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ASPECTO SOCIODEMOGRÁFICO, CLÍNICO E QUALIDADE DE VIDA EM PACIENTES COM
ARTRITE REUMATOIDE

# SOCIODEMOGRAPHIC CLINICAL ASPECTS AND QUALITY OF LIFE IN PATIENTS WITH RHEUMATOID ARTHRITIS

## Aspecto sociodemográfico, clínico e qualidade de vida em pacientes com artrite reumatoide

### Aspecto sociodemográfico, clínico y calidad de vida de pacientes con artritis reumatoide

**ABSTRACT**

**Objective:** To characterize the sociodemographic clinical aspects and quality of life of patients with rheumatoid arthritis (RA). **Methods:** This was a descriptive, cross-sectional quantitative research that evaluated 22 individuals with RA over 18 years old, regardless of sex. Participants were referred to the Multisectoral Analysis Laboratory of the State University of Santa Catarina by rheumatologists of the Brazilian National Health System in the period from June to September 2010. It was used a form to obtain sociodemographic and clinical data, the level of disease activity (Disease Activity Score 28) and the Quality of Life Questionnaire (36 Item Short-Form Health Survey). **Results:** There was a prevalence of female gender, with 81.8% (n=18); white ethnicity, with 90.9% (n=20); and sixth decade of life, with 60 (±12.9) years for male gender. Among the symptoms, 17 individuals (77.3%) reported pain as the main complaint. Regarding the level of disease activity, the mean values were 4.47±1.56 with a prevalence of 10 patients (45.5%) presenting moderate activity. Concerning QoL, it was found a significant difference in the domains *pain / social aspect* and the level of disease activity (p <0.05). Regarding the domain *pain*, there was a significant difference when comparing the groups *high* and *low disease activity* (p<0.01) and between the *low* and *moderate* groups (p <0.01). **Conclusion:** It was possible to identify in the individuals with RA participating in this study a deficit in their general state of health. Additionally, the high level of disease activity interfered with painful symptomatology and hindered social aspects.

**Descriptors:** Rheumatoid arthritis; Quality of life; Pain; Health Evaluation; Social Conditions.

***RESUMO***

***Objetivo****: Caracterizar os aspectos sociodemográficos, clínicos e a qualidade de vida (QV) de pacientes com artrite reumatoide (AR).* **Métodos:** *Tratou-se de um estudo transversal e descritivo, com abordagem quantitativa. Avaliou-se 22 indivíduos com AR, independentemente do sexo, e com idade superior a 18 anos. Os participantes foram encaminhados para o Laboratório de Análise Multissetorial da Universidade Estadual de Santa Catarina por médicos reumatologistas vinculados ao Sistema Único de Saúde, no período de junho a setembro de 2010. Utilizou-se uma ficha de avaliação para levantamento dos aspectos sociodemográficos e clínicos, nível de atividade da doença (Disease Activity Score 28) e o Questionário de Qualidade de Vida (36 Item Short-Form Health Survey).* **Resultados:** *Houve predomínio do sexo feminino, com 81,8% (n=18); etnia branca, com 90,9% (n=20); e da sexta década de vida, com 60,0 (±12,90) anos no sexo masculino. Dentre os sintomas, 17 (77,3%) indivíduos referiram dor como a principal queixa. No nível de atividade da doença, verificou-se que os valores médios foram 4,4 (±1,56), com predomínio de 10 (45,5%) indivíduos em atividade moderada. Na QV, evidenciou-se diferença significativa no domínio dor e aspecto social em função do nível de atividade da doença (p<0,05). No domínio dor, houve diferença significativa quando comparado os grupos alta e baixa atividade da doença (p<0,01) e entre os grupos baixa e moderada (p<0,01).* **Conclusão:** *Pôde-se identificar, nos indivíduos com artrite reumatoide participantes do estudo, prejuízo no seu estado geral*

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*de saúde e, além disso, o elevado nível de atividade da doença interferiu na sintomatologia dolorosa e comprometeu o aspecto social.*

**Descritores:** *Artrite Reumatoide; Qualidade de vida; Dor; Avaliação em Saúde; Condições Sociais.*

### RESUMEN

**Objetivo:** *Caracterizar los aspectos sociodemográficos, clínicos y la calidad de vida (CV) de pacientes con artritis reumatoide (AR).* **Métodos:** *Se trató de un estudio transversal y descriptivo de abordaje cuantitativo. Se evaluó 22 individuos con AR independiente del sexo y de edad superior a 18 años. Los participantes fueron encaminados al Laboratorio de Análisis Multisectorial de la Universidad Provincial de Santa Catarina por médicos reumatólogos vinculados al Sistema Único de Salud en el período entre junio y septiembre de 2010. Se utilizó una ficha de evaluación para recogida de los aspectos sociodemográficos y clínicos, nivel de actividad de la enfermedad (Disease Activity Score 28) y el Cuestionario de Calidad de Vida (36 Item Short-Form Health Survey).* **Resultados:** *Hubo predominio del sexo femenino en el 81,8% (n=18); etnia blanca en el 90,9% (n=20); y de la sexta década de vida, con 60,0(±12,9) años en el sexo masculino. De los síntomas, 17 (77,3%) individuos relataron dolor como queja principal. A nivel de actividad de la enfermedad se verificó que los valores medios fueron 4,47±1,56, con predominio de 10 (45,5%) individuos con actividad moderada. Respecto la CV se evidenció diferencia significativa en el dominio dolor y aspecto social en función del nivel de actividad de la enfermedad (p<0,05). Hubo diferencia significativa en el dominio dolor al comparar los grupos alta y baja actividad de la enfermedad (p<0,01) y entre los grupos baja y moderada actividad (p<0,01).* **Conclusión:** *Se pudo identificar en los individuos con artritis reumatoide que participaron en el estudio, perjuicio del estado general de salud y además, el nivel elevado de actividad de la enfermedad influyó en los síntomas de dolor y en el aspecto social.*

**Descriptores:** *Artritis Reumatoide; Calidad de Vida; Dolor; Evaluación en Salud; Condiciones Sociales.*

## INTRODUCTION

The rheumatoid arthritis (RA) is a very complex autoimmune disease characterized by proliferative synovitis, causing articular deformity and destruction due to bone and cartilage erosion[1]. The prevalence of this disease in Brazil accounts for circa 1% of the population, and it affects mainly women between the fourth and sixth decade of life, with a ratio of 2-3 women for each man[2]. This prevalence increases with ageing, and more than 60% of individuals aged 65 years old and older are affected. By the year 2030, the population within this age group is estimated to be 20% larger, and circa 67 million individuals in this group will be affected by RA[3].

The chronic characteristic of RA causes the development of physical impairments with consequent decreased functional abilities[4]. Thus, the disease progression implies difficulties in the performance of professional and daily life activities, having a negative impact on economic conditions for the individual and society.

According to the data on hospitalization of DATASUS for the year 2012, a total of 19,249 hospitalizations due to RA and other inflammatory polyarthropathies were registered, with a total cost of R$ 12,896,142.00: R$ 11,367,555.00 on hospital services and R$ 1,514,195.00 on professional services[5].

On the other hand, RA also has an impact on the physical, psychological and social conditions of the affected individuals as well as on their quality of life (QoL) [6,7]. Therefore, it is important to understand and monitor the effects of RA on patients' health since this information is important for determining the diagnosis, the degree of disease activity and therapeutic efficacy[8].

Some researches have presented the characteristics of these patients based on the assessment of different aspects of the disease like functionality, clinical impression, QoL, among others[1,9,10]. However, the RA presents particularities that can vary according to the population affected. Additionally, the course of the disease and its clinical outcomes vary a lot among patients. Thus, the characteristics of the disease as well as the sociodemographic variables are standing out as important factors in the prognosis of RA[11] and its repercussions on public health.

Given that, this current study aimed to characterize the sociodemographic, clinical and QoL aspects of patients with RA participating in a research and extension project developed at the *Laboratório de Análise Multissetorial – MULTILAB* (Laboratory of Multi-sectoral Analyses) of the *Universidade Estadual de Santa Catarina – UDESC* (State University of Santa Catarina).

## METHODS

This is a quantitative descriptive cross-sectional study conducted in the city of Florianópolis, SC, during the period from June to September 2010.

The study was conducted with 22 individuals with RA diagnosis selected using a convenience sampling, regardless of sex, and referred by rheumatologists of the city of Florianópolis to a research and extension project developed at the MULTILAB of the UDESC.

The study included individuals who met the classification criteria of the American College of Rheumatology[12]: adults

(age over 18) with active arthritis, i.e., a score over 2.6 in the Disease Activity Score (DAS-28)[13], preserved visual acuity and able to sign the Free Informed Consent Form. Exclusion criteria were: virus and/or bacterial process within less than 15 days, pregnancy, other autoimmune diseases, cognitive deficiency, recent history of lesions and/or orthopedic surgeries.

First, it was applied an assessment form to collect the sociodemographic aspects of patients (age, sex, marital status, ethnicity) and the clinical history of the disease (major complaint, time of diagnosis, comorbidities and use of medications).

The disease activity level was determined by DAS-28, which assessed 28 articulations (shoulders, elbows, wrists, metacarpophalangeal and proximal interphalangeal joints and knees, bilaterally) taking into account swollen and painful (regardless of intensity) joints. A joint was considered painful when it caused some degree of discomfort, and it did not need to be necessarily intense, which was assessed by performing either digital pressure on its interline or its passive mobilization. Additionally, patient's perception of the global activity of RA in the past seven days was graded using a visual analogue scale (scale 0-100). Added to the aforementioned parameters, the value of C-reactive protein (CRP) was used to perform a calculation that provides the final scoring of the disease activity level[14]. This result can range from 0 to 10, and the higher the score, the higher the level of disease activity[15]. Patients were classified according to the following levels of disease activity: low (DAS-28 $\leq$ 3.2), moderate (DAS-28 $> 3.2 \leq 5.1$) and high (DAS-28 $> 5.1$)[14,15].

The analysis of CRP was performed through turbidimetric assays using reagent kits designed to determine serum CRP (Biotécnica), with spectrophotometer at 540mm (CONCEPT Bioplus 2000™ - Biotécnica). The results were expressed in mg/L of blood, considering normal the values up to 6 mg/L. These results were used to calculate DAS-28 as it was described previously.

The QoL was assessed using the "36 Item Short-Form Health Survey" (SF-36), which has been developed to assess, in general terms, physical and mental health[16]. The SF-36 is available in Portuguese and validated in Brazil for patients with RA. It is widely used due to its validity and reliability[17,18]. This instrument contains 36 questions about health and well-being subdivided into eight different domains: physical functioning; physical role functioning; social role functioning; vitality; bodily pain; mental health, emotional role functioning; and general health perceptions. This scale has a scoring ranging from 0 (zero) to 100 (one hundred), where zero is equivalent to maximum disability, and 100 is equivalent to no disability[18].

In this study, the frequency distribution of the scores obtained in each domain of the SF-36 was stratified according to the following intervals: 0-24.99; 25-49.99; 50-74.99 and 75-100.

The software SPSS 20.0 was used for the descriptive and inferential statistical analysis of data. The categorical variables are described through values of absolute (n) and relative (%) frequency, and numerical variables through values of mean and standard deviation. In order to compare the domains of the SF-36 depending on the level of disease activity (low, moderate and high), the Kruskall Wallis test, followed by the Mann-Whitney U test were used with a significance level of 5% (p<0.05).

This study was developed in accordance with the ethical patterns, respecting the Resolution 196/96 of the National Health Council and after obtaining the written Free Informed Consent of participants. It was approved by the *Comitê de Ética de Pesquisa em Seres Humanos da Universidade do Estado de Santa Catarina – CEPSH – UDESC* (Human Research Ethics Committee of the University of the State of Santa Catarina) under protocol No. 54/2008.

## RESULTS

The sociodemographic characteristics are presented in Table I, in which it is possible to observe the prevalence of female, married and white patients. It was also observed a prevalence of the sixth decade of life for men – 60.0 (±12.90) years – and the fifth decade of life for women – 58.1 (±7.20) years, with an overall mean of 59.0 (±10.05) years.

The clinical profile of the sample is presented in Table II. Pain was the major clinical complaint for 17 (77.3%) patients. Regarding the variable "medications", the use of combined therapy was reported by 16 (72.7%) patients. Concerning the scoring for disease activity (DAS-28), the overall mean was 4.4 (±1.56). The stratification of this variable showed that 10 (45.5%) patients presented a moderate disease activity. With regard to the occurrence of comorbidities, five (22.7%) presented type II diabetes, four (18.2%) had hypertension and five (22.7%) presented associated comorbidities, considering the combination of metabolic, cardiovascular, musculoskeletal and psychological harms.

It was also verified that the means for length of time of diagnosis (9.5 ± 9.26 years) and length of time of treatment (9.5 ± 9.39 years) were similar.

To verify the consequence of RA on the QoL of these patients, a descriptive analysis of the SF-36 questionnaire was performed based on the percentage distribution of data

Table I - Sociodemographic characteristics of patients with rheumatoid arthritis (n=22) obtained from the assessment form. Florianópolis-SC, 2010.

| Characteristics | | Frequency (%) |
|---|---|---|
| Gender | Female | 18 (81.8) |
| | Male | 4 (18.2) |
| Ethnicity | White | 20 (90.9) |
| | Black | 1 (4.5) |
| | Pardo | 1 (4.5) |
| Marital Status | Married | 16 (72.7) |
| | Single | 4 (18.2) |
| | Divorced | 1 (4.5) |
| | Widow (er) | 1 (4.5) |

%: percentage.

Table II - Clinical characteristics of patients with rheumatoid arthritis (n=22) obtained from the assessment form. Florianópolis-SC, 2010.

| Characteristics | | Frequency (%) |
|---|---|---|
| Major complaint | Pain | 17 (77.3) |
| | Swelling | 3 (13.6) |
| | Articular rigidity | 2 (9.1) |
| Medications | Monotherapy | 4 (18.2) |
| | Combined therapy | 16 (72.7) |
| | None | 2 (9.1) |
| DAS-28 | Low ≤3.2 | 5 (22.7) |
| | Moderate 3.2 a 5.1 | 10 (45.5) |
| | High >5.1 | 7 (31.8) |
| Comorbidities | Diabetes | 5 (22.7) |
| | Hypertension | 4 (18.2) |
| | Osteoporosis | 3 (13.6) |
| | Depression | 1 (4.5) |
| | Associated comorbidity | 5 (22.7) |
| | None | 4 (18.2) |

%: percentage.

(Table III). There was a prevalence of individuals with scores below 50 for the sections "pain" (68.2%), "physical functioning" (54.5%), "physical role functioning" (72.7%), "general health perceptions" (90.9%) and "emotional role functioning" (59.1%), having a negative impact on their QoL. On the other hand, there was a prevalence of satisfactory scores (above 50) for the sections "vitality" (68.2%), "mental health" (72.7%) and "social role functioning" (59.1%).

When analyzing the influence of the level of disease activity (low, moderate and high) on the quality of life in relation to the sections of the SF-36 it was verified a statistically significant difference in the sections "bodily pain" and "social role functioning" (Table IV). It was verified, in the section "bodily pain", a significant difference between group of people with high disease activity and the groups of individuals with low (p≤0.01) and moderate (p≤0.001) disease activity. In the domain "social role functioning", there was a significant difference only between the group of individuals with high (p=0.03) and moderate (p=0.03) disease activity.

Table III - Distribution of percentage frequency in the different domains of quality of life of patients with rheumatoid arthritis (n=22). Florianópolis-SC, 2010.

| Quality of Life Domains | Frequency (%) | | | |
|---|---|---|---|---|
| | Unsatisfactory | | Satisfactory | |
| | 0-24.99 | 25-49.99 | 50-74.99 | 75-100 |
| Bodily Pain | 7 (31.8) | 8 (36.4) | 5 (22.7) | 2 (9.1) |
| Physical functioning | 5 (22.7) | 7 (31.8) | 6 (27.3) | 4 (18.2) |
| Physical role functioning | 10 (45.5) | 6 (27.3) | 1 (4.5) | 5 (22.7) |
| General health perception | 5 (22.7) | 15 (68.2) | 2 (9.1) | 0 (0) |
| Emotional role functioning | 10 (45.5) | 3 (13.6) | 3 (13.6) | 6 (27.3) |
| Vitality | 4 (18.2) | 3 (13.6) | 12 (54.5) | 3 (13.6) |
| Mental health | 2 (9.1) | 4 (18.2) | 10 (45.5) | 6 (27.3) |
| Social role functioning | 2 (9.1) | 7 (31.8) | 3 (13.6) | 10 (45.5) |

Table IV - Comparison between the groups with high, moderate and low disease activity in the different domains of the SF-36 questionnaire on quality of life. Florianópolis-SC, 2010.

| SF-36 Domains | Disease Activity | | | p |
|---|---|---|---|---|
| | Mean (±SD) | | | |
| | High | Moderate | Low | |
| Bodily Pain | 22.85 ± 9.13 | 53.40 ±24.85 | 49.6 ± 16.83 | 0.01* |
| Physical Functioning | 37.85 ± 27.21 | 52.50 ± 26.27 | 40.0 ± 16.95 | 0.45 |
| Physical role functioning | 10.71 ± 13.36 | 42.50 ±47.21 | 35.0 ± 37.91 | 0.38 |
| General health perception | 26.00 ± 12.98 | 36.90 ± 13.44 | 42.2 ± 19.44 | 0.09 |
| Emotional role functioning | 14.27 ± 26.20 | 59.90 ± 46.61 | 39.98 ± 43.45 | 0.11 |
| Vitality | 42.14 ± 29.41 | 61.50 ± 21.47 | 43.0 ± 16.04 | 0.18 |
| Mental Health | 48.57 ± 24.59 | 70.00 ± 19.16 | 58.40 ± 15.38 | 0.12 |
| Social role functioning | 40.78 ± 27.12 | 75.00 ± 27.63 | 42.50 ± 28.77 | 0.05# |

SD: standard deviation

*Significant p≤0.05 in the comparison between the group with high disease activity and the groups with low and moderate disease activity.
#Significant p≤0.05 in the comparison between the groups with high and moderate disease activity - Kruskall Wallis test followed by Mann-Whitney U test.

## DISCUSSION

The sociodemographic characteristics of individuals with RA, especially sex, age and ethnicity, have been described in the literature[2,4,19] and coincide with the results of this current study. The characterization of the individuals assessed was defined by the prevalence of female individuals, whites, people aged between the fifth and sixth decades of life and married individuals.

The prevalence of RA in women is well defined in the literature[20]. A bibliographic study that included 26 theses on RA observed a prevalence of women in all the studies[21]. Regarding age, in the majority of the studies the mean age ranged between 50.5 and 59.3 years[22,23]. In a research conducted with 5,235 individuals with RA, the mean age was 57 years[24]. Concerning ethnicity, a study on demographic surveys verified that 70% of individuals with RA were Caucasian, 20% Mulatto, 6% Black and 4% Asian[19].

The clinical aspects assessed by this current study were also similar to the data found in the literature. Regarding the average length of time of diagnosis, it was 9.59 (±9.26) years. Some researches[6,25] also verified that the average duration of rheumatoid arthritis was 9.8(±7.2) years and 9.79 (±7.6), respectively. It should be highlighted that the similarity between the length of treatment and the length of time of RA diagnosis tends to favor a bad prognosis of the disease, delaying its chronic effects.

Among the RA symptoms, pain stood out as a major complaint. Several studies have evidenced this symptomatology as one of the main initial manifestations that can affect many joint regions like the glenohumeral joint, coxofemoral joint, knee and foot joints[1,2,6,20].

Regarding the RA treatment, there was a prevalence of a combined therapy using disease-modifying antirheumatic drugs (DMARD) and anti-inflammatory and/or immunosuppressive drugs. The results found are in accordance with a previous study[26] that quantified the polypharmacy in a group of patients with RA and verified a prevalence of the combination of DMARDs as the main therapy. The DMARDs have the power to reduce and avoid articular injuries, preserve the integrity and the function of the articulation, reduce health care costs and maintain the economical productivity of the patient with RA[27].

The access to the treatment using these powerful drugs cause concerns about the high costs of the medications that can hinder the implementation of the recommendations of the European League Against Rheumatism (EULAR), which recommends the use of biological and synthetic drugs in the treatment of RA right after its diagnosis[28].

The results of the DAS-28 characterize the prevalence of individuals with moderate disease activity (4.47±1.56), which is corroborated by the findings of other researches[2,19,21]. In patients with a long time of diagnosis, the disease activity is associated with poor QoL[22]. Additionally, the level of disease activity can interfere in the physical role functioning section of the SF-36[29].

Besides RA, patients presented other diseases associated with the metabolic impairment or its combination with cardiovascular, musculoskeletal or psychological disorders. Although studies on the prevalence of metabolic syndrome in patients with arthritis still do not point to definitive conclusions, its presence is directly associated with worse parameters for prognosis and disease activity[30], having a negative influence on individual and collective health.

Another important comorbidity detected in this study were the cardiovascular disorders, which are associated with increased mortality, especially due to ischemic causes like the myocardial infarction and the congestive heart failure[9,31]. It is known that the long-term use of glucocorticoids is associated with a high prevalence of hypertension[32] and hyperglycemia[33]. Likewise, the use of non-steroidal anti-inflammatory drugs (NSAIDs) can exacerbate the pre-existence of hypertension[34].

The combination of the described data can influence the QoL of these patients. This was verified in the assessment of the SF-36 questionnaire, which verified harms for the domains bodily pain, physical functioning, physical role functioning, general health perceptions and emotional role functioning. The domains "vitality", "mental health" and "social role functioning" presented more satisfactory results for the majority of the individuals assessed, although it was also observed a distribution of frequency in the lower scores of the scale.

Studies confirm that patients with RA present a poor QoL when compared to healthy individuals[35]. Arthritis has a significant effect on the quality of life, representing a harm to physical, psychological, social and economic integrity and well-being, depriving people from freedom and independence at times.

In a study conducted with 1,024 patients[36], it was verified that pain was the domain in which more than 70% of patients with RA wanted to improve. Such statement corroborated with the results of this research, in which there was a prevalence of pain as the main complaint. This symptomatology can have negative effects on other domains of the SF-36, especially those related to functional capacity. Both the aspects related to pain and the ones related to physical limitations are very sensitive to changes in QoL[16,17]. The control of pain and the prevention of

incapacity are a key to QoL and serve as a measure for reducing the disease activity[37].

Finally, it should be highlighted that the reduced number of individuals assessed, taking into account that they were selected through a convenience sampling, constitutes a limitation of this current study.

## CONCLUSION

The characterization of patients with RA enabled to identify a higher prevalence of women, especially white ones between the fifth and sixth decades of life. Additionally, pain was reported as the main complaint related to the disease.

It was possible to identify harms to the general health condition of individuals with rheumatoid arthritis. Additionally, the high level of disease activity interfered in the painful symptomatology and hindered the social role functioning.

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