MULTI-CRITERIA DECISION ANALYSIS (MCDA) TO DETERMINE THE VALUE OF TREATMENTS FOR MODERATE TO SEVERE PLAQUE PSORIASIS IN SPAIN

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BACKGROUND & OBJECTIVES

- **Moderate-severe psoriasis is a chronic and relapsing disease without cure**. Among patients with psoriasis, **20-30% present moderate or severe forms** of the disease [1]. Severe forms are associated with a **50% higher cardiovascular mortality risk** [2] and have an **significant negative impact on patients' quality of life** [3].
- Current treatment recommendations include **biological drugs as second line**. The assessment of the additional value of new biological drugs in the treatment of moderate-severe psoriasis is challenging for evaluators and decision-makers, given the availability of different therapeutic alternatives.
- MCDA was used **to assess the value of a new treatments of moderate-severe plaque psoriasis, ixekizumab (IXE), was compared with main therapeutic alternatives.**

METHODS

- An **evidence analysis up to 2016 of ixekizumab as well as its therapeutic alternatives** identified for treatment of moderate-severe psoriasis in Spain was performed using health technology assessment reports: Genesis Group evaluations, Guidelines of clinical practice, Public document of European evaluation (EPAR) and evaluations carried out by regional Committees in Spain.
- **4 Evidence Matrices** structured according to the criteria of the reflective EVIDEM framework **were developed comparing IXE with adalimumab, etanercept (generic), secukinumab and ustekinumab**.
- **Value contribution of ixekizumab** vs alternative options was assessed in 3 steps: (1) EVIDEM criteria weighted by total of 45 national and regional evaluators in Spain was used as reference [4]; (2) Evidence Matrices were scored by a panel of 5 experts using two scales from 0 to 5 points, or from -5 to 5 points (for the comparative criteria), according the EVIDEM methodology and (3) the **global value contribution of IXE** was estimated by multiplying the normalized scores given by the 5 experts in psoriasis and the normalized weights by the 45 Spanish evaluators.

RESULTS

- 52 references were initially identified, and after review, 13 reports were used to build 4 evidence matrices IXE versus alternative options.
- 5 experts in health evaluation and decision making, considering the scope of moderate to severe plaque psoriasis participated in the session: 2 hospital pharmacists, 1 regional payer, 1 dermatologist and 1 patient representative.
- The **mean scores provided by the panelist to each comparative pair of treatments to each criteria** are shown in Table 1.

TABLE 1. MEAN SCORES OF THE QUANTITATIVE CRITERIA FOR IXEKIZUMAB VS ALTERNATIVE OPTIONS

	Criteria weighted by Spanish evaluators [4]	Adalimumab	Etanercept	Secukinumab	Ustekinumab
Disease severity	4,6	3,6	2,6	3,2	2,8
Size of affected population	4,1	3,4	3,4	3,4	3,4
Unmet needs	3,9	2,8	2,8	2,8	2,8
Comparative efficacy/effectiveness	4,5	2,8	3,8	0,6	2,2
Comparative safety/tolerability	4,2	0,6	0,8	0	0
Comparative PRO	3,5	2	3	1,2	1,2
Type of preventive benefit	4,2	1	1,4	0,8	1
Type of therapeutic benefit	4,3	3,2	3	2,8	2,8
Cost of intervention	4,4	0,6	-2,2	2,2	1,3
Other medical costs	3,8	2	2,6	0,6	1
Non-medical costs	3,1	2	2,6	1,3	4
Quality of evidence	4,6	2,8	3	2,8	3
Clinical practice guidelines	3,6	2,2	2,4	2	2

*At the time the study was conducted, IXE price was not available in the Spanish market, two possible options were considered: €11.000 and €14.000 (cost per patient and year)

- Moderate-severe psoriasis was perceived as a disease of **moderate severity**, affecting a **large population size** and with **some unmet needs**.
- In case of **comparative efficacy/effectiveness** (PASI90 and PASI100) and **patient-perceived health** (including posology and quality of life) IXE was perceived as an added value option in front of its comparators.
- **Comparative safety and tolerability** was perceived as similar for all alternatives.
- Regarding the **therapeutic benefit**, IXE was considered as a drug able to add value.
- The proposed **cost of ixekizumab*** was considered as positive when it was compared to secukinumab.
- For the comparison of other **medical costs**, and also of **non-medical costs**, IXE was perceived as positive, especially when it was compared to etanercept and adalimumab.

- The **global value contribution of ixekizumab vs alternative options** is showed in Figure 1 and Figure 2:

- Ratings showed that most important criteria were **size of affected population, unmet needs, comparative efficacy/effectiveness, type of therapeutic benefit and quality of evidence** (Figure 1).
- The **global value contribution of IXE vs alternative options was:**
  - **IXE vs ADA: 0.45**, being the comparison of the intervention better in **efficacy/effectiveness** and worst in **cost of intervention.**
  - **IXE vs ETA: 0.44**, being the comparison of the intervention better in **efficacy/effectiveness** and worst in **cost of intervention**.
  - **IXE vs SEC: 0.36**, being the comparison of the intervention better in **cost of intervention** and without differences in the comparative attributes of the intervention.
  - **IXE vs UST: 0.38**, being the comparison of the intervention better in **efficacy/effectiveness** and without differences in the rest of comparative attributes of the intervention.

FIGURE 2. GLOBAL VALUE CONTRIBUTION OF IXEKIZUMAB TO ALTERNATIVES

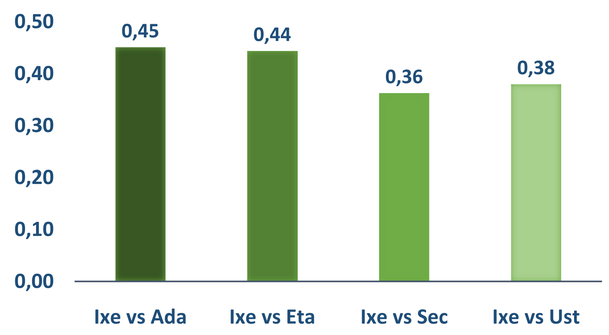

FIGURE 1. VALUE CONTRIBUTION OF IXEKIZUMAB TO ALTERNATIVES

IXE: Ixekizumab; ADA: Adalimumab; ETA: Etanercept; SEC: Secukinumab; UST: Ustekinumab

CONCLUSIONS

- MCDA methodology is feasible for appraising the value of a new drug for the treatment of moderate-severe psoriasis. MCDA might be especially helpful for valuing and positioning a new treatment.
- Ixekizumab would be perceived as a valuable option in the treatment of moderate-severe plaque psoriasis compared with current alternative treatment. The main contribution of value would be based on its therapeutic benefit and efficacy (measured in terms of a response to PASI90 and PASI100 and maintenance of a long term), also valued because the easy posology and quality of life data.

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