International Journal of Research in Medical Sciences
Suryavamshi PM et al. Int J Res Med Sci. 2026 Apr;14(4):1504-1511
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20260960

Original Research Article

A study on the etiology and clinical profile of patients presenting with inflammatory arthritis in a tertiary care hospital, Bhilai, Chhattisgarh

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Received: 18 January 2026
Revised: 09 February 2026
Accepted: 21 February 2026

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ABSTRACT

Background: Inflammatory arthritis encompasses a range of autoimmune conditions that significantly impact patients' quality of life. This study aimed to analyse the demographic characteristics, clinical presentations, laboratory findings, and disease patterns in patients diagnosed with inflammatory arthritis.
Methods: This was a prospective observational study involving 200 patients diagnosed with inflammatory arthritis The study was conducted in the department of medicine, Jawaharlal Nehru Hospital and Research Center, Bhilai, Chhattisgarhat a tertiary centre. The patients were clinically evaluated by detailed history in the form of a questionnaire and thorough general, systemic and musculoskeletal examination and underwent laboratory investigations to establish the etiology. Statistical analysis was done using SPSS program.
Results: Rheumatoid arthritis was the most prevalent condition (59.5%), followed by SLE (14%), Sjögren's syndrome (6.5%), mixed connective tissue disease (6%), and ankylosing spondylitis (5.5%). Most patients were in the age group of 41-50 years (35%), with a female predominance (87.5%). The most common symptoms included joint pain (89%) and morning stiffness (89%). Laboratory findings revealed that 66.50% of patients had a positive ESR and 22.5% had a positive CRP. Among patients with rheumatoid arthritis, the most common extra-articular manifestation was anemia (57.98%).
Conclusions: Rheumatoid arthritis emerged as the most common type of inflammatory arthritis, followed by SLE predominantly affecting middle-aged females. Early diagnosis and appropriate management strategies, including lifestyle modifications and targeted therapies, are essential to improving patient outcomes. Increased awareness and early screening programs can help in the timely identification and treatment of these conditions.

Keywords: Inflammatory arthritis, MCTD, Musculoskeletal diseases, Rheumatoid arthritis, Sjogren's syndrome, SLE

INTRODUCTION

Arthritis is a leading cause of joint deformity and disability affecting 15% of the of the global population, with 2% suffering from inflammatory arthritis (IA).[1] IA includes group of diseases caused by an overactive immune system and includes rheumatoid arthritis (RA), psoriatic arthritis (PsA), ankylosing spondylitis (AS), systemic lupus erythematosus (SLE), scleroderma, Sjogren's syndrome and may result from crystal deposition leading to gout and pseudogout. IA most commonly presents as joint pain, swelling, warmth, tenderness of joints and morning stiffness that lasts for an hour.[2]

As evident from the Global Burden of Diseases 2010 study, musculoskeletal problems are responsible for significant morbidity. India is second largest populated country with 1210.2 million population according to 2011 census and the Inflammatory rheumatic diseases has a prevalence of less than 1% each with prevalence of Rheumatoid arthritis (RA) being 0.34-0.67%, undifferentiated inflammatory arthritis 0.22-0.76%,

spondyloarthritis 0.23-0.3%, gout 0.04-0.13%, lupus 0.02% and psoriatic arthritis 0.83%.[3]

Inflammatory form of arthritis is systemic in nature and extraarticular manifestations in the form of skin rashes, eye inflammation, hair loss, dry mouth, fever and involvement of organ systems like cardiovascular, pulmonary, renal and neurovascular system are of also major concern. It is an important chronic rheumatic and musculoskeletal (MSK) disease worldwide, leading to significant morbidity, disability, reduced mobility, reduced quality-of-life associated with significant comorbidities and increased mortality.[4,5]

Early diagnosis and intervention with targeted biotherapeutics improve long-term outcome. Barriers to care in the form of lack of patient education with regards to understanding of the disease, psychosocial issues and presentation of the disease in the undifferentiated or spontaneously remitting forms may further delay the early initiation of the treatment.[6] Population and community-based studies needs to be done to provide the estimate of disease burden which may vary from one to another geographical area.

METHODS

This was a prospective, observational study carried out in department of medicine, Jawaharlal Nehru Hospital and Research Center (JLNHRC), Bhilai, Chhattisgarh from March 2023 to September 2024. Study population included over 200 patients with inflammatory arthritis admitted in or attending outpatient department of the department of medicine, JLNHRC over the study period.

Inclusion criteria

Patients with at least 6 weeks of MSK symptoms suggestive of Inflammatory arthritis with age above or equal to 18 years who were willing to take part in the study were included.

Exclusion criteria

Patients with less than 6 weeks of MSK symptoms, aged less than 18 years, who were not willing to take part in the study. Patients with infectious conditions of inflammatory arthritis and with other non-infectious causes of inflammatory arthritis such as fibromyalgia and osteoarthritis were excluded from the study.

Ethical approval was obtained from institutional ethics committee (IEC) and written informed consent was obtained from the patients prior to study initiation. Data was collected by verbal communication with patient, which also included a small questionnaire on demographic characteristics such as age, sex, occupation, education level etc and questions on the symptomatology and risk factors associated with development of IA, followed by a through clinical examination, both general and systemic and relevant laboratory investigations in the form of complete blood count, renal function test, liver function test, erythrocyte sedimentation rate (ESR), c-reactive protein (CRP) rheumatoid factor (RF)/anti-cyclic citrullinated peptide antibody (anti-CCP), and test for anti-nuclear antibody (ANA), with ANA profile consisting of antibodies to anti-dsDNA, anti-smith, anti-histone, anti-ro, anti-LA, anti Scl-70 +anti centromere, U1RNP etc. as suggested by the rheumatologist was done in microbiology and pathology departments respectively. Radiological examination of joint involved in arthritis was done. Anemia was defined as hemoglobin (Hb) levels <12.0 gm/dl in women and <13.0 gm/dl in men. 6.

RESULTS

A total of 200 study participants took part in the study. The details of the demographic characteristics are provided in Table 1.

Table 1: Description of the demographic characteristic and risk factors of the study participants.

Demographic characteristics	Frequency (%) n=200
Age in years	
18-30	25 (12.5)
31-40	16 (8)
41-50	70 (35)
51-60	62 (31)
61-70	16 (8)
>70	11 (5.5)
Gender	
Female	175 (87.5)
Male	25 (12.5)
Education status	
Primary	13 (6.5)
Secondary	28 (14)
Graduate	77 (38.5)
None	82 (41)
Employment status	
Employee	29 (9)
Housewife	153 (76.5)
Others	18 (9)
Regular exercise	
Yes	121 (60.5)
No	79 (39)
Adverse habits	
Alcohol consumption	8 (4)
Smokers	6 (3)
Hormonal therapy uses	
OCP use	5 (2.5)
HRT treatment	4 (2)
Family history of arthritis	
Yes	45 (22.5)
No	155 (75.5)

The age of the patients ranged from 18 to 78 years with a mean of 48.72±13.01 years. The majority were in the age group of 41-50 years (35%) followed by 51-60 years (31%). While the least number of patients were in the age group of ≤30 years (12.5%). Majority of the participants were females (87.5%) with a female-to-male ratio of 7.1. Mostly (41%) had completed graduate education, followed by 38.5% who had completed secondary education. A smaller proportion (14%) of subjects reported having no formal education. 76.5% were housewives, followed by 14.50% who were employed. 60.5% participated in regular exercise. When questioned regarding adverse habits, a small proportion of patients reported alcohol consumption (4%), while even fewer patients were smokers (3%). On questioning regarding hormonal therapy, a small proportion of patients (2.5%) reported the use of OCP, while an even smaller percentage (2%) indicated receiving HRT. Out of the 200 patients 22.5% had positive history of arthritis in the family, rest 77.5% had no family history of arthritis.

Table 2: Distribution of patients according to etiology of Inflammatory arthritis.

Disease	N (n=200)	Percentage
Rheumatoid arthritis	119	59.5
SLE	28	14
Sjogren syndrome	13	6.5
MCTD	12	6
Ankylosing spondylosis	11	5.5
Psoriatic arthritis	10	5
Scleroderma	5	2.5
Gout	2	1

Among 200 patients who had inflammatory arthritis, as shown in Table 2, Rheumatoid arthritis was the most common cause (59.5%), followed by SLE (14%), Sjogren's syndrome (6.5%), mixed connective tissue disorder (MCTD) (6%) and ankylosing spondylosis (5.5%), psoriatic arthritis (5%), scleroderma (2.5%), and least common cause was gout (1%).

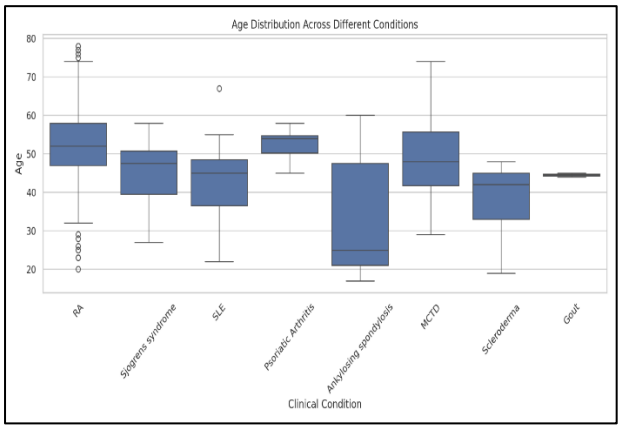

Figure 1: Box diagram depicting the age distribution among various conditions of inflammatory arthritis.

Figure 1 shows that the mean age of patients with Rheumatoid arthritis was 52.38±12.28 with distribution ranging from 20-70 years, Sjogren syndrome 44.41±10.6 and SLE 42.57±11.12 mostly affecting the middle age, Psoriatic arthritis 52.37±4.92, MCTD 48.83±12.32, scleroderma 37.4±11.71 and gout was 44.5±0.7 and ankylosing spondylitis 33.63±16.4 mainly affecting the younger age group.

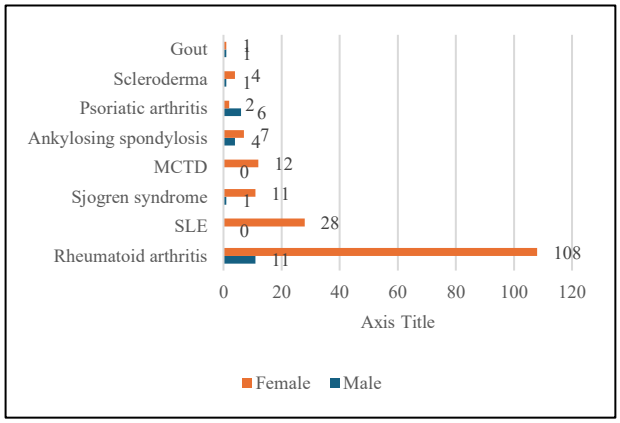

Figure 2: Gender distribution among various causes of inflammatory arthritis.

Majority of the participants were females, and female-to-male ratio 7:1. Figure 2 shows among the females, rheumatoid arthritis was the most common (61.31%), followed by SLE being the second most common condition (15.9%). Among males, the majority (45.83%) had rheumatoid arthritis, followed by psoriatic arthritis (25%) and Ankylosing spondylosis (16.66%).

Table 3: Percent distribution of clinical features of patients with inflammatory arthritis.

Symptoms	N (n=200)	Percent
Difficulty in swallowing food	38	19.00
Weight loss	41	20.50
Rash on exposure to sunlight	43	21.50
Oral Ulcers	43	21.50
H/O Fever and tiredness	140	70.00
Symmetrical joint involvement	159	79.50
Joint pain affecting activity	162	81.00
C/O Joint pain	178	89.00
Morning stiffness	178	89.00

As shown in Table 3 the most common symptoms reported by patients were joint pain (89%) and morning stiffness (89%). Other frequently reported symptoms included joint pain affecting activity (81%), symmetrical joint involvement (79.5%), and a history of fever and tiredness (70%). In contrast, less common symptoms included difficulty in swallowing food (19%), weight loss (20.5%), rash on exposure to sunlight (21.5%), and oral ulcers (21.5%).

Table 4: Extraarticular manifestations and diagnostic tests of various causes of inflammatory arthritis.

Inflammatory arthritis type	Extraarticular manifestations	Diagnostic test N (%)
Rheumatoid arthritis (n=119)	Anemia 69 (57.98) ILD 7 (5.88) Sjogren's syndrome 5 (4.2)	RF/Anti CCP 119 (100)
SLE (n=28)	Anemia 18 (64.29) Lupus nephritis 3 (10.71) ILD 2 (7.14)	ANA 28 (100)
Ankylosing spondylitis (n=11)	Anemia 4 (36.36) Uveitis 2 (18.18)	HLA-B27 positive 6 (54.55)
Sjogren's syndrome (n=13)	Anemia 4 (30.77)	ANA - Anti Ro + Anti La 5 (38.46) Anti Ro 8 (61.53)
Psoriatic arthritis (n=10)	Anemia 7 (70) Psoriasis present 4 (40)	-
Scleroderma (n=5)	Anemia 3 (60) Digital ulcers 1 (20) Acral osteolysis 1 (20) Raynaud's Phenomenon 5 (100) ILD 2 (40)	ANA - Anti Scl-70 4 (80) Anti Scl-70, Anti Centromere 1(20)
MCTD (n=12)	Anemia 6 (50) Raynauds phenomenon 11 (91.7) ILD 2 (16.67) Glomerulonephritis 2 (16.67)	ANA (U1RNP) + 12 (100)

Table 4 shows anemia was a common extraarticular manifestation among various causes of inflammatory arthritis. ILD was associated with RA, SLE, scleroderma and MCTD. Raynauds phenomenon was associated with Scleroderma and MCTD. Digital ulceration, acral osteolysis were associated with scleroderma. Diagnostic testing revealed 100% positivity for RF/Anti CCP in RA, ANA in SLE, Sjogren's syndrome, scleroderma and MCTD. Whereas HLA B27 was positive in 50.55% of patients with ankylosing spondylitis.

Table 5 depicts the laboratory investigations of the study participants, erythrocyte sedimentation rate (ESR) was positive in 66.5%, while the remaining 33.50% had a negative ESR. C-reactive protein (CRP) was positive in 22.5% of patients. The hemoglobin levels ranged from 3.9 to 16.5 gm/dl, with a mean of 11.29±2.03 gm/dl. Total leukocyte count (TLC) ranged from 800 to 14,000 cells/mm^3, with a mean of 7562.63±2219.61 cells/mm^3. Platelet count ranged from 8000 to 416,000 cells/mm^3, with a mean of 248681±69441 cells/mm^3. Urea levels ranged from 10 to 178 mg/dl, with a mean of 24.79±15.32 mg/dl. Serum creatinine ranged from 0.1 to 4 mg/dl, with a mean of 0.80±0.42 mg/dl. The UPCR ranged from 0.01 to 3 gm, with a mean of 0.31±0.14 gm. In liver function tests, AST ranged from 10 to 194 U/l, with a mean of 22.98±14 U/l, and ALT ranged from 5 to 280 U/l, with a mean of 22.74±20.27 U/l.

Table 5: Laboratory investigations of the patients with inflammatory arthritis.

ESR	n=200	%
Positive	133	66.50
Negative	67	33.50
CRP		
Positive	45	22.50
Negative	155	77.50
CBC, Biochemical Parameter	**Average**	**Range**
Hemoglobin (gm/dl)	11.29±2.03	3.9-16.5
TLC (cells/mm^3)	7562.63±2219.61	800-14000
Platelet (cells/mm^3)	248681±69441	8000-416000
Urea (mg/dl)	24.79±15.32	10-178
Serum creatinine (mg/dl)	0.80±0.42	0.1-4
UPCR	0.31±0.44	0.01-3
AST (U/l)	22.98±14	10-194
ALT (U/l)	22.74±20.27	5-280

DISCUSSION

Inflammatory arthritis (IA) is a significant public health concern, affecting millions worldwide. In this study 200 study participants were included. The mean age of the participants was 48.72±13.01 years. Most of the participants were females 87.5% with a female-to-male ratio of 7:1. 41% had completed graduate education, followed by 38.50% who had completed secondary education. The above findings are similar to a study conducted by Vaidya et al. on undifferentiated IA patients reported a mean age of 46.0±12.8 years, 84% of the them were female and 19.1% had primary education, 38.6% had secondary education, 18.9% had higher education, and 23.4% were illiterate, while Mohsin et al, in a tertiary care hospital in Karachi, also observed a mean patient age of 46.15±15.49 years in rheumatic patients.[7,8] Of which 76.5% were housewives, followed by 14.5% who were employed. Similarly, in a study by Kairi and Barman, 81.82% were female, with the majority being housewives 43.18%.[9] These findings highlight the significant impact of ADs on daily functioning, particularly among housewives who may struggle with household responsibilities due to physical limitations.

Though cigarette smoking and alcohol consumption is a known risk factor for the development of multiple Autoimmune diseases.[10] In the present study, a small proportion of patients reported alcohol consumption (4%), while even fewer patients were smokers (3%). Similarly, Vaidya et al. on undifferentiated IA patients reported that most patients were non-smokers (77%).[11] OCP use was reported by (2.5%) while an even smaller percentage (2%) indicated receiving HRT. A study by Walitt et al suggests that hormonal factors, such as estrogen, may have a protective role in rheumatoid arthritis (RA), while others, including the Women's Health Initiative trial, found no statistically significant effect of postmenopausal hormone therapy on RA incidence or severity.[12]

Out of 200 patients 155 (75.50%) reported having no family history of rheumatologic disease, while the remaining 45 (22.50%) of patients indicated a positive family history. Kronzer et al found that individuals with a family history of rheumatologic ADs had nearly twice the risk of RA (OR 1.89).[13]

The most common cause of IA in the present study was rheumatoid arthritis (59.5%), followed by SLE (14%), Sjogren's syndrome (6.5%), MCTD (6%), and ankylosing spondylosis (5.5%), psoriatic arthritis (5%), scleroderma (2.5%), and the least common cause was gout (1%). RA affects approximately 0.8% of the global population, with a prevalence of around 0.75% in India.[14] SLE has an estimated global incidence of 5.14 per 100,000 person-years, with approximately 0.40 million new cases annually.[16] PsA with a prevalence ranging from 0.05% to 0.25% in the general population and affecting 6% to 41% of psoriasis patients.[16] Among SpA subtypes, ankylosing spondylitis (AS) has been reported with an incidence of 0.44 to 7.3 per 100,000 and a prevalence of 0.007% to 1.7%. MCTD has a prevalence ranging from 1.28 to 16.22 per 100,000 individuals.[17] Gout has a global prevalence ranging between 1% and 4%, with an incidence of 0.1% to 0.3%.[18]

The mean age of the patients with various arthritis varied as follows RA (52.38±12.28 years), Sjogren syndrome (44.41±10.6 years), SLE (42.57±11.12 years), ankylosing spondylitis (33.63±16.4 years), psoriatic arthritis (52.37±4.92 years), MCTD (48.83±12.32 years), scleroderma (37.4±11.71 years), and gout (44.5±0.7 years). Similarly, a study by Aguila et al., which analyzed the clinical and laboratory features of overlap syndromes associated with SLE, systemic sclerosis, and RA found a mean patient age of 44.6±15.4 years.[19] A study by Vadgama et al reported a mean age of 32.65 years for patients with scleroderma, SLE, RA, and MCTD, highlighting some variation in age distribution across different populations and disease subsets.[20]

Of the 200 patients, 175 (87.50%) where female, with a female-to-male ratio of 7:1. Among females rheumatoid arthritis was the most common diagnosis (61.31%), with systemic lupus erythematosus (SLE) being the second most prevalent condition (15.90%). Among the remaining 25 males, the majority had rheumatoid arthritis (45.83%), followed by psoriatic arthritis (25%) and ankylosing spondylosis (16.66%). Pradhan et al in their study on scleroderma reported a female-to-male ratio of 10:1.[21] Additionally, a large-scale analysis of rheumatic disease cases found that 64% of all patients were female, with an overall female-to-male ratio of 1.8:1.[22] This trend highlights the well-documented higher prevalence of ADs among females.

In the present study the most common symptoms reported by patients were joint pain (89%) and morning stiffness (89%). Other frequently reported symptoms included joint pain affecting activity (81%), symmetrical joint involvement (79.5%), and a history of fever and tiredness (70%). In contrast, less common symptoms included difficulty in swallowing food (19%), weight loss (20.5%), rash on exposure to sunlight (21.5%), and oral ulcers (21.5%). A similar study by Krijbolder et al highlighted that morning stiffness is not only a symptom of established RA but may also precede its onset in at-risk individuals.[23] Additionally, a study by Hider et al found that 42% of participants reported joint pain, 36% experienced joint stiffness, and 18% had joint swelling.[24]

In this study, the most common extra-articular manifestation documented was anemia, affecting 57.98% of patients of RA. Additionally, a small percentage of patients had Sjögren's syndrome (4.20%) or ILD (5.88%). Similarly, a systematic review by Wilson et al. found that anemia is a frequent comorbidity in RA, with prevalence estimates ranging from 33% to 60%.[25] Additionally, a study conducted by Mehra et al in northern India found that secondary Sjogren's syndrome was present in 26.58% of RA patients.[26]

Among 28 patients with SLE, all tested positive for ANA. Anemia was present in 64.29%, followed by lupus nephritis (10.71%) and interstitial lung disease (7.14%). Similarly, a study by Bathina et al examined the initial clinical and hematological manifestations of 53 patients at a tertiary healthcare center. The findings revealed that all patients tested positive for antinuclear antibodies (ANA). Hematological abnormalities were also common, with anemia observed in 98% of patients.[27]

Among 11 patients with ankylosing spondylitis, (54.55%) tested positive for HLA-B27. Anemia was observed in 36.36% of patients, supporting these findings, a meta-analysis by Lin and Ghong which examined data from 8,993 AS patients and 19,254 healthy controls, confirmed a strong association between HLA-B27 and AS.[28] Similarly, Woodrow and Eastmond reported that 128 out of 145 AS patients (88.28%) were HLA-B27 positive.[29]

Out of 13 patients with Sjögren's syndrome, anemia was present in 30.77% of patients. ANA was positive in all (100%) patients. Similarly, a large Asian Indian cohort study by Sandhya et al. examined 423 patients suspected

to have Sjögren's syndrome, with 332 fulfilling the inclusion criteria. ANA positivity was frequently observed, highlighting its diagnostic significance and reinforcing the clinical features of the disease.[30]

In the present study, among 10 patients with PsA, anemia was present in 70.00% of patients and psoriasis in 40.00% of patients. Similarly, a study by Gudu et al evaluated fatigue in PsA patients across 13 countries and factors such as skin psoriasis, tender joints, enthesitis, and lower education level were identified as contributing to fatigue levels greater than 5/10.[31]

Among 5 patients with scleroderma, anemia was seen in 3 (60%), ILD 2 (40%), digital ulcers, and acral osteolysis were seen in 1 (20.00%) of patients. Raynaud's Phenomenon was seen in all 5 (100%) patients. ANA was positive in all patients. Similarly, a study by Kuryan et al on the clinical and cutaneous profile of patients with systemic sclerosis in South India found that 100% of patients had cutaneous sclerosis, and 71.4% exhibited Raynaud's phenomenon. 78.1% of patients had ILD, highlighting the significant systemic involvement in these patients.[32]

Among 12 patients with MCTD, Raynaud's phenomenon was reported by 11 (91.67%) patients. Anemia was present in 6 (50%), ILD in 2 (16.67%) of patients and glomerulonephritis in 2 (8.33%) patients. ANA was positive in all (100%) patients. Similarly, a study by Beck and Wigley highlighted the high prevalence of Raynaud's phenomenon in patients with MCTD, with 84% of patients reporting this symptom.[33] Additionally, a review by Danilo et al, highlighted the significant hematological manifestations in MCTD, particularly anemia of chronic disease (ACD), which is commonly associated with systemic inflammation. The study emphasized that hemoglobin levels tend to correlate negatively with disease activity, indicating that worsening inflammation contributes to worsening anemia.[34]

Out of the 200 participants, 133 (66.50%) had a positive ESR, while the remaining 67 (33.50%) had a negative ESR. A study conducted by Rosa et al. found that ESR was elevated in patients with rheumatoid arthritis (RA), psoriatic arthritis (PsA), and axial spondyloarthritis (axSpA).[35] A study conducted by Stojan et al observed that ESR was elevated in patients with SLE and was significantly associated with overall disease activity.[36] A study conducted by Danolić et al found that ESR was elevated in patients with primary Sjögren's syndrome.[37] Among 200 patients, 45 (22.5%) had a positive CRP, while the remaining 155 (77.5%) had a negative CRP. A study conducted by Kaplan et al observed that CRP was elevated in patients with axial spondyloarthritis (axSpA), PsA, and RA. CRP levels were significantly higher in patients with active disease compared to those with inactive disease, highlighting its role as a key inflammatory marker in these conditions.[38]

Hematological investigations in this study showed a mean hemoglobin of 11.29±2.03 gm/dl, total leukocyte count (TLC) 7562.63±2219.61 cells/mm^3 and platelet 248681±69441 cells/mm^3. Renal function assessment showed a mean of urea 24.79±15.32 mg/dl and serum creatinine 0.80±0.42 mg/dl. The UPCR ranged from 0.01 to 3 gm, with a mean of 0.31±0.14 gm. The liver function tests showed mean AST of 22.98±14 U/l, and ALT 22.74±20.27 U/l. Similarly, a study by Khadim et al assessed liver function in 120 female RA patients compared to 60 healthy controls. The results showed significantly elevated liver enzyme activity in RA patients, potentially due to chronic inflammation and long-term methotrexate (MTX) therapy. The mean AST level in RA patients was 30.78±7.47 U/l compared to 27.23±9.35 U/l in controls (p=0.008). ALT levels in RA patients averaged 33.41±8.31 U/l, whereas controls had 28.87±5.43 U/l. However, ALP levels were markedly higher in RA patients (89.11±19.22 U/l) compared to controls (58.10±13.57 U/l, p=0.001).[39]

This study was conducted at a single tertiary care hospital, which may limit the generalizability of the findings to other populations and healthcare settings. Although 200 patients were analyzed, a larger cohort would provide more robust epidemiological insights and improve the statistical significance of the findings. Patient-reported outcomes, such as pain severity, fatigue, and quality of life, were not extensively analyzed, which may impact the overall understanding of disease burden. The study did not compare different treatment strategies, such as biologics versus conventional DMARDs, limiting conclusions about the most effective therapeutic approach.

CONCLUSION

IA presents a significant burden on patients due to its chronic nature, systemic manifestations, and potential for disability. This study highlights the etiology and clinical profile of IA in a tertiary care setting, with RA being the most common diagnosis, followed by SLE, Sjögren's syndrome, MCTD, ankylosing spondylitis, and psoriatic arthritis. Common clinical symptoms included joint pain, morning stiffness, and fatigue. Most affected individuals were middle-aged females, with anemia being the most commonly encountered extraarticular manifestation among various types of IA. Elevated ESR was common, while CRP positivity was observed in a smaller proportion of patients.

The prevalence of IA in various autoimmune diseases provides crucial insights into disease burden, distribution, and clinical patterns, expanding knowledge on risk factors, disease progression, and management strategies. Understanding these prevalence rates can aid in early diagnosis, targeted interventions, and resource allocation, ultimately improving patient outcomes and advancing research in inflammatory arthritis.

The findings emphasize the importance of early diagnosis, targeted therapy, and lifestyle modifications in managing IA and improving patient outcomes.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee JLN Hospital & Research Centre (JLNHRC-IEC/2023/243)

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Cite this article as: Suryavamshi PM, Kumar G. A study on the etiology and clinical profile of patients presenting with inflammatory arthritis in a tertiary care hospital, Bhilai, Chhattisgarh. Int J Res Med Sci 2026;14:1504-11.