

Prevalence of Rheumatoid Factor among Suspected Patients for Rheumatoid Arthritis at Sir Takhtsinhji Hospital Bhavnagar

¹Dr Mittal K Asari, 3rd Year Resident, Department of Microbiology, Government Medical College, Bhavnagar

²Dr. Ravindra Jadeja, Assistant Professor, Department of Microbiology, Government Medical College, Bhavnagar

³Dr. Kairavi Desai, Professor and Head, Department of Microbiology, Government Medical College, Bhavnagar

⁴Dr. Pankaj Taviad, Associate Professor, Department of Microbiology, Government Medical College, Bhavnagar

⁵Dr Jatin Sarvaiya, Tutor, Department of Microbiology, Government Medical College, Bhavnagar

Corresponding Author: Dr Mittal K Asari, 3rd Year Resident, Department of Microbiology, Government Medical College, Bhavnagar.

How to citation this article: Dr Mittal K Asari, Dr. Ravindra Jadeja, Dr. Kairavi Desai, Dr. Pankaj Taviad, Dr Jatin Sarvaiya, "Prevalence of Rheumatoid Factor among Suspected Patients for Rheumatoid Arthritis at Sir Takhtsinhji Hospital Bhavnagar", IJMACR- January - 2026, Volume – 9, Issue - 1, P. No. 133 – 136.

Open Access Article: © 2026 Dr Mittal K Asari, et al. This is an open access journal and article distributed under the terms of the creative common's attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Introduction: Rheumatoid arthritis is a chronic, systemic autoimmune disease, which is characterized by symmetric inflammatory synovitis, leading to progressive joint destruction, pain, stiffness and disability. Without proper treatment, it progresses to cause joint deformity that result in significant loss of function. This study was carried out to study the Prevalance of Rheumatoid Factor among Suspected Patients for Rheumatoid Arthritis at Sir Takhtsinhji Hospital Bhavnagar.

Aims and Objectives

- To determine the seroprevalence of Rheumatoid arthritis by Rheumatoid factors at Sir Takhtsinhji Hospital Bhavnagar.

- To prevalence dismal commodity, enhance reports penned in its presence.

Material and Method:

Study Design: Clinical - Observational Study

Study Period: From January 2023 to December 2023.

Study Place: Department of Microbiology, Sir Takhtsinhji Hospital, Bhavnagar

Sample Size: Total Sample Collection were 1601.

Sampling Method: Randomly collection

Result: Symptomatic patient's 1601 samples were screened and out of these, 220 (14%) samples were Positive. Among them, 37(17%) were Males while 183 (83%) were Females.

Discussion: The symptoms such as joint swelling, morning stiffness and joint pain were the most

commonly associated with Rheumatoid arthritis factor positivity.

Keywords: Rheumatoid Arthritis, Musculoskeletal Pain, Synovitis, Stiffness, Disability, Weakness

Introduction

Rheumatoid Arthritis is a chronic inflammatory disorder that affects many tissues and organs but primarily attacks the joints, causing a proliferative and inflammatory synovitis that frequently progresses to involve the articular cartilage and joint ankylosis. Affects about 1% of the world's population, with women being three to five times more common than men. It is most common in people aged 40 to 70. More than half of those affected experience a gradual onset of the disease. Initially, there is weakness, fatigue, and generalised musculoskeletal pain, and joints become involved after several weeks to months.

The smaller joints are involved before the larger joints. Symptoms typically manifest in the wrists and feet, as well as the ankles, elbows, and knees. Rheumatoid Arthritis is diagnosed according to clinical findings and serological testing.

Aim & Objective

- To determine the seroprevalence of Rheumatoid arthritis by Rheumatoid factors at Sir Takhtsinji Hospital Bhavnagar.
- To Prevalance dismal commodity, enhance reports penned in its presence.

Materials & Methods

This prevalence study was conducted in Serology section of Microbiology department, Sir Takhtsinji Hospital, Bhavnagar from January 2023 to December 2023.

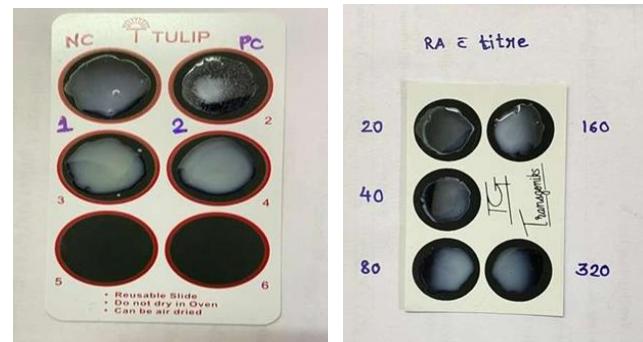
A total 1601 serum samples were screened from symptomatic patients by the RF test. The test was performed by receiving around 2-3 ml of blood from suspected individuals using plain vacutainer & centrifuged for about 1 minute to separate the serum. A standard Rheumatoid factors is 18 mm circle card test, mixing 25 microlitre of patient's serum with one drop of RF latex reagent, mixing on a shaker for 2 minutes.

Rheumatoid factors test is a latex agglutination slide test for the detection of rheumatoid factor of the IgM class.

Figure 1: Rheumatoid factors Test Kit



Figure 2: Rheumatoid Arthritis Test Positive Result with Titre



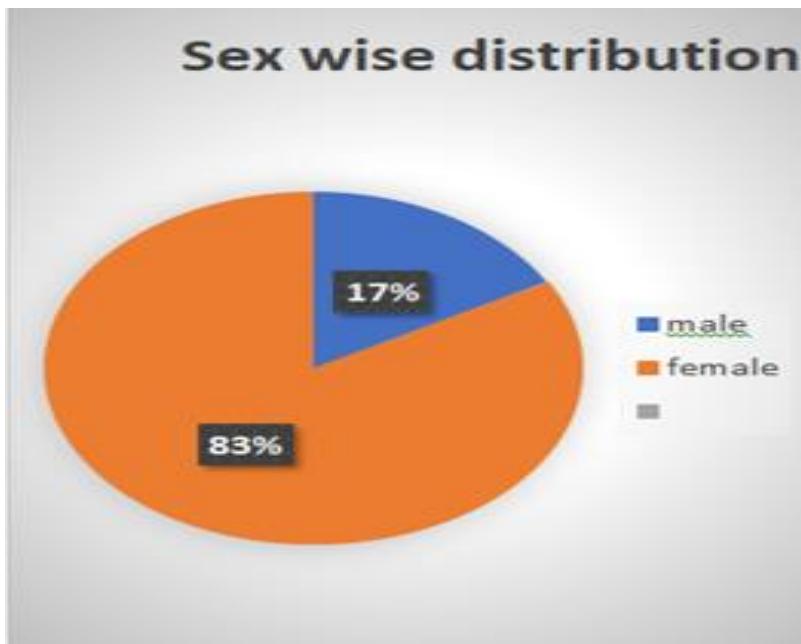
Results

Symptomatic patient's 1601 samples were screened & out of these, 220 (14%) samples were Positive. Among them, 37(17%) were Males while 183 (83%) were Females.

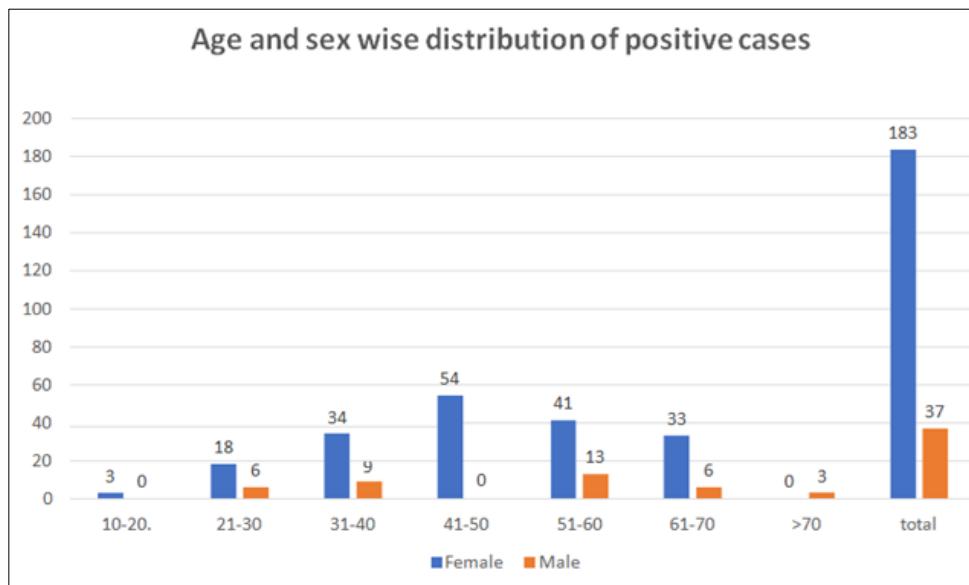
Table 1: Sex wise distribution

Gender	Number of Patients	Percentage
Male	37	17.00
Female	183	83.00
Total	220	100.00

Graph 1: Sex wise distribution



Graph 2: Age and sex wise distribution of positive cases



Discussion

Our study has shown 220 out of 1601 patients screened were positive by the Rheumatoid factors test which

suggests the seroprevalence of rheumatoid arthritis was 14% in our area. Among the 220 positive cases, 37 (17%) were Males while 183 (83%) were Females. 183

out of 1098 females positive Rheumatoid factor than males. This can be explained by the involvement and influence of female sex hormones on autoimmunity. Female hormones play a role in the initiation and worsening of the disease as seen by the risk induced by estrogen-progestin pills, pregnancy, and the postpartum period.

Positivity ratio of Female to Male ratio is 5:1. 14.00% prevalence among symptomatic patients are comparable with the study done by Dr. Varad Vardhan Bisen, at Government Medical College, Banda, India.

Conclusion

Prevalence of Rheumatoid Arthritis was 14.00%, females almost 5 times more positive than males. Positivity of Rheumatoid factors was not seen above 70 years of age which may be due to decreased immunity and decreased alteration of co-stimulatory pathways. Detailed study is required to correlate the prevalence of Rheumatoid factors with other non-rheumatic diseases. Further study is required to determine the impact of geographic, epidemiologic pattern and to draw conclusions specifically treatment patterns for Rheumatoid Arthritis.

References

1. Scott DL, Wolfe F, Huizinga TW. Rheumatoid arthritis. *Lancet*, 2010; 376(9746): 1094-108.
2. Carmona L, Cross M, Williams B, Lassere M, March L. Rheumatoid arthritis. *Best Pract. Res. Clin. Rheumato.*, 2010; 24: 733–45.
3. Aletaha D, Neogi T, Silman AJ, et al. Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. *Arthritis Rheum.*, 2010; 62(9): 2569–81.
4. Kashyap, Bineeta, et al. "Comparative analysis of rheumatoid factor levels by immune turbidimetry

and latex agglutination assays among anti-cyclic citrullinated peptide-positive rheumatoid arthritis patients." *Indian Journal of Medical Specialities* 11.4 (2020): 207.

5. Atabonkeng, E., Adiogo, D., Mvoa, E., Herve, O., Owono, A. C., & Assoumou, O. (2015). Evaluation of the Prevalence of Rheumatoid Factor in Five Regions of Cameroon. *Archives of Rheumatology*, 226-230.
6. Vossenaar, E., & Venrooij, W. (2004). Anti-CCP antibodies, a highly specific marker for (early) rheumatoid arthritis. *Clinical and Applied Immunology Reviews*, 239-262
7. Varad Vardhan Bisen , "Seroprevalence of Rheumatoid Factor in tertiary care hospital" *Ijlssr*.2015 (4) 2076-79
8. Carmona L, Cross M, Williams B, Lassere M, March L. Rheumatoid arthritis. *Best pract. Res. Clin. Rheumato*, 2010;24:733-45.