ABSTRACT

Introduction: Rheumatoid arthritis (RA) is a chronic and progressive pathology, present in between 0.5% and 1% of adults. Sexual disorders (SDs) occur in between 31% and 70% of all patients with RA.

Aim: To establish the associated risk factors and the prevalence of SDs in a group of patients with RA.

Methods: An analytical cross-sectional study was performed, evaluated with the Diagnostic and Statistical Manual of Mental Disorders-V tool. The related factors and the activity of the disease were explored. A multivariate logistic regression analysis was conducted.

Main Outcome Measure: The prevalence of SDs was 29.6%. There was an association between the presence of SDs and gender (women; odds ratio [OR]: 0.6, 95% CI: 0.4–0.8), age (OR: 1.4, 95% CI: 1.1–1.8), psychological alterations (OR: 12.1, 95% CI: 5.9–27.2), and Disease Activity Score 28 (OR: 1.6, 95% CI: 1.2–2).

Results: A total of 1,436 patients, with a median age of 56 years, were analyzed.

Conclusion: SDs are present in a third of patients with RA. Among the factors associated with SDs were the activity of the disease, presence of mood disorders, psychiatric disorders, alcoholism, and concomitant autoimmune pathologies. These findings suggest the necessity of a multidisciplinary approach to properly manage RA, as well as an enhancement in communication channels between the health professional team and the patient.

INTRODUCTION

Rheumatoid arthritis (RA) is an inflammatory disease of autoimmune origin, which not only chronically affects the musculoskeletal system, but also impacts the quality of life of the patient in all aspects. Its prevalence is 1.5% in the world population, and for Latin America, it varies between 0.9% and 1.5%. It affects women more frequently and its peak incidence occurs between the fourth and sixth decade of life. This pathology is accompanied by other alterations, such as sexual disorders (SDs) ranging from 31% to 70%, being an underestimated comorbidity due to the lack of a multidisciplinary approach that leaves aside the comprehensive structure of the patient as an individual, where sexuality clearly constitutes a fundamental element in both personal and social behavior. These disorders are classified according to the American Foundation for the Study of Urological Pathologies as alterations in sexual desire, dysfunction or lack of excitement, orgasmic alteration, and sexual pain or dyspareunia. These disorders are closely related to the symptoms of RA, specifically chronic pain, physical disability, medication side effects, and low self-esteem that ultimately impact on the reduction of sexual desire. For this reason and according to the recommendation of the European League against Rheumatism, comprehensive treatment with psychosocial interventions has shown greater impact on the patient compared to conventional treatment only with a rheumatologist. Taking into account the publications that are currently presented on this topic, it is necessary to know the prevalence of SDs and explore the possible associated factors that may favor
early identification and thus comprehensively treat a disease with a high burden that affects all the different Latin American health systems. Consistent with this approach, the objective of this work was to identify the associated risk factors and the prevalence of SDs in a population of patients with a diagnosis of RA in a referral center for the treatment of autoimmune pathologies in Bogotá, Colombia.

METHODS

Design

An analytical cross-sectional study was carried out in a reference center (BIOMAB) for the treatment of autoimmune pathologies in Bogotá, Colombia.

Study Population

The inclusion criteria ensured that patients older than 18 years with a diagnosis of RA were included in the study, taking into account the criteria of the American College of Rheumatology-European League against Rheumatism. The other inclusion criteria were patients treated in BIOMAB (comprehensive care center in RA), and assessed in a psychology consultation as part of the comprehensive approach. Exclusion criteria included records of patients who did not have a Disease Activity Score 28 (DAS28) or functional capacity with the Health Assessment Questionnaire (HAQ) report; such patients were not taken into account.

Data Collection

The data source was the referral center’s clinical records system, which is part of a database for the epidemiologic registry, as part of the mandatory report to the national government of patients with RA, known as the High-Cost Account (Cuenta de Alto Costo in Spanish). These data are obtained from routine psychology evaluation. In order to guarantee patient confidentiality, the information analyzed did not include variables that could identify the patient. The information included in this study was collected during 5 years from clinical records system for patients with RA (2011–2015).

Variables

The presence of SDs was established as a dependent variable. The other variables were considered as independent variables or related factors: DAS28 to classify the activity of the disease—categorized as non-activity: remission, and low disease activity DAS28 < 3.2, and activity: moderate and severe disease activity DAS28 > 3.2—and functionality or functional capacity with the HAQ scale, categorized into: without disability or low disability (<1) and with moderate-severe disability (>1.1).

Sociodemographic variables were also included, such as age, sex, schooling, and some psychological alterations such as alterations in mood, and the presence of sleep disorders. The treatment was classified in conventional treatment with and without biological agents. For clinical diagnosis, patients were examined by a rheumatologist with extensive experience in RA. For the diagnosis of SDs, the patients participated in a comprehensive care program, where an interdisciplinary group of healthcare professionals evaluated different physical and psychological aspects. In this evaluation, a psychologist with experience in sexual and reproductive health carried out a series of evaluations that focused on psychological aspects, including social and personal components, exploring the perception and sexual activity of the patient, basing their diagnosis on the Diagnostic and Statistical Manual of Mental Disorders-V.

Statistical Analysis

A descriptive analysis of the information was carried out using absolute and relative frequencies for the qualitative variables, and for the quantitative variables, measures of central tendency and dispersion. The Shapiro-Wilk test was used to evaluate the distribution of the numerical variables. For the estimation of prevalence, the number of patients diagnosed with SDs was considered in the numerator, and the denominator represented all patients with a diagnosis of RA confirmed at the time of care. For hypothesis testing, a P value of less than 0.05 was considered.

We explored the possible factors associated with the presence of SDs using parametric and non-parametric tests, according to the characteristics of the variables. To estimate the associations, the indirect relative risk (odds ratio [OR]) with its CIs was calculated. With the factors that were significant from the statistical point of view or those with clinical relevance, a logistic regression model was constructed, which was validated with the Hosmer-Lemeshow goodness-of-fit test. This information was analyzed in Stata 14 (StataCorp LLC, College Station, TX).

This study considered the international regulation for research with human beings and took into account the Colombian research regulation (Resolution 8,430 of 1993), classifying it as a research with minimum risk. It was presented to and approved by the BIOMAB research committee.

RESULTS

A total of 1,436 patients with a diagnosis of RA from a reference center for autoimmune diseases were analyzed. Of these 273 (19%) were male and 1,163 (80.9%) female. The minimum age was 18 years and the maximum age was 87 years. The occupation of the patients was described, evidencing that 392 (33.7%) were working, 390 (33.5%) were retired, 347 (29.8%) were dedicated to their homes, and 34 (2.9%) did not have a current job. The remaining characteristics of the population under study are presented in Table 1.

With respect to the characteristics of RA in the population studied, the activity of the disease showed that 936 (65.2%) were in remission, 223 (15.5%) in low disease activity, 233 (16.2%) in moderate activity, and 44 (3.1%) in severe disease activity. In relation to pharmacologic therapy, these were distributed as
follows: 369 (25.7%) were being treated with biological drugs and 1,067 (74.3%) with non-biological disease modifying anti-rheumatic drugs. The presence of comorbidities apart from RA was determined, representing other autoimmune diseases in 130 cases (9%), non-autoimmune diseases in 596 patients (41.5%), and in 211 subjects (14.7%) the coexistence of autoimmune and non-autoimmune pathologies; the 499 remaining cases (34.7%) did not report comorbidities.

SDs

The prevalence of SDs was 29.6% (425/1,436) with a median age of 53 years (interquartile range [IQR]: 49–56) (<.001); of these 425 subjects, 322 (76.9%) were women and 103 (24.2%) men, and 158 (37.1%) reported dyspareunia, 125 (29.4%) dissatisfaction, 89 (20.9%) sexual dysfunction, 63 (14.8%) loss of sexual desire, 43 (10.1%) orgasmic decrease, and 36 (8.4%) premature ejaculation. The association between the different disorders and the sex of the patient was studied, which is presented in Table 2.

Clinimetrics Values According to Sexual Alterations

Regarding the activity of the disease at the time of evaluation in patients with SDs, the median of DAS28 was 3.6 (IQR: 2.6–4.7) (<.001), while the median of the HAQ functionality was 0.5 (IQR: 0.12–1.12) (<.001). The association between DAS28 and HAQ with SDs was evaluated by the following results: DAS28 and dyspareunia (OR: 4, 95% CI: 2.7–6.1), DAS28 and orgasmic decrease (OR: 1.1, 95% CI: 0.6–2.2), and DAS28 and loss of sexual desire (OR: 0.6, 95% CI: 0.3–1.1). Results for HAQ and dyspareunia (OR: 2.4, 95% CI: 1.6–3.4), HAQ and loss of sexual desire (OR: 1, 95% CI: 0.5–1.8), and finally HAQ and orgasmic decrease (OR: 1.1, 95% CI: 0.5–2.3) were also obtained. Finally, the SDs were compared with the evolution time of the disease (<.1) and the

### Table 1. Baseline population characteristics

| Variable                        | Women (n = 1,163) | Men (n = 273) | Total (n = 1,436) |
|---------------------------------|-------------------|---------------|------------------|
|                                | n     | %    | n     | %    | n     | %    |
| Socioeconomic classification*  |       |      |       |      |       |      |
| Strata I–II–III (low)          | 1,079 | 92.8 | 259   | 94.8 | 1,338 | 93.2 |
| Strata IV–V (high)             | 84    | 7.2  | 14    | 5.1  | 98    | 6.8  |
| Marital status                 |       |      |       |      |       |      |
| Single                         | 176   | 15.1 | 32    | 11.7 | 208   | 14.5 |
| Married                        | 687   | 59.1 | 175   | 64.1 | 862   | 60   |
| Divorced                       | 217   | 18.6 | 52    | 19   | 269   | 18.7 |
| Widowed                        | 83    | 7.1  | 14    | 5.1  | 97    | 6.8  |
| Education                      |       |      |       |      |       |      |
| Illiterate                     | 68    | 5.9  | 27    | 10   | 95    | 6.6  |
| Elementary                     | 495   | 42.7 | 149   | 54.6 | 644   | 44.9 |
| Secondary                      | 397   | 34.2 | 72    | 26.3 | 469   | 32.7 |
| University                     | 200   | 17.2 | 25    | 9.2  | 225   | 15.7 |
| Cohabitation                   |       |      |       |      |       |      |
| Living alone                   | 201   | 17.3 | 49    | 17.9 | 250   | 17.4 |
| Accompanied                    | 962   | 82.7 | 224   | 82.1 | 1,186 | 82.6 |
| Age,† median (IQR‡)           | 55    | (50–59)| 60     | (54–64)| 56     | (50–60)|
| Time of evolution of RA,‡      | 11    | (6–16)| 10     | (6–16)| 11     | (6–16)|
| Time receiving treatment for RA,‡ | 5    | (3–8) | 5     | (3–8) | 5     | (3–8) |

RA = rheumatoid arthritis.
*Classification and definition of socioeconomic strata according to the National Administrative Department of Statistics (DANE, Colombia).
†Years.
‡IQR = interquartile range p25–p75.

### Table 2. Type of sexual disorders according to sex

| Variable              | Women (n = 1,163) | Men (n = 273) | P value* |
|-----------------------|-------------------|---------------|----------|
|                      | n     | %    | n     | %    |        |
| Dissatisfaction       | 102   | 8.8  | 23    | 8.4  | .8      |
| Loss of sexual desire | 53    | 4.6  | 10    | 3.7  | .5      |
| Orgasmic decrease     | 15    | 1.3  | 28    | 10.3 | <.001   |
| Dyspareunia           | 152   | 13.1 | 6     | 2.2  | <.001   |

*Chi-square test.
time since the pharmacologic treatment began \( (P = .5) \), without finding differences from the statistical point of view.

**Factors Related to SDs**

The activities performed by the patients in their free time were evaluated, evidencing that 64 (4.5%) carried out self-care activities (healthy eating and personal hygiene), 195 (13.6%) leisure activities or sports (gymnasium, dances, activity groups for older adults), 370 (25.7%) practiced handicrafts (embroidery, painting, country art), 227 (15.8%) attended some patient groups, 352 (24.5%) attended mixed activities, and 228 (15.9%) did not carry out any activity. Details of the bivariate analysis are presented in Table 3.

**Multivariate Analysis**

A model was constructed with the logistic regression method, documenting a set of possible predictors capable of explaining the occurrence of SDs. Variables such as sex, cohabitation, alcoholism, sedentary lifestyle, the presence of concomitant autoimmune pathologies, mood disorders, and somatic symptom disorders were included, as well as DAS28 and HAQ. The proposed model was subjected to the Hosmer-Lemeshow

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### Table 3. Bivariate analysis between the associated risks factors with the presence of sexual disorders

| Variable                                      | Yes (n = 425) | No (n = 478) | OR  | 95% CI | \( P \) value* |
|-----------------------------------------------|---------------|--------------|-----|--------|----------------|
| **Sexual disorders**                          |               |              |     |        |                |
| Age (> 50 y)                                  | 333 (78.3)    | 728 (72)     | 1.4 | 1.1–1.8| < .001         |
| Sex (female)                                  | 322 (75.7)    | 841 (83.1)   | 0.6 | 0.4–0.8| .001           |
| Sociodemographic classification (I–II–III)    |               |              |     |        |                |
| (I–II–III) Low vs (IV–V–VI) high             | 398 (93.6)    | 940 (92.9)   | 1.1 | 0.6–1.8| .6             |
| Lives alone                                   | 55 (12.9)     | 195 (19.3)   | 0.6 | 0.4–0.8| .003           |
| **Risk factors**                              |               |              |     |        |                |
| Smoking                                       | 4 (0.9)       | 18 (1.7)     | 0.5 | 0.1–1.6| .2             |
| Alcoholism                                    | 53 (12.4)     | 60 (5.9)     | 2.2 | 1.4–3.3| < .001         |
| Sedentism                                     | 152 (35.7)    | 255 (25.2)   | 1.6 | 1.2–2.1| < .001         |
| Diabetes/dyslipidemia                         | 82 (19.3)     | 162 (16)     | 1.2 | 0.9–1.6| .1             |
| Cardiovascular/ cerebrovascular diseases      | 43 (10.1)     | 116 (11.4)   | 0.8 | 0.5–1.2| .4             |
| Concomitant autoimmune pathologies            | 106 (24.9)    | 93 (19.4)    | 1.3 | 1–1.9  | .04            |
| Leisure activities                            | 368 (65.6)    | 840 (83)     | 1.3 | 0.9–1.8| .09            |
| Late diagnosis of RA                          | 413 (97.1)    | 979 (96.8)   | 1.1 | 0.5–2.4| .7             |
| Treatment with biological DMARD              | 104 (24.4)    | 265 (26.2)   | 0.9 | 0.6–1.1| .4             |
| **Psychological background**                  |               |              |     |        |                |
| Mood disorder                                 | 135 (31.7)    | 223 (22)     | 1.6 | 1.2–2.1| < .001         |
| Somatic symptom disorders                     | 66 (15.5)     | 102 (10)     | 1.6 | 1.1–2.3| .003           |
| Eating disorders                              | 9 (2.1)       | 31 (3)       | 0.6 | 0.2–1.4| .3             |
| Depression and anxiety                        | 46 (10.8)     | 10 (0.9)     | 12.1| 5.9–27.2| < .001         |
| **Sleep disorders**                           |               |              |     |        |                |
| Insomnia                                      | 151 (35.5)    | 226 (22.3)   | 1.9 | 1.4–2.4| < .001         |
| HAQ                                           |               |              |     |        |                |
| Disability vs without disability              | 137 (32.2)    | 223 (22)     | 1.6 | 1.2–2.1| < .001         |
| **DAS28**                                     | 249 (58.6)    | 469 (46.4)   | 1.6 | 1.2–2   | < .001         |

*Values of \( P < .05 \) were considered statistically significant.
problems become a joint work strategy that is impacted the activity of the disease, which is why efforts in managing and psychological disorders, among which are part of the whole of the patient with chronic disease are determined to improve these problems. In a complementary way, it was established that the proposed model correctly classified 72.7% of the individuals. The adjusted epidemiologic estimators are presented in detail in Table 4.

DISCUSSION

Currently, the treatment of RA focuses on pharmacologic management, since for more than a decade, the development of new technologies such as biological medicines has significantly impacted the activity of the disease, which is why efforts in research are concentrated on this area. Other relevant aspects that are part of the whole of the patient with chronic disease are comorbidities related to psychological disorders, among which are SDs. Thus, diagnosis and accompaniment to improve these problems become a joint work strategy that is finally articulated with pharmacologic treatment.

SDs affect global life and are determinants for an adequate quality of life because they are related to self-esteem, and even to some psychiatric pathologies. A study conducted in Cincinnati, United States, asked a group of rheumatologists whether they evaluated SDs during their RA consultation, and only 12% reported doing so. When investigating the causes, it was determined that the short consultation time and the discomfort of talking about sexuality with the patient, which has been reported in 61% of the patients, require improving communication between the patient and the health professional, in order to structure strategies where the integrality of care is guaranteed to confront this problem and generate spaces where they can be diagnosed and treated. SDs affect women. In addition to psychological factors, functional pathologies have been found that are risk factors for SDs. In a cohort of 52 women with RA, it was identified that 26.8% had some structural problem or injury in the genital tract, which is a relevant condition for sexual performance. In the same way, age becomes aggravating, because the hormonal issue plays a very important role in this problem, taking into account that in most publications, and even in this, they report more than 50% of the population above 50 years and therefore the presence of menopause and post-menopause. These findings are in agreement with those found in this study because a quite important association was identified with the presence or history of depression or anxiety.

Regarding sex, in this work and in all the studies reviewed, it is concluded that most of the SDs affect women. In addition to psychological factors, functional pathologies have been found that are risk factors for SDs. In a cohort of 52 women with RA, it was identified that 26.8% had some structural problem or injury in the genital tract, which is a relevant condition for sexual performance. In the same way, age becomes aggravating, because the hormonal issue plays a very important role in this problem, taking into account that in most publications, and even in this, they report more than 50% of the population above 50 years and therefore the presence of menopause and post-menopause. In the same way, vaginal dryness is found in more than 90% of cases as reported by El Miedany et al, which is related both to the hormonal levels of oestrogens and to the consumption of medications such as methotrexate and some anti-inflammatories used in the treatment of RA. With regard to men, very specific symptoms such as erectile dysfunction and loss of sexual desire have been identified, which are associated with anti-inflammatory drugs and physical disability; in this study, premature ejaculation was present in 8.4% of the cases, higher than that reported by van Berlo (1.2%). It is noteworthy in this study that dyspareunia occurred in 2.2% of men, which could also be explained by the lack of lubrication, which directly affects their partner; accordingly, pain in men can also be associated with disease activity, which causes painful symptoms in the pubis and hip.

Table 4. Multivariate analysis (logistic regression) of the associated risks factors

| Variable                | OR  | 95% CI       | P value |
|-------------------------|-----|--------------|---------|
| Gender (women)          | 0.6 | 0.4–0.8      | .004    |
| Age (>50 y)             | 1.4 | 1.1–1.8      | .015    |
| DAS28                   | 1.4 | 1.1–1.8      | .001    |
| Depression (anxiety)    | 9.6 | 4.7–19.5     | <.001   |
| Mood disorders          | 1.6 | 1.3–2.2      | <.001   |
| Living alone            | 0.4 | 0.3–0.5      | <.001   |

DAS = Disease Activity Score; OR = odds ratio.

goodness-of-fit test (P value = 0.13), documenting an adequate adjustment of the selected predictors. In a complementary way, it was established that the proposed model correctly classified 72.7% of the individuals. The adjusted epidemiologic estimators are presented in detail in Table 4.
Finally, it is important to approach SDs directly with the patient, offering confidence to discuss this topic. Thus, identification of these disorders is the beginning of multidisciplinary care for each health professional to integrate their role in the treatment of RA, under the guidance of the rheumatologist, who is responsible for leading the interventions guaranteeing comprehensiveness.

It could be suggested some strategies for the improvement of SDs include adherence to treatment and control of disease activity, psychological treatment for psychological alterations and relationship, use of lubricants for dryness, counseling to improve the process of intercourse, in both physical and emotional characteristics, and assessments by specialists for the management of erectile dysfunction as well as menopause.

CONCLUSIONS

It was possible to determine that the prevalence of SDs was 29.6% and predominantly female, slightly lower than those reported in the literature. Associated factors such as disease activity, mood disorders, psychiatric pathologies, coexistence with a partner (patient living alone), alcoholism, sedentarism, and concomitant autoimmune pathologies were identified. According to the earlier mentioned observations, it is important to consider that RA and SDs patients are a reality that impact their bio-psychosocial component, and that in most cases they are not relevant to treating physicians; so evaluation in a multidisciplinary approach can be suggested, as well as improvement in the communication channels between the health professional and the patient, in order to identify associated risk factors and to be able carry out early intervention.

Limitations

This study carried out an evaluation on admission of patients diagnosed with RA, without knowing the evolution of SDs after initiating both interdisciplinary and pharmacological treatment; so the behavior of this type of pathology must be monitored and presented. In the same way, without using the scales for the diagnosis of SDs, however, we consider the experience in sexual and reproductive health as a strength of the study.

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synthetic and biological disease-modifying antirheumatic drugs: 2016 update. Ann Rheum Dis 2017;76:960-977.

10. Aletaha D, Neogi T, Silman AJ, et al. 2010 Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League against Rheumatism collaborative initiative. Arthritis Rheum 2010;62:2569-2581.

11. Ministerio de salud y protección social. Fondo colombiano para enfermedades de alto costo – Cuenta de alto costo (Artritis). Colombia. Available at: https://cuentadealtocosto.org/site/index.php/patologias/9-patologias/97-artritis01/?template=cuentadealtocostocotentenido. Accessed December 31, 2018.

12. Aletaha D, Ward MM, Machold KP, et al. Remission and active disease in rheumatoid arthritis: defining criteria for disease activity states. Arthritis Rheum 2005;52:2625-2636.

13. Bruce B, Fries JF. The health assessment Questionnaire (HAQ). Clin Exp Rheumatol 2005;23(Suppl 39):S14-S18.

14. Fries JF, Spitz P, Kraines RG, et al. Measurement of patient outcome in arthritis. Arthritis Rheum 1980;23:137-145.

15. Spitzer RL. DSM-V-TR Casebook: a Learning Companion to the Diagnostic and statistical Manual of Mental disorders, Fourth Edition, Text Revision. American Psychiatric Pub.; 2015.

16. Santos-Moreno P, Castañeda O, Garro B, et al. From the model of integral attention to the creation of centers of excellence in rheumatoid arthritis. Clin Rheumatol 2015;34-(Suppl 1):S71-S77.

17. Josefsson KA, Gard G. Women’s experiences of sexual health when living with rheumatoid arthritis—an explorative qualitative study. BMC Musculoskelet Disord 2010;11:240.

18. Costa TF, Silva CR, Muniz LF, et al. Prevalence of sexual dysfunction among female patients followed in a Brasilia Cohort of early rheumatoid arthritis. Rev Bras Reumatol 2015;55:123-132.

19. Ostlund G, Bjork M, Valtersson E, et al. Lived experiences of sex life difficulties in men and women with early RA - the Swedish TIRA project. Musculoskeletal Care 2015;13:248-257.

20. Britto MT, Rosenthal SL, Taylor J, et al. Improving rheumatologists’ screening for alcohol use and sexual activity. Arch Pediatr Adolesc Med 2000;154:478-483.

21. Santos-Moreno PI, de la Hoz-Valle J, Villarreal L, et al. Treatment of rheumatoid arthritis with methotrexate alone and in combination with other conventional DMARDs using the T2T strategy. A cohort study. Clin Rheumatol 2015;34:215-220.

22. Santos-Moreno P, Villarreal L, Ballesteros G, et al. Presence of psychological, sexual and sleep disorders in patients with rheumatoid arthritis. Ann Rheum Dis 2016;75.

23. Essam A, Salim Z, Samia T, Mahmoud Z, et al. Sexual function in females with rheumatoid arthritis: relationship with physical and Psychosocial states. Arch Rheumatol 2016;31:239-247.

24. Abdel-Nasser AM, Ali EI. Determinants of sexual disability and dissatisfaction in female patients with rheumatoid arthritis. Clin Rheumatol 2006;25:822-830.

25. van Berlo WT, van de Wiel HB, Taal E, et al. Sexual functioning of people with rheumatoid arthritis: a multicenter study. Clin Rheumatol 2007;26:30-38.