PSYCHIATRIC MORBIDITY IN PERSONS SUFFERING FROM RHEUMATOID ARTHRITIS: A CROSS-SECTIONAL STUDY

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ABSTRACT

BACKGROUND

Rheumatoid arthritis is a chronic disabling condition and is associated with significant morbidity and mortality. Considering the chronicity of the illness, it has a significant impact on the mental health of affected individuals. Studies from India involving the rheumatoid arthritis and psychiatric morbidity has been very few. The objective of this study was to analyse the psychological factors in patients suffering from rheumatoid arthritis.

MATERIALS AND METHODS

Details from 56 consecutive patients attending Department of Rheumatology OPD of a government tertiary care hospital in Chennai were selected. Those who were diagnosed with rheumatoid arthritis were screened for psychological distress using GHQ-12 and were then progressively evaluated according to International Classification of Diseases - 10 criteria and then various clinical attributes were correlated.

RESULTS

Depression and anxiety were the most common psychiatric comorbidities in rheumatoid arthritis. There was a significant association between rheumatoid arthritis severity and psychological distress. There was an association with duration of rheumatoid arthritis and manifestation of psychological distress.

KEYWORDS

Rheumatoid Arthritis, Depression, Anxiety.

HOW TO CITE THIS ARTICLE: Mathew J, Jagadeesan MS, Rajarathinam S, et al. Psychiatric morbidity in persons suffering from rheumatoid arthritis: A cross-sectional study. J. Evid. Based Med. Healthc. 2016; 3(80), 4330-4334.

DOI: 10.18410/jebmh/2016/923

INTRODUCTION: Rheumatoid Arthritis (RA) has been described as a painful and disabling condition, which leads to a substantial amount of disability without proper intervention and many suffering patients face multiple social and psychological stressors. RA is often associated with a higher mortality than general population as suggested by Benitha R et al 2006, Dickens C et al 2001 and Dickens C et al 2003.[1,2,3] Depression is usually comorbid in any chronic medical disorder, particularly when it is disabling, having a direct bearing on patient care.

McGlynn EA et al 2003[4] described mental health as a state of mind where there is enthusiasm, relative absence of depression, anxiety or any other symptoms and having an ability to establish constructive relationships and is able to overcome routine tension and desires. Cadena J et al 2003[5] proposed that disease activity has been found to have direct correlation with mental health and standard of living in individuals with RA. Nakajima A et al in 2006[6] proposed that more than the pain due to illness, the process of suffering might affect the psychological wellbeing. Michaud K et al 2012[7] have shown that mental health and morbidity affect the disease activity and duration in RA. In RA, psychiatric morbidity leads to poor treatment compliance according to Mcnamara D et al 2007.[8] Psychological distress plays an important role in the disease progression as well as affecting the treatment response in peoples suffering from RA.

Anxiety and depression are common comorbidities in individuals suffering from rheumatoid arthritis. The prevalence of depression is said to be 28-44% as per the studies conducted by Ang D et al 2005, Kessler R et al 2003 and Graves H et al 2009.[9,10,11] The patients who perceived RA as an illness having serious negative consequence were found to be experiencing high states of anxiety whereas those who experienced more primary symptoms of the disease were suffering with depressive symptoms according to Graves H et al 2009 and Murphy S et al 1998, respectively.[11,12] Rheumatoid illness leading to a psychotic disorder or any other severe mental illness was not found in the literature.

Financial or Other, Competing Interest: None.
Submission 23-09-2016, Peer Review 26-09-2016,
Acceptance 03-10-2016, Published 06-10-2016.
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DOI: 10.18410/jebmh/2016/923

There have been very few Indian studies so far relating RA with psychiatric morbidity. In this study, we have attempted to analyse the attributes of patients suffering from rheumatoid arthritis for psychological distress.

MATERIALS AND METHODS: The study was carried out in the outpatient care wing of the Rheumatology Department in a tertiary care hospital in Chennai, India. The study period was between January 2015 and September 2015. 56 consecutive patients with rheumatoid arthritis according to 1987 Revised American Rheumatism Association for classification of rheumatoid arthritis within the age group of 17-60 years were studied. Those with the duration of RA illness of more than one year and under treatment since the diagnosis were included in the study. Acutely ill individuals, individuals with any psychiatric disorder prior to the diagnosis of RA, individuals with co-existing metabolic syndrome or other general medical conditions and those on treatment for psychotic illness secondary to steroid treatment were excluded. All the individuals were on treatment for RA with DMARDs and steroids.

Measures:

Semi-Structured Proforma: The individuals were administered a semi-structured proforma, which included the sociodemographic data, economic status and educational status.

Disease Activity Score in 28 Joints (DAS 28) formulated by Prevoo ML 1995[13] was used to measure the severity or the disease activity of rheumatoid arthritis. It combines single measurement variables into an overall continuous measure of RA activity. The European League against Rheumatism (EULAR) response criteria classifies patients as good, moderate or non-responders based upon the change in disease activity score. DAS score can be easily calculated using a calculator or computer with an estimate time of one minute.

General health questionnaire 12 formulated by Goldberg DP et al 1979[14] was used to screen for the psychological distress in the study population. It is a measure of current mental health. It focuses on two major areas, the inability to carry out normal functions and the appearance of new or distressing experiences. It consists of 12 questions. Goldberg had defined that a cut-off score of 2 would be significant. It has been found that a cut-off score of 1 or 2 yielded best sensitivity (83.5%) and specificity (75.1%) for identifying patients with an International Classification of Diseases-10 diagnosis.

International Classification of Disease 10 (ICD-10) criteria proposed and followed by World Health Organization was used to make a definite psychiatric diagnosis.

RESULTS:

Variable	Range/value
Sex	Male n =5 (8.9%)
	Female n=51 (91.1%)
Age (years)	17-39 n=18 (32.1%)
	40-49 n=23 (41.1%)
	>50 n=15 (26.8%)
Marital status	Unmarried n=1 (1.8%)
	Married n=44 (78.6%)
	Separated n=4 (7.1%)
	Widow n=7 (12.5%)
Education	Uneducated n=2 (3.6%)
	<7th n=39 (69.6%)
	7th -10th n=11 (19.6%)
	Higher secondary n=3 (5.4%)
	Graduate n=1 (1.8%)
Monthly income(INR)	<5000 n=25 (44.6%)
	5000-10000 n=22 (39.3%)
	>10000 n=9 (16%)

Table 1: Shows the Demographic Details of the Participants

Our study population comprised of 91% females, majority of them being young and middle-aged adults. More than 90% of the individuals had education up to 10th grade or below and majority of them belonged to lower socioeconomic class.

				95% Confidence Interval for Mean		
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Total	56	38.39	24.715	3.303	31.77	45.01

Table 2: Duration in Months of Rheumatoid Arthritis in the Study Population

The mean duration of illness was 38.39 months.

Grade	Frequency	Percent	Valid Percent	Cumulative Percent
Mild(<3.2)	12	21.4	21.4	21.4
Moderate (3.3-5)	32	57.1	57.1	78.6
Severe (>5.1)	12	21.4	21.4	100.0
Total	**56**	**100.0**	**100.0**	

Table 3: Severity of Rheumatoid Arthritis in the Study Population

Most of the RA patients in the study population were having moderate (57.1%) severity. There was an equal proportion of mild and severe rheumatoid arthritis (21.4%).

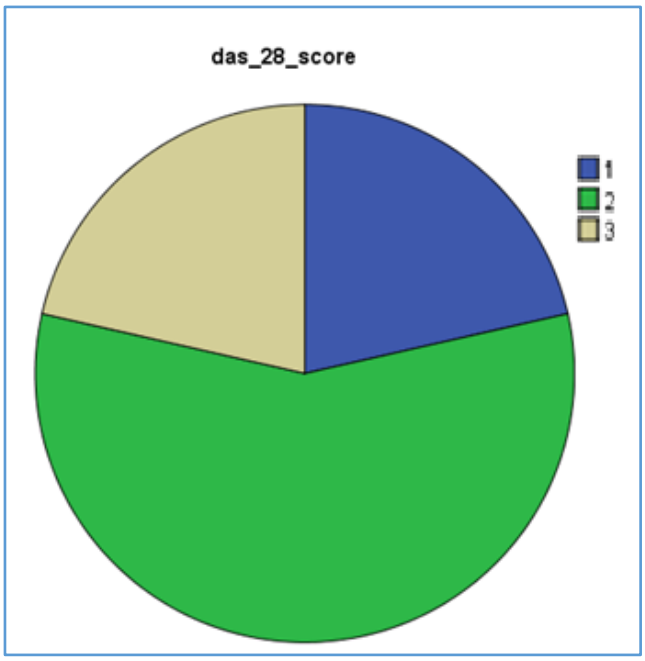

Figure 1: DAS 28 Score for Disease Activity

1. High Disease Activity (DAS score→ >5.1).
2. Moderate Disease Activity (DAS Score → 3.3 - 5.0).
3. Low Disease Activity, remission (DAS Score → <3.2)

Psychiatric manifestations as elicited by General health questionnaire 12 and Clinical interview: 50% of the individuals were screened positively with general health questionnaire and were further assessed in detail.

	Frequency	Percent	Valid Percent	Cumulative Percent
No diagnosis	35	62.5	62.5	62.5
Depression	13	23.2	23.2	85.7
Anxiety	4	7.1	7.1	92.9
Depression + Anxiety	4	7.1	7.1	100.0
Total	**56**	**100.0**	**100.0**	

Table 4: Psychiatric Diagnosis in the Study Sample who were Screened Positively using GHQ-12 as per ICD-10 Criteria

In the study population, 23.2% (n=13) were suffering from Depression, 7.1% (n=4) were suffering from Anxiety disorder and 7.1% (n=4) were having both Mixed Anxiety and Depressive disorders. A majority of 62.5% (n=35) did not have any psychiatric diagnosis.

Among the patients suffering from Depression;

1. 27.7% were suffering from Mild Depressive episode,
2. 55.5% were suffering from Moderate Depressive episode and
3. 11.1% were suffering from Severe Depressive episode.

Recurrent Depressive Disorder was noticed in 22.2% (n=4) and among them all had moderate severity of depression.

All the individuals with Anxiety Disorder n=8 (100%) were having Generalised Anxiety Disorder (GAD).

In our study, none of the individuals had suffered from a manic episode or a psychotic illness. Also, among those suffering from depressive episode, none had psychotic symptoms.

	Psychiatric diagnosis	N	Mean	Std. Deviation	Std. Error Mean	Significance (2 tailed)
Duration (months)	Present	21	50.24	29.965	6.539	0.004
	Absent	35	31.29	17.924	3.030	0.014

Table 5: Relationship between Duration of RA and Presence of Psychiatric Diagnosis

It was noticed that in all those who were suffering from a psychiatric diagnosis, a mean duration of 50 months of RA illness was observed. It is also noteworthy that individuals suffering from rheumatoid arthritis up to 31.2 months were not suffering from psychiatric morbidity.

	GHQ-12_score	N	Mean	Std. Deviation	Std. Error Mean	Sig. 2-tailed
Duration	Significant	27	46.52	28.711	5.525	0.016
	Not significant	29	30.83	17.647	3.277	0.019

Table 6: Relationship between Duration of RA and GHQ-12 Scores

A mean duration of 46.5 months of RA illness was found for significant results in GHQ-12 questionnaire. It was found to be statistically significant ($p < 0.05$).

			DAS Score			
			Mild	**Moderate**	**Severe**	**Total**
	Significant	Count	6	20	1	27
		% within GHQ_12_score	22.2%	74.1%	3.7%	100.0%
		% within DAS_28_score	50.0%	62.5%	8.3%	48.2%
		% of Total	10.7%	35.7%	1.8%	48.2%
	Not significant	Count	6	12	11	29
		% within GHQ_12_score	20.7%	41.4%	37.9%	100.0%
		% within DAS_28_score	50.0%	37.5%	91.7%	51.8%
		% of Total	10.7%	21.4%	19.6%	51.8%
	Total	Count	12	32	12	56
		% within GHQ_12_score	21.4%	57.1%	21.4%	100.0%
		% within DAS_28_score	100.0%	100.0%	100.0%	100.0%
		% of Total	21.4%	57.1%	21.4%	100.0%

Table 7: Showing Correlation between Severity of RA (DAS 28) and Psychological Distress

	Value	**df**	**P value**
Pearson Chi-Square	10.275[a]	2	0.006
Likelihood Ratio	11.701	2	0.003
Linear-by-Linear Association	4.097	1	0.043
N of Valid Cases	56		

Table 8: Showing Statistical Significance between Severity of RA (DAS 28) and Psychological Distress (GHQ-12)

According to Table 7 and 8, it has been found that there is a significant correlation between severity of rheumatoid arthritis and psychological distress as per GHQ-12 ($p<0.05$).

DISCUSSION: Rheumatoid arthritis predominates in women. The incidence is 4-5 times higher below the age of 50, but above 60-70 years the female/male ratio is only about 2:1 according to the study conducted by Kvien TK et al 2006.[15] In our study female/male ratio is 10:1, which is significantly higher when compared to other studies. Women in lower socioeconomic and lesser educated strata, which predominated our study population would have been more sensitive to the pain and disability aspect of RA. This might have made them seek help and treatment more compared to male adults of the same category of population reflecting in the high ratio tilted towards women.

In our study, depression and anxiety were the common comorbidities found in patients suffering from RA, which was similar to findings of previous studies by Ang DC et al 2005, Kessler R et al 2003, Graves H et al 2009 and Murthy S et al 1988.[9,10,11,12] The mean duration of rheumatoid arthritis was 38 months. Most of them were on treatment with corticosteroids and disease modifying antirheumatic agents. Disease activity was found to be moderate in majority of the patients. 78.5% of the study population were having moderate-to-severe RA.

A mean duration of 46 months of suffering from RA was found for a significant result in General Health Questionnaire. We found there was a significant correlation between disease severity and psychological distress as measured by General Health Questionnaire-12. Similar finding was reported by Kolahi S et al 2014 in Iran[16] where he compared disease severity and psychological distress.

It was noted in the study that individuals with illness duration of 31.2 months were not suffering from any psychiatric diagnosis and that a minimum duration of 36 months of suffering from RA was present before they developed a psychiatric diagnosis.

The prevalence of depression as proposed in multiple studies was in the range of 28%-44% according to Ang DC et al 2005, Kessler R et al 2003.[9,10] Our study revealed a prevalence of 23.2%, which is relatively less. Among the patients suffering from depressive disorder, most of them belonged to the category of moderate depressive episodes. Recurrent depressive episode was noted in 22.2% of the patients suffering from depressive disorder who were currently having an episode of moderate depression. Michaud K et al 2012[7] suggested that mental health morbidity affect disease activity and duration. Mcnamara et al 2007[8] have concluded that depression can affect the treatment compliance negatively. Hence, it is of utmost importance to be in vigil for the onset of a depressive disorder during the treatment course of rheumatoid arthritis.

Prevalence of anxiety has been reported differently across studies conducted. Zyrianova Y et al 2006[10] had demonstrated a higher prevalence rate of 44% of anxiety disorder in those people suffering from RA, whereas Covic T et al 2012[17] had demonstrated a lower prevalence rate of 13.5%. Our study has reported a prevalence rate of only 7.1% for anxiety disorders and all of them met the criteria of generalised anxiety disorder. Also, Covic T et al 2012[17] had described the prevalence of 21.8% of mixed anxiety and

depression. Our study showed a prevalence of 7.1%, which is significantly low when compared with other studies. Our urban poor population might have been exposed to other anxiety and depression provoking situations, secondary to social factors and this would have resulted in those directly related to RA illness being less.

LIMITATION: This cross-sectional study design would have yielded better and reliable results with a control group. The sample size and the number of male subjects were less. Our study subjects were from urban, lower socioeconomic strata, with low educational achievement, which is not representative of the suffering rheumatoid arthritis patients in their entirety. The psychological impact of depression and anxiety may not be necessarily caused by RA illness per se alone, the medications used for its treatment (DMARDs and steroids) could have also been confounding factors, which were not studied. The family support to the individuals has a strong bearing in overcoming the primary RA and the subsequent psychiatric morbidity if any, which we did not include in our study. The course of depression and anxiety undergo fluctuating course over a period of time and single point assessment may not reveal a comprehensive picture about the severity of the psychiatric illness. The influence of untreated RA illness duration was not studied.

CONCLUSION: A considerable portion of patients with rheumatoid arthritis have mental health problems. Depressive disorder and anxiety disorder were present in more than a third of patients suffering from RA. The severity of the psychiatric diagnosis was directly related with the illness duration of RA. Hence, it is important to screen them for psychological distress at regular time intervals. Apart from treating primary rheumatoid arthritis, identification and treatment of secondary or comorbid psychiatric disorder would be a holistic treatment approach for better healthcare delivery system in attaining the goal of physical, mental and social wellbeing.

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