Original Article

Depression in Patients with Rheumatoid Arthiritis

Depression with Rheumatoid Arthiritis

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ABSTRACT

Objective: To determine the frequency of depression in patients of rheumatoid arthritis presenting at tertiary care hospital, Karachi.

Study Design: Hospital based / cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Medicine of Dow University and Jinnah Postgraduate Medical Center Karachi from 1st January 2017 to 30th June 2017.

Materials and Methods: The required sample size came out to be 260 rheumatoid patients. Prevalence 42%, margin of error 6% and confidence level 'C.l'=95%. This sample size was calculated using the open epi software.

Inclusion Criteria: Diagnosed patient of Rheumatoid Arthritis of more than 2 years duration on treatment who met the diagnostic criteria, of either gender, between 30 to 60years of age.

Exclusion Criteria: Patients with symptoms of mania, bipolar affective disorder or post-traumatic stress disorder or other systemic illness.

Results: Out of 260 patients minimum age of the patient was 30 while maximum age of the patient was 60 years. Among 260 patients, 115 (44.2%) were found to have depression. Age distribution shows that out of 260 patients, 53 (20.4%) were in the age range of 30-40 years of ages, 120 (46.25) were between 41-50 years of ages and 87 (33.5%) were in between 51-60 years of ages.

Conclusion: A close liaison between rheumatologist and mental health professionals could prove beneficial for these patients.

Key Words: Depression, Patients, Rheumatoid Arthiritis

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INTRODUCTION

Rheumatoid arthritis is a multisystem disabling autoimmune disease that affects between 0.5% and 1.0% of the adult population worldwide.[1,2] It is the most common form of polyarticular inflammatory arthritis characterized by persistent synovial inflammation, bony erosions and progressive articular destruction leading to varying degrees of physical disability. In South Pakistan, the prevalence of rheumatoid arthritis is said to be 0.9/1000 and 1.98/1000 in poor and affluent districts respectively, whereas in North Pakistan, the prevalence of major rheumatic disorders is quoted as 148/1000. [3-4]

Depression is currently the fourth leading cause of Global Burden of Diseases (GBD) and by the year 2020, it is projected to become the second leading cause of disability. People suffering from long-term medical conditions are twice as likely to suffer from major depression within the next year as compared to subjects without chronic disorders.

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Depression occurs in 13-20% of patients suffering from Rheumatoid Arthritis (RA) and is two to three times more common in patients with RA than in the general population. Depression increases the burden of RA for the patient and society, leading to more physical symptoms and is less likely to be reassured by a doctor, which may lead to poor compliance with medications.

Psychiatric syndromes have significant implications for patients with rheumatoid arthritis: individuals with both arthritis and depression report increased functional disability and increased levels of arthritis-related pain, compared to individuals with arthritis alone. Psychological and social factors are important causes of disability in patients suffering from musculoskeletal pain problems. In a community-based study conducted in Europe, Ohayon et al. showed that there was a high burden of depression, as a comorbid of pain and recommend that all patients with chronic painful physical conditions, should be evaluated systematically for depression.

MATERIALS AND METHODS

Consenting cases of Rheumatoid Arthritis diagnosed as defined in operational definition, meeting inclusion and exclusion criteria were enrolled in the study from the outpatient department of Dow University of Health Sciences and Jinnah Postgraduate Medical Centre Karachi. Permission from the institutional ethical review committee was taken prior to conduction of

study. Informed consent was obtained from all the patients for assigning them to sample and using their data in research. Demographic information of age of onset of Rheumatoid Arthritis, duration, frequency and course of disease was taken from the patient and confirmed by attendant. Beck Depression Inventory Questionnaire was used to diagnose depression. The researcher himself interviewed the patient in a conducive environment assuring him/her of confidentiality. Subject scoring more than 9 was termed as having depression. The findings of variables as mentioned above were entered in the Proforma.

Date Analysis Procedure: Data was analyzed on SPSS Version 16. Demographic data has been presented as simple descriptive statistics giving mean and standard deviation for age and duration of disease. Qualitative variables like gender, marital status, educational status and socioeconomic status & depression have been presented as frequency and percentages. Effect modifiers were controlled through stratification of age, gender, marital status, educational status and socioeconomic status to the effect of these on depression. Chi square test was applied, P≤0.05 was taken as significant.

RESULTS

A total of 260 diagnosed patients of rheumatoid arthritis who met the inclusion and exclusion criteria were included in this study. Out of 260 patients minimum age of the patient was 30 while maximum age of the patient was 60 years.

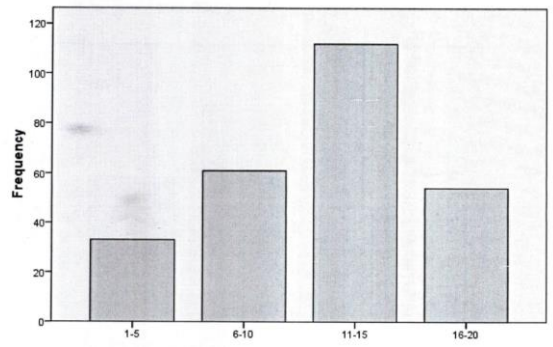

Figure No.1: Duration of disease distribution

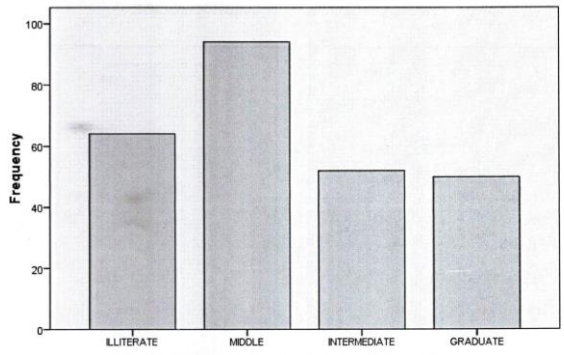

Figure No.1: Educational status distribution

Among 260 patients, 115 (44.2%) were found to have depression. Age distribution shows that out of 260 patients, 53 (20.4%) were in the age range of 30-40 years of ages, 120 (46.25) were between 41-50 years of ages and 87 (33.5%) were in between 51-60 years of ages. Most of the patients have disease for more than 10 years as shown in figure 1.

Table No.1: Descriptive statistics of age and duration of disease

Variable	Means ±SD	Standard Deviation	Min-Max
Age (years)	45.41	±6.89	30-60
Duration of disease (years)	12.96	±4.63	3-20

Table No.2: Depression distribution

Age (years)	Depression		Total
	Yes	No	
30-40	49 (92.5%)	04 (7.5%)	50 (100%)
41-50	29 (24.2%)	91 (75.8%)	120 (100%)
51-60	37 (42.5%)	50 (57.5%)	87 (100%)
Total	115 (44.2%)	145 (55.8%)	260 (100%)
P-value	0.00		

Table No.3: Depression according to gender

Gender	Depression		Total
	Yes	No	
Male	16 (40%)	24 (60%)	40 (100%)
Female	99 (45%)	121 (55%)	220 (100%)
Total	115 (44.2%)	145 (55.8%)	260 (100%)
P-value	0.55		

Table No.4: Depression according to educational status

Educational Status	Depression		Total
	Yes	No	
Illiterate	26 (40.6%)	38 (59.4%)	64 (100%)
Middle	38 (40.4%)	56 (59.6%)	94 (100%)
Intermediate	27 (51.9%)	25 (48.1%)	52 (100%)
Graduate	24 (48%)	26 (52%)	50 (100%)
Total	115 (44.2%)	145 (55.8%)	260 (100%)
P-Value	**0.48**		

Educational status distribution shows that out of 260 patients, 64 (24.6%) were illiterate, as shown in Figure 2. Depression is common in the age group 30-40 years as shown Table-2, and is more common in females as shown Table-3.
Stratification for educational status and socio-economic groups with respect to depression is shown in table-4 and 5 respectively.

Table No.5: Depression according to socio economical status

Economical Status	Depression		Total
	Yes	No	
Lower Class (less than Rs.10,000)	72 (51.8%)	67 (48.2%)	139 (100%)
Middle Class (Rs.10,000 Rs.20,000)	22 (28.2%)	56 (71.8%)	78 (100%)
Upper Class (More than Rs.20,000)	21 (48.8%)	22 (51.2%)	43 (100%)
Total	115 (44.2%)	145 (55.8%)	260 (100%)
P-Value	0.00		

DISCUSSION

Rheumatoid Arthritis is a chronic autoimmune disease and affects approximately 1% of the population[1,2]. The connection between depression and the illness experience of patients with RA has attracted considerable attention from researchers and clinicians. RA is not an uncommon disease in Pakistan[3,4]. Patients suffering from rheumatological disorders are said to experience depression and anxiety more than the general population.[5,6,7] Studies report that 13-20% of the patients with rheumatoid arthritis suffer from depression. Data from Japan reveal that 39% of rheumatoid arthritis patients are depressed Similarly, data from Spain indicates 33.5% of rheumatoid arthritis patients have co-morbid depressive illness.
Previous studies in Pakistan have indicated that about 57% and 42% of the patients with rheumatoid arthritis were suffering from depression.[9]. The present figures are certainly much higher than the international figures of 13-20%.
The present findings do not suggest that diagnosis is related to the depression or anxiety. Studies with larger sample size may be able to identify this difference among different rheumatological disorders. Previous studies have identified different variables in patients with rheumatological disorders that might be associated with depression[8]. The prevalence of depression in patients with other chronic illnesses is also variable, probably for the same reason. However, it is higher than the general population. Factors that might be responsible are physical pain, degree of physical disability, duration of the disease, gender, level of social stress and social support available.
In the present study, depression was found to be more common in females, which can be explained by the added responsibilities ascribed to woman in our society and also due to over representation of depressed females as compared to males**.** Depression was found to be more common in middle age group as compared to younger patients, as these are carrier making years; disruption in that process may be contributing to the frustration, pessimism and depression. In our study another factor found to be associated with depression is marital status as, more in un married, divorced or separated. It can be explained by society attitudes towards divorced and separated persons. In our study another factor found to be associated with depression is educational status as, more illiterate were found to be more depressed as compared to patients who had higher education. It can be explained by low self esteem, intellect and ability to deal with difficulties is lower in the less educated group as compared to the group with higher level of education. Depression was more common in patients with poor socioeconomic status due to financial constraints, making life generally more difficult regardless of the chronic disease.
Waheed et al. study population consisted mainly of middle aged (mean age 41) females (80.2%). The most common diagnosis was rheumatoid arthritis (57%), followed by systemic lupus erythmatosis (17%) and systemic sclerosis (9%). Permanent joint deformity was present in 33.3% patients and 36.9% patients were suffering from active disease with pain and inflammation. The frequency of anxiety and depression was 65.8%. Educational qualification, permanent joint deformity, active inflammation and time elapsed since diagnosis had significant association with anxiety and depression. Marital Status, gender, economic activity and monthly family income had no effect on the frequency of anxiety and depression.
In another study there were 108 patients mostly females (90%), mean age 44.7 + 11 years, majority (72%) were married and 51% were uneducated. Almost 80% of the patients had rheumatoid arthritis. Two-third of the patients had persistent symptoms. According to the HADS scoring 56% of the patients had more than the cut off score for depression. Regarding the clinical diagnosis, 42% of the patients were found to be depressed. Considering the factors which might be associated with depression or anxiety; only gender was found to be significantly associated with depression ($p=0.03$)[10,11].
The chronicity and clinical fluctuations of disease as well as the ever-present possibility of patient's suffering pain are the possible causes of psychiatric disorders in RA[12,13]. Physical handicaps that develop in the course of the disease lead to dissatisfaction in the family life and work status of patients, who become socially isolated due to insufficiency to fulfill their aspirations. Additionally, patients become hospital-bound due to their insufficient functional outcomes and unable to sustain themselves, and economic strains and lack of social support lead to depression.

Depression is said to be independent risk factor for work disability in patient with inflammatory rheumatic disorders. A 10% reduction in ability to perform valued activities is followed by a seven-fold increase in depression over the subsequent year. However, depression also precedes increases in disability[14,15]. Other studies do indicate that reduction in disability has been shown to follow improvement in depression in medical patients, but these findings are not clear in patients of rheumatoid arthritis[16].

Impact of other disease factors like pain, disability, other clinical factors like grip strength need to be evaluated in the presently studied sample. Similarly, psychological factors, like social support, social stresses, life events, reactions of patient's family to his illness and other stresses which have been indicated in other studies need to be evaluated in future studies to see, if they are as significant in our population or some other factors might be responsible for this high psychiatric morbidity in patients with rheumatological disorders. Identifying such factors is likely to result in better management of these patients. The present study may be the source of baseline data for the future researcher to know association of various demographic and clinical variables of rheumatoid arthritis with depression which will be helpful for successful treatment of rheumatoid arthritis.

CONCLUSION

Frequency of depression is high in patients being treated for chronic rheumatological disorders however other etiologies of depression may coexist and have to be carefully excluded. Systematic evaluation of all patients for mood disorders and psychological distress in the rheumatology clinics is highly recommended. Since depressed patients can suffer from longer disability periods, lower quality of life and more inpatient visits, early detection and treatment of depression is very important. A close liaison between rheumatologist and mental health professionals could prove beneficial for these patients.

Author's Contribution:

Concept & Design of Study:	Syed Shayan Ali
Drafting:	Munir Hussain
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Revisiting Critically:	Syed Shayan Ali, Munir Hussain
Final Approval of version:	Syed Shayan Ali

Conflict of Interest: The study has no conflict of interest to declare by any author.

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