

Identification of unmet care needs, treatment preferences and health economic implications to optimize disease management outcomes in the field of chronic inflammatory skin diseases

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Summary

This dissertation identified the unmet care needs, treatment preferences and health economic implications in the field of chronic inflammatory skin diseases to optimize disease management outcomes.

In **chapter 2**, a systematic literature review of discrete choice experiments (DCE) in psoriasis (PSO) was conducted, which included 25 articles reporting patients' and physicians' preferences in treatment decision-making. Efficacy-related treatment outcomes were most important, and safety was frequently the second most important treatment attribute. Furthermore, PSO patients were found to place greater importance on process-related attributes than physicians. Age, disease severity, and duration of condition significantly affected preferences for treatment attributes in PSO.

Chapter 3 provided the results of a 'de novo' early cost-effectiveness model developed to assess the cost-effectiveness of a treatment candidate in hidradenitis suppurativa (HS). The base case results revealed the treatment candidate not to be cost-effective, but extensive scenario- and threshold analyses highlighted that reducing dosing or drug price improved the cost-effectiveness of the candidate. Cost-effectiveness was most sensitive to health states' utility values, treatment discontinuation, and resource utilization assumptions.

The semi-structured interviews with twelve HS patients and sixteen physicians presented in **chapter 4** revealed in total sixteen areas of unmet care needs and thirteen relevant treatment attributes. The most frequently reported unmet care needs were insufficient quality-of-life improvements, lacking treatment effectiveness, insufficient pain control, poor disease awareness, and delayed diagnosis. Patients reported unique concerns relating to pain control, access to dermatologists, and guidance on wound care.

The DCE across multiple countries in Europe detailed in **chapter 5** included 239 patients with HS. The most important treatment attributes to patients with HS were effectiveness, followed by pain reduction. For all six treatment attributes included, significant differences were observed between levels which indicated the included attributes were relevant for respondents. Higher levels of effectiveness, namely a 75% or 100% reduction in the abscess and inflammatory nodule count, were preferred over lower levels of effectiveness (e.g., 50% reduction). The finding of this DCE were consistent across subgroups.

A similar DCE with 100 HS patients in the US, as presented **in chapter 6**, confirmed the most important treatment attributes to be effectiveness and pain reduction.

The 'de novo' cost-effectiveness model in AtD was developed to assess the cost-effectiveness of a novel JAK inhibitor compared to a monoclonal antibody for the treatment of moderate-to-severe AtD in the United Kingdom and to identify key drivers of cost-effectiveness. By reporting the cost-effectiveness results alongside opportunities for future clinical-, cost- and quality of life evidence generation allowed this study presented in **chapter 7** contributed to increase reimbursement chances of investigational therapies in AtD.

The research of this dissemination presented a robust synthesis of patient preference evidence in PSO, generated unprecedented qualitative and quantitative patient-centric research in HS and explored the economic viability of two treatment candidates in HS and AtD which allows future health policy-making to relief patients, physicians and society from the high burden of these diseases by improving disease management options according to patients and physicians' preferences.