Cost-Effectiveness of Advanced Therapies Initiation in Patients With Rheumatoid Arthritis (RA) in Spain, Who Failed a Conventional Synthetic DMARD Versus a First Biological DMARD

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Balsa A[1], Silva L[2], Sanmarti R[3], Valderrama M[4], Montoro M[4], de Lossada Juste A[4] ,Rejas J[5], Ruíz MA[6]

1. Rheumatology Unit. Hospital Universitario La Paz. Universidad Autónoma de Madrid, Spain; 2. Rheumatology Department. Complexo Hospitalario Universitario de A Coruña, Spain; 3. Rheumatology Service. Hospital Clinic, Barcelona, Spain; 4. Pfizer S.L.U., Madrid, Spain. 5 EACCOS Research Group, Universidad Autónoma de Madrid, Spain. 6 School of Psychology, Universidad Autónoma de Madrid, Spain.

INTRODUCTION

- Rheumatoid Arthritis (RA) is associated with negative impact on patients' economy and quality of life (QoL).

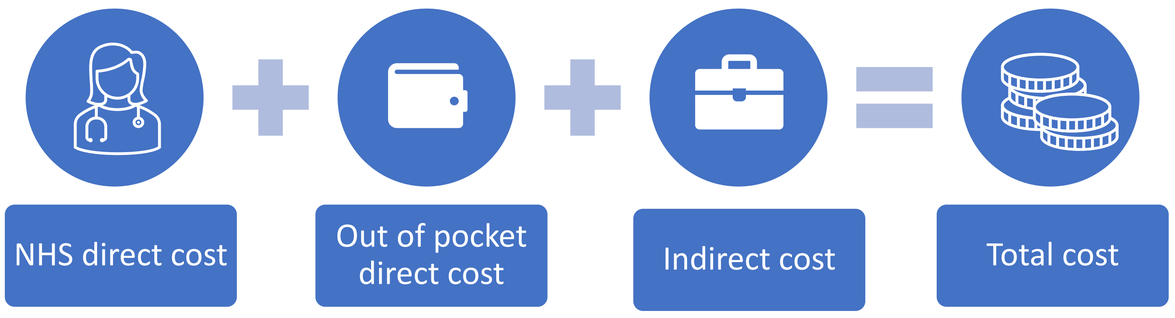
OBJECTIVES

The aim of this analysis is to evaluate the cost-effectiveness of conventional-synthetic-DMARD (Disease-Modifying Antirheumatic Drugs) compared to first biologic-DMARD (bDMARD), on moderate-severe RA patients who start an advanced DMARD in three different perspective scenarios: society, national health system (NHS) and patient, in Spain.

METHODS

- An observational, prospective, multicentric study was designed.
- RA patients (DAS 28-ESR ≥3.2) who had failed to conventional-synthetic-DMARD (csDMARD) or first biologic-DMARD, following usual clinical practice, were included.
- Direct cost (NHS and out-of-pocket) and indirect (lost productivity) were included. Total costs were obtained from Spanish official sources (€,2022). Labor productivity was based on the response to the WPAI questionnaire (Work Productivity and Activity Impairment).

Figure 1. Costs considered



- This study collected costs (€, year 2022), QALY and effectiveness at baseline (M0) and 12-month (M12) visits in patients who switch from csDMARD to an advanced therapy versus who switch from first bDMARD to an advanced therapy.
- Financing from three perspectives was considered: resources from society (i.e. work productivity), NHS (i.e. drugs, outpatient visits., hospitalizations) and patient (out-of-pocket).
- Effectiveness was expressed in Quality-Adjusted Life Years (QALY), calculated from patient´s responses (EQ-5D-3L).
- Result was presented as incremental cost-utility ratio (ICER) and a probabilistic sensitivity analysis was performed.
- Three Spanish cost-effective thresholds are considered (€21,000, €25,000 and €28,160 per QALY).

Table 1. Patients' clinical characteristics (N=118)

Age, years (N=118): Mean (SD)	54.92 (11.45)
Gender, women (N=118): n (%)	74 (75.5)
Symptoms onset age, years: Mean (SD)	45.22 (12.72)
RA Extraarticular affectation (N=118): n (%)	14 (11.9)
Erosions (N=118): n (%)	40 (33.9)
Rheumatoid Factor (N=118): n (%)	88 (74.6)
ACPA (N=118): n (%)	86 (72.9)
DAS-28 (ESR) at basal visit (N=118): Mean (SD)	4.27 (1.04)

RESULTS

- The initiation of an advanced therapy in refractory RA from a csDMARD versus bDMARD was cost-effective for NHS perspective (ICER: 2,496 €/QALY) and dominant for society and patient perspective.
- Probabilistic analysis showed the change from csDMARD vs bDMARD would be cost-effective.
- Switching from a csDMARD were superior switching alternative from a pharmacoeconomic point of view, a difference (p=0.031) in effectiveness, QALY gained from csDMARD [(0.700 (0.627; 0.773)] vs from bDMARD [(0.565 (0.467; 0.664)], was found.

Table 2. Total Cost (€) according to perspective: 12-mounth csDMARD vs bDMARD

	Study treatment		Difference	P value
	csDMARD (n=76)	**bDMARD (n=42)**		
Social perspective	19,113€ (16,877; 21,349)	20,635€ (17,627; 23,643)	-1,523€ (-5,271; 2,226)	0.423
NHS perspective	15,272€ (14,084; 16,461)	14,936€ (13,337; 16,534)	337 (-1,655; 2.328)	0.738
Patient perspective	832€ (228; 1,435)	1,830€ (982; 2,677)	-998 (-2,039; 42)	0.060

Table 3. Total Effectiveness (QALY): 12-mounth csDMARD vs bDMARD

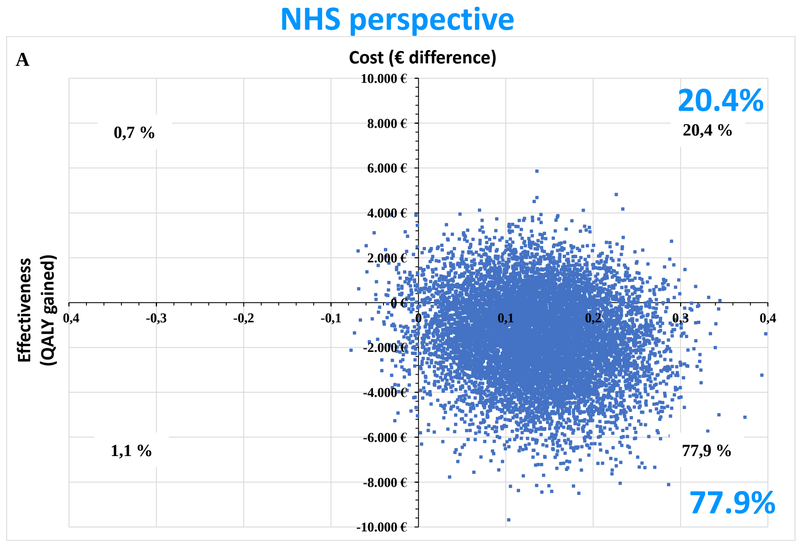
	Study treatment		Difference	P value
	csDMARD (n=76)	**bDMARD (n=42)**		
Effectiveness (QALY gained)	0.700 (0.627; 0.773)	0.565 (0.467; 0.664)	0.135 (0.012; 0.258)	0.031

Table 4. ICER (€/QALY): 12-mounth csDMARD vs bDMARD

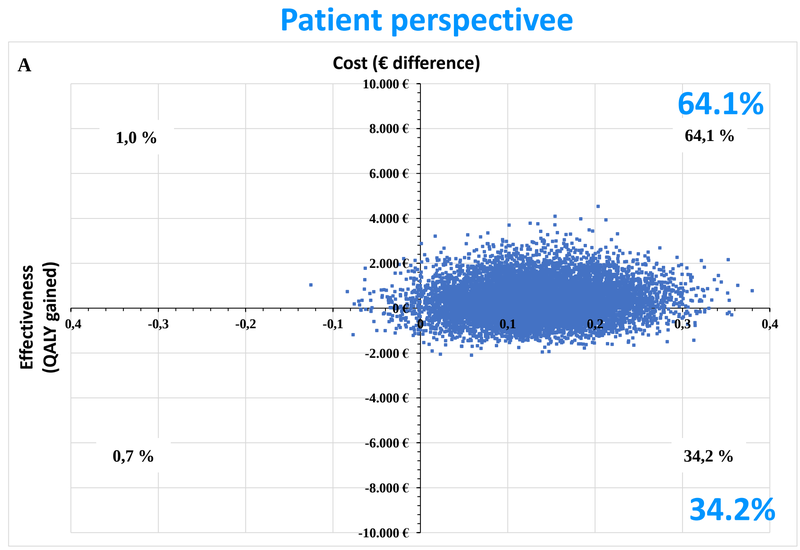
	ICER
Social perspective	Dominant
NHS perspective	Cost-effective (ICER: 2,496)
Patient perspective	Dominant

Figure 2. Cost-effectiveness probabilistic analysis csDMARD vs bDMARD

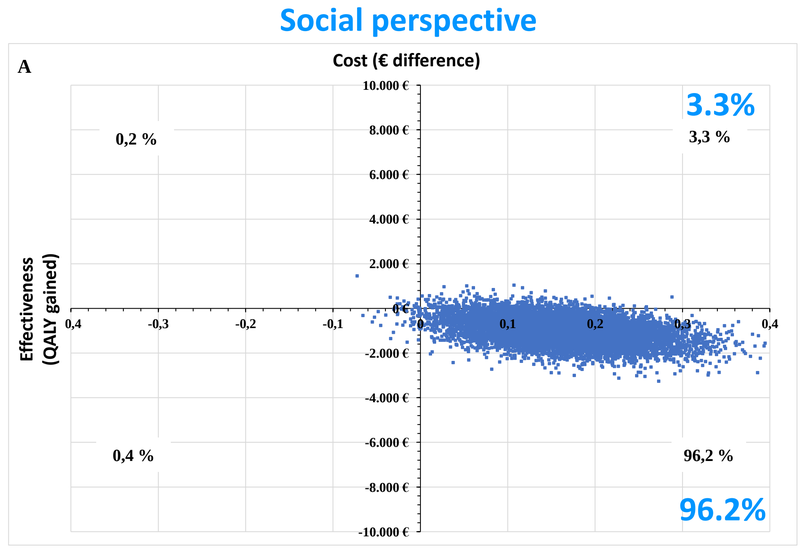
NHS perspective



Patient perspectivee



Social perspective



CONCLUSIONS

Initiating an advanced therapy, in RA patients refractory to treatment with csDMARD vs first advanced DMARD, is cost-effective from the social, NHS and patient perspectives, being higher the QALY gain for patients who do not respond to csDMARD.

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DISCLOSURE

This study was sponsored by Pfizer S.L.U. MM, MV and AL are employees of Pfizer S.L.U.