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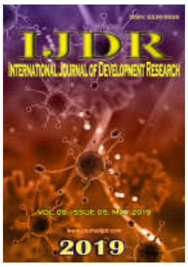

RESEARCH ARTICLE

OPEN ACCESS

COMPARISON OF THE IMPACT OF THE TYPE OF MEDICINAL TREATMENT ON THE QUALITY OF LIFE OF PATIENTS WITH RHEUMATOID ARTHRITIS IN A REGIONAL HEALTH OF BAHIA

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ABSTRACT

Objective: compare the impact of the type of drug treatment on quality of life of patients with rheumatoid arthritis. **Methods:** A cross-sectional descriptive study was performed with a sample of 100 patients. The instruments applied include Short Form (SF-6), Stanford Health Assessment Questionnaire (HAQ) and visual analogue scale (EVA). Data analysis was done by descriptive statistics, the respective means ± standard deviation were calculated, considering Student's T-Test, ANOVA test and Chi-square test, and a significance level of $p < 0.05$ was adopted. **Results:** On the HAQ scale, individuals who used biological drugs had a higher prevalence in the category of severe deficiency (22.2%), individuals who used synthetic drugs had a higher percentage in the category of moderate deficiency (53.1%) and control group presented a prevalence in the category of mild deficiency (91.7%). Through the results of the Sf-6 and EVA scales, the quality of life was also more affected in patients with RA, however the difference in the type of drug treatment was not significant in any of the results. **Conclusion:** The results of the study showed that quality of life is impaired in patients with rheumatoid arthritis regardless of the type of drug treatment.

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INTRODUCTION

Rheumatoid arthritis (RA) is an autoimmune, inflammatory disease that affects the joints in a symmetrical way, which presents with unknown etiology, being the highest incidence among people aged 35 to 45 years old with predominance in women (SALAZAR -MEJÍA *et al.*, 2018). Several symptoms can affect the patient, and initially the manifestations are the pain and swelling of multiple synovial joints (LEE *et al.*, 2012). The patient may still experience fatigue, sleep disorders and even physical disability; which may result in the difficulty of performing activities and thus compromising the individual's quality of life (MALM *et al.*, 2016).

Epidemiological studies show that the prevalence of rheumatoid arthritis in the world is 0.4% to 1.9%, affecting 1% in the adult population, and in Brazil 0.5% to 1.0% (RIBAS *et al.*, 2016). Rheumatoid arthritis, considered an aggressive rheumatic disease, results in the reduction of the patient's life condition, as it presents a chronic inflammation of the osseo-articular system, as well as permanent deformations, that is, patients can be affected at a productive age and thus have limitations in professional, social and leisure activities (PYTEL *et al.*, 2017). Patients often have difficulty performing daily activities, as according to Lee *et al.* (2012), 20% to 30% of patients not treated with RA can suffer joint damage within 2 to 3 years after being diagnosed. The quality of life presents a multidimensional concept, involving in this way the physical, psychological and social terms of the individual's life (MALM *et al.*, 2017). We have several

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diseases that can be considered as factors for the reduction of quality of life, one of them are rheumatic diseases, which present a progressive course (GRYGIELSKA *et al*., 2017). The reduction of quality of life in patients with RA is due to a functional deficiency, which affects the individual's physical and mental goals, and thus there may be a comparison between the patients with the disease, who will have a lower quality of life, relative those who do not attend the disease; In this way, the research shows that the elevation of anxiety and depression has a prevalence of 13% to 47% in patients with RA (ROMA *et al*., 2014). Thus, the treatment is performed to prevent and control joint injuries, decrease pain and prevent loss of function; all this so that the patient can resume normal life habits (RIBAS *et al*., 2016). Pharmacological treatment of patients with RA can be associated with several measures, such as preventive, educational and non-pharmacological interventions (COSTA *et al*., 2015). Like any other disease, RA should be treated as soon as possible, since from the time the disease starts to the beginning of treatment, the therapeutic window can be changed, that is, to discover the disease early, so that the pharmacological interventions can change the course of the disease, and thus prevent damage and achieve clinical control (BRAZIL, 2017). Due to its complexity and its impact on the quality of life, the therapeutic and diagnostic approaches of rheumatoid arthritis suffer constant changes, especially with regard to the drug treatment of disease modifiers (DMARDs) (SANMART, 2018). The first-line treatment line covers the early use of synthetic disease course modifying drugs (DMARDs), and the introduction of methotrexate is recommended; However, this monotherapy only favors the clinical response of 20 to 40% of the patients. However, those other patients who did not have a therapeutic response use associations and may use other synthetic DMARDs or biological DMARDs, such as infliximab, etanercept, adalimumab, golimumab and certolizumab, which are tumor necrosis factor (anti-TNF) blockers, considered 20% of biological DMARDs prescriptions (COSTA *et al*., 2015). Therefore, this study aims to compare the impact of the type of drug treatment (synthetic and biological DMARDs) on the quality of life of patients with rheumatoid arthritis in the interior of Bahia.

MATERIALS AND METHODS

A cross-sectional, descriptive study was performed with individuals with rheumatoid arthritis and non-RA patients. For the selection of the individuals, connections were made, through the records of each patient that were registered in the unit and in the attendance at the time of dispensation. Participants were referred to a private room, where the objectives and procedures were explained in a standardized way. Individuals who agreed to participate signed the Informed Consent Term. The collection was performed in stages, initially the sociodemographic data were collected, in sequence the application of each questionnaire with its due approach, such as day-to-day issues, leisure and treatment; after this stage the patients were referred for laboratory tests at the Central Laboratory of the Municipality of Vitória da Conquista and an appointment was also scheduled at a dental center. Data from the survey were collected from November to December 2017. The total population of individuals with RA who are registered in the Regional Health Center of the Southwest of Bahia (NRS - Southwest), for access to drug treatment is 289. A total of 100 individuals, aged over 18 years, of both sexes, of these 76 had rheumatoid arthritis, 27 of whom were treated with biological medicines and 49 were treated with synthetic drugs; and 24 individuals belonging to the control group who were attended at the dentistry clinic in a private institution in southwestern Bahia. The data were extracted from the project project "Evaluation of the effect of treatment with biological or synthetic DMARDs on the periodontal condition in patients with rheumatoid arthritis". The following criteria were used for the evaluation of sociodemographic variables: gender, age, occupation, marital status, education, type of treatment and the Stanford Health Assessment Questionnaire (HAQ), visual analogue pain scale and general condition EVA-G) and Short Form (Sf-6). In the data collection, questionnaires were used, which were applied through the software KoBoToolbox (CORCINO; MOTA, 2017). The SF-6, HAQ, EVA-D and EVA-G scales were used to evaluate patients' quality of life. The HAQ scale, indicated for the evaluation of patients with rheumatoid arthritis, presents questions related to the daily life, being able to identify, through the level of difficulty, whether the individual needs assistance or has difficulties to carry out the activities; the SF-6 scale is a multidimensional questionnaire that analyzes the individuals' perception of their own health status, presenting the physical component, which is related to functional capacity, physical aspects, and pain; and the mental component evaluating social, emotional and mental health aspects; so that a score of 0 to 1 is established, zero being considered the worst general health condition and one hundred the best general health status (ROMA, 2013).

The visual analogue scale (EVA) is composed of a straight line, with a length of 100 mm, being enumerated at the extremities of 0-10, presenting two verbal descriptors representing the extremities, which for pain is: "no pain" and the other " maximum of pain ", and for the general state:" not satisfied "and the other" very satisfied "(MARTINS; COUTO; GAMA, 2015; EDUARDO MARTINEZ; CENTOLA GRASSI; GASBARRO MARQUES, 2011). The research was approved by the Research Ethics Committee of a private institution in the southwest of Bahia, under the opinion 1,362,253, in accordance with the principles of Resolution 466/12, 510/16 and 580/18 of the National Health Council for research on human beings (BRAZIL, 2012). For the description of the sample variables, the frequency distribution and their respective confidence intervals (95% CI) were used. The verification of the normality of the variables was performed using the Kirovov Smirmov test. From the quality of life score, measured on the analyzed scales, the respective means ± standard deviation were calculated, considering Student's T test and the ANOVA test for comparison between the synthetic DMARD groups and biological DMARDs, as well as for the co- variables of interest. The categorical variables were analyzed through the Pearson Chi-square test to verify if it presents independence or some relation between the variables that compose the tables. The data of the research were analyzed through the software program SPSS, version 21.0. The p value was considered statistically significant when <0.05.

RESULTS AND DISCUSSION

Thesociodemographic characteristics found in table 1 show that the predominance is female (84.21%), white (33%) and married individuals (60%). According to the study by Azevedo et al. (2015), women are also the most affected in comparison to men, and can be explained by the hormonal issues that involve them, as well as by the fact that, traditionally, they show greater care in the search for health services. It is important to point out that, in the majority of cases, they are unemployed individuals (73.7%), compared to another study done with 210 patients and 70% of unemployed individuals (PURABDOLLAH et al., 2015). The fact that most individuals are unemployed can be correlated, those with RA, with a poor quality of life, since the disease has atrophy of the joints of the hands, feet and others, impairing performance at work.

Table 1. Sociodemographic description of the study population (n = 100)

	Arthritis Rheumatoid carriers	Control Group	Total
Gender			
Female	64 (84,2%)	20 (83,3%)	84
Male	12 (15,8%)	4 (16,7%)	16
Color			
White	25 (32,9%)	8 (33,3%)	33
Black	7 (9,2%)	5 (20,8%)	12
Yellow	1 (1,3%)	0 (0,0%)	1
Farda	43 (56,6%)	(11,9%)	54
Status			
Married	45 (59,2%)	9 (37,5%)	54
MaritalDivorced	6 (7,9%)	3 (12,5%)	9
Widowed	6 (7,9%)	2 (8,3%)	8
Single	19(25,0%)	10 (41,7%)	29
Education			
Illiterate	5(6,6%)	1 (4,2%)	6
Elementary school	32(42,1%)	14 (58,3%)	46
Secondary Education	28 (36,8%)	8 (33,3%)	36
Technical Education	3 (4,0%)	0 (0,0%)	3
Higher education	6 (7,9%)	0 (0,0%)	6
Postgraduate	1 (1,3%)	0 (0,0%)	1
Did not respond	1 (1,3%)	1 (4,2%)	2
Work situation			
Currently works	20 (26,3%)	11 (45,8%)	31
Work, but not currently	8 (10,5%)	3 (12,5%)	11
Already worked but did not work more	39 (51,3%)	10 (41,7%)	49
Never worked	9 (11,9%)	0 (0,0%)	9

Source: survey data (2017).

Table 2. Degree of disability assessed by the HAQ scale in RA and control

ORGANIC		SYNTHETC	CONTROL	p-value
Mild impairment (0 to 1)	11	18	22	
	40,7%	36,7%	91,7%	
moderate disability (> 1 to 2)	10	26	2	
	37,0%	53,1%	8,3 %	
Severe deficiency (> 2 to 3)	6	5	0	0,000
	22,2%	10,2%	0,0%	
Total	27	49	24	
	100,0%	100,0%	100,0%	

Source: research data (2017).

Table 3. Scale Sf-6 for RA and control group

Control case	N	Mean	Standard deviation Standard	Error of mean	Value of P
Carrier of AR	67	0,718	0,053	0,006	0,000
Control	22	0,895	0,101	0,021	

Source: survey data (2017).

In the description of the degree of disability assessed through the HAQ questionnaire indicated in table 2, measuring the quality of life through a daily life questionnaire; it is verified that 22.2% of the patients who use biological medicines have a severe deficiency, whereas those who use synthetic drugs have a lower percentage of severe deficiency (10%). Of the individuals who use biological treatments, 37% had moderate deficiency, while those using synthetic treatments 53%. The individuals in the control group had a higher percentage in the category of light deficiency, with 91.7%, and this category includes the individuals that possibly answered zero in all the questions of this questionnaire, that is, no difficulty to carry out the activities. Therefore, because they did not present the disease, they obtained a better result in the HAQ questionnaire in relation to the others. In this way, the results may show that quality of life is more impaired in patients with RA (p = 0.000), regardless of the type of DMARDs (biological or synthetic), causing these patients to perform less of their activities daily. A fact that may explain the difference in the prevalence (although not significant) of severe deficiency among individuals using biological or synthetic DMARDs is the severity of the disease in patients using biological, since according to the protocol of the Ministry of Health (BRASIL , 2017), in order to have access to biological medicines it is necessary that attempts have been made with synthetic drugs. This late introduction of biological DMARDs may aggravate the condition, and when it starts with its use it is already more severe, so the worse quality of life is not related to the biological ones, but to the severity of the patient's condition (CORBACHO, 2010). However, even when there is an adequate introduction of biological drugs, when comparing the results of other studies, such as discussed by Gashi et al. (2014), the use of etanercept (biological drug) promoted a

Table 4. Statistics of RA and control subjects evaluated on the EVA scale

	Control	N	Mean	Deviation Standard	Standard Error Mean	Value P
State General	AR Carrier	76	4,763	2,979	0,341	0,000
	Control	20	7,900	1,293	0,289	
Pain	HR holder	76	6,474	2,511	0,288	0,000
	Control	19	4,789	3,794	0,870	

Source: survey data (2017).

Table 5. Description of the EVA scale for RA and control patients

	N		Mean	Deviation Standard	Model Standard	Value p
State General	Biological	27	5,519	3,545	0,682	0,000
	Synthetic	49	4,347	2,562	0,366	
	Control	20	7,900	1,293	0,289	
	Total	96	5,417	2,997	0,305	
Pain	Biological,	27	6,333	2,935	0,564	0,068
	Synthetic	49	6,551	2,273	0,324	
	control	19	4,789	3,794	0,870	
	Total	95	6,137	2,871	0,294	

Source: research data (2017).

significantly greater improvement in all measures of disease activity; we can perceive in the study that it is not possible to identify differences in the quality of life among individuals who make synthetic or biological treatment. The difference occurs when we compare individuals with rheumatoid arthritis and those who do not have the disease (Table 2). According to Lopes and Júnior (2014), quality of life scales should be applied at the beginning of the disease, to assess the degree of disability of each individual and through the results to start with a more aggressive treatment or not, so that it can delay the quality of life. The Sf-6 questionnaire (table 3) was also a questionnaire used to evaluate quality of life, presenting a mean of 0.7189 for patients with rheumatoid arthritis and a mean of 0.8951 for control subjects; where 0 is the worst state of health and 1 is the best state of health.

Sf-6 scores also emphasize quality of life deficits in RA subjects and can not be analyzed by the type of treatment (biological or synthetic), but considerably the results are significant in individuals with the disease, even if they do not being presented the results of each domain of the scale. In a study for the validation of the sf-6 scale, subjects with RA had close averages (mean 0.81) to the survey, that is, as shown in the HAQ scale (table 3), the sf-6 questionnaire also emphasizes the (GASHI et al., 2014). In the present study, we found a significant difference in the quality of life for each disease. Similar comparisons are less feasible when using the sf-6 questionnaire, because if it is a minor cut-off of the sf-36 questionnaire, the surveys are less accessible. But in a sf-36 questionnaire, the mental domain presented a small value compared to a high HAQ score, leading to the understanding that depression may be present in the symptoms of these patients with the disease, thereby impairing social life, as well as poor therapeutic adherence. (ENGLBRECHT et al., 2012)
Table 4 shows results of the visual analogue scale (EVA), where we can observe that in the general health status category, to assess whether or not they were satisfied with health, patients with arthritis have a lower mean (4,763), compared to the control patients (7,900), that is, those who have the disease are less satisfied with their living conditions, unlike patients who do not have the disease. In the pain classification, control patients feel less pain (mean 4,789) compared to patients with rheumatoid arthritis (mean 6,474).

Table 5 also shows the visual analogue scale (EVA) results, however, separately the types of treatments used by RA carriers. We can see that there was statistical difference in the category of general state (P = 0,000), but we can not say where the differences are. In the pain category, even in a small way, it was possible to observe a better result for individuals using biological DMARDs, even though it was not statistically significant (P = 0,068). There was thus a contrast with the results shown in the HAQ scale (table 2), which can be analyzed by the fact that the severity of the deficiency in the quality of life of the individuals is permanent, but the general state and the pain show an improvement with treatments more severe.

In rheumatoid arthritis, pain is one of the great symptoms that affects individuals, since throughout the evolution of the disease, the joints are becoming more and more atrophied, affecting the bones. In this way the pain presents a much larger proportion in relation to the activity of the disease, age or sex, preventing the performance of several activities of the individual and thus also affecting the quality of life, as well as to a general state of undesired health in the carrier of AR. In the present study, the use of analgesics in the treatment of pain is considered as a treatment of remittance, (CORBACO et al., 2010). Among the limitations of the present study, we found that it was a small sample of individuals and belonged only to a regional board of the interior of the state of Bahia. It can also be verified that there were no evaluations regarding the evolution of the disease in the study, beingconsidered a relevant point, since the patients with the more advanced disease will worsen the picture and, consequently, a worsening in the quality of life. Another limitation was that not all individuals answered the questionnaire, so some tables presented a sample variance.

Conclusion

According to the findings of this study, we can observe the impact caused by rheumatoid arthritis on individuals' quality of life. The use of different types of treatments (biological or synthetic) would not influence the poor quality of life, however, the late introduction of biological medicines can interfere in the impact caused on the quality of life, since the disease is already in an advanced state.

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