

PSY87

Physicians' and patients' preferences over the attributes of biological agents used in the treatment of rheumatic diseases in Spain: a conjoint analysis

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INTRODUCTION

- Traditional treatment of rheumatic disease includes the use of symptom-modifying therapies (nonsteroidal anti-inflammatory drugs and corticosteroids, combined with non-biologic disease-modifying antirheumatic drugs -DMARDs-)¹.
- The development of new biological therapies, particularly tumor necrosis factor (TNF) inhibitors, has increased the available options, therefore, the decision making process is even more complex².
- Knowing about patients' preferences contributes to more informed decisions and more adequate treatment choices³. Moreover, researching into similarities and discrepancies amongst patients' and physicians' perceptions should bring into light alternative ways for approaching treatment strategies.

OBJECTIVE

To define the importance values assigned to the attributes of biological agents by Spanish rheumatologists and patients with rheumatic diseases: rheumatoid arthritis (RA), ankylosing spondylitis (AS) and psoriatic arthritis (PsA).

METHODS

Design

- Observational, cross-sectional study conducted in 41 Spanish hospitals. Methodology applied was conjoint analysis. The study phases were:
 - Literature review:** identification of a preliminary set of attributes and levels most frequently described in publications.
 - One focus group with rheumatologists** (n=5) and **three focus groups with patients** (n=5 patients with each pathology: RA, AS, PsA): selection of the definitive **attributes and levels** (Table 1).
 - Scenarios definition:** combination of the attributes' levels to define 8 scenarios (orthogonal design).
 - Development of case report forms (CRF) including scenarios.

Table 1. Attributes and levels included in scenarios

Attribute	Level
Administration method	<ul style="list-style-type: none"> Subcutaneous self-administration at home. Administered by a health care professional at hospital.
Risk of adverse events (AEs)	<ul style="list-style-type: none"> High risk of adverse events. Low risk of adverse events.
Pain relief	<ul style="list-style-type: none"> Pain relief and improvement of the functional capacity. No pain relief and no improvement of the functional capacity.
Duration of effect (Time until perceiving the need for a new dose)	<ul style="list-style-type: none"> 1 week. 2 weeks. 4 weeks. 8 weeks.

Participants

- RA, AS and PA patients diagnosed at least 2 years prior and currently or previously (≤ 1 year ago) receiving biological agents for a minimum of 1 year, were consecutively recruited between October 2012 and April 2014.
- Rheumatologists with at least 3 year experience on biological agents participated.

Measures

- Participants CRF included sociodemographic variables, clinical variables (for patients only), 7 ad hoc questions to evaluate the additional benefit of biological agents compared to conventional treatments (6-point likert scale where 0=no benefit and 5=maximum possible benefit) and scenarios. Participants ranked the 8 scenarios from 1 (most preferred) to 8 (least preferred).

Statistical analysis

- Rank-ordered logit model was applied to analyze preferences and utility values. The relative importance of attributes was calculated.
- Multivariate regression analysis was performed to identify independent predictors for the importance of each attribute.

RESULTS

Population characteristics

- 488 patients (RA: 33.8%; AS: 32.4%; PsA: 33.8%) participated. The main characteristics are described in table 2.
- 136 rheumatologists took part. A 50.4% of them were male, with a mean age of 46.4 (SD: 9.1) years, and a mean time of practice of 16.7 (SD: 8.8) years.

Table 2. Patients' characteristics

Characteristics	Data
Gender	Male (50.9%)
Age [mean (SD)]	50.6 (12.06) years
Time from diagnosis [mean (SD)]	12.6 (8.2) years
Symptoms	Controlled symptoms with current treatment (29.1%); Joint swelling (17.4%) Joint stiffness (30.9%); Joint pain (51.8%); Function limitation (34.0%); Other (4.3%)
Rheumatic disease related complications	No complications (68.9%); Amyloidosis (0.4%); Anemia (2.7%); Cardiac complications (1.4%); Intestinal complications (3.5%); Ocular complications (10.0%); Renal complications (1.2%); Pulmonary complications (2.7%); Neurological complications (0.8%); Other (9.8%)
Biological agent	Etanercept (23.7%); Adalimumab (26.2%); Infliximab (23.2%); Golimumab (7.6%); Tocilizumab (5.1%); Abatacept (4.9%); Rituximab (2.5%); Certolizumab pegol (1.8%); Ustekinumab (0.2%)

Ad hoc questions

- The group of patients obtained higher scores on most of the ad hoc questions related to the additional benefits of biological agents compared to conventional treatments, than the group of rheumatologists (Table 3).

Table 3. Patients and rheumatologists scores on ad hoc questions

Additional benefit of biological agents compared to conventional treatments (0=no benefit and 5=maximum possible benefit)	Patients		Rheumatologists		p-value
	Mean (SD)	Median	Mean (SD)	Median	
Pain control	4.3 (0.9)	5.0	4.1 (0.6)	4.0	<0.0001
Function limitation improvement	4.3 (0.9)	5.0	4.3 (0.6)	4.0	0.268
Disease progression	4.2 (0.9)	4.0	4.4 (0.7)	4.0	0.272
Number of AEs	3.7 (1.3)	4.0	2.8 (1.1)	3.0	<0.0001
Reversible AEs	3.6 (1.4)	4.0	2.7 (1.0)	3.0	<0.0001
Compliance improvement	4.1 (1.1)	4.0	3.7 (0.9)	4.0	<0.0001
Health-related quality of life improvement	4.4 (0.9)	5.0	4.5 (0.6)	4.0	0.101

Preferences

- The attributes order according to their relative importance was: 'Pain relief', 'Risk of AEs', 'Administration method' and 'Time until perceiving the need for a new dose' (Table 4).

Table 4. Patients and rheumatologists preferences

Participants	Relative importance			
	Administration method	Risk of AEs	Pain relief	Time
Patients	10.2%	31.8%	49.1%	9.0%
Rheumatologists	11.4%	31.5%	48.9%	8.2%

- Figures 1 and 2 represent the utility values for patients and rheumatologists, respectively.

Figure 1. Patients' utility values

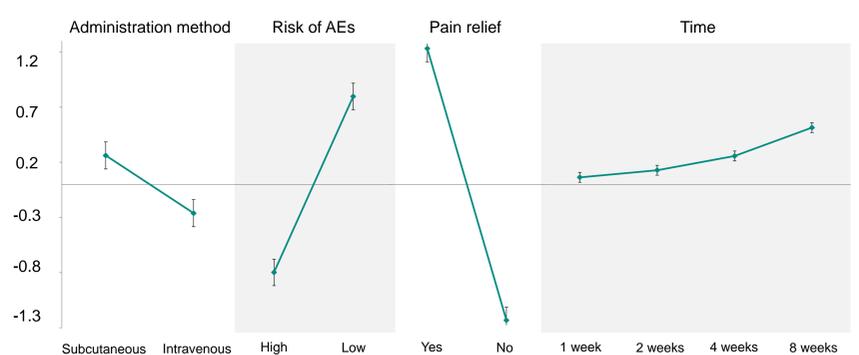
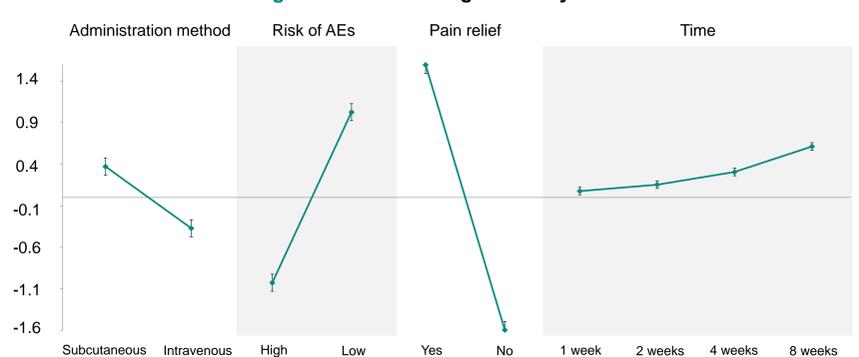


Figure 2. Rheumatologists' utility values



The ideal biological agent, for both, should allow pain relief and an improvement of the functional capacity, with a low risk of AEs, a long time until perceiving the need for a new dose and self-administration at home.

Multivariate regression analysis

- Factors influencing patients' preferences were gender, age, rheumatic disease, symptoms, complications and comorbidities. Rheumatologists' preferences have been found to be influenced by gender, age and time in practice.

CONCLUSIONS

Although efficacy and safety are key for patients with rheumatic diseases and rheumatologists to make a choice over a biological agent, the need for a low frequency of administration and the administration method also play an important role as attributes of biological agents in Spain.

REFERENCES

- Smolen JS. *et al.* EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs. *Ann Rheum Dis.* 2010;69:964-75; 2. Fraenkel *et al.* Patient preferences for treatment of rheumatoid Arthritis. *Ann Rheum Dis.* 2004;63:1372-78; 3. Hewlett S. *et al.* Values for function in rheumatoid arthritis: patients, professionals, and public. *Ann Rheum Dis.* 2001;60:928-33.