

Title:

Economic considerations and patients' preferences affect treatment selection for rheumatoid arthritis patients: A discrete choice experiment among European rheumatologists

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Online supplementary table S1: The patient profile (as presented in the questionnaire)

The patient profile	
Gender:	Female
Age:	42 years
Work participation:	Secretary, mother of 2 children
Duration of disease:	6 months, 3 months of treatment
Current disease activity:	Moderate disease activity (DAS28=4.6) with persistent synovitis <ul style="list-style-type: none">· Number of swollen joints (SJC): 5· Number of tender joints (TJC): 5· Erythrocyte Sedimentation Rate (ESR, mm/hr): 18· Patient Global Assessment (PGA, 0-100 mm VAS): 49
Current treatments	MTX 25mg/week and Hydroxychloroquine 400mg/day Primary failure to the combination and no side effects
Prognostic factors:	No erosion Anti-CCP positive
Comorbidities:	No comorbidities
Risk factors:	Smoking

Online supplementary table S2: Results from the Random Parameters Logit Model (overall and per country)

a) All 12 countries combined

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.299*** (2.126 to 2.472)	0.306***
Remission	3.910*** (3.647 to 4.173)	0.890***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.414*** (-0.533 to -0.295)	0.011
Uncommon	-1.038*** (-1.190 to 0.887)	0.851***
Patient's preference		
Patient favours treatment	0.401*** (0.296 to 0.505)	0.188
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.031*** (-1.197 to -0.865)	0.977***
Cost-effectiveness (10,000 EUR/QALY)	-0.154*** (-0.182 to -0.127)	0.184***
Overall medication costs (1,000 EUR/year)	-0.121*** (-0.132 to -0.109)	0.658***
Constant	-0.151*** (-0.229 to 0.074)	

*** significant at 1%, 559 respondents, McFadden Pseudo R-squared = 0.39 , log-likelihood = -3278

b) Belgium

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.083*** (1.462 to 2.704)	0.111
Remission	3.551*** (2.526 to 4.576)	1.236***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.372 (-0.832 to 0.088)	0.003
Uncommon	-0.971*** (-1.559 to -0.383)	0.926***
Patient's preference		
Patient favours treatment	0.172 (-0.263 to 0.607)	0.439
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-0.842*** (-1.419 to -0.265)	0.115
Cost-effectiveness (10,000 €/QALY)	-0.147*** (-0.247 to -0.046)	0.128*
Overall medication costs (1,000 €/year)	-0.117*** (-0.159 to -0.073)	0.030
Constant	-0.143	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.61 , log-likelihood = -191

c) France

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.494*** (1.811 to 3.177)	0.129**
Remission	3.897*** (2.874 to 4.919)	1.022***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.607*** (-1.023 to -0.191)	0.777
Uncommon	-1.777*** (-2.440 to -1.113)	1.082***
Patient's preference		
Patient favours treatment	0.533** (-0.114 to 0.953)	0.064
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.396*** (-2.109 to -0.683)	1.219***
Cost-effectiveness (10,000 €/QALY)	-0.045 (-0.128 to -0.038)	0.073
Overall medication costs (1,000 €/year)	-0.090*** (-0.133 to -0.047)	0.079***
Constant	-0.161	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.58 , log-likelihood = -252

d) Germany

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.928*** (1.940 to 3.916)	0.840**
Remission	5.440*** (3.678 to 7.203)	1.297***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.645** (-1.210 to -0.081)	0.078
Uncommon	-1.210*** (-1.942 to -0.477)	1.276***
Patient's preference		
Patient favours treatment	0.574** (-0.084 to 1.063)	0.354
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.281*** (-2.094 to -0.467)	1.907***
Cost-effectiveness (10,000 €/QALY)	-0.308*** (-0.467 to -0.148)	0.182**
Overall medication costs (1,000 €/year)	-0.188*** (-0.256 to -0.121)	0.097**
Constant	-0.401**	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.66 , log-likelihood = -225

e) Hungary

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.313*** (1.774 to 2.852)	0.462
Remission	4.344*** (3.463 to 5.225)	1.205***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.413** (-0.770 to -0.055)	0.274
Uncommon	-1.133*** (-1.561 to -0.705)	0.674***
Patient's preference		
Patient favours treatment	0.623*** (0.316 to 0.929)	0.109
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-0.871*** (-1.310 to -0.431)	0.691***
Cost-effectiveness (10,000 €/QALY)		
Overall medication costs (1,000 €/year)	-0.224*** (-0.326 to -0.123)	0.279***
Constant	-0.149	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.63 , log-likelihood = -404

f) Italy

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.412*** (1.811 to 3.013)	0.149
Remission	4.664*** (3.660 to 5.666)	0.787**
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.886*** (-1.319 to -0.453)	0.022
Uncommon	-1.754*** (-2.340 to -1.169)	1.029***
Patient's preference		
Patient favours treatment	0.489*** (0.137 to 0.841)	0.194
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-0.968*** (-1.575 to -0.361)	1.374***
Cost-effectiveness (10,000 €/QALY)		
Overall medication costs (1,000 €/year)	-0.144*** (-0.235 to -0.053)	0.169***
Constant	-0.313**	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.64 , log-likelihood = -315

g) The Netherlands

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.395*** (1.809 to 2.981)	0.493*
Remission	4.400*** (3.431 to 5.369)	0.990***
Safety		
Very rare	<i>Reference level</i>	
Rare	0.141 (-0.227 to 0.509)	0.044
Uncommon	0.051 (-0.423 to 0.527)	1.008***
Patient's preference		
Patient favours treatment	0.290* (-0.046 to 0.626)	0.016
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.453*** (-2.009 to -0.897)	0.838***
Cost-effectiveness (10,000 €/QALY)	-0.228*** (-0.326 to -0.130)	0.205***
Overall medication costs (1,000 €/year)	-0.177*** (-0.227 to -0.126)	0.087***
Constant	-0.262** (-0.517 to 0.007)	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared= 0.46 , log-likelihood = -328

h) Norway

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.929*** (2.044 to 3.812)	0.129
Remission	4.320*** (3.098 to 5.542)	1.022***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.302 (-0.789 to -0.185)	0.040
Uncommon	-1.043*** (-1.738 to -0.342)	1.245***
Patient's preference		
Patient favours treatment	0.237 (-0.222 to 0.696)	0.542*
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.273*** (-1.996 to -0.551)	0.947***
Cost-effectiveness (10,000 €/QALY)	-0.211** (-0.348 to -0.074)	0.311***
Overall medication costs (1,000 €/year)	-0.193*** (-0.251 to -0.014)	0.018
Constant	-0.150	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.65 , log-likelihood = -219

i) Portugal

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	3.399*** (2.194 to 4.604)	0.518
Remission	5.066*** (3.417 to 6.715)	0.704*
Safety		
Very rare	<i>Reference level</i>	
Rare	-1.140*** (-1.747 to -0.533)	0.109
Uncommon	-2.487*** (-3.495 to -1.480)	1.315***
Patient's preference		
Patient favours treatment	0.003 (-0.506 to 0.501)	0.176
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.690*** (-2.568 to -0.811)	1.038***
Cost-effectiveness (10,000 €/QALY)	-0.180** (-0.319 to -0.040)	0.257***
Overall medication costs (1,000 €/year)	-0.194*** (-0.262 to -0.126)	0.082***
Constant	-0.236	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.64 , log-likelihood = -212

j) Romania

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	4.963*** (1.716 to 8.209)	2.445**
Remission	8.859*** (3.660 to 14.057)	4.651***
Safety		
Very rare	<i>Reference level</i>	
Rare	-1.145** (-2.204 to -0.087)	0.101
Uncommon	-3.311*** (-5.353 to -1.268)	2.885***
Patient's preference		
Patient favours treatment	0.043 (-0.825 to 0.738)	1.050**
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.116** (-2.139 to -0.093)	1.232***
Cost-effectiveness (10,000 €/QALY)	-0.113 (-0.297 to -0.070)	0.286***
Overall medication costs (1,000 €/year)	-0.226*** (-0.397 to -0.545)	0.209***
Constant	-0.572	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared= 0.63 , log-likelihood = -236

k) Spain

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	3.330*** (2.473 to 4.187)	0.630**
Remission	5.348*** (4.035 to 6.662)	1.044***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.165 (-0.581 to -0.251)	0.058
Uncommon	-1.132*** (-1.731 to -0.533)	1.360***
Patient's preference		
Patient favours treatment	0.711*** (0.285 to 1.138)	0.546
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.444*** (-2.165 to -0.723)	1.558***
Cost-effectiveness (10,000 €/QALY)	-0.209*** (-0.329 to -0.089)	0.343***
Overall medication costs (1,000 €/year)	-0.156*** (-0.204 to -0.106)	0.087***
Constant	-0.018	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.65 , log-likelihood = -340

l) Sweden

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	2.809*** (1.799 to 3.820)	0.285
Remission	5.049*** (3.247 to 6.852)	1.213***
Safety		
Very rare	<i>Reference level</i>	
Rare	-0.815** (-1.489 to -0.141)	0.163
Uncommon	-1.276*** (-2.061 to -0.492)	0.482
Patient's preference		
Patient favours treatment	0.471 (-0.167 to 1.108)	0.654
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.753*** (-2.822 to -0.684)	1.354***
Cost-effectiveness (10,000 €/QALY)	-0.189*** (-0.207 to -0.084)	0.136
Overall medication costs (1,000 €/year)	-0.146*** (-0.251 to -0.014)	0.030
Constant	-0.300	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.67 , log-likelihood = -118

m) United Kingdom

Attributes and Levels	Estimate (95% confidence interval)	Standard Deviation
Efficacy		
Moderate response	<i>Reference level</i>	
Good response	1.922*** (1.299 to 2.544)	0.416
Remission	3.465*** (2.538 to 4.392)	0.881**
Safety		
Very rare	<i>Reference level</i>	
Rare	0.003 (-0.472 to 0.478)	0.001
Uncommon	-0.194 (-0.680 to 0.291)	0.048
Patient's preference		
Patient favours treatment	0.441** (0.075 to 0.808)	0.242
Patient is neutral	<i>Reference level</i>	
Patient disfavours treatment	-1.220*** (-1.943 to -0.497)	1.604***
Cost-effectiveness (10,000 €/QALY)	-0.309*** (-0.441 to -0.176)	0.205***
Overall medication costs (1,000 €/year)	-0.135*** (-0.178 to -0.092)	0.044
Constant	-0.322**	

*** significant at 1%, ** significant at 5%, * significant at 10%, McFadden Pseudo R-squared = 0.46 , log-likelihood = -228