Vol.65: e22220151, 2022
https://doi.org/10.1590/1678-4324-2022220151
ISSN 1678-4324 Online Edition

Article - Human and Animal Health

Profile of Patients with Rheumatoid Arthritis: a Descriptive Analysis

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Editor-in-Chief: Paulo Vitor Farago
Associate Editor: Paulo Vitor Farago

Received: 28-Feb-2022; Accepted: 10-May-2022.

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HIGHLIGHTS

- Rheumatoid arthritis (RA) is a common autoimmune chronic inflammatory joint disease
- Specialized pharmaceutical services provide access to high-cost antirheumatic drugs
- Disease-modifying antirheumatic drugs (DMARDs) are widely used in the RA treatment
- Biological DMARDs treatment exhibit a good efficacy but with a high cost

Abstract: Rheumatoid arthritis (RA) is a chronic inflammatory disease that affects many people worldwide and is the most common inflammatory joint disease of autoimmune origin. In Brazil, the treatment for RA is guided by clinical protocols and therapeutic guidelines. This work aims to investigate the profile of patients with RA through the analysis of sociodemographic, clinical, and pharmacotherapy data. A cross-sectional and descriptive study was carried out in the Specialized Component of Pharmaceutical Services (CEAF) in Ponta Grossa, Paraná, Brazil. Patients with RA that received regular pharmacological therapy were included. Most were female, adults between 40 and 59 years old, and exhibited a disease activity score classified as remission. The majority of patients in remission of disease utilized at least a conventional synthetic disease-modifying antirheumatic drug (csDMARD) or biological synthetic disease-modifying antirheumatic drug (bDMARD) in monotherapy or associated with other drugs. The treatment costs were high, mainly by utilizing bDMARDs followed by csDMARDs. Most patients exhibited adequate control of disease progression, and fortunately, only a few cases of drug-related problems were identified. This profile is associated with the therapeutic guidelines for RA treatment in Brazil. The SUS has an important role in guaranteeing high-cost drugs access by health judicialization and access to multidisciplinary health professionals for patients with RA.

Keywords: Autoimmune diseases; Antirheumatic agents; Pharmaceutical services; Rheumatic diseases.

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disease with a worldwide prevalence of approximately 5 per 1000 adults, affecting women 2 or 3 times more often than men [1]. RA affects the joints of the hand and feet in symmetrical distribution and occurs at any age; however, the peak incidence is in the sixth decade of life [2]. Previously, during RA progression, the joints are affected with cartilage destruction and bone erosion, thus causing disability, inability to work, and increased mortality [3]. Nonetheless, recent advances in understanding RA pathophysiology and therapies have improved the disease progression [4].

The RA treatment progressed a lot over time. In the 1990s, the therapeutical strategy was based on the administration of non-steroidal anti-inflammatories and glucocorticoids (GCs) as prednisone, and in failed of this, it was used the conventional synthetic disease-modifying antirheumatic drugs (csDMARDs) as methotrexate and leflunomide [5]. These drugs could interfere with RA's signs and symptoms and inhibit the progression of joint damage [4]. In addition, new drugs were included during therapy advances, such as the target synthetic DMARDs (tsDMARDs) and biological DMARDs (bDMARDs) therapy as adalimumab and etanercept. The tsDMARD drugs can interfere with specific molecules, such as Janus Kinases (JAKs), reducing the cellular response to some cytokines [4]; the bDMARDs can address different targets, also controlling the inflammatory responses, and both classes exhibit greater efficacy when associated with csDMARD drugs [6]. However, although improving the quality of life from patients with RA, the use of tsDMARDs and bDMARDs is accompanied by high costs, limiting widespread use and contributing to the inequity of access to best care across various countries [7].

In Brazil, patients with RA can receive pharmacological treatment with no cost by the Specialized Component of Pharmaceutical Services (CEAF - Componente Especializado de Assistência Farmacêutica). CEAF provides full and unrestricted access to high-cost drugs based on clinical protocols and therapeutic guidelines published by the Brazilian Ministry of Health [8]. For the treatment of RA supplied by CEAF, the patients need to follow the American College of Rheumatology/ European League Against Rheumatism (ACR/EULAR) 2010 RA classification criteria [9]. These efforts have focused on features of earlier diagnosis and the institution of effective disease-suppressing therapy to avoid the common sequelae in RA. The parameters analyzed are joint involvement, serology, acute-phase reactants, and the duration of symptoms.

There are currently few studies showing data about RA treatment in Brazil, mainly involving therapy with csDMARDs and bDMARDs. Therefore, this study aimed to describe the sociodemographic and clinical characteristics of patients with RA, pharmacological treatment supplied, and the therapy costs to the public health system in the city of Ponta Grossa, Paraná, Brazil.

MATERIAL AND METHODS

Study design and patients

This is a cross-sectional and descriptive study, performed at the pharmacy from Specialized Component of Pharmaceutical Services (CEAF – Componente Especializado da Assistência Farmacêutica) in Ponta Grossa, Paraná, Brazil. This study included 321 patients, according to the following inclusion criteria, patients diagnosed with RA who have utilized pharmacological therapy supplied by the CEAF, including any age and/or type of pharmacological treatment. The exclusion criterion used was patients with the treatment interrupted. The data were obtained in the online registration system of patients from July to October 2015.

The patients were divided into different groups according to the parameters analyzed and stratified into ordinal or nominal categories, and their data were compared. Then, in an independent manner, two researchers compared and included the patients in the study, following the criteria, RA diagnostic, and active pharmacological treatment supplied by CEAF.

To avoid bias in the inclusion and exclusion of patients in this study, two researchers, in an independent manner, compared and included the patients in the study.

Sociodemographic, clinical, and pharmacotherapeutic data from patients were obtained. Sociodemographic data included sex, age, and time of treatment. Clinical data included the classification of RA diagnostic, body mass index (BMI; in kg/m2) established by the National Institutes of Health and the World Health Organization (WHO), and disease activity score based on the DAS-28 classification [10]. Lastly, the pharmacotherapy data included the antirheumatic agents utilized, their costs to the public health system based on drug acquisition records from CEAF pharmacy, and drug-related problems based on the Third Granada Consensus [11].

The data were obtained from online archives of patients; then, written informed consent was not required from patients. This study complied with the Declaration of Helsinki (revised in Brazil 2013). Furthermore, it

was approved by the Research Ethics Committee of the State University of Ponta Grossa (protocol number: 1302567/2015) and obtained the concession by the local pharmacy of the CEAF.

Statistical analysis

Quantitative data such as age, body mass index, treatment time, disease activity score, and qualitative data such as sex were submitted to descriptive analysis. Data were expressed in tables and graphs as percentages, means ± standard deviation (SD) with 95% confidence interval (CI), or stratified into ordinal categories. The graphs and the statistical analyses were performed using GraphPad Prism version 8 software (La Jolla, CA, USA).

RESULTS

Patient characteristics

This study included 321 patients who received therapies for the treatment of RA supplied by CEAF. Regarding sex, most of the patients were women (86.6%). Among women, 50.2% were between 40 and 59 years old, ranging from 7 to 86 years old, mean of 54 ± 14.8 (95% CI).

The majority of patients (44.5%) received the diagnosis of RA attributed to classification M058 of the International Classification of Diseases (ICD), which refers to the classification “other seropositive rheumatoid arthritis”. Therefore, the treatment time is an important parameter to be considered in analyzing the disease activity of patients with RA. Most patients of CEAF were receiving pharmacological treatment between 6 and 8.9 years (35.6%), ranging from 0.1 to 10.7 years, mean of 4.6 ± 2.9 (95% CI).

Regarding comorbidities, obesity is an important factor commonly associated with RA and a poor prognostic disease. Patients' body mass index values were divided into six groups, from underweight to obesity class III (Table 1). Most patients were classified as normal weight (44.3%), ranging from 14.6 to 53.6, with a mean of 26 ± 4.9 (95% CI). However, the proportion of overweight patients was also high (35.8%).

RA treatment aims to remission or at least low disease activity in patients at the beginning of treatment. A limitation of this study was that only 120 of all 321 patients had available information on the disease activity score. The values of disease activity score, 28 joints (DAS-28) from patients, were categorized into four groups, from remission to high disease activity, as demonstrated in table 1. Fortunately, analyzing the data, the majority exhibited disease remission classification (33.3). Moreover, 30% of all patients showed low disease activity. Nonetheless, 32.5% presented moderate activity disease, demonstrating difficulty controlling the disease progression (Table 1).

Table 1. Demographic and clinical characteristics of patients with RA in the CEAF of Ponta Grossa, Paraná, Brazil

Total patients	*n=321*
Sex	*n (%)*
Female	278 (86.6)
Male	43 (13.4)
Female: Male	6:1
Age (years)	*n (%)*
0-19	7 (2.2)
20-39	43 (13.4)
40-59	161 (50.2)
60-79	98 (30.5)
≥ 80	12 (3.7)
Time of treatment (years)	*n (%)*
0-2.9	112 (34.9)
3-5.9	91 (28.3)
6-8.9	114 (35.6)
≥ 9	4 (1.2)

Cont. Table 1

Diagnostic classification of patients according to ICD	*n (%)*
M050 – Felty syndrome	2 (0.6)
M058 - Other seropositive rheumatoid arthritis	143 (44.5)
M060 - Seronegative rheumatoid arthritis	48 (15)
M068 – Other rheumatoid arthritis specified	121 (37.7)
M080 - Juvenile idiopathic arthritis	7 (2.2)
Body Mass Index	*n (%)*
Underweight (< 18,5)	8 (2.5)
Normal weight (18,5 a 24,9)	142 (44.3)
Overweight (25,0 a 29,9)	115 (35.8)
Obesity class I (30,0 a 34,9)	43 (13.4)
Obesity class II (35,0 a 39,9)	9 (2.8)
Obesity class III (≥ 40,0)	4 (1.2)
Disease Activity Score 28 (DAS-28)	*n=120 patients*
Remission (<2.6)	*n (%)*
Low disease activity (2.6-3.2)	40 (33.3)
Moderate disease activity (3.2-5.1)	36 (30)
High disease activity (>5.1)	39 (32.5)
	5 (4.2)

ICD: International Classification of Diseases

Pharmacotherapy profile, costs, and drug-related problems

The drugs used by patients in each degree of disease activity were analyzed. The utilization of csDMARDs and bDMARDs in all groups was prominent, and two important points can justify this profile. First, these pharmacological agents are better for avoiding RA progression; second, the CEAF supplies therapy with high costs to RA treatment, mainly associated with csDMARD and bDMARD drugs. Therefore, the broad utilization of DMARDs by the patients from CEAF was expected (Table 2).

Table 2. Analysis of disease activity score and pharmacotherapy used by patients with RA in CEAF of Ponta Grossa, Paraná, Brazil

Disease activity score and pharmacotherapy	*Total n=120*	*% 100*
Remission	*40*	*33.3*
Combination therapy of csDMARD and bDMARD	17	14.1
Monotherapy of bDMARD	15	12.4
Combination therapy of GC, csDMARDs, and bDMARD	2	1.7
Other combination therapy	6	5
Low disease activity	*36*	*30*
Combination therapy of csDMARD and bDMARD	14	11.6
Monotherapy of bDMARD	11	9.1
Combination therapy of GC, csDMARD, and bDMARD	5	4.2
Other combination therapy	6	5
Middle disease activity	*39*	*32.5*
Combination therapy of csDMARD and bDMARD	13	10.8
Monotherapy of bDMARD	9	7.5
Combination therapy of GC, csDMARD, and bDMARD	8	6.6
Other combination therapy	9	7.5
High disease activity	*5*	*4.2*
Monotherapy of csDMARD	1	0.8
Combination therapy of csDMARDs	1	0.8
Combination therapy of GC, bDMARD, and immunosuppressant	1	0.8
Other combination therapy	2	1.7

bDMARD: biological disease-modifying antirheumatic drug. csDMARD: conventional synthetic disease-modifying antirheumatic drug. GC: glucocorticoid.

Recent advances in RA therapy have allowed better control of the disease progression. However, it also significantly impacted RA treatment costs, mainly by utilization of bDMARD followed by csDMARD drugs. The high costs of these treatments for RA can be observed by the data obtained in this study, highlighted by the extensive use of bDMARD drugs such as etanercept and adalimumab (Table 3).

Table 3. Costs of treatment supplied by CEAF to patients with RA in Ponta Grossa, Paraná, Brasil

Medicaments	*Monthly consumption (units)*	*Unit cost (US$)*	*Monthly cost (US$)*	*% of the total cost*
GCs				
Prednisone 5 mg	3970	0,02	63,22	0.09
Prednisone 20 mg	225	0,03	6,45	0.01
Total	-	-	69,67	0,1
csDMARDs				
Chloroquine 150 mg	30	0,11	3,44	0.01
Hydroxychloroquine 400 mg	1290	0,32	406,72	0.60
Leflunomide 20 mg	4185	1,43	5.997,61	8.82
Methotrexate 2.5 mg	3848	0,13	502,45	0.74
Methotrexate 25 mg/ml A.B.	38	3,02	114,73	0.17
Sulfasalazine 500 mg	600	0,19	114,65	0.17
Total	-	-	7.139,6	10.51
bDMARDs				
Abatacept 250 mg	17	145,98	2.481,68	3.65
Adalimumab 40 mg SER	69	260,17	17.951,87	26.42
Certolizumab pegol 200 mg/ml	2	151,09	302,18	0.44
Etanercept 25 mg A.B.	4	67,48	269,94	0.40
Etanercept 50 mg A.B.	192	121,34	23.296,82	34.29
Golimumab 50 mg	6	424,17	2.545,03	3.75
Infliximab 10 mg/ml A.B. 10 ml	9	297,38	2.676,41	3.94
Rituximab 500 mg	10	611,46	6.114,65	9.00
Tocilizumab 20 mg	79	62,21	4.914,61	7.23
Administration kit of abatacept	9	6,29	56,61	0.08
Administration kit of Infliximab	6	11,21	67,26	0.10
Total	-	-	60.677,06	89.3
Immunosuppressants				
Azathioprine 50 mg	570	0,06	32,68	0.05
Cyclosporine 100 mg	60	0,34	20,64	0.03
Total	-	-	53,32	0.08
Total monthly	15219	2.164,44	67.939,61	-
Total annual	182628	25.973,31	815.275,38	-

A.B.: ampoule bottle. bDMARD: biological disease-modifying antirheumatic drug. csDMARD: conventional synthetic disease-modifying antirheumatic drug. GC: glucocorticoid. SER: Syringe.

The therapy costs provided by the CEAF for RA treatment were analyzed by comparing the unit and monthly costs of the drugs. It was noticed that although bDMARDs have been more expensive in the unit costs (Figure 1A), representing a high monthly cost, it was also noticed an extensive utilization of csDMARDs by patients, as demonstrated by monthly costs attributed to leflunomide and methotrexate (Figure 1B), indicating that the csDMARDs is an essential group in the RA treatment. Furthermore, according to the therapy protocol provided to the patients, it was observed that the majority had used csDMARDs alone, followed by csDMARDs associated with GC and csDMARDs associated with bDMARD (Figure 1C).

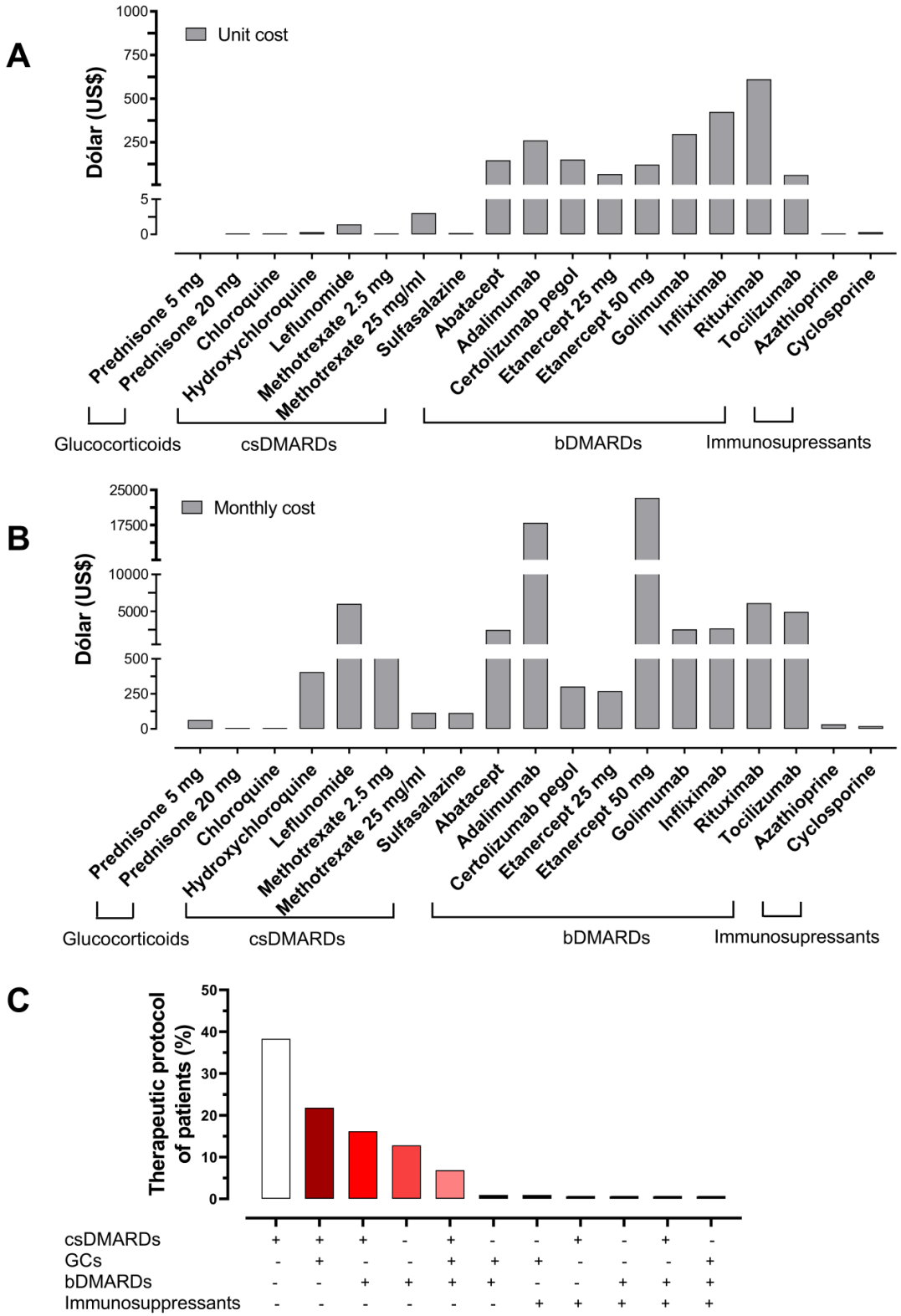

Figure 1. Costs of pharmacotherapy to RA, therapeutical profile, and proportion in the attendances of patients by each rheumatologist physician. Unit costs (A) and monthly costs (B) of therapy to RA supplied by CEAF and therapeutic protocol utilized by patients (C) in the CEAF of Ponta Grossa, Paraná, Brazil.

bDMARD: biological disease-modifying antirheumatic drug. csDMARD: conventional synthetic disease-modifying antirheumatic drug. GC: glucocorticoid.

In Brazil, the Ministry of Health, through the National Commission for the Incorporation of Technologies (CONITEC) in the Unified Health System (SUS – Sistema Único de Saúde), established the Clinical Protocols and Therapeutic Guidelines (PCDT) for the guidance of the RA treatment. The CEAF provides drugs for RA treatment, according to the PCDT. Although most patients (86.3%) used adequate therapy for RA treatment, inadequate treatment was identified in 13.7% of patients. These patients were categorized into three groups (Figure 2). The first group was named 'Inadequate dose' and included 17 patients with high doses of prednisone (n=6), followed by high doses of infliximab (n=5), high doses of abatacept (n=2), high doses of tocilizumab (n=2), low dose of abatacept (n=1) and a low dose of etanercept (n=1). The second group, named 'Inadequate combination of therapy', also included 17 patients with a combination of bDMARDs with two or more csDMARDs (n=12); the absence of the combination of a bDMARD that obligatorily needs to be in association with csDMARD (n=3), and combinations of two or more csDMARDs what are not recommended (n=2).

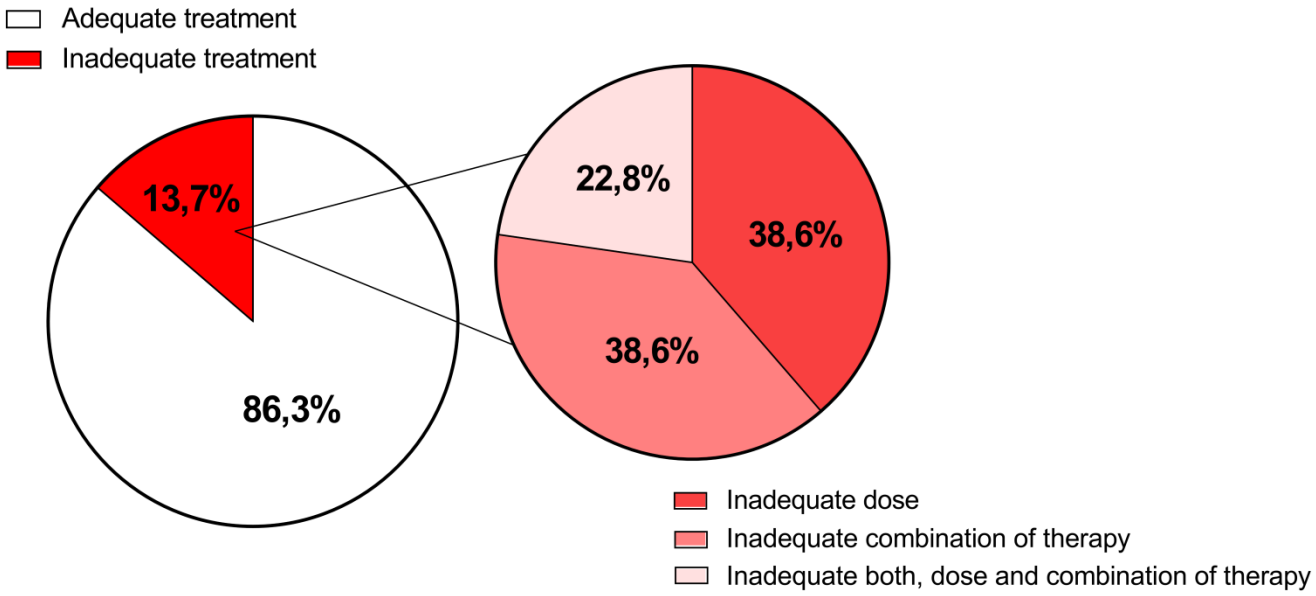

Figure 2. Profile of the pharmacotherapy of patients and the drug-related problems. The treatment profile supplied by CEAF to 321 patients was analyzed and divided into two groups according to the treatment classification. Then, in sequence, the group with inadequate treatment was categorized into three other groups according to each drug-related problem category.

DISCUSSION

In this study, 86.6% of all patients diagnosed with RA and registered in the CEAF system were women, similar to that described in other studies in Ponta Grossa, Paraná, Brazil, and the state of São Paulo, Brazil [12,13]. RA is a chronic inflammatory disease that affects many people worldwide and is the most common inflammatory joint disease of autoimmune origin. The disease is more prevalent in the elderly population, commonly diagnosed in patients between 40 and 60 years old, and most patients are women [1,14]. It was also found the highest proportion of individuals with RA were between the fourth and sixth decade of life; this reality is observed in other regions from Brazil and worldwide [15,16]. In addition, a few cases of juvenile rheumatoid arthritis (JRA) occurred. In these cases, the disease impacts early patients' quality of life, potentially causing disability in their professional or personal activities, and the patients will use the therapy for many years. Still, there is no evidence of a worse JRA prognosis than RA [17].

The treatment begins as soon as the patient receives the diagnosis of RA, and it aims the remission or low disease activity. In Brazil, the treatment of RA is guided by a clinical protocol (PCDT) established by CONITEC, which is responsible for incorporating new drugs and their provision to patients through the SUS. The RA treatment commonly lasts until the end of the patient's life, with changes in the therapeutic regimen or doses according to the progression or remission of the disease [18]. Most of the patients in this study had a treatment time classified from mean to long. Probably this fact is correlated to the therapy profile provided by CEAF, as the extensive use of bDMARDs, which are used in patients with failures to contain the disease progression in previous treatments, for example, using csDMARDs [19].

RA is commonly associated with comorbidities. Therefore, obesity in this study was highlighted, considering that the use of GC in RA is chronic and is often done in high doses, favoring the emergence of metabolic disorders, diabetes, and obesity [20]. However, in this study, when the body mass index of patients with RA was compared to the index of the Brazilian population, differences in overweight or obesity were not noticed among the participants of this study [21].

RA is a complex disease and exhibits different types of manifestations in patients. Thus, the ICD classifies RA into subgroups within the inflammatory polyarthritis group. In this study, most patients have been classified in subgroup M05.8 (other seropositive rheumatoid arthritis). Another study in Paraná, Brazil, found a similar profile in patients with RA [22].

The assessment of the disease activity index is critical and guides the interventions in the therapeutic protocol aiming at remission and low disease activity [17]. Conversely, a higher disease activity index reflects patients' worse quality of life because RA profoundly affects health-related quality of life (HRQOL) [3]. For example, patients with RA report a Medical Outcomes Survey Short Form-36 (SF-36) domain scores as low as chronic heart failure and lower than other patients with type 2 diabetes mellitus, myocardial infarction, and hypertension [22]. Patients in this study had an excellent DAS-28 disease activity index, most exhibiting disease remission. However, it is important to note a significant limitation in this study, the impossibility of comparing the DAS-28 value of each patient before and after the beginning use of bDMARDs. In this case, a reduced disease activity index with bDMARDs and a better HRQOL would be expected [18].

The therapeutic protocol for AR provided by the CEAF pharmacy is defined by the PCDT published in 2020 in Brazil, contributing to the therapeutic profile of patients. In our study, the most used therapeutic protocol was csDMARD monotherapy. This protocol is the first choice at the beginning of RA treatment because it can control disease progression. In case of failure, the patient advances to combination therapies among csDMARDs and other classes [18]. In our study, the second most used therapeutical protocol was the combination therapy of csDMARD and bDMARD. Patients used this profile only if monotherapy or combination therapy of csDMARDs failed to restrain disease progression. The bDMARDs or tsDMARDs are added in combination with csDMARD when poor prognostic factors are present, as evidenced by disease progression. No preference can be given to any association with csDMARDs or tsDMARDs because both exhibit similar long-term efficacy and safety [23,24].

Many patients utilized different association treatments with GCs in this study. This fact may be related to the reduction in symptoms and radiographic progression that these drugs cause when combined with other classes of DMARDs [25]. However, there is a potential problem because usually, the GCs are used in RA in the short term in patients who initiate or change csDMARDs. These drugs work as bridging therapy until csDMARDS exhibit their efficacy, and then the GCs are then reduced to discontinued within three months [17]. However, patients from this study utilized GC for more than three months, showing inadequate use.

The csDMARDs methotrexate and leflunomide were also widely used by patients. Methotrexate remains the first-line drug in RA because it is an efficacious csDMARD alone or in combination therapies either with GCs or with other csDMARDs, tsDMARDs, or bDMARDs. Despite the patients using methotrexate often exhibit various adverse events, such as nausea, vomiting, abnormal liver functions, and other side effects, these events are mainly related to high doses of malignancy treatment. Then, health professionals should inform and educate patients about the potential adverse effects. Leflunomide and sulfasalazine also can be considered part of the first-line treatment strategy in patients with contraindication to methotrexate. Moreover, both drugs exhibit a better efficacy in RA treatment than another csDMARD available, hydroxychloroquine [18]. This profile of drugs most used in the treatment of RA, including methotrexate and leflunomide, also were found in another CEAF pharmacy in Porto Alegre, Rio Grande do Sul, Brazil, showing that this profile guided by PCDT is the reality in other regions of Brazil, in specialized pharmaceutical services [26].

In this study, the most used bDMARDs were etanercept, tocilizumab, and adalimumab. This profile can be justified by these drugs' good risk/benefit ratio compared to other bDMARDs, showing a good efficacy, safety, and moderate risk of infections. In addition, they can be administered by subcutaneous injection, allowing for home use, while some bDMARDs, administered intravenously, require a hospital application, for example, abatacept or infliximab [27].

Thirty-eight percent of patients identified in this study used bDMARDs. This data needs cautious overall interpretation because this percentage is probably smaller outside CEAF in Brazil due to high costs. The cost of RA treatment is high not only in Brazil but worldwide. It was identified that RA treatment's monthly and annual costs were high at the pharmacy of CEAF in Ponta Grossa, mainly by using bDMARDs, which contribute substantially to the total cost. This work did not compare the cost of RA with other diseases in the CEAF. Further, as pointed out in a study in Mato Grosso do Sul, Brazil, RA represented the fourth pathology with the most expensive treatment in the public health service [28]. We believe that a very similar profile would be found at CEAF in Ponta Grossa, Paraná, Brazil.

In this study, most patients utilized treatment for RA as recommended by the PCDT, including the drugs, combinations, and doses used. This fact may be associated with better treatment effectiveness, justifying the excellent profile in the disease activity score of patients. However, unfortunately, a small part of patients used a non-recommended treatment. In these cases, side effects or therapeutic failure due to dose problems may arise, contributing to the patient's non-adherence to the treatment. In addition, this favors the cases of patients that remain symptomatic despite treatment, defined as difficult-to-treat RA patients by EULAR [29]. These patients reflect the complex interplay of disease and wider patient and clinical factors influencing the clinical results obtained with the pharmacological treatment.

Some patients used high doses of GC over the long term, favoring harmful side effects such as hyperglycemia, hepatosteatosis, insulin resistance, and hypertension [20,30]. In addition, patients using bDMARDs in high doses were identified, resulting in a significant risk of infection as a side effect suggested in studies that analyzed the safety of bDMARDs and tsDMARDs [31,32]. Therefore, aiding the infection problems, recommendations for vaccination and a score to calculate the risk of infection in patients exposed to bDMARDS were developed [33,34].

In this study, patients with dose problems using bDMARDs mainly used high doses of abatacept and infliximab administered by an intravenous route in the hospital. There is the possibility of dose reduction during administration at the hospital, but immediate infusion reactions risk if this is not carried out. We emphasize that bDMARDs are the drugs most easily non-adhered by patients because of administration routes, persistent inflammatory activity, and adverse drug effects [30].

Based on the Third Granada Consensus, it is possible to identify patients' drug-related problems (PRM – Problemas Relacionados con Medicamentos) [11]. We identified the utilization of drugs in high-doses, low-doses, and therapeutic combinations not recommended by the PCDT of RA in Brazil. High-dose utilization is classified as a dose PRM, which may cause a negative result associated with the drug (RNM – Resultados Negativos Associados a la Medicación), classified as quantitative insecurity. On the other hand, low-dose medications were also classified as a dose PRM, generating an RNM of quantitative effectiveness. Finally, combining two or more non-recommended drugs is a PRM of contraindication, which can also cause an RNM of safety, but here, classified as non-quantitative insecurity.

The most significant impact in all PRMs identified above may be reduced adherence to treatment because the patients may experience adverse effects or therapeutic ineffectiveness. In addition, with lower patient adherence, disease progression advances, causing significant inability and decreasing patients' quality of life. Access to multidisciplinary health professionals can ensure the correct pharmacological treatment avoiding these important drug-related problems. In this context, the pharmacist has an important role in contributing to the efficacy and safety of treatment by pharmaceutical care to patients.

In conclusion, in Brazil, the SUS in primary health assistance has a crucial role in identifying and forwarding patients with RA to the specialized component of pharmaceutical services that supply RA pharmacotherapy. The rapid beginning of treatment is essential to better therapeutic results and prognostic in patients. In all stages of treatment, the patients should have access to multidisciplinary health professionals, aiming for the remission or at least low activity disease during RA treatment. Few cases of drug-related problems were identified, and correct pharmacological therapy in most patients. This profile is associated with the therapeutic guidelines for RA in Brazil established by CONITEC that guides RA pharmacotherapy. Despite the satisfactory treatment and control of RA progression, the costs of the drugs were high, mainly by the utilization of bDMARDs by patients. It is important to highlight that the SUS has an important role in guaranteeing access to high-cost drugs by health judicialization and access to multidisciplinary health professionals for patients with RA.

Acknowledgments: This study was approved by the pharmacy of the CEAF from Ponta Grossa, Paraná, Brazil. The authors would also like to thank the pharmacist and ex-director from the local pharmacy – exceptional medicines division, MSc José dos Passos Neto who approved the research in the pharmacy of CEAF.

Conflicts of Interest: The authors declare no conflicts of interest concerning this article's research, authorship, and publication.

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