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Research Article

EPIDEMIOLOGY OF RA, CLINICAL ASPECTS AND SOCIO-ECONOMIC DETERMINANTS IN PAKISTANI PATIENTSDr Rizwan Rafique¹, Dr Ayesha Khaliq², Dr Khawar Ahmed³

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Abstract:

Introduction: Rheumatoid arthritis is a multifaceted disease which produces articular symptoms and damage, leading to disability. **Objective:** The objective of current study was to estimate the epidemiology of RA, clinical aspects and socio-economic determinants in Pakistani patients. **Methodology:** A retrospective study, conducted at the Punjab health department from January 2019 to June 2019. A total of 1200 medical records were reviewed. Diagnosed cases of rheumatoid arthritis, of both gender were included in our study. **Results:** Among 1200 patients with rheumatic symptoms, 543(45.2%) patients were diagnosed cases of RA. Prevalence rate was higher among females 412(77.5%) , mostly fall in 31-45years age group as compared to males 131(24.1%). Hypertension 124 (22.8%), diabetes mellitus 211 (38.8%) and ischemic heart disease 89 (16.39%) were majorly reported comorbidities associated with rheumatoid arthritis. **Conclusion:** It is concluded from the study that prevalence rate of RA dominates among females as compared to males.

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INTRODUCTION:

Rheumatoid arthritis is a multifaceted disease which produces articular symptoms and damage, leading to disability. It is characterized by persistent synovial inflammation, bones erosion and articular destruction. Many epidemiological studies have been conducted to estimate the prevalence of the disease. It affects 0.5-1% of population all over the world. Rheumatoid arthritis (RA) is a chronic inflammatory disease of joints characterised by pain, stiffness, inflammation and decreased mobility. It results in joint deformity, decrease work ability, productivity and subsequently reduces quality of life of an individual. Studies estimate that 0.5% - 1% of population is affected by RA globally and rank the disease next to osteoarthritis and gout as major causes of disability [1].

Prevalence rate of RA in developing countries is variable. Reported Studies revealed lower prevalence rate in Nigeria,[2] Indonesia[3] and Africa[4] than that reported from the western countries. Several studies have estimated RA prevalence rate around the globe. For instance, prevalence in Serbia was 0.35% with female predominance. A figure of 0.31% was reported from France, 0.41% from Italy and 0.55% in Lithuania. In Asian countries, it was 0.26% in South Korea while in Japan it was between 0.6% - 1%. In African countries, a prevalence of 0.13 was reported in Algeria, 0.9 in Congo, 0.2 in Egypt and 0.9 from South Africa. RA prevalence was less than 0.5 in Nigeria. In Canada, the prevalence was 0.9%. In South Asia, the disease prevalence in India was 0.75%. In Pakistan, evidence from the past highlight a prevalence of 0.142% from Karachi with female predominance.

A reported study in southern Pakistan, Karachi, revealed prevalence of RA is 0.142%,[5] while in northern Pakistan the estimated prevalence is 0.55%[6].

Objectives of the study

The objective of current study was to estimate the epidemiology of RA, clinical aspects and socio-economic determinants in Pakistani patients.

METHODOLOGY:

A retrospective study, conducted at the Punjab health department from January 2019 to June 2019. A total of 1200 medical records were reviewed. Diagnosed cases of rheumatoid arthritis, of both gender were included in our study. Patients of 16 years old and above were included. All patients were examined by experienced rheumatologists and satisfied the 1987 modified ACR classification principles of RA.

Statistical analysis

Prevalence rate of RA and associated comorbidities were identified through rheumatology case records. Data was analyzed by SPSS.

RESULT:

Among 1200 patients with rheumatic symptoms, 543(45.2%) patients were diagnosed cases of RA. Out of 543 patients, 412(77.5%) were females and 131(24.1%) were males. Out of these 25 males and 78 females belongs to age group between 16-30 years, while 63 males and 233 females being between the ages of 31-45 years. Whereas 43 males and 101 females belonged to 46-60 years of age group as presented by Figure 1.

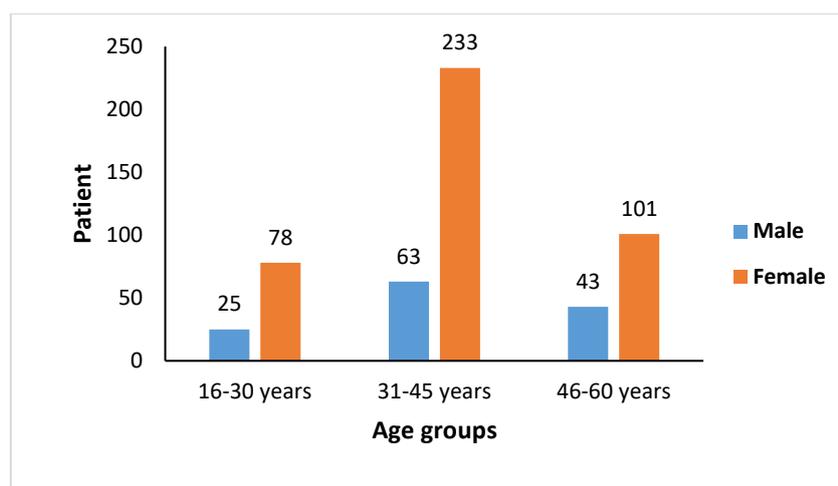


Figure 1. Patient's distribution among different age groups

RA factor was found to be positive in 71.4% patients. Out of 412 females and 131 males with RA, 73.2% and 81% were seropositive respectively. Reported comorbidities associated with RA were hypertension 12.6%, diabetes mellitus 18.7%, ischemic heart disease 15.6% and others documented in table 1.

Table 1. Comorbidities in Rheumatoid arthritis patient

Comorbidities	Frequency (%age)
Hypertension	124 (22.8%)
Diabetes mellitus	211 (38.8%)
Ischemic heart disease	89 (16.39%)
Tuberculosis	63 (11.6%)
Asthma	44 (8.10%)
Hyperthyroidism	5 (0.9%)
Hypothyroidism	7 (1.2%)

DISCUSSION:

The prevalence of RA is steadily increasing in Pakistan. We reviewed three studies from Karachi and observed an increasing RA prevalence. The prevalence was 12.9% in 2011 and 21.7% in 2014. This implied that prevalence of RA hypothetically increased with a factor of 2.2 per year between 2011 and 2014. The latest figure for RA prevalence was 26.9% reported in 2015 that represents a greater than 5% increase in one year. This highlights that prevalence of RA in Pakistan is higher than European and African countries as well as Japan [7]. To calculate population standardised prevalence of RA, population data of Karachi district was sought from Pakistan Bureau of Statistics (PBS). However, due to the non-availability of population data, the population-standardised prevalence could not be calculated. Furthermore, we observed 13 published studies for the mean age of presenting with RA and reported a figure of 44.4 years [8]. Patients in this age group are usually employed and their work-ability may be impacted by the disease. This has been mentioned as the most expensive adverse outcome of RA followed by its treatment costs [9].

Most patients observed were females with a mean proportion of 81.6% which is consistent with findings from studies conducted worldwide where, apart from elderly patients, studies conducted in JRA patients have also reported female predominance. Evidence highlights that major segment of RA population around the globe is middle-age females, however, the severity and disease course perceived by majority of clinicians is gender nonspecific. Women suffering from RA face social consequences of the disease, including inability to carry out daily activities and reduced work-ability [10].

CONCLUSION:

It is concluded from the study that prevalence rate of RA dominates among females as compared to males. Prevalence rate of RA was higher among the age group of 31-45 years. Hypertension, diabetes mellitus and ischemic heart disease were majorly

reported comorbidities associated with rheumatoid arthritis.

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