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FUNCTIONAL STATUS AND QUALITY OF LIFE OF PATIENT WITH RHEUMATOID ARTHRITIS

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ABSTRACT

Background: Rheumatoid Arthritis occurs globally affecting all ethnic group. RA is typically characterized by periods of remission and exacerbation. **Methodology:** The aim was to find correlation between functional status and quality of life, to find the association of quality of life and functional status with socio-demographic variables and clinical variables. It was a descriptive study conducted among 150 patients with Rheumatoid Arthritis The sample selected by non- probability sampling technique and data collected by semi structured knowledge questionnaire including socio-demographic variables,SF-36 questionnaire, Health assessment questionnaire disability index(HAQ). The investigator developed the tool to assess socio-demographic data and clinical variables.

Results: The result suggest as functional status increases and quality of life also increases among patients with rheumatoid arthritis. The marital status had association with the functional status and residential area had association with the quality of life .**Conclusion:**The study concluded that when functional status and the quality of life are important dependent parameters to be considered while planning care for patients .

Keywords: Functional status, quality of life, rheumatoid arthritis

INRODUCTION

Rheumatoid arthritis (RA) is the most common inflammatory arthropathy worldwide. It is a chronic, complex, and heterogeneous autoimmune disease. It is characterized by the presence of long-standing inflammation of the diarthrodial joints resulting in symmetric polyarthritis and synovial membrane hypertrophy with progressive joint damage, bone and cartilage destruction as well as deformity. The autoimmune compromise is systemic, leading to extra-articular manifestations (1,2).

Worldwide, musculoskeletal disorders represent a global threat to healthy ageing [3], and are ranked as the second most common cause of disability, measured by years lived with disability (YLDs) [,4]. Lower and middle income countries (LMICs) are not immune to the burden of musculoskeletal diseases, indeed the prevalence of this non-communicable disease (NCD) group is dramatically increasing in LMICs [4]. The 2010 Global Burden of Disease (GBD) study reported that musculoskeletal diseases accounted for 19.2% of all YLDs in LMICs [5]. Despite this, the majority of the global NCD initiatives do not include musculoskeletal diseases [5]. Significantly contributing to the global disability burden associated with the musculoskeletal system are arthritis diseases. Arthritis is an umbrella term that encompasses in excess of 100 different arthritic conditions which are a chronic, painful, and debilitating group of diseases. Arthritis, specifically osteoarthritis, is a significant contributor to global disability burden, and the YLDs attributable to osteoarthritis have increased by 75% from 1990 to 2013 [4], indicating this disease as a growing problem internationally. In combination with an increasing trajectory of arthritis prevalence [4, 5], growth in YLDs attributable to arthritis is due primarily to increased life expectancy worldwide, and prolonged exposure to ICR arthritis risk factors [6]

BACKGROUND OF THE STUDY

Rohini HANDA,1 U.R.K. RAO,2 Juliana F. M. LEWIS,4 Gautam RAMBHAD,3 Susan SHIFF5 and Canna J. GHIA3 1Indraprastha (2016) conducted a Literature review of rheumatoid arthritis in India literature review assessed the descriptive epi- demiology, comorbidities and extra-articular manifestations, functioning abilities and quality of life, and treat- ment patterns of RA patients in India. A literature review of all observational studies published from 1985 to 2012 was conducted using MEDLINE and Embase. Quantitative and qualitative findings were summarized. Results showed that Twenty-eight studies were identified for data extraction. Seven described the descriptive epidemiology of RA, 14 described comorbidities and extraarticular manifestations, nine described the functioning abilities and quality of life among patients, and 10 provided information on treatments. Conclusion drawn was This review is confined to studies with small sample sizes, cross-sectional designs, and/or clinical settings that may not be representative of the entire Indian population. There is a need for more robust studies, as conclusions for the entire Indian RA population cannot be drawn from only the current observational studies.(8)

Faith Matcham.etal(2014) conducted a study on the impact of rheumatoid arthritis on quality-of-life assessed using the SF-36: A systematic review and meta-analysis they conducted a systematic review examining the impact of RA on HRQoL, measured through the SF-36 using MEDLINE and Embase were searched for the observational studies reporting mean and standard deviation scores for each domain of the SF-36 in adult RA patients. In total, 31 studies were eligible for inclusion in the meta-analysis, including 22,335 patients. Meta-analyses found that pooled mean HRQoL score for the SF-36 physical component summary was 34.1 (95% CI: 22.0–46.1) and mental component summary was 45.6 (95% CI: 30.3–60.8). The researcher concluded that Rhematoid Arthritis has a substantial impact on HRQoL. RA patients should be regularly assessed for the impact their disease has on HRQoL and appropriate management provided. (9)

OBJECTIVE; The primary objective of the study was to find the correlation between functional status and quality of life of patient with rheumatoid arthritis.

secondary objectives were to find the association between quality of life and functional status with the selected socio demographic variables and clinical variables.

MATERIALS AND METHODS

A descriptive study was initiated after obtaining ethics committee permission. Informed consent is taken from the participants those who meet the inclusion criteria. They were selected by non-probability convenience sampling technique and 150 patients were selected as per inclusion criteria. The data collection done by using semi- structured knowledge questionnaire, SF-36 questionnaire, Health assessment questionnaire disability index (HAQ). The study setting was rheumatology OPD at AIMS Hospital, Kochi.

RESULT

The objectives of the study was to find the correlation between functional status and quality of life of patient with rheumatoid arthritis

1. Correlation between functional status and quality of life

The Spearman's rho correlation coefficient was computed to find the relationship between functional status and quality of life.



Figure 1: Correlation between functional status and quality of life

Figure 1 reveals that there is a negative correlation between functional status and quality of life $(r^2 \text{ linear} = 0.073, p = 0.01)$ which is significant. Therefore functional status increase quality of life decreases but QOL questionnaire has reverse scoring it mean as functional status increases QOL also increases in the present study.

2.Association between functional status (HAQ –DI) and selected socio-demographic and clinical variables

A chi square test used to test the association between functional status and selected demographic and clinical variables reveals that only marital status has an association with functional status $(x^2 = 12.383, p = 0.006)$. No other socio-demographic or clinical variables are associated with functional status.

Variables	Frequency			percent	age	P value	
	<50		>50	<50		>50	
Age							
1.40-50	40		35	53.3%		46.7%	
2.51-60	18		20	47.4%		52.6%	.088
3.61-70	11		17	39.3%		60.7%	
4.>71	1		8	11.1%		88.9%	
Gender	<u>\</u>						
1.male	17		25	40.5%		59.5%	.343
2.female	53		55	49.1%		50.9%	
Education							
1.illetrate	0		2	0.0%		100.0%	
2.primary education	12		21	36.4%		63.6%	
3.high school education	3		8	27.3%	-	72.7%	
4.higher secondary	21		22	48.8%		51.2%	.227
education	6		4	60.0%		40.0%	
5.diploma	25		18	58.1%		41.9%	
6.graduate	3		5	37.5%		62.5%	
7.post graduate							
Marital status							
1.single	0		4	0.0%		100.0%	
2.married	61		52	54.0%		46.0%	.006(S)
3.widow/widower	5		19	20.8%		79.2%	
4.divorced	4		5	44.4%		55.6%	
Type of family							
1.nuclearfamily	59		71	45.4%		54.6%	.422
2.joint family	11		9	55.0%		45.0%	

Monthly income					
1.<5000	4	2	66.7%	33.3%	
2.5001-10000	15	22	40.5%	59.5%	.063
3.10001-20000	28	43	39.4%	60.6%	
4.>20000	23	13	63.9%	36.1%	
Area of residence					
1.rural	33	32	50.8%	49.2%	.378
2.urban	37	48	43.5%	56.5%	
Clinical variables		1	I		
Duration of EMS					
1.30min	27	33	45.0%	55.0%	
2.30min – 1hr	32	28	53.3%	46.7%	.310
3.>1hr	11	19	36.7%	63.3%	
Numerical pain rating					
scale	1	0	100.0%	0.0%	
1.mild	27	24	52.9%	47.1%	.284
2.moderate	42	56	42.9%	57.1%	
3.severe					
ESR				/	
1.normal	53	51	51.0%	49.0%	.113
2.abnormal	17	29	37.0%	63.0%	
CRP			\sim		
1.normal	29	24	54.7%	45.3%	.144
2.abnormal	41	56	42.3%	57.7%	

******(p <0.05 level of significance)

Association between quality of life (SF-36) and selected socio-demographic and clinical variables

A chi square test used to test the association between quality of life and selected demographic and clinical variables reveals that only area of residence has an association with quality of life(x^2 = 9.674, p =0.002). No other demographic or clinical variables are associated with quality of life.

Table 2 : Association between quality of life and selected demographic and clinical							
variables							
Variables	Frequency		percentage	•	P value		
	<50	>50	<50	>50			
Age	76	72	51.4%	48.6%	.252		
Gender	76	72	51.4%	48.6%	.728		
Education	76	72	51.4%	48.6%	.413		
Marital status	76	72	51.4%	48.6%	.111		
Type of family	76	72	51.4%	48.6%	.541		
Monthly income	76	72	51.4%	48.6%	.154		
Area of residence	76	72	51.4%	48.6%	.002(S)		
Clinical variable							
Duration of EMS	76	72	51.4%	48.6%	.130		
Pain rating scale	76	72	51.4%	48.6%	.388		
ESR	76	72	51.4%	48.6%	.301		
CRP	76	72	51.4%	48.6%	.809		

******(p <0.05 level of significance)

DISCUSSION

The aim of the study was to find the correlation between functional status and quality of life among patients with rheumatoid arthritis. And as a secondary objectives, to find the association between quality of life and functional status with the selected socio demographic variables and clinical variables.

We have conducted a pilot study among 20 samples and that shows a negative correlation between quality of life and functional status .

The present study which is conducted among 150 samples shows a negative correlation between the functional status and quality of life.it means as functional status increases quality of life also should decrease statistically but since QOL has reverse scoring it means as functional status improves QOL also improves as per study findings.similar finding of statistically significance and scoring using Sf-36 was noted in a study conducted by Ambina.K(2019). There was a significant weak negative correlation between QOL and quality of sleep (r = -0.246). Hence as QOL increases and quality of sleep increases(10).

María Inés Corbach<u>o</u>(2010)done a study on assessing the functional status and quality of life of patients with rheumatoid arthritis descriptive study with 53 patients the results of the study showed that More than 70% of the patients had HAQ rates indicating moderate to severe disability. The SF-12 PCS (Physical component Summary) had mean scores of 31.5 points (range 15.2- 59.5; SD=10.1) while those of the MCS (Mental Component Summary) were 37.9 points (range: 15.7 - 66.4; SD=14.6). One or more years of disease evolution and the level of activity were determining factors of HRQL scores(11).

On the basis of statistical analysis, A chi square test used to test the association between quality of life and selected demographic and clinical variables reveals that only area of residence has an association with quality of life(x^2 = 9.674, p =0.002). No other demographic or clinical variables are associated with quality of life.A chi square test used to test the association between functional status and selected demographic and clinical variables reveals that only marital status has an association with functional status (x^2 = 12.383, p =0.006). No other socio-demographic or clinical variables are associated with functional status.

Various studies quote that Health-related quality of life (HRQL) is an important outcome measure for various diseases, although there are sparse data regarding HRQL among Indian patients with hypothyroidism(12). The researchers also highlights lack of physical activity among children which may contribute to less functional wellbeing in old age .(13).

COMPLIANCE WITH ETHICAL STANDARD

The study was initiated after obtaining permission from the ethics committee of Amrita Institute of Medical Science. This article does not contain any studies with animals performed by any of the authors.

DISCLOSURE OF POTENTIAL CONFLICT OF INTEREST

Authors(Shalimol U S, Mariya K L, Meera Murali A M) declare that there has no conflict of interest.

INFORMED CONSENT

Informed consent was obtained from all individuals participants included in the study

CONCLUSION

The result suggest that there is a negative correlation (r^2 linear = 0.073,p =0.01) between functional status and quality of life among rheumatoid arthritis patient. Therefore functional status have an influence on quality of life in the present study. The association between functional status and selected demographic and clinical variables reveals that only marital status has an association with functional status ($x^2 = 12.383$, p =0.006). No other socio-demographic or clinical variables are associated with functional status. The association between quality of life and selected demographic and clinical variables reveals that only area of residence has an association with quality of life(x^2 = 9.674, p =0.002). No other demographic or clinical variables are associated with quality of life.

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