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Original article

Depressive and anxiety symptoms and social support are independently associated with disease-specific quality of life in Colombian patients with rheumatoid arthritis

Heather L. Rogers[a,*], *Hardin T. Brotherton*[a], *Silvia Leonor Olivera Plaza*[b], *María Angélica Segura Durán*[b], *Marvín Leonel Peña Altamar*[c]

[a] *Department of Methods and Experimental Psychology, University of Deusto, Bilbao, Spain*
[b] *Grupo de Investigación Carlos Finlay, Facultad de Salud, Universidad Surcolombiana, Neiva, Colombia*
[c] *Clínica Saludcoop Neiva, Neiva, Colombia*

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ABSTRACT

Objective: To examine the relationship between disease-specific quality of life (QOL) and socio-demographic, medical, and psychosocial factors in Colombian patients with Rheumatoid Arthritis (RA).

Methods: One hundred and three RA patients recruited from ambulatory centers in Neiva, Colombia were administered the Disease Activity Scale 28 (DAS-28), QOL-RA, Zung Self-Rating Depression Scale, State-Trait Anxiety Inventory (STAI), Interpersonal Support Evaluation List-12 (ISEL-12), and Symptom Checklist-90 Revised (SCL-90R).

Results: Lower QOL-RA was associated with lower socio-economic status ($r = 0.26$, $p < 0.01$), higher likelihood of using opioids ($t = -2.51$, $p < 0.05$), higher likelihood of comorbid pulmonary disease ($t = -2.22$, $p < 0.05$), and lower ISEL-12 sub-scales (r's = 0.41–0.31, p's < 0.001). Lower QOL-RA was associated with higher DAS-28 ($r = -0.28$, $p < 0.01$), Visual Analog Scale (VAS; $r = -0.35$, $p < 0.001$), Zung Depression ($r = -0.72$, $p < 0.001$), STAI-State ($r = -0.66$, $p < 0.001$), STAI-Trait ($r = -0.70$, $p < 0.001$), SCL-90R Global Severity Index ($r = -0.50$, $p < 0.001$), SCL-90R Positive Symptom Total ($r = -0.57$, $p < 0.001$), and all SCL-90R sub-scales (r's = −0.54 to −0.21, p's < 0.01). A multivariate linear regression model indicated that SES ($B = 2.77$, $p < 0.05$), Zung Depression ($B = -0.53$, $p < 0.001$), STAI-State ($B = -0.26$, $p < 0.05$), and ISEL-12 Belonging ($B = 1.15$, $p < 0.01$) were independently associated with QOL-RA, controlling for significant associations.

Conclusions: More depressive and anxiety symptoms were independently associated with lower disease-specific QOL, while higher perceptions of having people to do activities with (belonging social support) and higher SES were independently associated with higher

* *Corresponding author.*
E-mail: hrogers@deusto.es (H.L. Rogers).
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disease-specific quality of life. Psychosocial factors impact QOL in RA above and beyond disease activity. Additional research into the benefits of psychosocial assessment of RA patients and provision of comprehensive care to improve QOL is warranted.

Sintomas depressivos e de ansiedade e apoio social estão associados de modo independente à qualidade de vida específica da doença em pacientes colombianos com artrite reumatoide

Palavras-chave:
Artrite reumatoide
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Apoio social

RESUMO

Objetivo: Analisar a relação entre a qualidade de vida (QV) específica da doença e fatores sociodemográficos, clínicos e psicossociais em pacientes colombianos com artrite reumatoide (AR).

Métodos: Recrutaram-se 103 pacientes com AR em centros ambulatoriais de Neiva, na Colômbia. Eles responderam ao Disease Activity Scale 28 (DAS-28), QOL-RA, Escala de Autoavaliação da Depressão de Zung, Inventário de Ansiedade Traço-Estado (Idate), Interpersonal Support Evaluation List-12 (Isel-12) e Symptom Checklist-90 Revised (SCL-90R).

Resultados: Escores mais baixos de QOL-RA estiveram associados a uma pior condição socioeconômica (CSE; $r = 0{,}26$, $p < 0{,}01$), maior probabilidade de usar opioides ($t = -2{,}51$, $p < 0{,}05$), maior probabilidade de doença pulmonar comórbida ($t = -2{,}22$, $p < 0{,}05$) e pontuações inferiores nas subescalas do ISEL-12 (r's = 0,41–0,31, p's < 0,001). Uma menor pontuação no QOL-RA esteve associada a escores mais elevados no DAS-28 ($r = -0{,}28$, $p < 0{,}01$), Escala Analógica Visual (EVA; $r = -0{,}35$, $p < 0{,}001$), Escala de Autoavaliação da Depressão de Zung ($r = -0{,}72$, $p < 0{,}001$), Idate-Estado ($r = -0{,}66$, $p < 0{,}001$), Idate-Traço ($r = -0{,}70$, $p < 0{,}001$), SCL-90R Índice de Gravidade Global ($r = -0{,}50$, $p < 0{,}001$), SCL-90R Total de Sintomas Positivos ($r = -0{,}57$, $p < 0{,}001$) e todas as subescalas do SCL-90R (r's = −0,54 a −0,21, p's < 0,01). Um modelo de regressão linear múltipla indicou que a CSE ($B = 2{,}77$, $p < 0{,}05$), a Escala de Autoavaliação da Depressão de Zung ($B = -0{,}53$, $p < 0{,}001$), o Idate-Estado ($B = -0{,}26$, $p < 0{,}05$) e o Isel-12 Pertencimento ($B = 1{,}15$, $p < 0{,}01$) estavam independentemente associados à pontuação no QOL-RA, mesmo quando controlados por associações significativas.

Conclusões: Mais sintomas depressivos e de ansiedade estiveram independentemente associados a uma menor QV específica da doença, enquanto a percepção aumentada de ter pessoas com quem fazer atividades (pertencimento, apoio social) e CSE mais elevados estiveram independentemente associados a uma maior QV específica da doença. Os fatores psicossociais impactam na QV na AR acima e além da atividade da doença. É necessária pesquisa adicional acerca dos benefícios da avaliação psicossocial do paciente com AR e da prestação de cuidados abrangentes para melhorar a QV.

Introduction

RA is a debilitating autoimmune disease whose symptoms cause increased difficulty in carrying out normal, everyday activities. RA has a worldwide prevalence of 0.5–1% of the population, affecting women more than men at a ratio of 3:1 and increasing with age.[1] The prevalence of RA in Latin America is estimated at 0.4%,[2] while in Colombia, it may be even lower, at 0.1%.[3] The public health burden of the disease is quite high. Approximately 10 years ago, RA was the second cause of loss of working years in women between ages 15 and 44 in Colombia.[4] Subjective patient and physician measures are important predictors of RA treatment response and future health outcomes,[5] making accurate measurements in domains of quality of life, pain, and psychological factors valuable for accurate and improved prognoses.

Quality of life (QOL) in individuals with RA is poorer than healthy controls. Compared to those without arthritis, people with RA were 40% more likely to report fair or poor general health, 30% more likely to need help with personal care, and twice as likely to have a health-related activity limitation.[6] General measures of QOL, such as the Health Assessment Questionnaire Disability Index (HAQ) and the Short-Form 36 (SF-36), as well as disease-specific measures, such as the RAQOL and the QOL-RA, all indicate poorer QOL than controls.[7–11]

The influence of psychosocial factors on QOL in RA has been documented in samples from various countries.

Depressive symptoms and depression have been associated with worse QOL in patients with RA in cross-sectional studies[12–15] and found to be an independent predictor of QOL at two-year follow-up.[16] Anxiety has also been found to be associated with poorer QOL.[12,13,17] RA patients with a comorbid psychiatric disorder had lower QOL,[18] and somatization, in particular, was found to be associated with worse QOL, independent of anxiety and depression.[14] Positive social support has been associated with better QOL in patients with RA in some cross-sectional studies,[19] whereas problematic social interactions, criticism, and/or a lack of social support is associated with poorer QOL.[20,21] Higher satisfaction with emotional support independently predicted improved QOL in RA patients,[22] though this buffering effect appeared to decrease over time.[23]

Much of the prior research has focused on samples from Anglo-Saxon cultures and the importance of psychosocial factors (including depressive symptoms, anxiety, other psychopathology, and social support) on QOL in Latin Americans with RA has been less studied.[24] The aim of the present study is to determine the psychosocial factors associated with disease-specific QOL in a sample of patients with RA from Colombia and examine their independent contributions to QOL in RA. A focus on the role of social support in a Colombian sample with RA is novel, and it is hypothesized that social support, in particular, may influence QOL differently than in prior research in primarily Anglo-Saxon cultures because Latin American values tend to align with collectivist ideals and familililism.[25]

Patients and methods

Participants

The sample consisted of 103 individuals diagnosed with Rheumatoid Arthritis (RA) according to the American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) Collaborative Initiative 2010 Rheumatoid Arthritis Classification Criteria.[26] All patients aged 18 to 79 who visited ambulatory centers in Neiva, Colombia between December 2012 and June 2013 to be evaluated by a rheumatologist or internal medicine specialist and were cognitively able to participate in the study were included. Any patient currently hospitalized, with a comorbid neurological or psychiatric disorder interfering with independent decision making, with terminal illness (defined by a survival time of less than six months), or with a history of alcohol or other drug abuse was excluded from this study.

Procedure

Patients were assessed by a rheumatologist or internal medicine specialist to determine eligibility. After signing an informed consent, the Disease Activity Scale-28 (DAS28)[27] was administered, followed by a session with a trained research assistant to complete demographic and psychological scales. This study received ethics committee approval.

Measures

Disease Activity Scale-28 (DAS28)

The Disease Activity Scale-28 (DAS28) is a composite measure that consists of physical, emotional, and serological evaluation. Measurements in this study included: (a) a 28 tender joint count and a 28 swollen joint count, (b) the erythrocyte sedimentation rate (ESR) as a measure of inflammation, and (c) a Visual Analog Scale (VAS) rating of disease activity over the prior week from 0 (not at all active) to 10 (extremely active). A total score is calculated, with higher scores representing greater extent of disease activity.[27] The following cut-off points have been established: less than 2.6 indicates disease remission, 2.6–3.2 indicates low disease activity, 3.2–5.1 indicates moderate disease activity, and greater than 5.1 indicates high disease activity. The DAS28 is highly correlated with the original DAS ($r > 0.94$) and well-correlated with disability as measured by the Health Assessment Questionnaire (HAQ; $r = 0.49$) and the Short Form-36 (SF-36; $r = -0.46$).[28]

Quality Of Life-Rheumatoid Arthritis (QOL-RA)

The Quality of Life-Rheumatoid Arthritis (QOL-RA) is an eight-item self-report questionnaire that evaluates physical ability, interaction, pain, tension, overall health, arthritis-specific QOL, social support, and mood on a Likert scale from 1 (very poor) to 10 (excellent).[29] Higher total scores indicate higher disease-specific QOL. The Spanish version of the QOL-RA is commonly used in Colombia and has good reliability, with a Cronbach's alpha of 0.89, very close to the English version of 0.90.[29]

State-Trait Anxiety Inventory (STAI)

The State-Trait Anxiety Inventory (STAI) measures Trait Anxiety (STAI-Trait), or stable anxiety, and State Anxiety (STAI-State), or momentary anxiety. Each sub-scale consists of 20 symptoms evaluated on a 4-point Likert scale from 1 (not at all or almost never) to 4 (very much so or almost always). Some items reflect absence of anxiety and are reverse coded in scoring. Higher total scores on each sub-scale reflect greater anxiety.[30] The Spanish measure has good to excellent reliability (STAI-Trait alpha = 0.86, STAI-State alpha = 0.91).[31]

Interpersonal Support Evaluation List (ISEL-12)

The Interpersonal Support Evaluation List (ISEL-12) is a shortened version of a 40 item scale.[32] The ISEL-12 assesses perceived availability and potential for social interaction and support. Half of the items are positive affirmations, while the other half are negative. The ISEL-12 has three subscales of four items each: (1) the subscale "tangible" evaluates the perceived availability of material aid; (2) the subscale "appraisal" assesses the perceived availability of people with whom the individual may share his/her problems; and (3) the subscale "belonging" assesses the perceived availability of individuals with whom to engage in activities. The individual rates each items on a scale from 1 (definitely false) to 4 (definitely true). Higher scores indicate higher levels of perceived social support. The measure has been validated in the Spanish-speaking population with good reliability (alpha = 0.70).[33]

Zung Self-Rating Depression Scale

The Zung Self-Rating Depression Scale was designed to evaluate the level of depression in patients diagnosed with a depressive disorder.[34] The Zung consists of 20 items representing the affective, psychological, and somatic symptoms of depression. There are 10 positively worded items and 10 negatively worded items assessed on a scale of 1 (little of the time) to 4 (most of the time).[34] The Zung has been validated in Colombia with good reliability (alpha = 0.85).[35] In the present study, the total score on the Zung was used to represent depressive symptoms on a continuum.

Symptom Checklist-90-Revised (SCL-90R)

The Symptom Checklist-90-R (SCL-90R) evaluates a broad range of psychological problems and psychopathology.[36] The scale consists of 90 symptoms assessed on a five-point Likert scale from 0 (not present or bothersome) to 4 (very present or bothersome). The items are grouped into the following nine dimensions: somatization, obsessive–compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The scale includes a Global Severity Index (GSI) to indicate the general level of distress caused by the symptoms, a Positive Symptom Distress Index (PSDI) to measure the intensity of symptoms experienced, and a Positive Symptom Total (PST) to report the self-reported total number of 90 possible symptoms assessed.[36] Higher scores indicate more symptoms and/or more distress. The SCL-90R has been validated in Colombia with good reliability across various samples (alpha's = 0.77–0.90).[37]

Statistical analyses

The data were analyzed using IBM SPSS Statistics for Windows, Version 20.0 (IBM Corporation, 2011). Frequencies and descriptive statistics were calculated for socio-demographic and medical characteristics. Pearson correlations and *t*-tests were conducted to examine the bivariate relationships between socio-demographics, medical characteristics, and psychosocial factors and QOL-RA. A multivariate linear regression analysis was conducted on QOL-RA using the factors found to be significant in bivariate analyses as predictors.

Results

Table 1 describes the socio-demographic characteristics of the sample ($n = 103$), which primarily consisted of married (63.1%, $n = 65$) women (85.4%, $n = 88$) with an average age of 54 years. Eighty-five percent of the sample represented the bottom-most socio-economic levels in the country (levels 1–2), with 36.9% gainfully employed. Table 2 describes the medical characteristics of the sample. Approximately 85% of the sample had moderate to high disease activity[28] and had been living with the disease for an average of 13 years. The average RA patient took three medications, with the majority taking non-steroidal anti-inflammatory drugs (NSAIDS) (91.3%, $n = 94$), disease modifying anti-rheumatic drugs (DMARDS) (77.7%, $n = 80$), and steroids (76.7%, $n = 79$). One person was on anti-depressant medication, and another on anticonvulsant medication. Approximately half ($n = 52$) had a co-morbidity, most commonly hypertension (28.2%, $n = 29$).

Participants reported average levels of disease-specific QOL [mean QOL-RA = 50.50(12.10) with a maximum of 80 points total]. They also reported average depressive symptom and anxiety scores [mean Zung = 44.14(7.40) out of 80,

Table 1 – Socio-demographic characteristics of the sample ($n = 103$).

	% (*n*)	Mean (SD)
Age		53.8 (12.7)
Gender (female)	85.4% (88)	
Marital status		
Single	12.6% (13)	
Married	63.1% (65)	
Divorced/separated	12.6% (13)	
Widowed	11.7% (12)	
Education		
Primary/elementary school or less	39.9% (41)	
High school	42.7% (44)	
Technical studies or degree	10.6% (11)	
University studies or degree	6.8% (7)	
Socio-economic level		
1	17.5% (18)	
2	68.0% (70)	
3	12.6% (13)	
4	1.0% (1)	
5	1.0% (1)	
6	0.0% (0)	
Gainfully employed	36.9% (38)	

Table 2 – Medical characteristics of the sample.

	% (*n*)	Mean (SD)
Disease Activity Scale 28 (DAS28)		4.87 (1.46)
Severe (>5.1)	45.6% (47)	
Moderate (3.2–5.1)	38.8% (40)	
Low (2.6–3.2)	8.7% (9)	
Remission (<2.6)	6.8% (7)	
Visual Analog Scale (VAS) for DAS28		6.29 (2.68)
Number of years with disease		12.97 (11.63)
Early Rheumatoid Arthritis (≤3 years)	20.4% (21)	
Total medications, mean (SD)		3.03 (0.88)
Non-Steroidal Anti-Inflammatory Drugs	91.3% (94)	
Disease Modifying Anti-Rheumatic Drugs	77.7% (80)	
Steroids	76.7% (79)	
None	49.5% (51)	
Biologic Therapy	44.7% (46)	
Other	5.8% (6)	
Opioids	4.9% (5)	
Total comorbidities, mean (SD)		0.84 (1.02)
Hypertension	28.2% (29)	
Other	21.4% (22)	
Cardiac disease	14.6% (15)	
Diabetes	8.7% (9)	
Pulmonary disease	4.9% (5)	

Table 3 – Bivariate relationships between socio-demographic and medical characteristics and QOL-RA.

Socio-demographic and medical characteristics	Statistical test value[a]	*p* value
Age	−0.03	0.76
Gender	0.38	0.71
Marital status	0.37	0.72
Education	0.13	0.19
Socio-Economic Status[b]	0.26	0.008
Gainfully employed	−0.57	0.57
Disease Activity Scale 28 (DAS28) score[b]	−0.28	0.004
Visual Analog Scale DAS28 score[c]	−0.35	<0.001
Number of years with disease	−0.01	0.96
Early Rheumatoid Arthritis	−0.92	0.36
Total medications	0.03	0.76
Biologic Therapy	1.24	0.22
Disease Modifying Anti-Rheumatic Drugs	0.19	0.85
Steroids	0.21	0.83
Non-Steroidal Anti-Inflammatory Drugs	−1.72	0.11
Opioids[d]	−2.51	0.014
Other	1.50	0.14
Total comorbidities	−0.05	0.65
None	0.17	0.87
Hypertension	−0.17	0.86
Diabetes	0.44	0.66
Cardiac disease	−0.54	0.59
Pulmonary disease[d]	−2.22	0.03
Other	1.64	0.10

[a] If the independent variable was continuous, *r* value of a Pearson correlation was provided. If the independent variable was categorical, t value of the independent t test was provided.
[b] $p < 0.01$.
[c] $p < 0.001$.
[d] $p < 0.05$.

Table 4 – Bivariate relationships between psychosocial factors and QOL-RA.

Psychosocial factor	Statistical test value[a]	*p* value
Zung Depression[b]	−0.72	<0.001
State-Trait Anxiety Inventory-State[b]	−0.66	<0.001
State-Trait Anxiety Inventory-Trait[b]	−0.70	<0.001
Interpersonal Support Evaluation List (ISEL) total[b]	0.42	<0.001
ISEL Appraisal[b]	0.31	<0.001
ISEL Belonging[b]	0.41	<0.001
ISEL Tangible[b]	0.38	<0.001
Symptom Checklist-90-Revised (SCL-90R) Global Severity Index[b]	−0.50	<0.001
SCL-90R Positive Symptom Total[b]	−0.57	<0.001
SCL-90R Positive Symptom Distress Index	−0.10	0.33
SCL-90R Somatization[b]	−0.45	<0.001
SCL-90R Obsessive–Compulsive[b]	−0.36	<0.001
SCL-90R Interpersonal Sensitivity[b]	−0.33	<0.001
SCL-90R Depression[b]	−0.51	<0.001
SCL-90R Anxiety[b]	−0.54	<0.001
SCL-90R Hostility[b]	−0.37	<0.001
SCL-90R Phobic Anxiety[b]	−0.42	<0.001
SCL-90R Paranoid Ideation[c]	−0.21	0.03
SCL-90R Psychoticism[d]	−0.30	0.002

[a] If the independent variable was continuous, *r* value of a Pearson correlation was provided. If the independent variable was categorical, t value of the independent t test was provided.
[b] $p < 0.001$.
[c] $p < 0.05$.
[d] $p < 0.01$.

STAI-State = 35.26(10.21) out of 80, and STAI-Trait = 38.39(9.72) out of 80]. Social support was high, with ISEL totals of 41.66(6.08) out of 48. Patients endorsed an average of 23.13(14.75) of the 90 symptoms on the SCL-90R (PST) with average severities [1.51(0.44), range 0–4; PSDI], and overall severities for the 90 items of 0.42(0.35) on a 0–4 scale (GSI).

Table 3 shows the bivariate relationships between socio-demographic and medical characteristics and QOL-RA. Although age, gender, marital status and education were not significantly associated with QOL-RA, socio-economic status (SES) was positively correlated with QOL-RA scores ($r = 0.26$, $p < 0.01$). DAS and VAS scores were negatively associated with QOL-RA ($r = -0.28$, $p < 0.01$ and $r = -0.35$, $p < 0.001$). Opioid use and presence of pulmonary disease were negatively associated with QOL-RA ($t = -2.51$, $p < 0.05$ and $t = -2.22$, $p < 0.05$), but number of years with disease, total medications, total comorbidities, other specific medication use, and other specific comorbidities were not related to QOL-RA in this sample.

Table 4 shows the bivariate relationships between psychosocial factors and QOL-RA. Although SCL-90R PSDI was not correlated with QOL-RA, all other psychosocial measures were significant. Zung Depression total, STAI-State, and STAI-Trait were significantly negatively associated with QOL-RA ($r = -0.72$, $p < 0.001$; $r = -0.66$, $p < 0.001$ and $r = -0.70$, $p < 0.001$, respectively). The ISEL total and each three subscales of appraisal, belonging, and tangible, were all significantly positively correlated with an increase in QOL-RA ($r = 0.42$, $p < 0.001$; $r = 0.31$, $p < 0.001$; and $r = 0.41$, $p < 0.001$, respectively). SCL-90R GSI and PST were significantly negatively correlated with QOL-RA ($r = -0.50$, $p < 0.001$ and $r = -0.57$, $p < 0.001$, respectively). All subscales of the SCL-90R were significantly negatively correlated with QOL-RA.

The results of the multivariate linear regression model are shown in Table 5. SES, Zung Depression, STAI-State Anxiety, and ISEL Belonging scores were independently associated with QOL-RA scores, controlling for DAS, VAS, opioid use, pulmonary disease, STAI-Trait Anxiety, ISEL Appraisal, ISEL Tangible, SCL-90R GSI, and SCL-90R PST scores. Higher SES and ISEL Belonging sub-scale scores were associated with higher QOL-RA scores ($B = 2.77$, $p < 0.05$ and $B = 1.15$, $p < 0.01$, respectively), while higher Zung Depression and STAI-State Anxiety scores were associated with lower QOL-RA scores ($B = -0.53$, $p < 0.001$ and $B = -0.26$, $p < 0.05$, respectively). The Zung Depression Scale score was the factor most highly independently associated with QOL-RA (Standardized Beta = −0.32).

Discussion

In this sample, more depressive and anxiety symptoms were independently associated with lower disease-specific QOL, while more positive perceptions of having people to do things with ('belonging' social support) and higher socio-economic

Table 5 – Factors independently associated with QOL-RA.

Factor	Unstandardized B	Standardized Beta	*p* value
Socio-Economic Status[a]	2.77	0.15	0.01
Disease Activity Scale 28 (DAS28)	−0.52	−0.06	0.45
Visual Analog Scale DAS28 score	−0.08	−0.02	0.84
Opioid use	3.36	0.06	0.33
Pulmonary disease	2.83	0.05	0.39
Zung Depression[b]	−0.53	−0.32	<0.001
State-Trait Anxiety Inventory – State[a]	−0.26	−0.22	0.02
State-Trait Anxiety Inventory – Trait	−0.27	−0.21	0.07
Interpersonal Support Evaluation List (ISEL) – Appraisal	−0.60	−0.12	0.18
ISEL Belonging[c]	1.15	0.23	0.005
ISEL Tangible	0.38	0.07	0.43
Symptom Checklist-90-Revised (SCL-90R) Global Severity Index	8.11	0.24	0.10
SCL-90R Positive Symptom Total	−0.21	−0.26	0.07

[a] $p < 0.05$.
[b] $p < 0.001$.
[c] $p < 0.01$.

status were independently associated with higher disease-specific QOL. Depressive symptoms, in particular, were most strongly related to QOL in this group of Colombian RA patients. Psychosocial factors of RA patients affect well-being above and beyond the influence of disease activity.

These results are similar to prior research indicating an independent relationship between depressive symptoms and decreased general physical or mental health QOL in individuals with RA.[13–15] The findings of the present study replicate those of Nas and colleagues, who found depressive and anxiety symptoms associated with poorer RA-specific QOL.[12] Finally, Rupp and colleagues identified that depressive symptoms predicted mental health QOL after taking into account disease activity,[16] while the present study extends this research to indicate that depressive and anxiety symptoms are associated with disease-specific QOL (including physical, mental, and social impacts) independent of disease activity. The clinical implications suggest potential value in screening RA patients for emotional distress. For instance, the Hamilton Anxiety and Depression Scale (HADS) is a 14-item instrument that is considered to be the gold standard in rheumatoid practice and has been translated and normed for use in Colombia.[38] However, future research should validate the use of this scale in Colombian RA patients.

Social support, and specifically the perception that others are available to do things with (ISEL belonging sub-scale), was found to enhance disease-specific QOL in RA above and beyond other socio-demographic, medical, and psychological factors. Prior research suggests that supportive relationships are beneficial to individuals with RA,[19] and that the perception of adequate and positive social support enhances adherence to treatment regimens, rehabilitation, and overall health outcomes,[39] which may explain higher QOL. One study found the social dimension of QOL-RA in Colombia to be much higher compared to the US.[40] It is possible that 'belonging' social support – having someone to participate in activities like lunch or a day trip – is more available and/or highly valued in Colombian culture, which tends to be more collectivist than individualist.[25] The fairly constant availability of companionship in Latino cultures may mean that the impact of a lack of social support on QOL is felt much more than in Anglo cultures. In other words, the measure of 'belonging' social support may be more sensitive in Latin America. Future research on the role of social support in this socio-cultural context may help to elucidate the positive and negative impact of companionship, interaction, and assistance in patients dealing with RA, the resulting impact on QOL and other health outcomes, and possible mechanisms of action.

The findings of the present study should be interpreted in light of the following caveats. The sample was from a rural town in Colombia and the findings can only be generalized to this specific group. However, the fact that the sample was of low SES makes it representative of much of the general population in Latin America and is a strength of the current study. Because of the cross-sectional nature of the study design, one cannot infer a cause–effect relationship and future longitudinal studies are needed. Psychosocial factors likely impact QOL, but poor QOL can also increase depressive symptoms and anxiety. The Zung Depression Scale was selected as a measure of depression for this study because it has been validated in Colombia; however, it is possible that their RA symptoms may have resulted in artificially high depression scores. It is of note that analyses with a second measure of depression administered in this study [the Patient Health Questionnaire-9 (PHQ-9), a rapid screening tool evaluating the frequency of nine key depressive symptoms over the prior two weeks][41] produced the same multivariate model, suggesting that the observed relationship is not simply due to the items asked on the Zung self-report scale.

Given the importance of psychosocial factors on QOL in RA patients across numerous studies (including this one), potential interventions to improve depressive symptoms, anxiety, and social support could be considered. Cognitive behavioral therapy (CBT), for instance, has been shown to significantly reduce depressive symptoms and anxiety compared to routine medical management in RA.[42] Additional research into the development and evaluation of cost-effective, culturally sensitive psychosocial interventions may be warranted. Given that companionship / belonging social support can positively influence perception of disease-related QOL in this sample, health

professionals may not need to play a large role in psychosocial treatment strategies. For instance, future research could examine the impact of providing opportunities for social interaction with peers who share similar symptoms and concerns, working with family members to provide additional support to the RA patient, and/or scheduling group activities for the social network.

Conclusion

This study is one of few examining associations between psychosocial factors and QOL among RA patients in Latin America. Depressive symptoms, anxiety, companionship / belonging social support, and SES were all independently associated with disease-specific QOL, with depressive symptoms having the largest association. A Pan American Consensus Statement recently concluded that the psychosocial functioning of RA patients in Latin American must be addressed.[2] This study shows that emotional distress and social support influence QOL above and beyond disease activity. It appears that RA patients could benefit from a focus on alleviating the emotional distress associated with their chronic disease, as well as the medical disease management provided by health professionals, through more comprehensive RA patient care.

Conflicts of interest

The authors declare no conflicts of interest.

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