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Preferences of Spanish patients over the attributes of biological agents for the treatment of rheumatic diseases depending on the administration route

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INTRODUCTION

- While the efficacy and toxicity of biological agents for the treatment of rheumatic diseases can be comparable[1,2], different routes and frequencies are available for administration.
- Patient preferences for route and frequency of administration and for medications risks and benefits are key to adherence[3]. Therefore, exploring the preferences for the characteristics of biological agents to obtain an improvement in clinical outcomes[4], becomes necessary.

OBJECTIVE

The objective of this study was to asses rheumatoid arthritis (RA), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) patients' preferences over biological agents considering the administration route, in Spain.

METHODS

- Observational, cross-sectional design. 41 Spanish hospitals contributed recruiting participants between October 2012 and April 2014.
- Participants were RA, AS and PsA patients (diagnosed ≥2 years prior to study entry; currently or previously (≤1 year ago) receiving biological agents for a minimum of 1 year.
- The study was based on the conjoint analysis methodology. A set of 4 attributes with different levels were extracted from a literature review and 4 focus groups (RA, AS and PsA patients and rheumatologists):
  1. **Administration method:** self-administered subcutaneously at home or intravenous administration at hospital.
  2. **Time until perceiving the need for a new dose:** 1 week, 2 weeks, 4 weeks or 8 weeks.
  3. **Risk of adverse events** (AEs): high or low.
  4. **Pain relief and improvement of the functional capacity:** yes or no.
- By means of an orthogonal design, 8 treatment scenarios were defined combining attributes (Table 1).

Table 1. Treatment scenarios

Scenario	Administration method	Time	Risk of AEs	Pain relief
1	Subcutaneous	4-week	Low	Yes
2	Subcutaneous	2-week	High	No
3	Subcutaneous	8-week	High	Yes
4	Intravenous	4-week	High	No
5	Intravenous	8-week	Low	No
6	Intravenous	2-week	Low	Yes
7	Intravenous	1-week	High	Yes
8	Subcutaneous	1-week	Low	No

- These scenarios were included in a Case Report Form (CRF) together with sociodemographic and clinical variables of patients.
- Patients had to order the scenarios from 1 (most preferred scenario) to 8 (least preferred).
- The rank-ordered logit model was used to estimate partial utilities in each attribute for patients on subcutaneous or intravenous administration, respectively. Relative importance values were also calculated from partial utilities.

RESULTS

Population

- A total of 488 patients were included in the analysis. 98,2% (n=479) were receiving biological agents (64% subcutaneous administration; 36% intravenous administration).
- The main participants' characteristics are shown in Table 2.

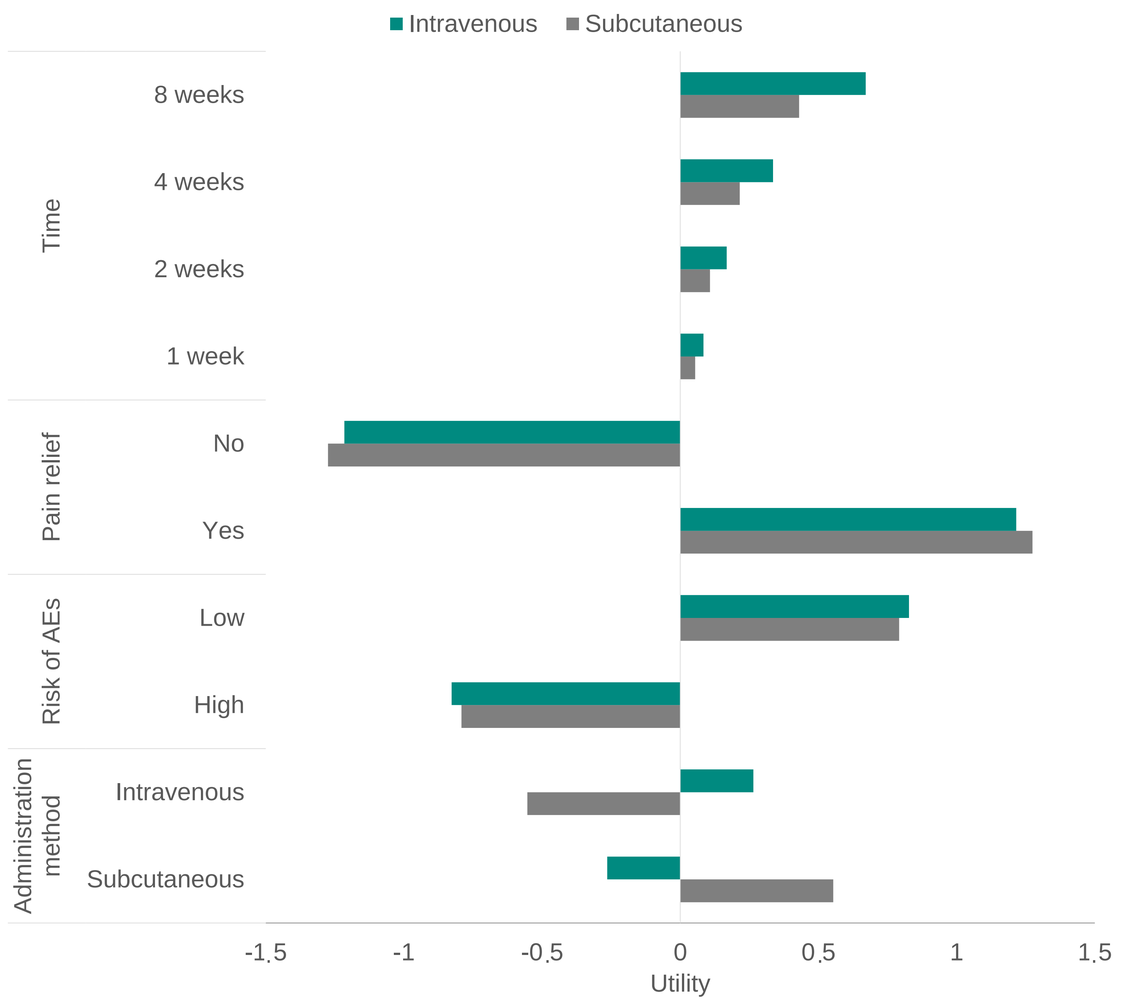
Table 2. Patients' characteristics

Characteristics		Subcutaneous (n=305)	Intravenous (n=174)
Sociodemographic	Men	52.8%	47.1%
	Age [mean (SD)]	50.0 (11.9)	51.9 (12.3)
Diagnosis	RA	28.5%	42.0%
	AS	31.1%	33.9%
	PsA	40.3%	24.1%
	Time from diagnosis [mean (SD)]	12.1 (7.8)	13.6 (8.9)
Biological agents	Certolizumab pegol	2.9%	-
	Ustekinumab	0.3%	-
	Rituximab	-	6.9%
	Tocilizumab	-	14.4%
	Abatacept	-	13.8%
	Etanercept	43.2%	-
	Golimumab	12.0%	-
	Adalimumab	41.6%	-
	Infliximab	-	64.9%

Preferences

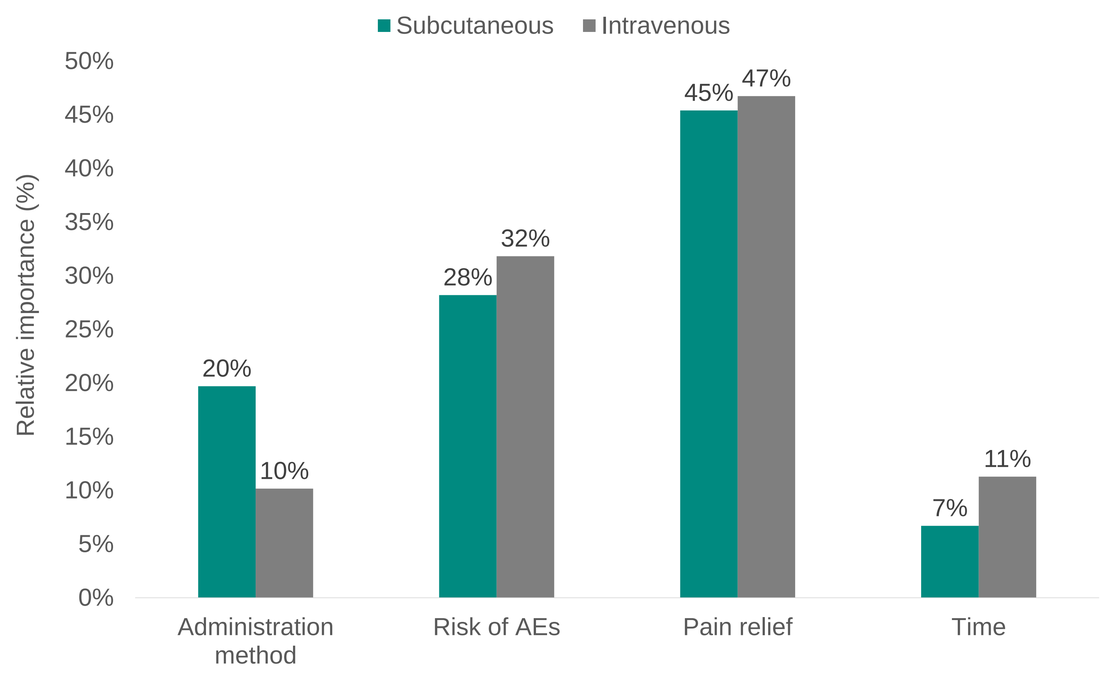
- Utilities from each group of patients showed that the main difference was the preference over the administration route: both groups of patients preferred to stay on the same route of administration (either subcutaneous or intravenous) they had been on (Figure 1).
- Moreover the patients preferred a longer time until perceiving the need for a new dose: 8 weeks over 4 weeks over 2 weeks over 1 week.
- The rest of utilities were similar.

Figure 1. Partial utilities estimated for each group of patients



- The patients currently receiving subcutaneous administration with biological agents gave highest importance to pain relief and risk of AEs, followed by administration method and time until perceiving the need for a new dose (Figure 2); however in patients currently receiving intravenous administration, the order of importance was pain relief, risk of AEs, time until perceiving the need for a new dose and administration method (Figure 2).

Figure 2. Relative importance per attribute for each group of patients



CONCLUSIONS

- Spanish patients with rheumatic diseases placed high importance on pain relief and risk of AEs as preference attributes for biological agents. The frequency of administration (time until perceiving the need for a new dose) also plays a crucial role as all patients indicated their preference for lower vs. higher frequencies of biological agents' administration.

REFERENCES

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