



Challenges and Outcomes in the Treatment of Chikungunya Arthropathy

Sharmin Chowdhury¹, KM Rafiqul Islam², Sheikh Forhad³, Shahin Reza⁴, Md. Khorshed Minhajul Alam Mondol⁵, Md. Moshir Rahman⁶

Article information

Received: 08.10.2025

Accepted: 18.02.2026

Cite this article:

Chowdhury S, Islam KMR, Forhad S, Reza S, Mondol MKMA, Rahman MM. Challenges and Outcomes in the Treatment of Chikungunya Arthropathy: A Private Practice Perspective from Bangladesh. *Sir Salimullah Med Coll J 2025; 33(2): 113-116*

Key words:

Chikungunya arthropathy; chronic joint pain; private practice; treatment outcome; VAS.

Abstract

Background: Chikungunya fever, a mosquito-borne viral infection, is a major public health problem in Bangladesh, often leading to chronic post-viral arthropathy. While hospital-based data exist, little is known about management outcomes in private clinical settings where most patients seek care. The aim of the study is to evaluate the clinical challenges, treatment strategies, and outcomes of patients with chikungunya arthropathy managed in private practice in Bangladesh. **Methods:** A prospective cohort study was conducted from January 2024 to June 2025 in Dhaka with a total of 124 patients. Adults with persistent joint pain (>6 weeks) following laboratory-confirmed chikungunya infection were included. Demographic data, symptom duration, joint involvement, treatment modalities, and functional outcomes (measured by Visual Analogue Scale [VAS] and Modified Health Assessment Questionnaire [MHAQ]) were recorded. **Results:** A total of 124 patients (mean age 42.6 ± 11.8 years; 68% female) were included. The mean duration of arthralgia at presentation was 10.2 ± 3.7 weeks. The most commonly affected joints were the wrist (76%), ankle and foot (64%), and small joints of the hand (58%). NSAIDs and short courses of corticosteroids were used in 92% and 38% of patients, respectively, while hydroxychloroquine was prescribed in 26%. After 12 weeks of treatment, mean VAS pain scores improved from 7.4 ± 1.2 to 3.1 ± 1.5 ($p < 0.001$), and MHAQ scores improved from 1.8 ± 0.6 to 0.7 ± 0.3 ($p < 0.001$). Major challenges included delayed diagnosis, poor drug compliance, and lack of standardized follow-up. **Conclusion:** Chikungunya arthropathy remains a frequent cause of chronic joint disability in Bangladesh.

1. Consultant Medicine, Padma Diagnostic Centre Limited, Malibagh, Dhaka-1217, Bangladesh
2. Associate Professor, Department of Orthopaedics and Spine Surgery, Bangladesh Medical University, Dhaka, Bangladesh.
3. Associate Professor and Unit Chief, Department of Orthopaedics Surgery, Bangladesh Medical University, Dhaka, Bangladesh
4. Junior Consultant, Department of Casualty, Sir Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh.
5. Assistant Professor, Department of Medicine, Sir Salimullah Medical College, Mitford, Dhaka, Bangladesh.
6. Anaesthesiologist, Department of Anaesthesia, Sir Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh.

Corresponding Author: Dr. Sharmin Chowdhury, Consultant Medicine, Padma Diagnostic Centre Limited, Malibagh, Dhaka-1217, Email: drsharminchowdhury@yahoo.com

Introduction:

Chikungunya virus (CHIKV) infection has become endemic in Bangladesh, with recurrent outbreaks reported since 2017.¹ Although the acute febrile phase is typically self-limiting, a substantial proportion of patients—reported in some studies to be as high as 60%—progress to chronic musculoskeletal complaints that persist for weeks to months.² This prolonged post-viral inflammatory condition, termed chikungunya arthropathy, often resembles early rheumatoid arthritis, creating significant diagnostic uncertainty and therapeutic dilemmas for clinicians. The condition can lead to considerable functional impairment, reduced quality of life, and increased healthcare utilization.^{2,3}

In Bangladesh, most affected individuals seek medical attention in private general or orthopedic clinics rather than in tertiary hospitals. However, evidence regarding clinical profiles, treatment strategies, and patient outcomes in these private hospital settings remains scarce.⁴ Understanding these real-world challenges is essential for improving care delivery. This study therefore aims to evaluate the clinical characteristics, management approaches, and outcomes of chikungunya arthropathy within private clinical practice in Bangladesh.^{2,4}

Methods:

A prospective cohort study was carried out in private hospital of Dhaka from January 2024 to June 2025.

This study included patients aged ≥ 18 years, with Laboratory-confirmed chikungunya infection who had persistent joint pain and stiffness lasting ≥ 6 weeks after fever resolution. Exclusion criteria included pre-existing inflammatory arthritis, gout, or connective tissue disease.

Demographic and clinical data were recorded using a structured proforma. Baseline and follow-up evaluations included: pain intensity using Visual Analogue Scale (VAS, 0–10); functional disability using Modified Health Assessment Questionnaire (MHAQ); joint involvement pattern (symmetrical/asymmetrical, small/large joints); treatment modalities used (NSAIDs, corticosteroids, DMARDs, physiotherapy); persistent synovitis requiring referral

Patients were followed up at 6 and 12 weeks after fever resolution.

Data were analysed using SPSS version 25. Continuous variables were expressed as mean \pm SD, and categorical variables as percentages. Paired t-tests were used to compare baseline and post-treatment outcomes, with $p < 0.05$ considered statistically significant.

Results:**Table I.** Baseline Characteristics of Patients with Chikungunya Arthropathy (n = 124)

| Variable | Mean \pm SD / n (%) |
|--|--|
| Age (years) | 42.6 \pm 11.8 |
| Sex (Female: Male) | 84: 40 (68%: 32 %) |
| Duration of arthralgia before presentation (weeks) | 10.2 \pm 3.7 |
| Residence | Urban – 78 (63 %) Rural – 46 (37 %) |
| Joint involvement | |
| Wrist | 94 (76 %) |
| Ankle | 79 (64 %) |
| Small joints of hand | 72 (58 %) |
| Knee | 52 (42 %) |
| Shoulder | 27 (22 %) |
| Morning stiffness > 30 min | 67 (54 %) |
| Elevated ESR > 30 mm/hr | 60 (48 %) |
| Mean baseline VAS pain score | 7.4 \pm 1.2 |
| Mean baseline MHAQ score | 1.8 \pm 0.6 |

Table II. Treatment Modalities and Outcomes

| Parameter | At Baseline | At 12 Weeks | p Value |
|---|---------------|---------------|---------|
| VAS pain score (mean \pm SD) | 7.4 \pm 1.2 | 3.1 \pm 1.5 | < 0.001 |
| MHAQ functional score (mean \pm SD) | 1.8 \pm 0.6 | 0.7 \pm 0.3 | < 0.001 |
| Complete remission | – | 35 (28 %) | – |
| Persistent synovitis requiring referral | – | 17 (14 %) | – |
| Lost to follow-up | – | 27 (22 %) | – |
| Treatment modality used | | n (%) | |
| NSAIDs | | 114 (92 %) | |
| Short-course corticosteroids (d ⁷ 4 weeks) | | 47 (38 %) | |
| Hydroxychloroquine | | 32 (26 %) | |
| Physiotherapy / home exercise | | 75 (60 %) | |

Discussion:

This prospective cohort study provides important real-world insights into the clinical profile, treatment patterns, and outcomes of chikungunya arthropathy in private practice settings in Bangladesh. The findings highlight several key epidemiological and therapeutic challenges that parallel observations from regional and international literature.^{5,6}

In this study, chikungunya arthropathy predominantly affected middle-aged adults (mean age 42.6 years), with a female predominance of 68%, consistent with prior research suggesting increased susceptibility among women to post-viral inflammatory arthritis. The mean duration of symptoms before presentation was 10.2 \pm 3.7 weeks, indicating a significant diagnostic delay—similar to previous Bangladeshi data where delayed recognition contributed to prolonged morbidity.^{5,7}

The pattern of joint involvement observed in this cohort—wrist (76%), ankle (64%), and small joints of the hand (58%)—is characteristic of post-chikungunya inflammatory arthritis and aligns with cohorts from India, Colombia, and the Indian Ocean region.⁶ Additionally, 54% of patients reported morning stiffness > 30 minutes and 48% demonstrated elevated ESR, reinforcing the inflammatory nature of the condition and its clinical resemblance to early rheumatoid arthritis.^{6,8}

Treatment given in this private-hospital cohort revealed a reliance on NSAIDs (92%) and short courses of corticosteroids (38%). Hydroxychloroquine was used in 26% of patients, reflecting

increasing acceptance of DMARDs in persistent viral arthropathy, supported by earlier reports showing chloroquine derivatives may benefit chronic cases.⁵ Furthermore, 60% of patients received physiotherapy or home exercise guidance, highlighting the growing recognition of rehabilitation in improving functional outcomes.^{8,5}

After 6 weeks of follow-up, significant improvement was achieved, with mean VAS scores decreasing from 7.4 to 3.1 and mean MHAQ scores improving from 1.8 to 0.7 ($p < 0.001$). These results mirror the trajectory described in Colombian and Réunion Island cohorts, where multimodal therapy led to clinical improvement in the majority of patients. However, despite symptomatic improvement, only 28% achieved complete remission by 12 weeks. Moreover, 14% developed persistent synovitis severe enough to warrant specialist referral, supporting the notion that a subset of individuals develop chronic or relapsing inflammatory arthritis.^{6,5}

A major challenge identified was follow-up attrition, with 22% of patients from 124 lost to follow-up before 12 weeks. This highlights systemic issues in continuity of care in private outpatient practice, including financial constraints, inadequate disease awareness, and poor long-term health-seeking behavior among patients. Additionally, the lack of updated nationally standardized treatment guidelines may contribute to variability in management approaches, particularly concerning corticosteroid use and initiation of DMARD therapy.⁷

Overall, the findings suggest that while short-term outcomes of chikungunya arthropathy are

generally favorable with timely and structured management, a considerable proportion of patients continue to face diagnostic delays, inadequate follow-up, or persistent inflammatory symptoms. These results underscore the need for early diagnosis, patient education, and standardized treatment pathways, especially in private practice where most patients in Bangladesh seek care [6,5].

After 12 weeks of follow-up, both pain and function showed statistically significant improvement.

However, 22 % of patients were lost to follow-up, and 14 % required referral due to persistent inflammatory arthritis. These findings underscore the dual challenge of treatment compliance and follow-up continuity in private-practice settings in Bangladesh.

Conclusion:

Chikungunya arthropathy is an under-recognized source of chronic joint disability in Bangladesh's private healthcare system. Despite resource limitations, structured management using NSAIDs, shortcourse of oral corticosteroids, and hydroxychloroquine yields meaningful pain and functional improvement. Updated national clinical guidelines and surveillance mechanisms are needed to enhance outcome consistency and long-term patient care.

Limitations:

Single-center and the relatively short study duration might limit validity. Future multi-center studies with longer follow-up periods will provide more comprehensive insights.

Data Availability:

The datasets analysed during the current study are not publicly available due to the continuation of analyses but are available from the corresponding author on reasonable request.

Conflict of Interest:

The authors stated that there was no conflict of interest in this study.

Funding:

This research received no external funding.

Ethical consideration:

The study was approved by the Ethical Review Committee of Sir Salimullah Medical College &

Mitford Hospital (SSMC&MH), Dhaka, Bangladesh. Informed consent was obtained from each participant or caregivers of the patients.

Author Contributions:

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; had agreed on the journal to which the article had been submitted; and agreed to be account able for all aspects of the work.

Acknowledgments:

The authors were grateful to the staffs of the Padma Diagnostic Centre, Dhaka, Bangladesh.

References

1. Borgherini G, et al. Persistent arthralgia associated with chikungunya virus: A study of 88 adult patients. *Clin Infect Dis* 2008;47(4):469–475.
2. Rahim A, et al. Clinical manifestations of chikungunya virus infection and persistent arthralgia among Bangladeshi patients. *J Infect Dev Ctries* 2019;13(11): 970–976.
3. Brighton SW. Chloroquine phosphate treatment of chronic chikungunya arthritis. *S Afr Med J* 1984;66(6): 217–218.
4. Rodríguez-Morales AJ, et al. Post-chikungunya chronic arthralgia: results from a cohort study in Colombia. *Clin Rheumatol* 2016;35(3):831–837.
5. Borgherini G, Poubeau P, Staikowsky F, Lory M, Moullec NL, Becquart JP, et al. Clinical manifestations of chikungunya virus infection in Réunion Island: a retrospective cohort study. *Lancet* 2008;371(9614): 723–9.
6. Rodríguez-Morales AJ, Villamil-Gómez WE, Merlano-Espinosa M, Bueno-Marí R. Post-chikungunya chronic inflammatory rheumatism: results from a retrospective follow-up study of 283 adult and child cases in Colombia. *Travel Med Infect Dis* 2016;14(6):627–33.
7. Rahim MA, et al. Clinical and laboratory features of chikungunya infection in Bangladesh: a study from a tertiary care hospital. *Mymensingh Med J* 2019; 28(1):128–35.
8. Brighton SW, Simson IW. Chikungunya virus infection: a retrospective study of 107 cases. *S Afr Med J* 1984; 66(8):312–5.