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A CROSS SECTIONAL STUDY TO ASSESS THE HEALTH RELATED QUALITY OF LIFE AMONG RHEUMATOID ARTHRITIS PATIENTS IN A TERTIARY CARE HOSPITAL IN CHENNAI.

Rheumatology

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ABSTRACT

Aim: To assess health related quality of life (HRQOL) among rheumatoid arthritis patients. To assess the severity of pain and its impact on functioning among rheumatoid arthritis patients. To assess the association of various factors related to HRQOL among rheumatoid arthritis patients. **Methods :** A cross sectional study where 106 patients diagnosed with Rheumatoid Arthritis according to EULAR criteria were enrolled in the study. Patients were chosen from Stanley Medical College, Rheumatology Department in the time period between June 2022 to November 2022. **Results:** In our study 83% were females and belonged to middle class. Brief pain inventory, pain severity was in moderate level in most of the participants (57.5%) and pain interference in daily activity is about 59.4%, pain relief by medication was about 71%.Quality of life based on EQ 5D 5L questionnaire was good(54%) and and it had its impact over the job with significant association. Adherence to therapy definitely has impact over life by reducing the pain. **Conclusions:** The study participants had various degrees of problem in mobility, carrying out usual activities, self care, job impact, anxiety which affects quality of life by physical, mental and economic means. Pain severity, pain interference, pain relief by medications will have significant impact over job and quality of life.

KEYWORDS

INTRODUCTION:

Rheumatoid arthritis (RA) is a progressive articular disease. It is characterised by persistent synovitis, systemic inflammation, and autoantibodies (particularly to rheumatoid factor and citrullinated peptide)[1]. Rheumatoid arthritis is a long term condition causing joint pain, swelling, tenderness, warmth ,redness, stiffness and loss of joint motion. Prevalance of Rheumatoid arthritis in India was found to be 0.75% based on a previous study done by Kumar Janakiraman et al[2].

The pathogenesis of RA is multifactorial and complex played by interaction of environmental factors may contribute in genetically susceptible individuals. The genetic components and environmental factors influences subsequent immune response and studies have reported that multiple cell types (including B cells, T cells, macrophages/synoviocytes) serves as key regulators for immunologic events in RA over the years [3].Smoking is the main environmental risk. Disease modifying antirheumatic drugs (DMARDS),the key therapeutic agents, reduce synovitis and systemic inflammation and improve function. Patients with RA report pain, fatigue, mood disorders, sleep disorders,insomnia, accompanied by weakness, poor appetite, and weight loss. All these factors combined have an adverse effect on the patient's perceived quality of life (QoL) [4].Rheumatoid arthritis is one of the leading causes for absence of the elderly individuals from workplaces, social Gatherings, and festivities. Often, these patients are neglected and remain unsatisfied due to ignorance, delayed presentation, long duration of therapy, financial constraints, ineffective motivation, and counselling .Various factors such as disease activity, socioeconomic, educational status, body mass index, spirituality, age and gender affects RA patient's quality of life[5].

PATIENTS AND METHODS:

Adult (≥18 years) with Rheumatoid arthritis disease duration more than one year, attending the outpatient Department of Rheumatology Stanley medical College, willing to participate in the Study were included.

Patients who are not willing to participate in the study , not able to communicate, has mental retardation or psychiatric disorder. who has significant visual, vestibular, neurological, sensory or peripheral disorders, osteoarthritis are excluded from study.

A cross sectional study. Sample size: 106 (Sample size , n= $(Z^2 pq)/d^2$)

Sampling method: Consecutive sampling

Tools: A structured questionnaire , Socio demographic details, Brief pain inventory, European Quality of Life Scale 5 Dimension 5 level (EQ- 5D-5L)

Data Collection: Informed consent, Epicollect

Data Analysis: MS Excel, SPSS V16

Questionnaire:

The questionnaire contains three sections. First section contains patient's Sociodemographic details, second section contains clinical data related to RA and third section contains two sets of tools (a) Brief Pain Inventory (BPI) which assess the severity of Pain and (b)European Quality of Life Scale 5 Dimension 5 level (EQ- 5D-5L) which assess HRQOL.

Brief Pain Inventory:

Pain severity was assessed by questioning about their pain at its WORST, pain at its LEAST in the past 24 hours, pain on average, pain right now. It is classified as mild, moderate, severe.

Pain interference was assessed based on how pain interferes with the General activity, Mood, Walking ability, Normal work, Relation with other people, Sleep, Enjoyment of life. It is classified as low, high.

Pain Relief By Medication.

European Quality of Life Scale 5 Dimension 5 level (EQ- 5D-5L):

EQ-5D-5L consists of : EQ-5D descriptive system and the EQ visual analogue scale(EQ VAS).

The descriptive system comprises five dimensions: Mobility, selfcare, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems. The patient is asked to indicate their health status in each of the five dimensions. The decision results in a 1 digit number that expresses the level selected for that dimension. The digits for the five dimensions can be combined into a 5 digit number that describes patient's health state.

The EQ VAS records the patient's self-rated health on a vertical visual

analogue where the endpoints are labelled as 'The best health you can imagine' and 'The worst health you can imagine'.

Table -1

Gender	
Male	17(16%)
Female	89(84%)

Table-2

Occupation	
Employed	49(46.2%)
Unemployed	57(53.7%)

Table-3

Age(years)	
<30	6(5.7%)
30 to 45	38(35.8%)
46 to 60	52(49.1%)
>60	10(9.4%)

Table-4

Education	
No formal schooling	23 (21.7%)
Upto 10th standard	73(68.9%)
Twelfth completed	4(3.8%)
Graduate	5(4.7%)
Post graduate	1(0.9%)

Table-5

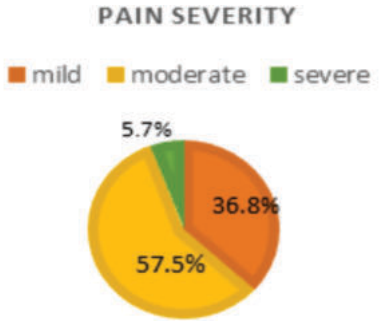
Socioeconomic status (BG Prasad)	
Upper class	3(2.8%)
Upper middle class	37(34.9%)
Middle class	49(46.2%)
Lower middle class	13(12.3%)
Lower class	4(3.8%)

RESULTS:.

In our study among the participants 16% were male and 84% were female, 5.7% were less than 30 years of age group and 35.8% were 30 to 45 years, 45 to 60 years of age were 49.1% and above 60 years was 9.4%. Among the participants 57.3% where unemployed and 46.2% were employed,.21.7% of participants were uneducated, 68.9% had secondary education and 3.8% completed higher secondary and 4.7% were graduates and 0.9% post graduates. Most of the participants belonged to middle class (46.2%), upper class participant (2.8%) according to BG Prasad scale

In Brief pain inventory scale, pain severity was moderate in most of the participants(57.5%) and pain interference in daily activity was about 59.4%, pain relief by medications was 71%.

Brief Pain Inventory



Figur -1

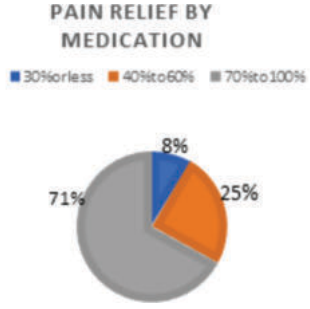


Figure 2

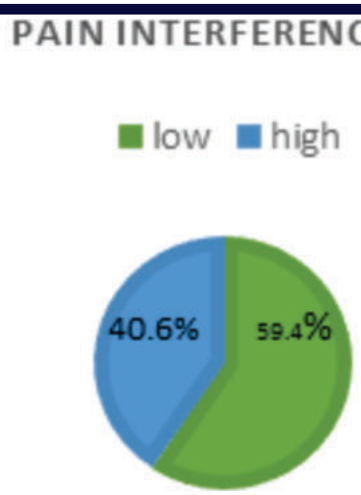


Figure 3

Quality of life based on EQ 5D 5L questionnaire QOL is found to be good (53.8%)and poor in 16% . Based on EQ VAS scale 58% of participants had good health score of range 41 to 70% at the time of study , 28.3% had very good health between 71 to 100% and 13.2% shows bad health as their score is below 40%. Health and its job impact analysis showed that 63.2% has high impact on their job.

The pain severity, pain interference, and pain relief by medication with respect to ED 5D 5L that is HRqol has significant association (P value less than 0.05) and the association of job impact with ED 5D 5L that is HRqol as no impact, Light Impact and large impact was also found to be significantly associated (p value < 0.05)

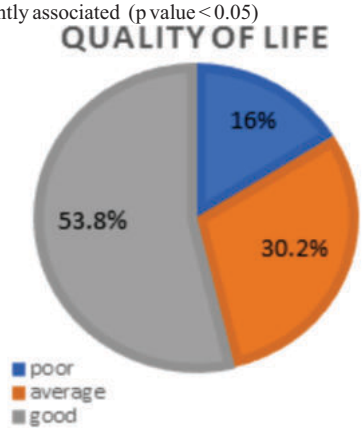


Figure -4

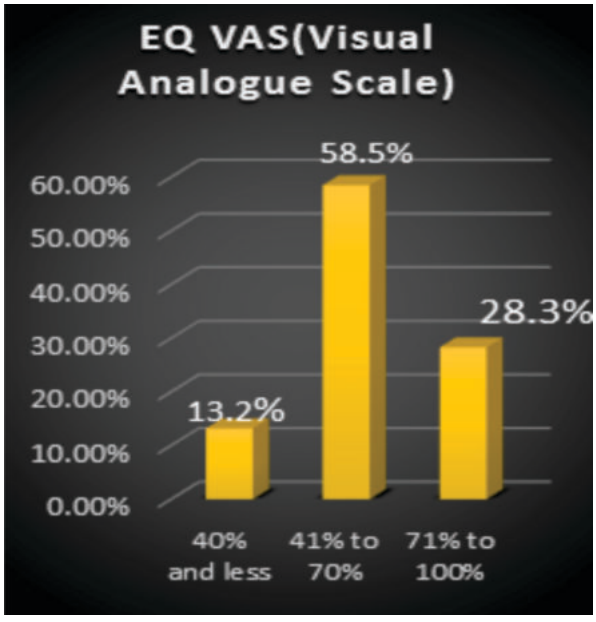


Figure -5

Association of independent variable with HRQol

Parameter		EQ5D5L			p value
		Poor	Average	Good	
Job impact	No impact	0	0	2(100%)	0.009
	Light impact	0	3(18.8%)	13(81.2%)	
	Large impact (change or quit job)	9(29%)	11(35.5%)	11(35.5%)	

Association of independent variable with HRQol

Parameter		EQ5D5L			p value
		Poor	Average	Good	
Pain severity	Mild	2(5.1%)	6(15.4%)	31(79.5%)	<0.001
	Moderate	11(18%)	24(39.3%)	26(42.6%)	
	Severe	4(66.7%)	2(33.3%)	0	
Pain interference	Low	0	12(19%)	51(81%)	<0.001
	High	11(39.5%)	32(46.5%)	57(14%)	
Pain relief by medication	30% or less	4(44.4%)	3(33.3%)	2(22.2%)	0.029
	40% to 60%	4(16%)	11(44%)	10(40%)	
	70% to 100%	9(12.5%)	18(25%)	45(62.5%)	

DISCUSSION:

In our study the quality of life was assessed by Brief pain inventory and European quality of life scale compared to General population quality of life is comparatively low when assessed by quality of life indices and pain is the major factor determining it[6]. Health-related quality of life (HRQoL) in Moroccan patients with rheumatoid arthritis showed decreased levels of education and low socioeconomic status had significantly lower scores of SF-36 and correlated with disease duration, pain intensity, disease activity, functional disability, [7].In our study participants were of middle class and socioeconomic status was not corelated with QOL. A study conducted by Haroon et al. concluded that the QOL in individuals with RA was significantly lower compared with healthy populations and functional disability was the most important factor affecting QOL(8) . we have not compared with general population .A study conducted by K.Sterling et all showed that brief pain inventory in RA patients showed non statistically significant corelation between general health and BPI[9],in our study BPI had significant correlation with quality of life.

Limitation:

Validity could have been better if the sample size is large, multicentric comparative study with other indices of quality of life.

CONCLUSION:

pain interference and pain severity as assessed by brief pain inventory scale has significant impact over quality of life . Disability caused by disease severity will impact the job and social well being of patients. Hence early initiation and adequate control od disease activity with optimized therapy will definitely give good quality of life in RA patients.

Abbrevations RA-Rheumatoid arthritis, BPI-Brief pain inventory, EQOL-European quality of life.

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