



## SEVERITY OF REHUMATOID ARTHRITIS ON BASIS OF DAS SCORE IN PATIENTS WITH REHUMATOID ARTHRITIS IN A TERTIARY CARE HOSPITAL IN NORTH INDIA : A PROSPECTIVE CROSS SECTIONAL STUDY

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### ABSTRACT

**BACKGROUND :** Rheumatoid arthritis is a systemic disease characterised by inflammation the principal hallmark of which is symmetric polyarthritis with main involvement of the small joints in hands and feet. In this prospective study a total of 110 patients were taken and DAS score was calculated for each patient and accordingly distribution of patients was done on the basis of DAS score.

**MATERIALS AND METHODS:** In this prospective study conducted over one year a total of 110 patients who were diagnosed cases of rheumatoid arthritis were taken and DAS score was calculated. Inclusion of patients was done of those patients who fulfilled ACR/EULAR criteria for diagnosing rheumatoid arthritis.

**RESULTS:** In this prospective study of 110 patients it was found that maximum number of patients with rheumatoid arthritis were having moderate disease activity.

**CONCLUSIONS:** The current study vindicates the fact that a large number of therapeutic modalities available in management of rheumatoid arthritis maximum patients had moderate disease activity, which needs to be addressed so as to have a better QOL in patients with rheumatoid arthritis.

**KEYWORDS :** rheumatoid arthritis, DAS score, quality of life.

### INTRODUCTION

RA is a potentially debilitating disease causing persistent pain, depression or other psychosocial distress, poor physical function, reduced quality of life (QoL) and increased medical and social costs **Scott et al, 2005(1)**. Rheumatic diseases have a major impact on both the individuals with the disease and the society in terms of economic, social, and psychological burden. Most rheumatic diseases are associated with high levels of pain and reduced physical function. Rheumatoid arthritis, one of the very important rheumatic disorders, has been shown to have alarming increase in its prevalence in worldwide studies and is known to cause physical, social and economic burden **Malviya et al, 1994(2); Chopra et al, 2001(3); Mahajan et al, 2003(4)**. Waxing and waning nature of disease, long duration of treatment along with requirement of extensive periodic biochemical monitoring of treatment in RA, may have negative impact on patient compliance and even have high levels of treatment dissatisfaction. These factors further affect the quality of life negatively and overall treatment outcome. All this is further expected to get enhanced if proper counselling about disease and early treatment is not done in patients of RA. The 28 joint disease activity score incorporating erythrocyte sedimentation rate (DAS28-ESR) is widely used as a measure of inflammatory disease activity in people with RA during clinical decision-making. Because of the variable expressions of RA, different indices have been defined to evaluate the disease activity and response to treatment, for instance, Disease Activity Score in 28 Joints (DAS28) and Clinical Disease Activity Index (CDAI). Reaching the optimal control of RA requires regular evaluation of inflammatory activity with the aim of these scores. The different evaluations have advantages and disadvantages with respect to the monitoring of the patients. Disease Activity Score in 28 Joints-C-reactive protein (CRP) is a scoring system that is widely used to evaluate treatment efficacy and in monitoring disease activity of RA patients in daily practice. Several indices have been derived from DAS28-ESR components in an attempt to measure non-inflammatory contributions in people with RA. Pollard et al. have shown an association between tender minus swollen joint count (tender-swollen difference) and concurrent FM status or increased pain sensitivity. **Pollard et al, 2010(5)**

### METHODS AND MATERIALS:

The present prospective observational and cross-sectional one point analysis study entitled "SEVERITY OF REHUMATOID ARTHRITIS ON BASIS OF DAS SCORE IN PATIENTS WITH REHUMATOID ARTHRITIS IN A TERTIARY CARE HOSPITAL IN

**NORTH INDIA : A PROSPECTIVE CROSS SECTIONAL STUDY"** was conducted from Nov. 2014 to Oct. 2015. The study group comprised of patients attending Medicine OPD in Govt. Medical College, Jammu. Diagnosis of rheumatoid arthritis was done on basis of 2010-ACR-EULAR classification criteria for RA.

In case of any diagnostic dilemma patients were suggested for:

- 1) Rheumatoid factor by nephelometry.
- 2) Anti CCP antibodies.
- 3) ESR/CRP.

### EXCLUSION CRITERIA

- Patients who needed hospital admission or those with any other forms of lower limb immobility or abnormality such as paraplegia.
- Critically ill patients, pregnant women, lactating women.

In the present study a detailed history about Rheumatoid Arthritis was taken. History about any other coexistent disease was taken. Detailed examination of the patients was done. DAS score was calculated for each patient and severity of rheumatoid arthritis was found on the basis of DAS score. **DAS score** was calculated using the prescribed proforma and disease severity graded as follows;

- Less than 2.6 Disease remission Usually no action necessary.
- 2.6 to 3.2 Low disease activity May merit change in therapy for some patients.
- 3.2 to 5.1 Moderate disease activity May merit change in therapy for some patients.
- More than 5.1 Severe disease activity likely to require change in therapy.

### RESULTS:

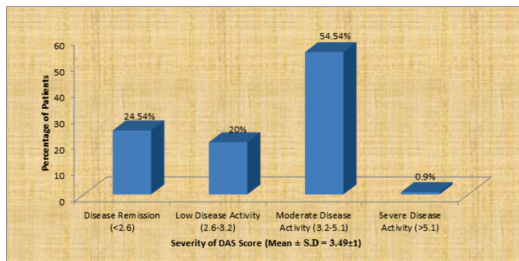
The present study was carried out on 110 patients of the Rheumatoid Arthritis as diagnosed on the basis of ACR-EULAR criteria. The mean age of study population was recorded as 51.34 years. There was a female predominance as 79.1% of the patients were females in comparison to 20.9% males with a male to female ratio of 1:3.78. Using DAS score, most of the patients (54.54%) were found to have moderate disease activity followed by 24.54% of patients which were in disease remission phase. Using VAS score severe (50%) to very severe (37.3%) pain was seen in most of the patients. In the study, it was found that in 36.4% (n=40) of patients there were various deformities of hands and joints present, while in 63.6% (n=70), no deformities were present.

**Table :Distribution of patients on the basis of Severity of DAS Score (n=110)**

Severity	DAS Score	No. of Patients	Percentage
Disease Remission	<2.6	27	24.54
Low Disease Activity	2.6-3.2	22	20
Moderate Disease Activity	3.2-5.1	60	54.54
Severe Disease Activity	>5.1	1	0.9

Mean  $\pm$  SD = 3.49  $\pm$  1

Severity of rheumatoid arthritis in the study group was assessed using DAS score. Maximum number of patients 54.54% (n=60) were having moderate disease activity i.e. DAS score of 3.2-5.1. 24.54% (n=27) of patients were in disease remission phase while 20% (n=22) and 0.9% (n=1) patients were having low disease activity (DAS - 2.6 - 3.2) and severe disease activity (DAS > 5.1) respectively. (Table 13, Figure 13)

**Fig : Distribution of Patients on the Basis of Severity of DAS Score (n=110)****DISCUSSION:**

Rheumatoid Arthritis affects many aspects of individuals' lives and its impact extends beyond those areas traditionally considered to be within the domain of medical intervention. It is therefore complex to attempt to summarise in a succinct manner how RA affects individuals; its impact differs from case to case depending on a whole host of personal factors. Majority of the patients in our study group were in the 5<sup>th</sup> to 6<sup>th</sup> decade of their life with female predominance in the ratio of Male: Female - 1:3.78. Similar results were obtained in previous studies like a rural hospital based prospective study done by **Tandon & Mahajan, 2007(5)**, in which RA contributed to 6.97% of rheumatic disorders with females affected more. Regarding clinical variables like DAS Score & VAS Score which reflect the severity of disease, it was found in our study group that majority of patients were having moderate to very severe DAS & VAS Scores, which is in concordance with the previous studies **Suurmeijer et al, 2001(6)**; **Alishiri et al, 2011(7)**. **Wolfe et al, 1998(8)** in their study concluded that work disability is a key outcome, and arguably the greatest economic cost, resulting from rheumatoid arthritis. Factors that influence work disability include disease activity variables which include DAS and VAS scores. Using DAS score, most of the patients (54.54%) were found to have moderate disease activity followed by 24.54% of patients which were in disease remission phase.

**CONCLUSIONS:**

Thus results of the current study further impress upon comprehensive and aggressive management plan involving clinicians as well as persons from allied specialties for early diagnosis of Rheumatoid Arthritis as early as window period. Early diagnosis and treatment of RA with especially focus on older people and these people should be assessed for their level of pain, functional limitations and QOL.

Aggressive and comprehensive management plan for patients diagnosed with Rheumatoid Arthritis which should be a team work and should include healthcare providers from allied specialties like physiotherapists, occupational therapists, psychological

counsellors, so as to improve overall QOL in patients of RA so as to institute treatment and improve QOL of patients in all spheres.

**Conflicts of interest: NONE****REFERENCES:**

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