

## CHARACTERISTICS AND QUALITY OF LIFE OF PATIENTS WITH DIFFICULT-TO-TREAT RHEUMATOID ARTHRITIS

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### ABSTRACT

#### Introduction:

Rheumatoid arthritis (RA) is a chronic inflammatory disease that significantly impacts quality of life. Despite advancements, some patients suffer from "difficult-to-treat rheumatoid arthritis" (DTRA). This study aims to evaluate the quality of life of active RA patients and identify factors contributing to DTRA. **Method:** The study employs an observational approach to gather data on the quality of life and characteristics of DTRA patients. Questionnaires are administered to patients at the rheumatology department of Saint Antoine Hospital. Statistical analyses are conducted to understand symptoms, treatments, and risk factors. **Results:** DTRA patients exhibit moderate disease activity despite treatments. Pain, stiffness, and fatigue are common, affecting quality of life. Comorbidities and psychosocial symptoms add complexity. Medication therapies vary, but therapeutic education and non-pharmacological approaches are underutilized. **Discussion:** Results underscore the importance of an individualized approach to DTRA due to its clinical and demographic diversity. Persistent symptoms, comorbidities, and lack of therapeutic education necessitate holistic management. Treatment variation highlights the need for personalized options. **Conclusion:** This study deepens understanding of DTRA by revealing its characteristics and challenges. Quality of life is impaired by persistent symptoms and comorbidities. Targeted interventions and increased therapeutic education could enhance management of these patients.

**KEYWORDS:** Comorbidities and psychosocial symptoms add complexity.

### 1. INTRODUCTION

Rheumatoid arthritis (RA) is a chronic inflammatory disease primarily affecting the joints, causing pain, stiffness, and dysfunction. Despite significant medical advancements, a subset of patients continues to face persistent symptoms and therapeutic challenges. This subgroup, recognized as having "difficult-to-treat rheumatoid arthritis" (DTRA), poses a complex issue for healthcare professionals.

The aim of this study is to better understand the characteristics and risk factors associated with DTRA. Specifically, this research seeks to evaluate the quality of life of individuals with active RA and identify factors contributing to the complexity of treating this condition.

The methodology employed relies on a cross-sectional observational approach, allowing for a detailed examination of the quality of life of DTRA patients. Data were collected from the rheumatology department of Saint Antoine Hospital, providing an accurate insight into this subset. The findings of this study have the

potential to guide more personalized and tailored management approaches.

The subsequent sections of this article will delve into the detailed results of this study, the identified risk factors, and the implications of these findings for improving the clinical management of DTRA patients. With an emphasis on rigorous methodological approach and thorough analysis of results, this study aims to contribute to a better understanding of DTRA and pave the way for future research and significant clinical advancements.

1. Treatment according to EULAR recommendations and failure of > 2 b/tsDMARDs (with different mechanisms of action) after failure of csDMARDs treatment (unless contraindicated).

2. Signs suggestive of active/progressive disease, defined by > 1 of the following elements:

- Disease activity of at least moderate severity (according to validated composite indices including joint count).
- Signs (including CRP or imaging) and/or symptoms suggestive of active disease (joint-related or otherwise).
- Inability to reduce prednisone (<7.5 mg/day).
- Rapid radiographic progression (with or without signs of active disease).
- Disease well controlled but still presenting symptoms of RA leading to reduced quality of life.

3. Management of signs and/or symptoms is perceived as problematic by the rheumatologist and/or the patient.

2. MATERIALS AND METHODS

Study Design

This study was designed as an observational cross-sectional survey, aiming to gather relevant data on patients with DTRA. This approach allows for a comprehensive understanding of the study population while preserving normal conditions of care and treatment.

Study Site

The survey was conducted at the rheumatology department of Saint Antoine Hospital, a suitable clinical environment for studying patients with rheumatoid arthritis.

Research Timeline

The observation period for each patient was determined based on the time needed to complete a self-administered questionnaire, estimated at approximately 20 minutes. The study was conducted over a period of 4 months, from April to August 2023.

Study Population

Participants were patients with active rheumatoid arthritis admitted for day hospitalization or traditional hospitalization at the rheumatology department of Saint Antoine Hospital.

Selection Criteria

Inclusion criteria for patients were as follows:

- Meeting the definition of difficult-to-treat rheumatoid arthritis (DTRA) according to the European League Against Rheumatism (EULAR) criteria.
- Providing verbal consent to participate in the study.

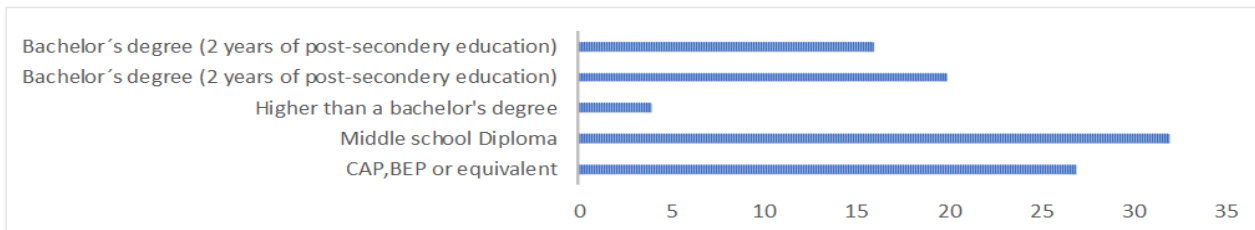
Data Collection

Data collected from the questionnaires were statistically analyzed. Appropriate statistical methods were used to assess the quality of life of patients, identify specific characteristics of the DTRA population, and determine risk factors associated with this difficult-to-treat form of the disease.

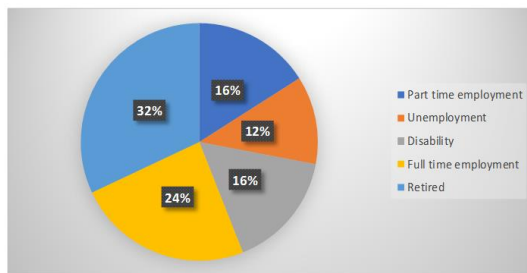
3. RESULTS

The study yielded several key results providing an in-depth insight into difficult-to-treat rheumatoid arthritis (DTRA).

**1. Demographic and Medical Profile:** The study included a total of 25 patients with DTRA out of a group of 350 patients with RA. The demographic profile revealed variability in terms of age, education, and employment status. Patients had an average age of 58 years (Table 2), with an equal distribution between genders. Education levels varied, with a majority of patients reaching a high school diploma level (Graph 1). Employment statuses showed great variability, with a higher prevalence of unemployment among patients (Graph 2).



Graph 1: Level of Education in Percentage.

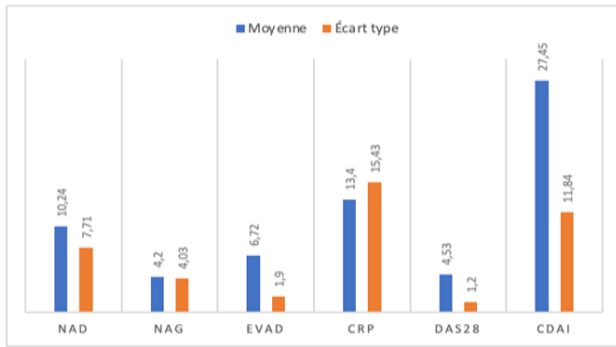


Graph 2: Current Employment Status in Percentage.

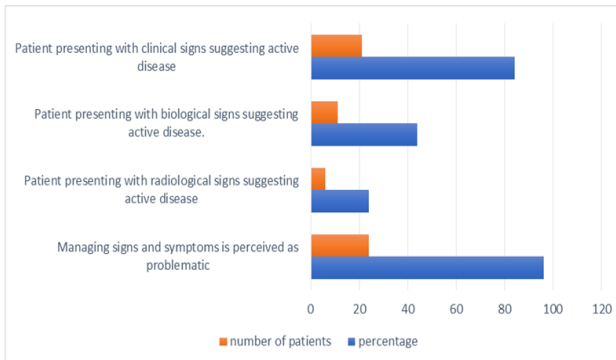
Table 2: Patient age.

Patient age	
Minimum age	29
Maximum age	77
Mean	58
Standard deviation	4532

**2. Disease Characteristics:** Data analysis revealed that rheumatoid arthritis (RA) remained moderately active, with an average of 4 swollen joints and 10 tender joints, along with an average pain assessment on the VAS of 6.72. The mean DAS28 score was 4.53, while the mean CDAI was 27.45 (see graph 3). Clinical evaluations showed that 84% of patients had clinical activity, 44% had biological activity, and 24% had radiological activity (see graph 4).



Graph 3: Disease Characteristics.



Graph 4: Disease Characteristics Based on Clinical, Biological, and Radiological Symptoms.

**3. Symptoms and Risk Factors:** The symptoms of PRDaT have had a major impact on patients' quality of life. Among the participants, 96% reported pain, 80% reported stiffness, 68% suffered from fatigue, 32% reported functional limitations, and 52% reported sleep problems (Table 3). Additionally, 48% had developed osteoarthritis. Comorbidities were common, with issues

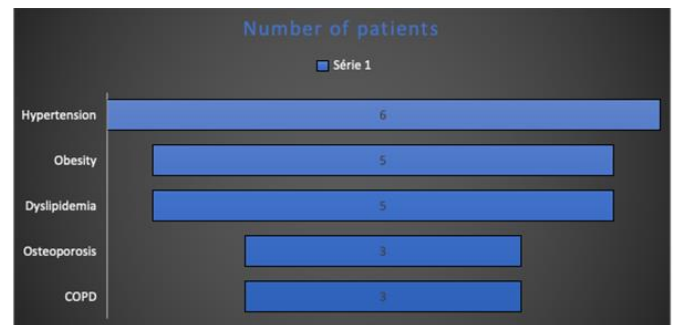
such as hypertension, obesity, diabetes, and dyslipidemia (Graph 5).

Furthermore, it is important to note that 8% of these patients had an associated Gougerot syndrome, which further complicates their medical profile. In addition, 48% of participants showed signs of osteoarthritis.

The average scores on the visual analog scale (VAS) for pain, fatigue, and stiffness were 6.72, 7.16, and 6.72 respectively (Table 4).

Table 3: Current Symptoms of Patients.

Current Symptoms	Number of Patients	Percentage
<b>Pain</b>	<b>24</b>	<b>96%</b>
<b>Stiffness</b>	<b>20</b>	<b>80%</b>
<b>Fatigue</b>	<b>17</b>	<b>68%</b>
<b>Impact on Sleep</b>	<b>15</b>	<b>56%</b>
<b>Functional Impairment</b>	<b>8</b>	<b>32%</b>



Graph 5: Comorbidities That Interfere with Management.

Table 4: Visual Analog Scale (VAS) Scores for Pain, Fatigue, and Stiffness.

Score	Minimum.	Maximum.	Mean	Standard Deviation
VAS Health	0	8	4,6	1,82
VAS Pain	0	10	6,72	2,31
VAS Fatigue	3	10	7,16	1,95

**4. Quality of Life and Management**

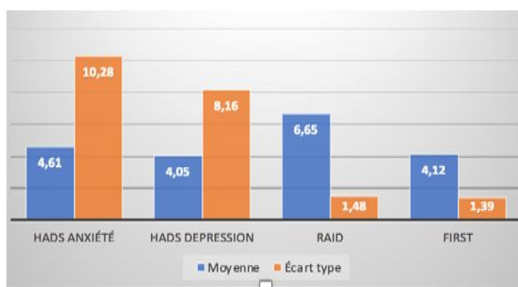
The data revealed that PRDaT patients experienced a significant deterioration in their quality of life, attributed to debilitating symptoms and functional limitations. Only 12% of patients had participated in therapeutic education sessions. Additionally, it is important to note that 28% of patients were active smokers.

**5. The Different Scores Used in the Study**

The use of the Ricci Gagnon Score enabled the characterization of patients based on their level of activity. Of the 25 patients, 44% were classified as active and 56% as inactive (Table 5). At the same time, the study results revealed an average HADS anxiety score of 4.61 and an average HADS depression score of 4.05. Furthermore, the average RAID score was 6.65, while the average FIRST score was 4.12 (Graph 6).

Table 5: Patients' Level of Activity According to the Ricci Gagnon Score.

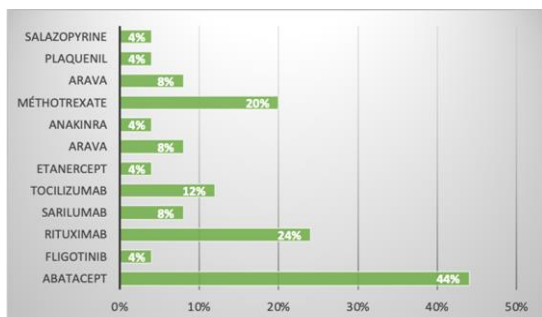
Ricci Gagnon Score	Number of Patients
Very Active Patient	0
Active Patients	11
Inactive Patients	14



Graph 6: Patients' HADS, RAID, and FIRST Scores.

6. Treatments Used

Among the ongoing treatments in participants, abatacept was the most commonly prescribed (44%), followed by methotrexate (20%), rituximab (24%), and tocilizumab (12%) (Graph 7). This diversity reflects the complexity of the disease and the need for individualized strategies to optimize outcomes."



Graph 7: The Percentage of Current Medication Treatments in Patients.

7. Non-Drug Treatments

Among complementary approaches, only 12% of patients participated in therapeutic education sessions. Non-drug interventions, such as physiotherapy (7 patients), the use of insoles (6 patients), and participation in sports activities (4 patients), show promising potential for improving quality of life (Table 7). The psychosocial aspect was also studied, revealing that 84% of patients feel supported by their surroundings.

Table 6: Non-Drug Treatments Used.

Non-Drug Treatment	Number of Patients
Physiotherapy	7
Insoles	6
Sports	4

4. DISCUSSION

The discussion of the results of this study highlights several crucial elements that enrich our understanding of difficult-to-treat rheumatoid arthritis (D2T RA) and have significant implications for improving clinical care.

1. Demographic and Medical Profile

The average age of patients with D2T RA is 58 years, and there is a balanced gender distribution, suggesting that the disease can affect individuals across different age groups, which has implications for its management. Educational levels vary, with most patients having

attained a high school diploma or associate degree level, which may influence their understanding of the disease and their ability to engage in their treatment. The professional situations of D2T RA patients are diverse, ranging from unemployment to retirement to full-time or part-time work, highlighting the potential impact of the disease on patients' professional lives, possibly requiring adjustments or specific support.

2. Disease Characteristics

The results confirm that D2T RA is characterized by persistent disease activity despite treatments. This finding supports the notion that D2T RA represents a particularly resistant form of the disease, requiring more targeted and innovative treatment approaches to control inflammation and prevent joint damage. The distinction between clinical, biological, and radiological disease activity is important, as it shows that D2T RA can manifest in various ways, which can complicate management.

3. Symptoms and Risk Factors

The common symptoms observed in patients with D2T RA, such as joint pain, stiffness, and fatigue, are characteristics of the disease, and their high prevalence underscores the significant impact of D2T RA on patients' quality of life. High pain scores on the visual analog scale (VAS) confirm the intensity of the pain experienced. Furthermore, the identification of risk factors such as smoking and comorbidities like hypertension, obesity, diabetes, and dyslipidemia suggests that D2T RA is influenced by multiple and complex factors. Therefore, healthcare professionals must consider these elements when planning individual patient management.

4. Quality of Life and Management

Data on quality of life highlight the importance of a holistic approach in the management of D2T RA. Functional limitations and debilitating symptoms have a profound impact on patients' perceived quality of life. Limited access to therapeutic education raises the question of the need to empower patients with information and skills to better manage their disease.

5. The Different Scores Used in the Study

The use of the Ricci Gagnon Score revealed that among the 25 patients studied, 44% were classified as active and 56% as inactive, highlighting the significant variability in activity levels within the sample and the need for an individualized approach to treat D2T RA. The study results showed that some D2T RA patients had an average anxiety score of 4.61 and an average depression score of 4.05 according to the Hospital Anxiety and Depression Scale (HADS), highlighting the importance of considering mental health in disease management.

Moreover, the average scores of RAID (Rheumatoid Arthritis Impact of Disease) were 6.65 and FIRST (Fatigue Impact and Severity Test) were 4.12,

emphasizing the impact of the disease on patients' daily lives, particularly concerning fatigue and quality of life related to RA. This finding shows that D2T RA is not limited to physical aspects but also affects patients' mental health and quality of life. Therefore, a comprehensive approach to management is essential to improve the overall well-being of people with D2T RA.

#### **6. Treatments Used**

The diversity of ongoing treatments in patients reflects the complexity of D2T RA and the need to personalize therapeutic approaches. These results also highlight the absence of universal solutions and the need to seek more targeted and effective treatments for this specific population.

#### **7. Non-Drug Treatments**

The analysis of non-drug treatments, such as physiotherapy and sports activities, emphasizes their potential to improve the quality of life of D2T RA patients. These interventions can complement medical treatments by promoting mobility, joint function, and patient autonomy.

#### **5. CONCLUSION**

In summary, this comprehensive study on difficult-to-treat rheumatoid arthritis (D2T RA) provided a better understanding of the challenges faced by patients with this form of the disease. The results highlighted the complexity of D2T RA, with persistent symptoms, functional limitations, and a deterioration in quality of life. Additionally, the study emphasized the importance of considering comorbidities such as hypertension, obesity, diabetes, and dyslipidemia in the management of D2T RA, as well as therapeutic education and non-drug approaches. These results provide crucial insights to guide future clinical interventions aimed at improving the management and quality of life of patients with D2T RA."