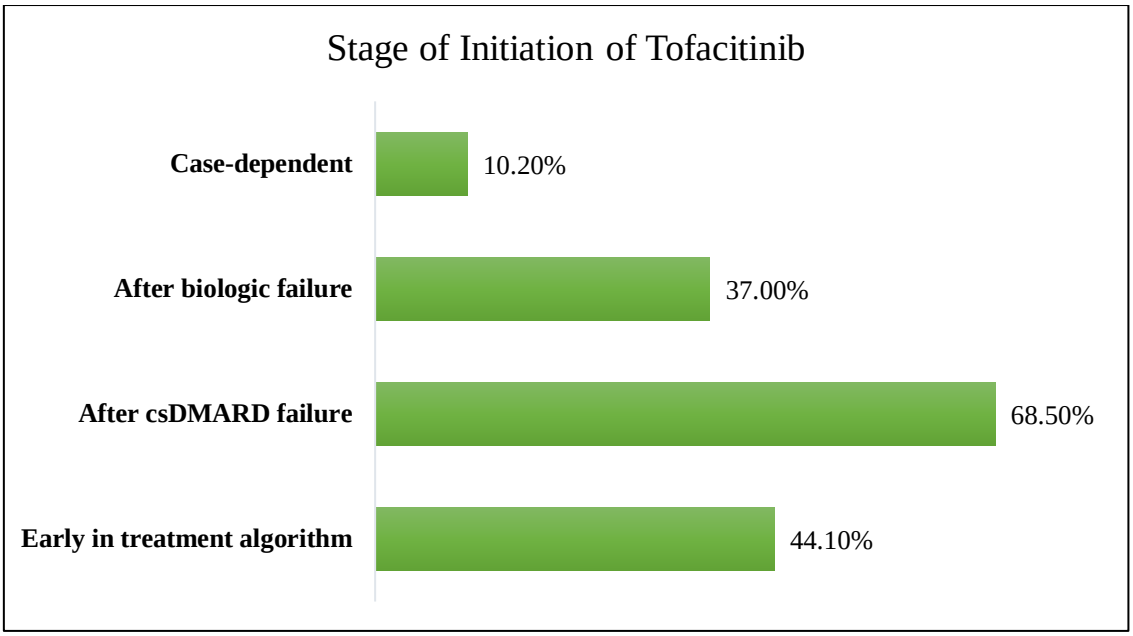


**Figure 3: Stage of Initiation of Tofacitinib therapy**

**Perceived Efficacy**

Tofacitinib was rated as highly effective by 93 (73.2%) of respondents and moderately effective by 29 (22.8%). A small proportion considered it minimally effective (3; 2.4%) or not effective (2; 1.6%) (Figure 4).

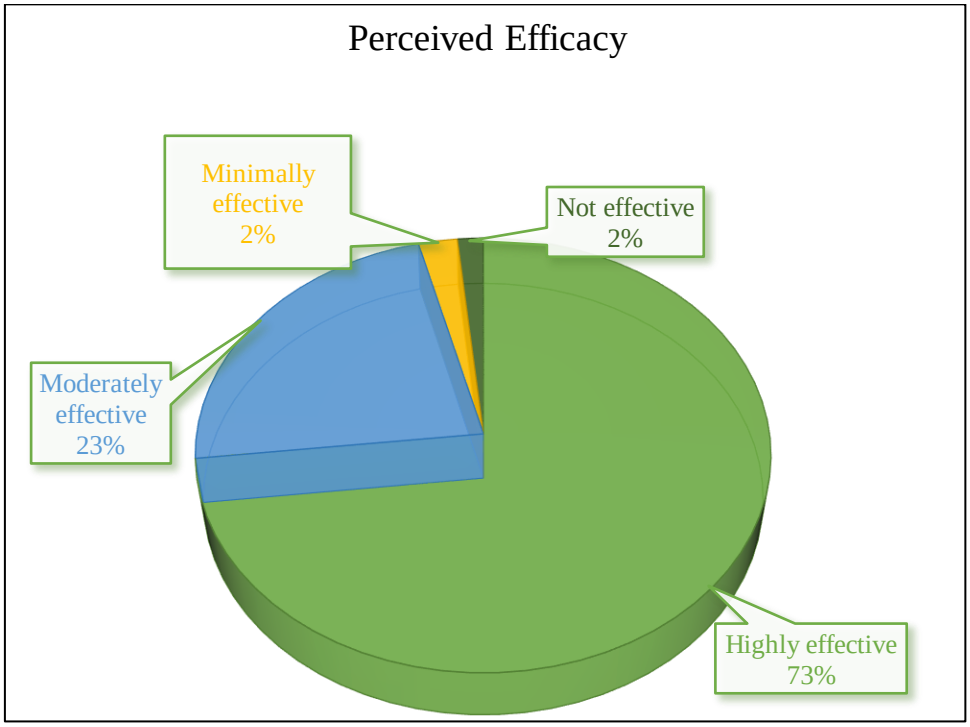


**Figure 4: Perceived Efficacy of tofacitinib**

**Onset of Action**

A rapid onset of action was reported by most physicians, with 97 (76.4%) observing symptomatic improvement within 1–2 weeks, followed by 15 (11.8%) within 2–4 weeks. Improvement within 1–3 months and after 3 months was reported by 10 (7.9%) and 5 (3.9%), respectively, while no respondent reported lack of consistent improvement (Figure 5).

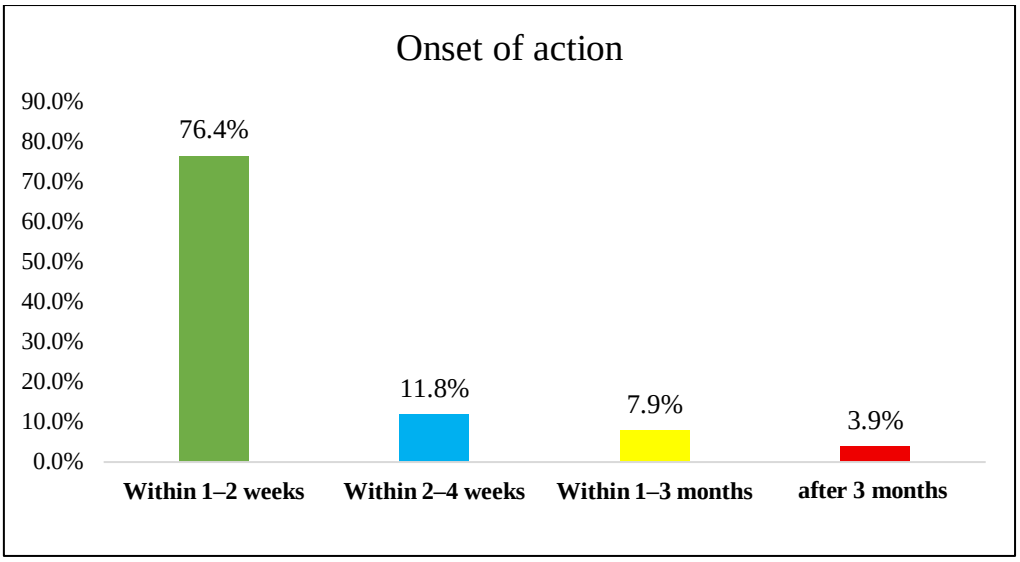


**Figure 5: Onset of action of tofacitinib**

**Symptom Control**

In terms of controlling key symptoms such as pain, stiffness, and functional limitation, 73.2% of physicians rated tofacitinib as highly effective, while 22.8% considered it moderately effective. Minimal or no effectiveness was reported by 4.0%.

**Safety and Tolerability**

The majority of respondents (103; 81.1%) reported that tofacitinib is very safe and well tolerated, while 21 (16.5%) noted minor safety concerns. No physician reported significant safety concerns, and 3 (2.4%) were uncertain (Figure 6)

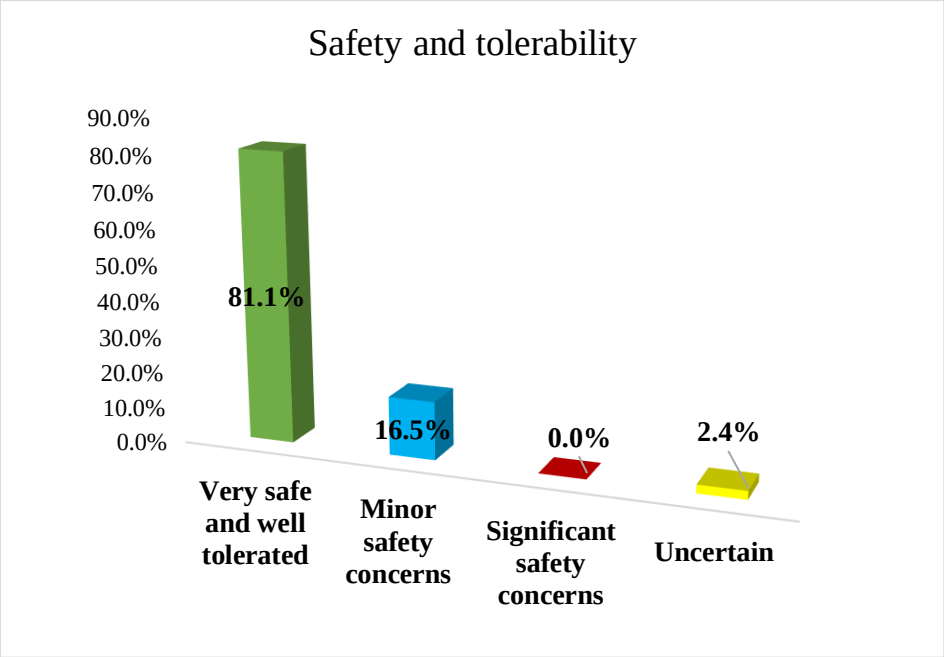


**Figure 6: Safety and Tolerability of tofacitinib**

**Factors Influencing Preference**

The most common reasons for preferring tofacitinib over biologics included oral route of administration (87.4%), faster onset of action (79.5%), favorable safety profile (77.2%), and cost considerations (76.4%). Less frequently cited factors included equivalent efficacy (13.4%) and patient preference/compliance (9.4%).

**DISCUSSION**

This cross-sectional survey provides important real-world insights into physician prescribing patterns and perceptions regarding tofacitinib among orthopedic surgeons and rheumatologists across India. The findings demonstrate a high level of acceptance and utilization of tofacitinib, particularly in rheumatoid arthritis, with favorable perceptions regarding efficacy, rapid onset of action, and safety.

A key observation from the present study is that a large proportion of physicians prescribe tofacitinib frequently or very frequently (85%), reflecting its growing integration into routine clinical practice. This aligns with evidence from the ORAL Strategy trial, which demonstrated that tofacitinib, both as monotherapy and in combination with methotrexate, provides efficacy comparable to biologic agents such as adalimumab in patients with active RA.10 The high proportion of physicians rating tofacitinib as highly effective (73.2%) in the current survey is consistent with these findings.

The rapid onset of action observed in this survey, with over three-quarters of physicians reporting improvement within 1–2 weeks, is another notable finding. Similar observations have been reported in clinical trials such as ORAL Solo and ORAL Sync, where significant clinical improvements were seen as early as 2 weeks.11,12 This early response is clinically relevant, as it may enhance patient satisfaction and adherence.

In terms of treatment positioning, most physicians preferred initiating tofacitinib after csDMARD failure, which is consistent with international guidelines such as those from the American College of Rheumatology (ACR) and EULAR, recommending targeted therapies in patients with inadequate response to conventional agents.3, 13 However, the substantial proportion of clinicians considering early use (44.1%) suggests an evolving trend toward earlier introduction of targeted synthetic DMARDs, possibly driven by the need for rapid disease control and patient-centric considerations.

Safety and tolerability were perceived favorably, with more than 80% of respondents considering tofacitinib to be very safe and well tolerated. This is broadly consistent with long-term extension studies and real-world registries, which have demonstrated an acceptable safety profile, although vigilance for adverse events such as infections and cardiovascular risks remains essential.14,15 Notably, the ORAL Surveillance study highlighted an increased risk of major adverse cardiovascular events and malignancies in high-risk populations, underscoring the importance of appropriate patient selection.15

The preference for tofacitinib over biologics was primarily driven by its oral route, faster onset, cost considerations, and favorable safety profile. These findings are particularly relevant in resource-constrained settings, where accessibility, affordability, and patient convenience significantly influence treatment decisions.

Overall, the results reflect a shift toward greater adoption of targeted synthetic DMARDs in clinical practice, with physicians recognizing the practical and clinical advantages of tofacitinib.

The study is limited by its cross-sectional design and reliance on self-reported responses, which may introduce recall and reporting bias. Additionally, the use of convenience sampling and absence of patient-level data may limit the generalizability of findings.

This study provides real-world insights from a diverse group of orthopedic surgeons and rheumatologists across India, reflecting contemporary prescribing practices and clinical decision-making. The inclusion of multiple domains such as efficacy, safety, and treatment preferences enhances its practical relevance.

## CONCLUSION

This nationwide survey among orthopedic surgeons and rheumatologists demonstrates that tofacitinib is widely utilized in routine clinical practice, particularly for rheumatoid arthritis. Physicians perceive it as a highly effective therapy with rapid onset of action and good tolerability. Its oral administration, cost advantages, and favorable safety profile are key factors driving its preference over biologic therapies.

### Conflict of Interest

All the authors (Dr. Ajitkumar Gondane, Dr. Manthan Mehta, Dr. Nishikant Madkholkar, Dr. Kushal Sarda, and Dr. Akhilesh Sharma) are employees of Alkem Laboratories.

### Author Contributions

All authors contributed substantially to the study conception, data analysis, manuscript drafting, and final approval of the submitted version.

## REFERENCES:


1. Poudel P, Goyal A, Lappin SL. Inflammatory Arthritis.[Updated 2023 Apr 17]. StatPearls. Treasure Island (FL): StatPearls Publishing. 2023.
2. Dougados M, Baeten D. Spondyloarthritis. The Lancet. 2011 Jun 18;377(9783):2127-37.
3. Singh JA, Saag KG, Bridges Jr SL, Akl EA, Bannuru RR, Sullivan MC, Vaysbrot E, McNaughton C, Osani M, Shmerling RH, Curtis JR. 2015 American College of Rheumatology guideline for the treatment of rheumatoid arthritis. Arthritis & rheumatology. 2016 Jan;68(1):1-26.
4. Burmester GR, Pope JE. Novel treatment strategies in rheumatoid arthritis. The Lancet. 2017 Jun 10;389(10086):2338-48.

5. Kremer JM, Bloom BJ, Breedveld FC, Coombs JH, Fletcher MP, Gruben D, Krishnaswami S, Burgos-Vargas R, Wilkinson B, Zerbini CA, Zwillich SH. The safety and efficacy of a JAK inhibitor in patients with active rheumatoid arthritis: Results of a double-blind, placebo-controlled phase IIa trial of three dosage levels of CP-690,550 versus placebo. Arthritis Rheum. 2009 Jul;60(7):1895-905.
6. Van Der Heijde D, Deodhar A, Wei JC, Drescher E, Fleishaker D, Hendrikx T, Li D, Menon S, Kanik KS. Tofacitinib in patients with ankylosing spondylitis: a phase II, 16-week, randomised, placebo-controlled, dose-ranging study. Annals of the rheumatic diseases. 2017 Aug 1;76(8):1340-7.
7. Mease P, Hall S, FitzGerald O, van der Heijde D, Merola JF, Avila-Zapata F, Cieślak D, Graham D, Wang C, Menon S, Hendrikx T. Tofacitinib or adalimumab versus placebo for psoriatic arthritis. New England Journal of Medicine. 2017 Oct 19;377(16):1537-50.
8. Mease P, Hall S, FitzGerald O, van der Heijde D, Merola JF, Avila-Zapata F, Cieślak D, Graham D, Wang C, Menon S, Hendrikx T. Tofacitinib or adalimumab versus placebo for psoriatic arthritis. New England Journal of Medicine. 2017 Oct 19;377(16):1537-50.
9. Winthrop KL, Yamanaka H, Valdez H, Mortensen E, Chew R, Krishnaswami S, Kawabata T, Riese R. Herpes zoster and tofacitinib therapy in patients with rheumatoid arthritis. Arthritis & rheumatology. 2014 Oct;66(10):2675-84.
10. Fleischmann R, Mysler E, Hall S, Kivitz AJ, Moots RJ, Luo Z, DeMasi R, Soma K, Zhang R, Takiya L, Tatulych S. Efficacy and safety of tofacitinib monotherapy, tofacitinib with methotrexate, and adalimumab with methotrexate in patients with rheumatoid arthritis (ORAL Strategy): a phase 3b/4, double-blind, head-to-head, randomised controlled trial. The Lancet. 2017 Jul 29;390(10093):457-68.
11. van Vollenhoven RF, Fleischmann R, Cohen S, Lee EB, García Meijide JA, Wagner S, Forejtova S, Zwillich SH, Gruben D, Koncz T, Wallenstein GV, Krishnaswami S, Bradley JD, Wilkinson B; ORAL Standard Investigators. Tofacitinib or adalimumab versus placebo in rheumatoid arthritis. N Engl J Med. 2012 Aug 9;367(6):508-19.
12. Strand V, Kremer JM, Gruben D, Krishnaswami S, Zwillich SH, Wallenstein GV. Tofacitinib in combination with conventional disease-modifying antirheumatic drugs in patients with active rheumatoid arthritis: patient-reported outcomes from a phase III randomized controlled trial. Arthritis care & research. 2017 Apr;69(4):592-8.
13. Smolen JS, Edwards CJ, Konzett V, Laskou F, Aletaha D, Caporali R, Dörner T, Hyrich KL, Mateus E, Pope JE, Primdahl J. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biologic disease-modifying antirheumatic drugs: 2025 update. Annals of the rheumatic diseases. 2026 Mar 13.
14. Wollenhaupt J, Lee EB, Curtis JR, Silverfield J, Terry K, Soma K, Mojcik C, DeMasi R, Strengholt S, Kwok K, Lazariciu I. Safety and efficacy of tofacitinib for up to 9.5 years in the treatment of rheumatoid arthritis: final results of a global, open-label, long-term extension study. Arthritis research & therapy. 2019 Apr 5;21(1):89.
15. Ytterberg SR, Bhatt DL, Mikuls TR, Koch GG, Fleischmann R, Rivas JL, Germino R, Menon S, Sun Y, Wang C, Shapiro AB. Cardiovascular and cancer risk with tofacitinib in rheumatoid arthritis. New England Journal of Medicine. 2022 Jan 27;386(4):316-26.