



Factors affecting medication adherence in rheumatoid arthritis at a tertiary care teaching hospital in South India

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Abstract



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This study was conducted to evaluate the Factors Affecting Medication Adherence in patients suffering from Rheumatoid Arthritis. The study included 135 patients who came to the Rheumatology department and were diagnosed with Rheumatoid Arthritis. The study was conducted from May 2023 to November 2023. Male and female subjects, aged ≥ 18 years, and diagnosed with RA were included in the study. Demographic data, disease- and treatment-related data, adverse event profile and investigation data were obtained from all the participants. Among 135 patients 26 patients were adherent to their medications and 109 patients were non-adherent to the medications. The success of the treatment of Rheumatoid arthritis depends both on patient compliance and treatment efficacy. Improving adherence to therapy could therefore dramatically improve the efficacy of drug therapy. Increased knowledge of the impact of therapeutic adherence of patients with RA and identification of possible predictors of adherence will allow to develop strategies to promote adherence. Upper lower-class patients were found to be significant with the medication adherence.

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INTRODUCTION

Rheumatoid Arthritis [RA] is a chronic autoimmune inflammatory disease that affects our own immune system and affects the various joints in the body.¹ Auto-immune disease occurs when our own tissue cells attacks the own tissues or cartilages or joints in the body [1]. Patients with auto immune disease have their antibodies in their body which attacks the own tissue components and leads toinflammation [2-2].

Patients with active RA can experience systemic inflammation that is also associated with other co-

morbidities, most commonly cardiovascular diseases which increase the risk of morbidity.

Rheumatoid arthritis is estimated to affect approximately 0.24 to 1% population and to be twice as compared in females than males. It usually occurs in the people in the age group of 20 to 50. The prevalence of RA in adults has been reported to vary from 0.5 to 3.8% in women and 0.35 to 1.37% in men [4-5].

RA can be categorized into 2 types based on the presence of antibodies in the body, Rheumatoid Arthritis can be broadly categorized into 2 types. Seropositive RA refers to the presence of protein called Rheumatoid Factor (RF) or anti-CCP antibodies in a person [6]. The patient has common RA symptoms and test positive for anti-CCP.⁷ Seronegative RA refers to the situation where both antibodies are not elevated.

Both the seropositive and seronegative RA has the common symptoms like Joint pain, Joint stiffness, swollen joints, decreased in range of motion, fever, Morning stiffness, Inflammation of the body in other areas besides the joint, Fatigue [7]. Exact reason for the cause for Rheumatoid arthritis is not known. It may be caused due to some of the reasons like: age, family, environment, gender, obesity, smoking, diet [8-9].

METHOD

Study Procedure

This observational study was carried out after obtaining the permission of Institutional Ethics Committee, Sri Venkateswara College of Pharmacy, Chittoor, A.P, India. The interview questionnaires were used to collect data that covered the following requirements [10-11]. Methodology: The study was conducted from May 2023 to November 2023. Male and female subjects, aged ≥ 18 years, and diagnosed with RA were included in the study. Demographic data, disease- and treatment-related data, adverse event profile and investigation data were obtained from all the participants [12]. Adherence to medication of the subjects was measured using adherence questionnaire. All the subjects were followed up at one month and at the end of 6 months [13-14]. Mc Nemar's test was used to analyse the difference in adherence from baseline to follow up. All the statistical analyses were performed using SPSS statistical software, version 17.0 [15].

RESULTS

Patient Demographics:

This study was attempted to evaluate the Factors Affecting Medication Adherence in patients suffering from Rheumatoid Arthritis. The study included 135 patients who came to the Rheumatology department and diagnosed with Rheumatoid Arthritis.

Age Distribution

The age distribution was shown in Figure 1. Their mean age was 49 ± 11 years. The majority of patients were in 49-58 years.

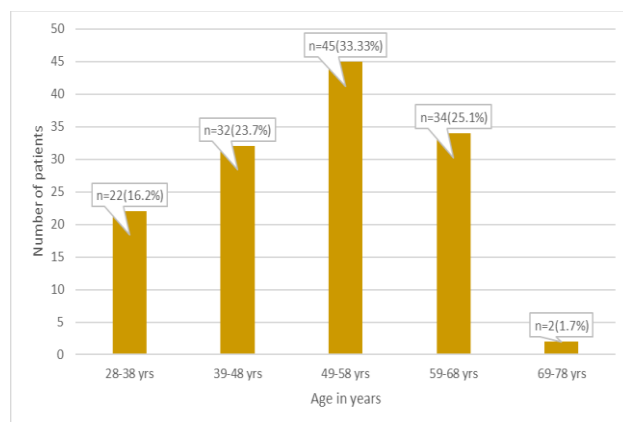


Figure 1: Distribution of patients based on age

Gender Distribution:

The gender distribution was shown in Figure 2. Females were more predominant ($n=108, 80\%$).

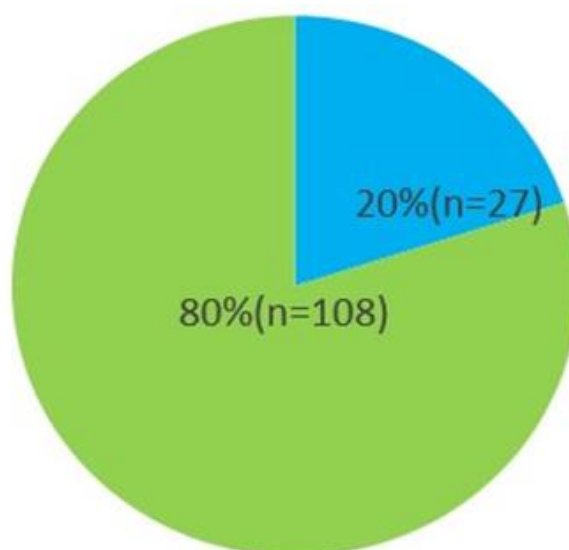


Figure 2: Distribution of patients on the basis of gender

Risk Factors Associated with the Patients

Risk factors were shown in Figure 3. Alcoholic patients were more predominant (n=16,11.9%).

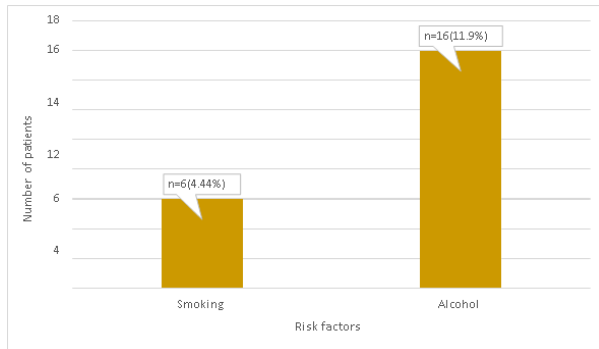


Figure 3: Risk factors associated with patients

Co-Morbidities Associated with the Patients:

Among 135 patients, 36 patients were having co-morbid conditions. Details were presented in Figure 4.

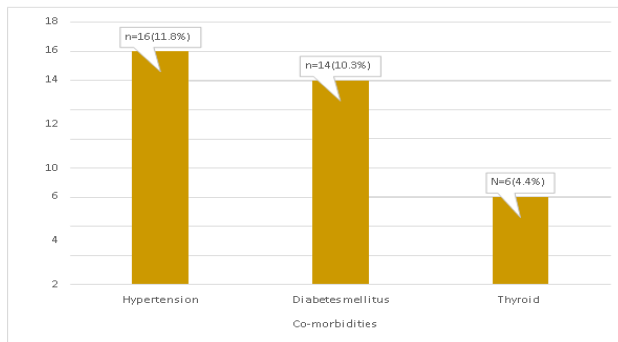


Figure 4: Co-morbidities associated with RA patients

Duration of Disease:

Duration of disease was shown in Figure 5. More number of patients had >2 years of disease duration (57.7%,n=78).

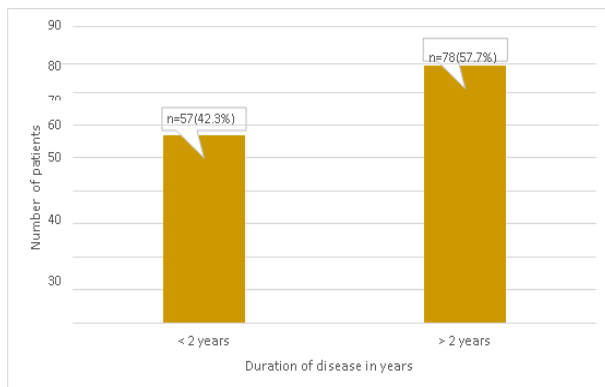


Figure 5: Duration of disease in RA patients

Treatment given with Steroids:

Among 135 patients, 3 types of steroids were prescribed for the patients. Prednisolone was predominantly prescribed (51.1%,n=69).

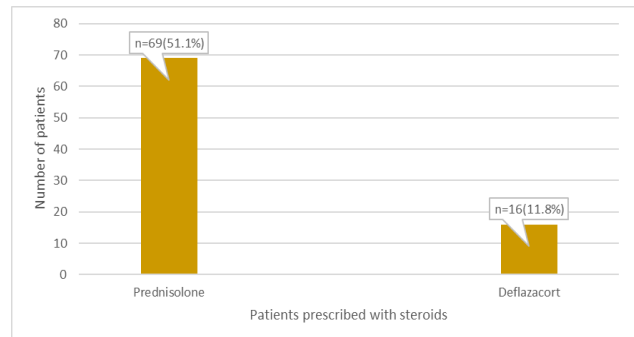


Figure 6: Treatment given with steroids

Treatment given with Dmards:

Among 135 patients, 4 types of DMARDS were prescribed for the patients. Methotrexate was predominantly prescribed (99.25%, n=134).

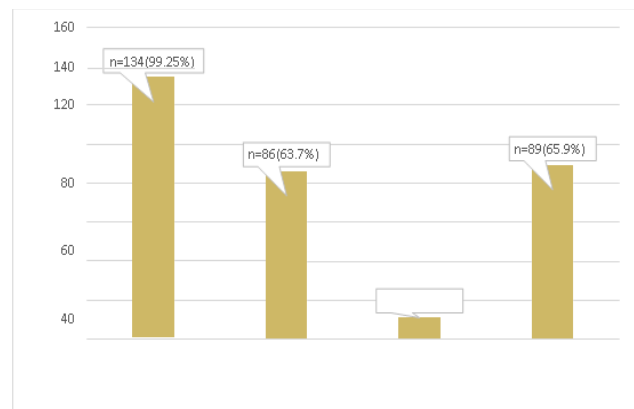


Figure 7: Treatment given with DMARDS

Most of the patients were prescribed with 2 DMARDS n=80(59.2%) and were presented in the below figure.90

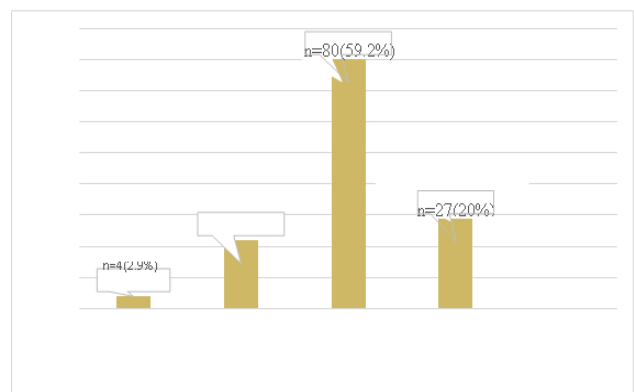


Figure 8: Patients prescribed with multiple

Kuppuswamy Socio-Economic Status (KSES) Scale:

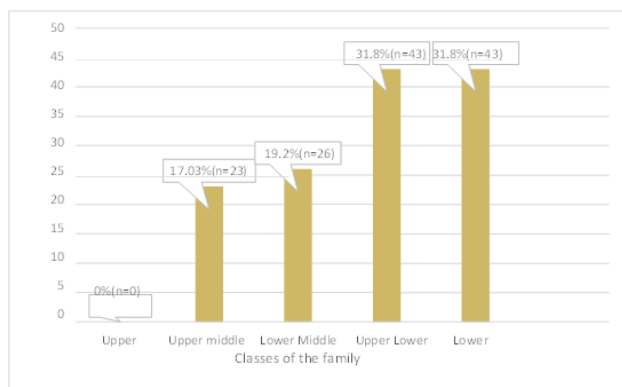


Figure 9: Kuppuswamy SES scale

Occupational Status of Patients:

Among 135 patients, 49 patients were under unemployment category. Details were presented in Figure 9.

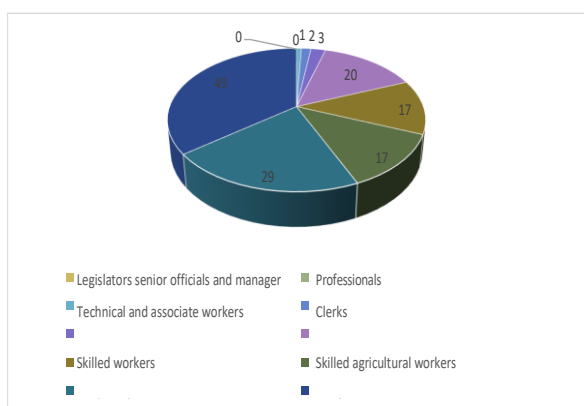


Figure 10: Occupational status of patients

Medication Adherence:

The Mean Cqr For The Patients Was 65±41.1. Majority N=109(80.74%) Were Non- adherent.

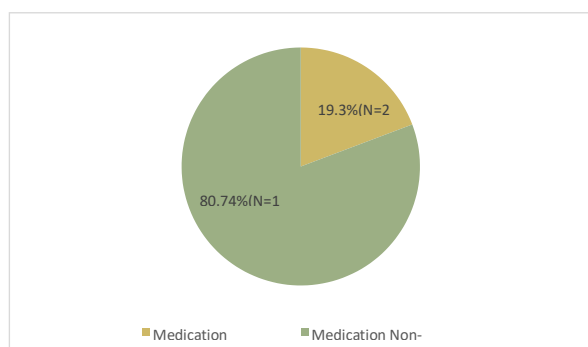


Figure 11: Medication adherence as measured by CQR (adherent>80% total compliance &>80%

correct dosing, non-adherent:<80% total compliance &<80% correct dosing).

Socio-Economic Factors:

Among 109 Non-Adherent Patients, Illiteracy N=58(53.2%), Unemployment n=49(44.9%), and low socio-economic status n=43(39.44%) were the main reasons for non-adherence. Details were given in the Figure 13.

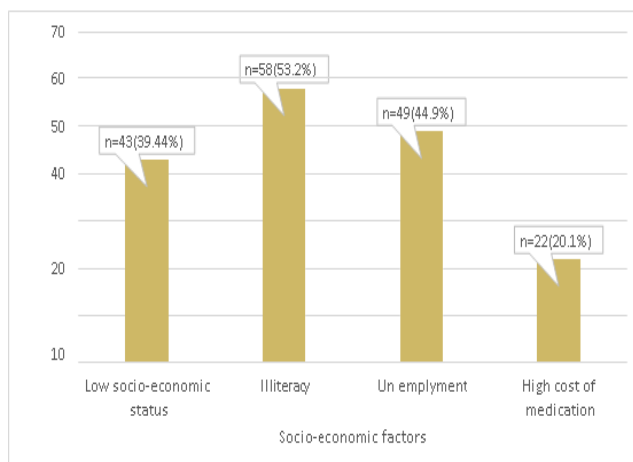


Figure 12: Socio-Economic factors

Healthcare Team Related Factors:

Non-availability of the medicines n=36(33.02%) and unavailability to follow-up n=27(24.7%) were the major factors for the non-adherence. All the data about these factors were presented in Figure 14.

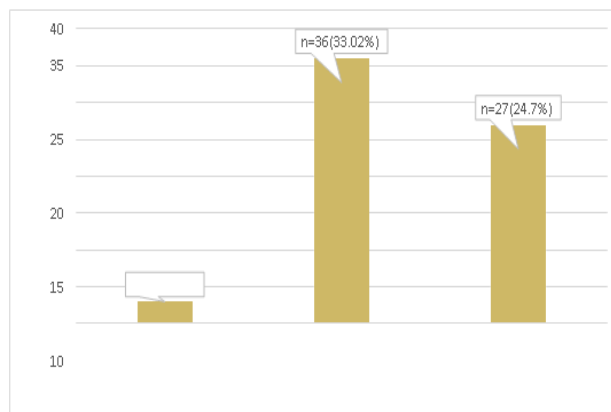


Figure 13: Healthcare team related factors

Disease Related Factors:

Most Of the Patients Reported Long Duration of Disease N=43(39.4%) As The Factor For non-adherence. Information was represented in Figure-14.

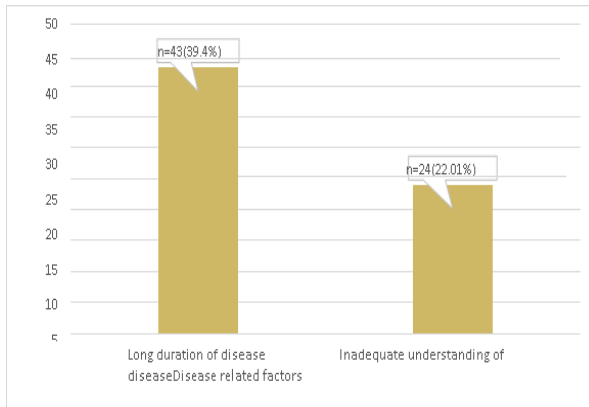


Figure 14: Disease related factors

Patient Related Factors:

Most of The Patients N=37(33.9%) Reported That They Forgot the Intake Of medicines as the factor for non-adherence.

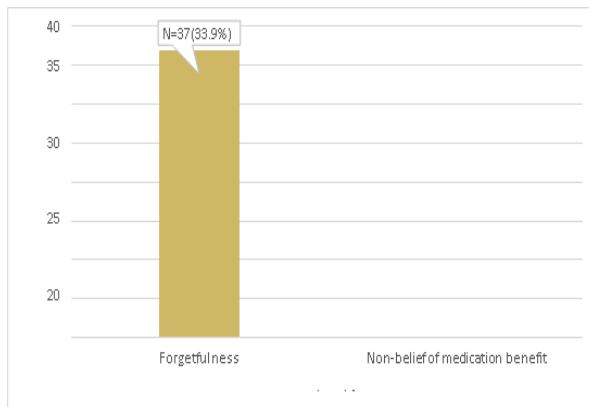


Figure 15: Patient related factors

Therapy Related Factors:

Most Of The Patients Reported Longer Duration Of Treatment N=43(39.4%) as The Factor For Non-Adherence. Information Was Presented In Figure 16.

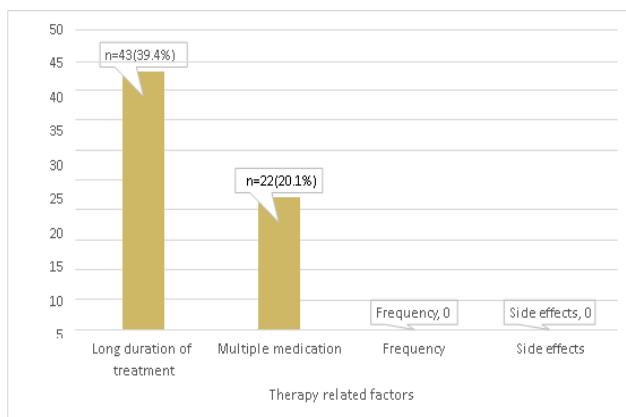


Figure 16: Therapy related factors

DISCUSSION:

To our knowledge, our study is first in India to correlate the WHOQOL-BREF with Medication Adherence. Among 135 patients, females were 108 patients and males were 27 patients. Among 135 patients, 22 patients belongs to 28-38 years of age, 32 patients belongsto39-48years of age group, 45 patients belongsto49-58years of age, 34 patients belongs to 59-68 years of age and 2 patients were under 69-78 years of age. A total of 135 were participated in our study of which 43 patients belongs to lower class, 43 patients belongs to upper lower, 26 patients belongs to lower middle, 23 patients belongs to upper middle and none were in the upper class family. Among 135 patients 26 patients were adherent to their medications and 109 patients were non-adherent to the medications. The success of the treatment of Rheumatoid arthritis depends both on patient compliance and treatment efficacy. Improving adherence to therapy could therefore dramatically improve the efficacy of drug therapy. Increased knowledge of the impact of therapeutic adherence of patients with RA and identification of possible predictors of adherence will allow to develop strategies to promote adherence.

CONCLUSION:

Illiteracy, unemployment, non-availability of medicines, unavailability to follow- up, long duration of disease, patient forgetfulness, long duration of treatment and multiple medications were the main reasons for the medication non-adherence. Upper lower class patients were found to be significant with the medication adherence. We found that physical, psychological, socio and family related and environmental factors were not significantly associated with the medication adherence.

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Conflict of Interest

The authors declare no conflict of interest, financial or otherwise.

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