



STUDY OF PHYSICAL AND ENVIRONMENTAL DOMAIN OF QUALITY OF LIFE IN PATIENTS WITH RHEUMATOID ARTHRITIS : A PROSPECTIVE OBSERVATIONAL STUDY IN A TERTIARY CARE HOSPITAL

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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 using standard questionnaire physical and environmental domains of quality of life were studied and correlated with various clinical and biochemical parameters. **Materials and methods**: In this prospective study conducted over one year a total of 110 patients who were diagnosed cases of rheumatoid arthritis were observed and . 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 the mean score of Physical domain of QOL was 48.19 which falls in moderate functional disability and the mean score of Environmental domain of QOL was 48.19 which also falls in moderate functional disability.

KEYWORDS : Rheumatoid arthritis, depression, quality of life, physical QOL, environmental QOL

INTRODUCTION:

Rheumatoid arthritis (RA) is a chronic inflammatory disease with systemic involvement the principal hallmark of which is symmetric polyarthritis with main involvement of the small joints in hands and feet. The causes of RA are still unknown although progress has been made into clarifying of the pathophysiology and etiology of the disease. Major advances have been made in drug treatments. However, RA is still a poorly predictable disease and treatment responses tend to be variable. From the patients' perspective, even from the early phases of disease, 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)**. Patient-reported outcomes (PROs) including health-related quality of life (HRQoL) instruments have gained attention in the medical world and in health economics. An increased awareness of the importance of using PROs alongside clinical measures has led to their expanded use in clinical trials. With the rising societal expenditures in health-care and the relatively limited resources, it is inevitable that choices must be made with respect to reimbursement of health technologies. Within the field of rheumatology, the economic burden of rheumatoid arthritis (RA) on society is high in terms of health-care costs and costs due to loss in work productivity. In the study of **Bendtsen et al, 1993(2)** increasing severity of functional disability grouped as "minor" "moderate" and "major" functional level in HAQ was highly significantly associated with reduced health-related quality of life (HR-QoL) as measured by the generic quality of life assessment package: in all three functional levels of the HAQ the most severe impairment was found in the somatic life domain, followed by the psychological and social domains. **Crotty et al, 1994(3)** have reported that the degree of pain and depression in RA cases is a preceding sign of physical disability that may appear later, and consequently, the psychiatric signs can be as much predictive as the biological (CRP, ESR, etc.) and physical parameters in the prognosis of the disease. **Chiou et al, 2006(4)** found that at the health assessment questionnaire (HAQ) level of 2.5–3.0, the poorest HRQoL values were seen in pain/discomfort, mobility and physical function scores whereas at the low HAQ level of 0–0.5 emotional well-being and pain/discomfort had the poorest scores.

METHODS AND MATERIALS:

The present prospective observational and cross-sectional one point analysis study entitled "Study of Physical and Environmental domain of quality of life in patients with rheumatoid arthritis : A prospective observational study in a tertiary care hospital " was conducted on patients attending Medicine OPD in Govt. Medical College, Jammu.

INCLUSION CRITERIA

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.

The 2010 ACR-EULAR classification criteria for Rheumatoid Arthritis

Target population (Who should be tested?): Patients who	
1) have at least 1 joint with definite clinical synovitis (swelling)	
2) with the synovitis not better explained by another disease.	
Classification criteria for RA (score-based algorithm: add score of categories A - D; a score of $\geq 6/10$ is needed for classification of a patient as having definite RA)	
A. Joint involvement	0
1) large joint	1
2) 2-10 large joints	
3) 1-3 small joints (with or without involvement of large joints)	2
4) 4-10 small joints (with or without involvement of large joints)	3
5) >10 joints (at least 1 small joint)**	5
B. Serology (at least 1 test result is needed for classification)	
1) Negative RF and negative ACPA	0
2) Low-positive RF or low-positive ACPA	2
3) High-positive RF or high-positive ACPA	3
C. Acute-phase reactants (at least 1 test result is needed for classification)	
1) Normal CRP and normal ESR	0
2) Abnormal CRP or abnormal ESR	1
D. Duration of symptoms	
1) <6 weeks	0
2) ≥ 6 weeks	1

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 Visual Analogue Scale (VAS) & WHOQOL BREF Questionnaire (using 26 questions) was used to assess how patient of Rheumatoid Arthritis feels about his/her quality of life, health, or other areas of life.

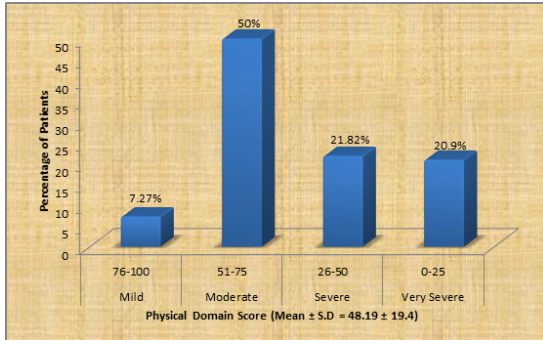
Results: :

Distribution of patients on the basis of Severity of Physical Domain Score of Quality of Life (n=110)

Severity	Physical Domain Score	No. of Patients	Percentage
Mild	76-100	8	7.27
Moderate	51-75	55	50
Severe	26-50	24	21.82
Very Severe	0-25	23	20.9

Mean ± SD = 48.19 ± 19.4

The mean score of Physical domain of QOL was 48.19 which falls in moderate functional disability. Using physical domain score of QOL, maximal patients 50% (n=55) were having moderate disability, 21.8% (n=24) were having severe disability, 20.9% (n=23) having very severe disability while 7.27% (n=8) of patients were having mild disability.



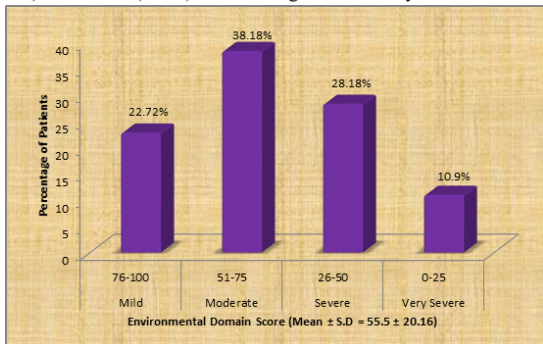
Distribution of Patients on the Basis of Severity of Physical Domain Score of Quality of Life (n=110)

Distribution of patients on the basis of Severity of Environmental Domain Score of Quality of Life (n=110)

Severity	Environmental Domain Score	No. of Patients	Percentage
Mild	76-100	25	22.72
Moderate	51-75	42	38.18
Severe	26-50	31	28.18
Very Severe	0-25	12	10.9

Mean ± SD = 55.5 ± 20.16

The mean score of Environmental domain of QOL was 48.19 which falls in moderate functional disability. Using environmental domain score of QOL, maximal patients 38.18% (n=42) were having moderate disability, 28.18% (n=31) were having severe disability while 27.72% (n=25) and 10.9% (n=12) were having mild and very severe disability.



Distribution of Patients on the Basis of Severity of Environmental Domain Score of Quality of Life (n=110)

Discussion :

The Health Related QOL is an important indicator of the burden of musculoskeletal disease. 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. **Wiles et al, 2001(5)** in their study found that all groups showed some impairment in HRQoL as measured by the SF-36. The most seriously affected domain was the role-physical domain. In the RA hospital attenders subgroup and the RA subgroup, 50% of patients had a score of zero in the role-physical domain which is in accordance with our study in which 50 percent of patients had moderate disability in physical domain of QOL. In our study about half of the patients were having moderate functional disability in terms of physical domain of QOL whereas **Young et al, 2000(6)** found that clinical profiles of RA patients treated with conventional drug therapy over 5 years showed that a small proportion of patients (around 16%) do badly functionally

and in terms of life events, whereas around 40% do relatively well. This discrepancy may be due to the fact that in our study most of the patients were having usually more than associated comorbidity which also contribute to disability. In other studies like **Suurmeijer et al, 2001(7)** it was found that RA affected both Physical and Psychological domain of QOL in contrast to our study in which all four domains of QOL are affected equally. Similarly **Bell et al, 1990(8)** in their study found that RA affected Physical and Mental Domains of QOL of life. This discordance between these studies and our study may be due to the fact that study group in our setup was small and study was carried over a period of 1 year only. Besides the Environmental Domain of QOL, varies considerably with the Socio Economic and Environmental conditions, which may have resulted in these discordances.

Conclusions :

The present study was carried out on 110 patients of the Rheumatoid Arthritis as diagnosed on the basis of ACR-EULAR criteria (2010). Using physical domain score of QOL, most of the patients were found to have moderate (50%) to severe (21.82%) pain and functional disability. Using environmental domain score of QOL, most of the patients were found to have moderate (38.18%) to severe (28.18%) effect on their ability to cope up with external environment. 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, so as to institute treatment and improve QOL of patients in all spheres.

Conflicts of interest : NONE

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