

## Original Research Article

# Study of the difference in quality of life and caregiver burden among patients with schizophrenia and rheumatoid arthritis

Shaista Shaban<sup>1</sup>, Mohd Abrar Ahmad Guroo<sup>2\*</sup>, Racheal Bashir<sup>3</sup>

<sup>1</sup>Department of Medicine, Government Medical College, Srinagar, Jammu and Kashmir, India

<sup>2</sup>Department of Psychiatry, SKIMS Medical College, Srinagar, Jammu and Kashmir, India

<sup>3</sup>Department of Social and Preventive Medicine, Government Medical College, Srinagar, Jammu and Kashmir, India

**Received:** 21 April 2021

**Revised:** 03 May 2021

**Accepted:** 04 May 2021

### \*Correspondence:

Dr. Mohd Abrar Ahmad Guroo,

E-mail: [abrarguroo@gmail.com](mailto:abrarguroo@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

**Background:** Quality of life (QOL) is a measure to see an individual's adaptation and feeling of wellbeing and adjustment with the surroundings. Schizophrenia and rheumatoid arthritis (RA) both are chronic and disabling disorders supposed to have significant effect on quality of life. Also chronicity and disability of these disorders can be directly proportional to the caregiver burden.

**Methods:** Comparative study assessing quality of life and caregiver burden between persons with schizophrenia and RA.

**Results:** 50% of the schizophrenia group as well as the RA group were unemployed, suggesting the magnitude of the disability levels caused by the illness. Only 33% of patients with schizophrenia were married, unlike patients with RA where 83% were married. Of all the four domains of the World Health Organization quality of life instrument (WHO-QOL BREF) both the groups scored highest in the physical domain and least in the psychological domain and the difference between the two groups was not statistically significant in all the four domains. Burden among the caregivers of schizophrenic patients was comparatively high on BAS than caregivers of rheumatoid arthritis. The mean duration of illness in patients with schizophrenia was significantly higher than patients with RA.

**Conclusions:** RA is a chronic disorder and physical in nature with full insight in the patients. While as schizophrenia is characterized as a chronic mental illness with poor prognosis and no insight. QOL is expected to be less in schizophrenic patients. There is no significant difference in QOL except in physical domain in which patients with schizophrenia scored significantly better than patients with RA. The social domain of QOL was the only one in which schizophrenic patients did poorly, though not statistically significant. Also care giver burden was more among caregivers of schizophrenic patients and that can be attributed to lack of insight.

**Keywords:** Rheumatoid arthritis, Quality of life, Schizophrenia, Care giver burden

## INTRODUCTION

The World Health Organization (WHO) defines quality of life (QOL) as the individual's perception of their position in life regarding culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns. It is a wide concept that includes physical health, psychological state, level of independence, social

relationships, personal beliefs and their relationship to salient features of their environment.<sup>1</sup>

Rheumatoid arthritis (RA) is a connective tissue disorder with chronic and progressive course mainly affecting peripheral joints of body. Morning stiffness lasting for more than 1 hour, pain (usually more pronounced at rest), and swelling of joints, joint deformities, restricted of

physical activity are characteristic clinical features of RA. RA affects approximately 1% of the world population.<sup>2,3</sup> Pain and restricted movement of joints are considered hallmark of the agony in patients of rheumatic disease as it limits a person's normal day to day functioning. Also dual phenomenon of pain; one is the perception of pain, and the other is the patient's emotional reaction to it. It further leads to disability among the patients. The overall negative effects of RA affect the patient QOL.<sup>4</sup>

Schizophrenia is a severe and debilitating disorder, which affects general health, functioning, autonomy, subjective wellbeing, and life satisfaction of those who suffer from it. Life time prevalence of Schizophrenia is estimated to be approximately 0.3-0.7%.<sup>5</sup>

As per diagnostic and statistical manual of mental disorders (DSM-5) psychopathology comprises of positive, negative and cognitive symptoms. Norman et al have examined the relationship of symptoms and level of functioning in schizophrenia to the quality of life: their results show that negative symptoms, level of functioning and positive symptoms all were related to the QOL scale.<sup>6</sup> These cluster of symptoms in schizophrenic patients makes difficulty in living skills and have greater problems in employment and in relationship to their social environment. Thus one can expect quality of life could be worse in schizophrenia.

Both of these disorders are chronic and progressive in nature with direct impact on person's social, occupational and personal wellbeing. While one is of medical nature where underlying pathology is evident in physical deformity and other of psychiatric nature where there is no evident physical pathology. For this purpose, the aim of this research was to get an insight and compare QOL in subjects with RA and schizophrenia. Families of patients with mental illness face stigmatization, long term economical and emotional burden taking care of the patient. Illness in the patient has impact on work, social relationship and leisure activities of the family members. This evokes different feelings in the family members, which can have an impact on the course and prognosis of the illness.<sup>7</sup>

The concept of QOL, disability and burden are interrelated. These concepts have received more attention with the advent of newer drugs and better therapeutic outcome among the patients.<sup>8</sup> Thus it is more prudent to concentrate on these factors to help the patients, make a constructive living.

## METHODS

This is a comparative study assessing quality of life and caregiver burden between persons with schizophrenia and RA attending outpatient department of Government Medical College, Srinagar a tertiary hospital in Srinagar, India. Ethical clearance for the study was obtained from the hospital's health research ethics committee.

## Study period

The period of the study was from November 2018 to February 2019.

## Cases (patients)

They consisted of 30 patients with schizophrenia satisfying the criteria for WHO ICD 10 (F20) schizophrenia confirmed by an experienced psychiatrist and 30 patients suffering from RA, the diagnosis was confirmed by an experienced physician and patients fulfilled the ACR/EULAR criteria 18.

## Cases (caregivers)

They consisted of male and female individuals providing care for persons with schizophrenia and RA.

## Inclusion criteria

Participants between 20-55 years of age, willing to provide informed consent for the interview, willing to allow a caregiver to be assessed, and male and female individuals providing care for persons were included in the study.

## Exclusion criteria

Un-cooperative patients, patients who refused to participate in the research, refused to provide informed consent for assessment, and refused to allow a caregiver for evaluation were excluded.

## Scales

### World Health Organization quality of life (WHO QOL) BREF

WHO QOL scale is a highly validated instrument, purports to measure the individuals perception of their life in terms of their goals, achievements and satisfaction in their social cultural and economic background. WHO QOL is a 100 item scale measuring about 24 facets of life, with 4 questions in each. WHO QOL BREF is an abbreviated version with about 26 items measuring the quality of life across four domains viz. physical, psychological, social relationship and environmental domains. The responses range from 1 (very dissatisfied) to 5 (very satisfied). High internal consistency with Cronbach's alpha values were ranging from 0.71 to 0.86 were established in many studies.<sup>9</sup>

### Burden assessment schedule (BAS)

This is an instrument to assess burden on caregivers of chronic mentally ill. It was developed by Thara et al to assess subjective burden in Indian population. This schedule has 20 items, focusing on the domains of spouse related issues, physical and mental health, External support, and caregiver routine, support of patient, taking

responsibility, other relations, patient's behaviour and caregiver's strategy. Each of these 20 items was rated on a 3 point scale marked 1-3. The responses were not at all, to some extent, to some extent and very much.<sup>10</sup>

### Statistical analysis

Results obtained were analyzed using descriptive and inferential methods. Chi square test was used for categorical data and students' t test for continuous data and Pearson's correlation for assessing the correlation between variables.

## RESULTS

The sample composed of patients with schizophrenia (n=30) and RA (n=30). There was no significant difference between the two groups in occupation, and domicile. There were significant differences between the two groups in terms gender distribution ( $\chi^2=1.569$ ,  $p<0.002^*$ ) marital

status ( $\chi^2=4.251$ ,  $p=0.003$ ) and educational status ( $\chi^2=14.251$ ,  $p<0.01$ ) (Table 1).

The mean duration of illness and Socioeconomic status between the two groups was also different ( $Z=3.61$ ,  $p=0.02$ ), SESS ( $Z=2.40$ ,  $p=0.021$ ) (Table 2).

The QOL of patients with rheumatoid arthritis was significantly better in the social relationship ( $Z=3.065$ ;  $p=0.010$ ) and environmental domain ( $Z=4.027$ ;  $p=0.023$ ). Psychological domain was only one in which both had almost similar score with no statistical significance ( $Z=4.452$ ;  $p=0.052$ ) and in physical domain ( $Z=5.071$ ;  $p=0.041$ ) schizophrenia patients had a significantly better score (Table 3).

Level of care giver burden among spouse and family members of schizophrenia ( $32.59\pm5.06$ ,  $29.5\pm6.12$ ) is high than caregivers of rheumatoid arthritis ( $25\pm4.26$ ,  $21.87\pm6.12$ ) (Figure 1).

**Table 1: Socio-demographic data of patients with schizophrenia and RA.**

Variables	Diagnosis		$\chi^2$	P value
	RA N (%)	Schizophrenia N (%)		
Mean age	49.31	36.09	1.8	0.403
Gender				
Male	11 (36.6)	22 (73.4)	1.569	0.002*
Female	19 (63.4)	8 (26.6)		
Occupation				
Employed	16 (53.3)	12 (40.0)	2.298	0.458
Unemployed	14 (46.6)	18 (60.0)		
Marital status				
Single	5 (16.7)	20 (66.6)	4.251	0.003*
Married	25 (83.3)	10 (33.4)		
Education				
Primary	8 (26.5)	9 (30.0)	14.251	0.001*
Secondary	8 (26.5)	16 (53.3)		
Professional	14 (46.7)	5 (16.7)		
Domicile				
Rural	5 (16.7)	12 (40.0)	3.785	0.126
Urban	15 (50.0)	18 (60.0)		

Significant at  $p<0.05$ ; P: probability value;  $\chi^2$ : chi square test

**Table 2: Socioeconomic status and duration of illness of patients with schizophrenia and RA.**

Variables	Mean $\pm$ SD		Z	P value
	RA	Schizophrenia		
SESS	21.40 $\pm$ 8.12	14.87 $\pm$ 6.35	2.40	0.021
Duration of illness	5.95 $\pm$ 4.25	8.5 $\pm$ 3.61	3.61	0.02

SD: standard deviation; Z: Man-Whitney U-test; P: probability value; SESS: socioeconomic status schedule

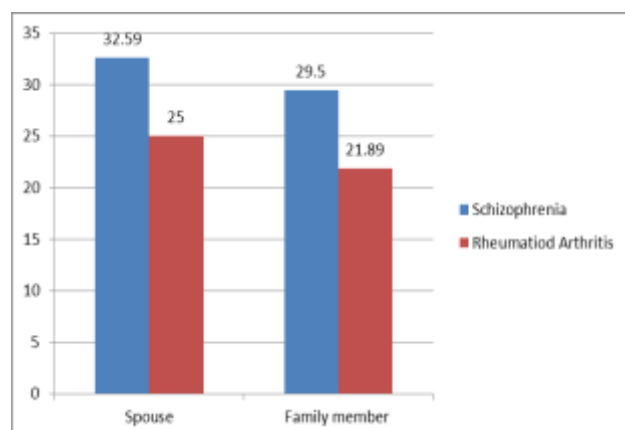
**Table 3: Quality of life of patients with schizophrenia and RA.**

Quality of life score	Disorder	Mean $\pm$ SD	Z	P value
Physical health	RA	58.95 $\pm$ 10.04	5.071	0.041
	Schizophrenia	60.04 $\pm$ 9.23		

Continued.

Quality of life score	Disorder	Mean±SD	Z	P value
Psychological	RA	62.18±12.58	4.452	0.052
	Schizophrenia	59.60±10.46		
Social relationships	RA	68.90±12.05	3.065	0.010
	Schizophrenia	51.22±8.11		
Environment	RA	70.01±12.99	4.027	0.023
	Schizophrenia	52.81±8.58		

Z: Man-Whitney U-test; P: probability value



**Figure 1: Caregiver burden among spouse and family members of schizophrenia and RA.**

## DISCUSSION

This study was aimed at studying the differences in the QOL in patients with schizophrenia and rheumatoid Arthritis, the former a chronic psychiatric disorder and the latter a chronic physical disorder. In our study there was gender difference among both disorders while schizophrenia group composed more of males and rheumatoid arthritis group consisted more of females. Which is similar to previous studies done on gender prevalence.<sup>11,12</sup> 50% of the schizophrenia group as well as the RA group were unemployed, suggesting the magnitude of the disability levels caused by the illness. Only 33% of patients with schizophrenia were married, unlike patients with RA where 83% were married. The mean duration of illness in patients with schizophrenia was significantly higher than patients with RA (5.5 years versus 8.5 years).

### Quality of life

WHOQOL BREF scale was used to compare QOL between schizophrenia and RA viz. physical domain, psychological domain, social domain, environmental domain. Of all the four domains, both the groups scored highest in the physical domain and least in the psychological domain and the difference between the two groups were not statistically significant in all the four domains. It was observed that patients with schizophrenia had a significantly better QOL in the physical domain. It's because schizophrenia involves the mental functions while RA is a physical illness. Significant impairment in activities of daily living and mobility had been reported in patients with RA.<sup>13,14</sup> The results of this study is in

agreement with the findings from the study of quality of life, by Gulappi et al and that is though schizophrenia is often an impairing chronic illness patients scored better on physical domains.<sup>15</sup> Our study result was similar with that of study conducted by Salaffi et al compared the QOL in patients with RA, psoriatic arthritis and mental health disorder i.e. depression. RA scored low on physical domain while there was no significant difference in other three domains of WHO-QOL on comparison.<sup>4</sup> In the psychological and environmental domains of WHO-QOL, patients with RA fared better than patients with schizophrenia, though it was not statistically significant. Patients with schizophrenia had significantly lower scores than patients with rheumatoid arthritis with statistical significance in social relationship domain of our study which is in concordance with study conducted by Radakrishnan et al and Hasanah et al in which both compared schizophrenic patients with other chronic disabilities and found that there were no significant differences in the psychological, and environmental and physical domains.<sup>16,17</sup> The most impaired aspect of well-being in the schizophrenic group was the social relationship domain. People gradually adapt to changes in their environment and reach a stable phase of acceptance of adverse circumstances which is as per adaptation level theory and theory of mind can also account for this finding in the patients with schizophrenia.

### Caregiver burden

Our study evaluated the burden perceived by the caregivers of the schizophrenic patients and RA by the burden assessment schedule. Burden among the caregivers of schizophrenic patients was comparatively high, when compared with, perceived patients with RA. Giel et al has pointed out that a chronic illness with severe loss of insight would significantly increase the burden.<sup>18</sup> Beckham et al first reported caregiver burden associated with RA patients in 1995. They demonstrated that patients' condition and self-efficacy for controlling the joints were two main factors affecting caregiver burden.<sup>19</sup> Thus both the disorders being chronic and disabling in nature and accompanied by evident stress on caregivers. The burden on caregivers of schizophrenic patients is more which can be due to lack of insight and disorganised symptoms among schizophrenic patients that makes it difficult for them to attend to their personal needs and self-care, while as in case of rheumatoid arthritis clear insight into the illness helps the patient to foresee and devise various means to help themselves and make it easy for their care givers in taking care of them.

## Limitations

The limitations of the study are its small sample size and the cross sectional analysis, hence the results are not to be generalized for the whole disease population. Follow up studies would give a better picture and wholesome view of the patient's quality of life and the burden perceived among their caregivers.

## CONCLUSION

RA is a chronic disorder and physical in nature with full insight in the patients. While as schizophrenia is characterised as a chronic mental illness with poor prognosis and no insight. QOL is expected to be less in schizophrenic patients. There is no significant difference in QOL except in physical domain in which patients with schizophrenia scored significantly better than patients with RA. The social domain of QOL was the only one in which schizophrenic patients did poorly, though not statistically significant. Also care giver burden was more among caregivers of schizophrenic patients and that can be attributed to lack of insight.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Skevington SM, Lotfy M, O'Connell KA. The World Health Organization's WHOQOL-BREF quality of life assessment: psychometric properties and results of the international field trial. A report from the WHOQOL Group. *Qual Life Res.* 2004;13:299-310.
2. Gibofsky A. Overview of epidemiology, pathophysiology, and diagnosis of rheumatoid arthritis. *Am J Manag Care.* 2012;(13):295-302.
3. Fassbender HG. The clinical presentation of rheumatoid arthritis: the results from three separate pathogenetic mechanisms in adults and children. *Acta Clin Croat.* 2008;47(1):50-5.
4. Salaffi F, Carotti M, Gasparini S, Intorcchia M, Grassi W. The health-related quality of life in rheumatoid arthritis, ankylosing spondylitis, and psoriatic arthritis: a comparison with a selected sample of healthy people. *Health Qual Life Out.* 2009;7:25.
5. World Health Organization, Burden of Mental and Behavioral Disorders, The World Health: New understanding, New Hope; Geneva, World Health Organization. 2001. Available at: <https://www.who.int/whr/2001/en/>. Accessed on 21 January 2021.
6. Norman RM, Malla AK, McLean T, Voruganti LP, Cortese L. The relationship of symptoms and level of functioning in schizophrenia to general wellbeing and the Quality of Life Scale. *Acta Psychiatr Scand.* 2000;102:303-9.
7. Functional limitations and quality of life in schizophrenia and other psychotic disorders, National Institute for Health and Welfare, Mental Health and substance Abuse Services, Helsinki, Finland. 2009.
8. Current Issues in Schizophrenia: Overview of Patient Acceptability, Functioning Capacity and Quality of Life. Lambert, Martin; Naber, Dieter. *CNS Drugs.* 2004;18:5-17.
9. WHOQOL-BREF. Introduction, administration, scoring and generic version of the assessment. Field Trial Version. Programme in mental health world health organisation. Geneva. 1996. Available at: <https://apps.who.int/iris/handle/10665/63529>. Accessed on 21 January 2021.
10. Thara R, Padmavati R, Kumar S, Srinivasan L. Instrument to assess burden on caregivers of chronic mentally ill. *Indian J Psychiatr.* 1998;40(1):21-9.
11. Ochoa S, Usall J, Cobo J, Labad X, Kulkarni J. Gender differences in schizophrenia and first-episode psychosis: a comprehensive literature review. *Schizophr Res Treatment.* 2012;916198.
12. Intriago M, Maldonado G, Cárdenas J, Ríos C. Clinical Characteristics in Patients with Rheumatoid Arthritis: Differences between Genders. *Scientific World J.* 2019;8103812.
13. Schuntermann MF. Die internationale Klassifikation der Impairments, Disabilities und Handicaps ICIDH-Ergebnisse und Probleme [International Classification of Impairments, Disabilities and Handicaps ICIDH--results and problems]. *Rehabilitation (Stuttg).* 1996;35(1):6-13.
14. Persons with disabilities Equal opportunities, protection of rights and full participation. 2010. Available at: <https://indiankanoon.org/doc/48618833/>. Accessed on 21 January 2021.
15. Galuppi A, Turola MC, Nanni MG, Mazzoni P, Grassi L. Schizophrenia and quality of life: how important are symptoms and functioning. *Int J Ment Health Syst.* 2010;4:31.
16. Radhakrishnan R, Menon J, Kanigere M, Ashok M, Shobha V, Galgali RB, et al. Domains and determinants of quality of life in schizophrenia and systemic lupus erythematosus. *Indian J Psychol Med.* 2012;34:49-55.
17. Hasanah CI, Razali MS. Quality of life: An assessment of the state of psychosocial rehabilitation of patients with schizophrenia in the community. *J R Soc Promot Health.* 2002;122:51-5.
18. Giel R, de Arango MV, Hafeiz Babikir A, Bonifacio M, Climent CE, Harding TW, et al. The burden of mental illness on the family. Results of observations in four developing countries. A report from the WHO Collaborative Study on Strategies for Extending Mental Health Care. *Acta Psychiatr Scand.* 1983;68(3):186-201.
19. Beckham JC, Burkner EJ, Rice JR, Talton SL. Patient predictors of caregiver burden, optimism, and pessimism in rheumatoid arthritis. *Behav Med.* 1995;20:171-8.

**Cite this article as:** Shaban S, Guroo MAA, Bashir R. Study of the difference in quality of life and caregiver burden among patients with schizophrenia and rheumatoid arthritis. *Int J Res Med Sci* 2021;9:1577-81.