



STUDY OF DEMOGRAPHIC-EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH RHEUMATOID ARTHRITIS IN A TERTIARY CARE HOSPITAL IN NORTHERN INDIA: A PROSPECTIVE OBSERVATIONAL 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 various aspects of socio-demographic profile were studied in the patients with rheumatoid arthritis. **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 various parameters like age, occupation, male to female ratio, residence were studied. 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 maximally 51.08% (n=57) of the patients with rheumatoid arthritis were in the age group of 46-55 years and there was a female predominance. Study showed more number of patients 63.6% (n=70) from urban setup as compared to rural areas 36.4% (n=40). **Conclusions:** Majority of the patients in our study group were in the 5th to 6th decade of their life with female predominance in the ratio of Male: Female - 1:3.78.

KEYWORDS : RA, Socio-demographic profile, Epidemiology.

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)**. Epidemiological studies from Jammu have suggested a rising prevalence of rheumatic disorders. In one of the Urban Hospital Questionnaires based study done by **Mahajan et al, (2003)** there was point prevalence of 23.14% of all rheumatic disorders of which RA contributed to 4.58%.

In a rural hospital based prospective study carried out by **Tandon & Mahajan, 2007(5)** which was presented at IACMCON 2007, suggested alarmingly high prevalence of 12.64% of all rheumatic disorders even in rural population with RA contributing to 6.97% with females being affected more. 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

METHODS AND MATERIALS : The present prospective observational and cross-sectional one point analysis study entitled "Study of DEMOGRAPHIC-EPIDEMIOLOGICAL profile of patients with Rheumatoid Arthritis in a tertiary care hospital in Northern India: A prospective observational 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.

Demographic-epidemiological Profile Of Patients Included:

1. Age
2. Sex
3. Urban verses rural
4. Occupation
5. Duration of disease

The demographic profile of all the patients was taken example-age, sex, weight, urban verses rural, Duration of disease, occupation, any sports activities etc. Detailed history about Rheumatoid Arthritis was taken. All the data obtained from the patients of the study group was noted down on a Proforma especially designed for this purpose. Data was entered in Microsoft Excel & analyzed using SPSS software version 20. Data was reported as Mean \pm SD for quantitative variable and as n (%) for qualitative variable.

RESULTS :

The socio-demographic profile revealed that maximally 51.08% (n=57) of the patients with rheumatoid arthritis were in the age group of 46-55 years followed by 30% (n=33) in the 56-65 years age group and 17.2% (n=19) in the 35-45 years age group followed by 0.9% (n=1) in the 66-72 years age group. The mean age of study population was recorded as 51.34 years

Age-wise distribution of patients of Rheumatoid Arthritis (n=110)

Age (Years)	No. of Patients (n=110)	% 17.2	Mean	Standard Deviation
35-45	19	17.2	51.34	6.491
46-55	57	51.8		
56-65	33	30		
66-72	1	0.9		

Sex-wise distribution of patients of Rheumatoid Arthritis

Gender	No. of Patients (n=110)	%
Female	87	79.1
Male	23	20.9

As evident from the table above, there was a female predominance as 79.1% (n=87) of the patients were females in comparison to 20.9% (n=23) males with a male to female ratio of 1:3.78.

Distribution of patients of Rheumatoid Arthritis on basis of Residence

Residence	No. of Patients (n=110)	%
Urban	70	63.6
Rural	40	36.4

Study showed more number of patients 63.6% (n=70) from urban setup as compared to rural areas 36.4% (n=40).

Distribution of patients of Rheumatoid Arthritis on basis of their occupation

Occupation	No. of Patients (n=110)	%
Housewife	40	36.4
Others	23	20.9
Salaried	47	42.4

On the basis of occupation our study showed that most of the patients were housewives, comprising 36.4% (n=40) of the patients followed by those who were salaried 42.4% (n=47) and then others 20.9% (n=23) which included farmers, drivers and contractors.

Distribution of patients on the basis of duration of disease in years (n=110)

Duration of disease in years	No. of Patients	Percentage	Mean	Standard Deviation
2-3	38	34.6	4.09	1.351
4-5	58	52.7		
6-7	12	10.9		
8-9	1	0.9		
10-11	1	0.9		

Mean \pm SD = 4.09 \pm 1.351

On the basis of duration of disease in years, patients were divided into these having duration ranging from two to three years, four to five years, six to seven years, eight to nine years and ten to eleven years, with maximum patients in four to five years group 52.7% (n=58) followed by two to three years group 34.6% (n=38), followed by six to seven years group 10.9% (n=12) and 0.9% each (n=1) in eight to nine and ten to eleven years. Mean duration of disease in years was 4.09.

DISCUSSION :

Majority of the patients in our study group were in the 5th to 6th 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** in which RA contributed to 6.97% of rheumatic disorders with females affected more. **Mahajan et al, 2003** in their study on prevalence of major rheumatic disorders in Jammu (J&K) reported point prevalence of 23.14 percent of all rheumatic disorders of which rheumatoid arthritis contributed to 4.58 %. It was also observed that female patients outnumbered male patients which is in concordance to our study. In a WHO-ILAR COPCORD study done by **Chopra et al, (2001)**, it was found that prevalence of RA was 0.5% with a predominance of female population which further supports our study, as this study was done in a rural setup. **Symmons et al, 2002(6)** in their study also found predominance of female in their study but the prevalence of RA in female in their study was 1.16 percent as compared to .44 percent in males. Similarly in study done by **Zeng et al, 2015(7)** the difference between predominance of females as compared to males in RA was 1.08:1. However in our study we found that the male to female ratio in patient of RA was 1:3.78. This may be due to the fact that this study was conducted on only 110 patients OF RA and study was done on patients presenting in OPD and patients who were critically ill or those presenting in emergency department were not taken into consideration. Besides this, there was predominance of females over males in other studies **Salaffi et al, 2009(8)**; **Kanecki et al, 2013(9)**; **Korcowska et al, 2014(10)** 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(11)**; **Alishiri et al, 2011(12)**.

CONCLUSIONS :

The present study was carried out on 110 patients of the Rheumatoid Arthritis as diagnosed on the basis of ACR-EULAR criteria (2010).

- Maximum patients were in the age group of 46-55 years (51.8%) with the mean age of 51.34 years.
- There was a female predominance with 79.1% of the patients being females.
- There was significant difference between urban and rural population as maximum patients belonged to urban population 63.6%.

Conflicts of interest : NONE

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