ORIGINAL ARTICLE

Frequency of Depression and Anxiety in Patients Attending a Rheumatology Clinic

Nadia Azad, Murtaza Gondal* and Nadeem Abbas

ABSTRACT

Objective: This study was done to find out the frequency of anxiety and depression among patients with common rheumatic disorders and determine the possible relationship of different demographic and clinical variables with anxiety and depression.

Study Design: Cross-sectional, analytical study.

Place and Duration of Study: The study was carried out at Fauji Foundation Hospital, Rawalpindi, during April to August 2006.

Methodology: Patients attending the rheumatology outpatient department, with more than 2 years duration of rheumatic disorder were selected. A proforma regarding the demographic details was filled for all the patients. A physician made the assessment regarding the rheumatological disorder. Urdu version of Hospital Anxiety and Depression Scale (HADS) was used to assess anxiety and depression. Clinical assessment was done by two psychiatrists according to International Classification of Diseases-10 (ICD-10). Data was analyzed on SPSS10 and p-value was calculated using Chi-square test as test of significance.

Results: There were 108 patients mostly females (90%), mean age 44.7 $\pm$ 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 and 65.7% patients had scores falling in the category of cases. 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).

Conclusion: Depression and anxiety is high in patients being treated for chronic rheumatological disorders. A close liaison between rheumatologist and mental health professionals could prove beneficial for these patients.

Key words: *Rheumatic disorders. Depression. Anxiety. Mental health.*

INTRODUCTION

Mental illnesses constitute 12.1% of global burden of depression and are expected to increase to 15% by the year 2020. Mental and behavioural problems affect more than 25% of the people at some time during their lives.[1] In Pakistan, community studies indicate that 66% of females and 25% of males in rural areas and upto 25% of females and 10% of males in the urban areas suffer from psychiatric illness.[2,3]

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.[1] Data suggests that 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.[4] Studies indicate that depression occurs in 13-20% of patients suffering from Rheumatoid Arthritis (RA).[5,6] By conservative estimates, major depression is two to three times more common in patients with RA than in the general population.[7] Depression increases the burden of RA to the patient and society, increases worry about the disease and leads to more physical symptoms.[8-10] These patients are less likely to be reassured by a doctor, which may lead to poor compliance with medications.[8,10] 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.[11,12]

Few studies have been carried out in Pakistan to look at the psychiatric morbidity in patients suffering from chronic rheumatic diseases. This study aimed to find out the psychiatric morbidity, namely depression and

Department of Psychiatry, Foundation University Medical College, Rawalpindi.

* *Department of Medicine, Foundation University Medical College, Rawalpindi.*

Correspondence: *Dr. Nadia Azad, 122-A, St. 109, G-11/3, Islamabad.*

E-mail: drnadia_azad@hotmail.com

Received December 26, 2006; accepted June 26, 2008.

anxiety, among patients presenting to rheumatology out-patients clinic at Fauji Foundation Hospital, and to explore the possible relationship of the different demographic and clinical variables with depression and anxiety.

METHODOLOGY

It was a cross-sectional study carried out at The Rheumatology Clinic, Fauji Foundation Hospital Rawalpindi, from April to August 2006. A total of 108 patients attending the rheumatology clinic with more than 2 years duration of illness were selected for the study. Patients with past history of psychiatric illness or treatment, other severe uncontrolled systemic diseases, such as hypertension and uncontrolled diabetes, Systemic Lupus Erythamatosis (SLE) and fibromyalgia were also excluded. The latter two are usually on high doses of steroids, which may result in high psychiatric morbidity. Females with more than 5 years menopause were excluded as they are likely to suffer from osteoporosis, which may present with arthritis.

A written informed consent was taken from all the participants. A proforma regarding the demographic details was filled for all the patients. It contained information regarding age, gender, education, occupation, marital status, area of residence and monthly income of the patient. A physician made the assessment regarding the rheumatological disorder, its duration, treatment taken for it and response to the treatment, according to the clinical status and laboratory investigations. Patients were asked if they used any alternative medicine.

Urdu version of Hospital Anxiety and Depression Scale (HADS) was applied to assess anxiety and depression. Psychiatric assessment was done by two psychiatrists. Clinical diagnosis was made using International Diagnostic Criteria-10 (ICD-10). The data was analyzed using SPSS 10.0 version and p-value was calculated using Chi-square test as test of significance.

RESULTS

The study included 108 patients, 97 (90%) females and 11 (10%) males age ranging from 16-77 years. Mean age of the subjects was 44.7 years. Majority (72%) of the patients were married, 19.4% were single and 7.4% were widow/widowers. Regarding education, 51% of the subjects were uneducated, 19.4% studied upto primary level, 15.7% had done matriculation. Among the females, 66.7% were housewives. 19.4% of the subjects were unemployed. Over half of the patients (58%) resided in villages, 37% in the city, and 4.6% lived in towns. Average household had 7 persons, ranging from 2-17. Majority (77.7%) of the subjects had monthly income less than Rs.10,000, 19.4% had income between Rs.10-25,000 and only 2.7% had income more than Rs. 25,000. Regarding the diagnosis of rheumatological disorder, 86 (79.6%) were diagnosed to be suffering from rheumatoid arthritis, 15 (13.9%) were having a diagnosis of non-specific poly-arthritis and 6.5% had osteoarthritis. Mean duration of rheumatological disorders was 7.6 $\pm$ 5years ranging from 2-26 years.

As for the co-morbid illness, 13(12%) had controlled hypertension, 2 had diabetes mellitus with controlled normal blood sugar levels, while majority (81.5%) had no co-morbid illness. Majority (65%) of the patients had gone to a faith healer, *Hakims* or homeopath or a combination of these, while 35% of the patients had not sought any kind of alternative treatment. With regard to current treatment, 28.7% of the patients were on Non-Steroidal Anti-inflammatory Drugs (NSAIDs), 20.4% were on combination of NSAIDs, steroids (maintenance dose) and methotrexate, 15.7% were using NSAIDs and methotrexate. Rest of the patients (35%) were on different combinations of NSAIDs, sulphasalazine, steroids, methotrexate, and resochin. One patient was once given intraarticular corticosteroid injection for osteoarthritis. Only one patient was not taking any treatment. Considering the current clinical status, 38% of the patients reported to be symptom-free and 62% had persistent symptoms ranging from mild pain, swelling, limitation of joint movement and physical deformities.

For identification of possible cases of anxiety and depression, Hospital Anxiety and Depression Scale (HADS) was used. A score of 9 was taken as the cut off point for cases. More than half (56.5%) of the patients had a score of 9 or more for depression and 47(43.5%) were found to have a score of less than 9. For anxiety, 71(65.7%) patients had more than the cut off score, thus they were categorized as cases and 33% were non-cases. Clinical diagnosis was also made for these patients and 42% of the patients were found to be clinically depressed, ranging between mild to severe depression. Clinically, 56% had no psychiatric illness. Regarding the factors which might be associated with depression or anxiety, gender was found to be significantly associated with depression (p=0.039). Other factors like age, educational level, marital status, occupation, area of residence, monthly income, duration of the disease, response to treatment, different treatment modalities did not have statistically significant relationship with depression or anxiety. Table I, II and III are showing different factors and their significance with depression and anxiety, and their corresponding p-values.

DISCUSSION

Patients suffering from rheumatological disorders are said to experience depression and anxiety more than the general population.[7] Studies report that 13-20% of

Table I: Showing relationship of gender, marital status, occupation and education with anxiety and depression and their p-values.

	Anxiety		Depression	
	Case (9 or >9)	Non-case (< 9)	Case (9 or >9)	Non-case (<9)
Gender				
Male	4	7	3	8
Female	67	29	58	39
p-value	.078		.039	
Marital status				
Married	54	24	47	31
Single	11	9	9	12
Widow/widower	6	2	4	4
p-value	.250		.400	
Occupation				
Housewife	54	18	45	27
Retired army personnel	4	4	3	5
Unemployed	10	10	9	12
p-value	.277		.385	
Education				
Uneducated	38	17	36	19
Primary	9	10	7	12
Middle	10	4	8	6
Matriculate	12	4	10	7
Graduate	2	1		3
p-value	.313		.069	

Table II: Showing relationship of residence, monthly income, disease diagnosis and duration of diagnosis of that disease with anxiety and depression and their p-values.

	Anxiety		Depression	
	Case (9 or >9)	Non-case (<9)	Case (9 or >9)	Non-case (<9)
Resident				
Village	39	24	35	28
City	28	11	23	17
Town	4	1	3	2
p-value	.523		.968	
Monthly income				
Low <10,000	55	28	51	33
Middle 10,000-25,000	14	7	9	12
Upper > 25,000	2	1	1	2
p-value	.990		.240	
Diagnosis				
Rheumatoid arthritis	55	30	48	38
Non-specific polyarthritis	11	4	9	6
Osteoarthritis	5	2	4	3
p-value	.942		.955	
Duration				
< 5 years	25	11	22	14
5-10 years	29	16	28	18
11- 15 years	10	5	6	9
16- > 20 years	7	4	5	6
p-value	.943		.578	

the patients with rheumatoid arthritis suffer from depression.[5,6] Data from Japan reveal that 39% of rheumatoid arthritis patients are depressed.[13] Similarly, data from Spain indicates 33.5% of rheumatoid arthritis patients have co-morbid depressive illness.[14] In this

Table III: Showing relationship of treatment, response to treatment and co-morbid diseases with anxiety and depression and their p-values.

	Anxiety		Depression	
	Case (9 or >9)	Non-case (< 9)	Case (9 or >9)	Non-case (<9)
Treatment				
NSAIDs	25	6	22	9
NSAIDs + Methotrexate	10	7	9	8
NSAIDs+TTX+Steroids	11	10	11	11
p-value	.893		.292	
Responce to treatment				
Symptom-free	30	11	19	22
Persistent symptoms	41	25	42	25
p-value	.367		.096	
Co-morbid illness				
Hypertension	8	5	9	4
Diabetes mellitus	2	-	-	2
None	58	29	49	39
p-value	.913		.274	

study, about 42% patients were clinically depressed and the score on HADS indicated 56.5% of the patients had more than the cut off score. In previous studies as well features of anxiety were reported to be more common than depression.[15] In this study, 65.7% of the patients had more than the cut off score on anxiety scale as compared to 56.5% of depression cases but clinically only one patient fulfilled the criteria for anxiety disorder. Previous studies in Pakistan have indicated that about 66% of the patients with rheumatoid arthritis were suffering from anxiety or depression.[16] The present figures are less than this but 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. 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.[17-19] In this study, gender was the only significant factor associated with depression (p= 0.039). This finding is not found in the other local study but research done elsewhere has identified gender as a significant factor contributing to depression.[14,16] Age was not significantly associated with depression in the present as well as other local studies but studies published abroad do suggest that younger patients suffering from rheumatological disorders are more depressed.[16,20] International studies have found being unmarried to be significantly related to depression but the present and other local studies did not find the relationship of marital status and depression, to be statistically significant.[16] Study done in Karachi, Pakistan, found that education was significantly

related to psychiatric morbidity but the findings failed to identify education as a significant factor.[16,21,22] Previous studies indicate that patient with rheumatoid arthritis, living in urban areas are more likely to suffer from depression but present results could not identify the area of residence as a significant factor, affecting depression or anxiety in patients with rheumatoid arthritis.[22] Similarly, economic status of the patient was not found to be significant, which was against the popular belief that economically deprived people suffer more from depression and anxiety due to the economic constraints. Duration since diagnosis as well as total duration of rheumatoid arthritis are said to be significantly related to psychiatric morbidity and depression.[16,22] It was not found to be significant in the present study.

In this study, the response of the rheumatological disorders was assessed in broader terms, that is symptoms-free or persistent symptoms and it was not found to be significantly related to depression or anxiety. Previous studies have identified decreased grip strength, persistent pain, permanent joint deformity or active disease to be significant predictors of psychiatric morbidity.[16,23,24] Depressed individuals are more likely to have co-morbid illnesses,[23] but present findings did not indicate significant relation of co-morbidity and depression. Depression is said to be independent risk factor for work disability in patient with inflammatory rheumatic disorders.[25] A 10% reduction in ability to perform valued activities is followed by a seven-fold increase in depression over the subsequent year.[26] However, depression also precedes increases in disability.[27] 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.[28] So the causal association between depression and disability may act in both directions. This study mainly looked at demographic variables that might influence the level of psychiatric morbidity.

Impact of other disease factors like pain, disability, other clinical factors like grip strength need to be evaluated in the presently studied sample. For this purpose, further studies are needed with detailed evaluation of the physical factors affecting the functional capability of the patients with rheumatological disorders and its impact on psychological well-being of the patients. 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.

CONCLUSION

Patients suffering from chronic rheumatic disorders have high frequency of depression and anxiety. These patients continue to experience more ill-health, with more loads on medical services. A closer liaison between rheumatologists and mental health professionals is the need of the hour. Improvement in patients' mental health is likely to improve their physical condition, reduce their disability and in the long run reduce work load on the clinicians.

REFERENCES

1. World Health Organization: Mental health new understanding new hope. World health report. Geneva: *WHO* 2001.
2. Mumford DB, Saeed K, Ahmad I, Latif S, Mubbashar MH. Stress and psychiatric disorders in a rural Punjab: community survey. *Br J Psychiatry* 1997; **170**:473-8.
3. Mumford DB, Minhas FA, Akhtar I. Akhtar S. Mubbashar MH. Stress and psychiatric disorder in an urban Punjab: a community survey. *Br J Psychiatry* 2000; **177**: 557-662.
4. Pattern SB. Long-term medical conditions and major depression in a Canadian population study at waves 1 and 2. *J Affect Disord* 2001; **63**: 35-41.
5. Creed F. Psychological disorders in rheumatoid arthritis: a growing consensus. *Ann Rheum Dis* 1990; **49**:808-12.
6. Frank RG, Beck NC, Parker JC, *et al.* Depression in rheumatoid arthritis. *J Rheumatol* 1988; **15**:920-5.
7. Regier DA, Boyd JH, Burke JD, Rae DS, Myers JK, Kramer M, Robins LN. One month prevalence of mental disorders in the United States. *Arch Gen Psychiatry* 1988; **45**:977-86.
8. Dickens C, Creed F. Depression burden in patients with rheumatoid arthritis. *Rheumatology* 2001; **40**:1327-30.
9. Murphy H, Dickens CM, Creed FH, Bernstein R. Depression, illness perception and coping in rheumatoid arthritis. *J Psychosom Res* 1999; **46**:155-64.
10. DiMatteo MR, Lepper HS, Croghan TW. Depression is a risk factor for non-compliance with medical treatment: meta-analysis of the effects of the anxiety and depression on patient adherence. *Arch Intern Med* 2000; **160**:2101-7.
11. Hameed K, Gibson T, Kadir M, Sultana S, Fatima Z, Syed A. The prevalence of rheumatoid arthritis in affluent and poor urban communities of Pakistan. *Br J Rheumatol* 1995; **34**:252-6.
12. Farooqi A, Gibson T. Prevalence of the major rheumatic disorders in the adult populaton of north Pakistan. *Br J Rheumatol* 1998; **37**:491-5.
13. Yukioka M, Komatsubara Y, Maeda A. Tendency of depression in patients with rheumatoid arthritis. *Ryumachi* 2002; **42**:584-90.
14 Pastor Oliver JF, Morales Suarez-Varela M, Llopis Gonzalez A, Ferriol Casar V. Prevalence and depression degree in patients with rheumatoid arthritis; *Med Clin (Barc)*1998;**111**: 361-6.
15. el-Miedany YM, el-Rasheed AH. Is anxiety a more common disorder than depression in rheumatoid arthritis? *Joint Bone Spine* 2002; **69**:300-6.
16. Waheed A, Hameed K, Khan AM, Syed JA, Mirza AI. Burden of anxiety and depression among patients with chronic rheumatologic disorders at a tertiary care hospital clinic in Karachi, Pakistan. *J Pak Med Assoc* 2006; **56**:243-7.

17. Wolfe F, Hawley DJ. The relationship between clinical activity and depression in rheumatoid arthritis. *J Rheumatol* 1993; **20**: 2032-7.
18. Katz PP, Yelin EH. Life activities of persons with rheumatoid arthritis with and without depressive symptoms. *Arthritis Care Res* 1994; **7**: 69-77.
19. Murphy S, Creed FH, Jayson MIV. Psychiatric disorders and illness behaviour in rheumatoid arthritis. *Br J Rheumatol* 1988; **27**: 357-63.
20. Wright GE, Parker JC, Smarr KL, Johnson JC, Hewett JE, Walker SE. Age, depressive symptoms, and rheumatoid arthritis. *Arthritis Rheum* 1998; **41**:298-305.
21. Abdel-Nasser AM, Abd El-Azim S, Taal E, El-Badawy SA, Rasker JJ, Valkenburg HA. Depression and depressive symptoms in rheumatoid arthritis patients: an analysis of their occurrence and determinants. *Br J Rheumatol* 1998; **37**: 391-7.
22. Katz PP, Yelin EH. Prevalence and correlates of depressive symptoms among persons with rheumatoid arthritis. *J Rheumatol* 1993; **20**: 790-6.
23. Murphy S, Creed FH, Jayson MIV. Psychiatric disorders and illness behaviour in rheumatoid arthritis. *Br J Rheumatol* 1988; **27**: 357-63.
24. Dickens C. Depression in rheumatoid arthritis: a systematic review of the literature with meta-analysis. *Psychosom Med* 2002; **64**: 52-60.
25. Bernd Löwe, Dipl-Psych, Levke Willand, Wolfgang Eich, Stephan Zipfel, Anthony D. Ho, *et al.* Psychiatric co-morbidity and work disability in patients with inflammatory rheumatic diseases. *Psychosom Med* 2004; **66**:395-402.
26. Katz PP, Yelin EH. The development of depressive symptoms among women with rheumatoid arthritis. *Arthritis Rheum* 1995; **38**:49-56.
27. McFarlane AC, Brooks PM. Determinants of disability in rheumatoid arthritis. *Br J Rheumatol* 1988; **27**:7-14.
28. Von Korff M, Ormel J, Katon W, Lin EH. Disability and depression among high utilizers of health care: a longitudinal analysis. *Arch Gen Psychiatry* 1992; **49**:91-100.