PATIENT PREFERENCES IN THE CHOICE OF DISEASE MODIFYING ANTIRHEUMATIC DRUGS

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Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory autoimmune disease with a variety of systemic manifestations, the characteristic feature being persistent inflammatory synovitis of peripheral joints in symmetric distribution causing cartilage and bone erosion1. The prevalence across Europe varies by population between 0.23% (France) to 0.83% (UK)2. There is a variety of biological and conventional synthetic disease modifying anti-rheumatic drugs (DMARDs) available for the treatment of RA. DMARDs are associated with different characteristics in key attributes such as route of administration, frequency of administration etc. Importantly, biologically DMARDs (BDMARDs) are all administered parenterally3. However, targeted synthetic DMARDs offer alternative administration forms (i.e. oral administration). To address patient preferences and to inform decision making regarding this aspect, a quantitative approach is needed. The current study assesses the importance of such treatment characteristics for RA patients’ preferences using a discrete choice experiment (DCE) in an ecologically valid design.

Methods

Study Design

In a questionnaire-based DCE, 1570 RA patients were asked to choose the most and least preferred DMARD (best-worst scaling) among hypothetical multi-attribute treatment options with varying levels of key attributes, as defined in focus groups. Choices are repeated in a “d-efficient” design3 with multi-attribute treatments, i.e. decision scenarios involving different products with varying levels of the same attributes (see Figure 1). D-efficient designs allow assessing attributes’ levels’ main effects on patients’ choices, i.e. part-worths (utilities), by minimizing correlations between different levels of crossover scenarios under given constraints. A design with multi-attribute products (multi-profile case) simulates a real choice situation between different treatment alternatives. Each questionnaire includes eight DCE scenarios. Interim analysis was conducted on half the sample size.

Assessments

In addition to the DCE, patient-related variables are assessed: age; gender; disease duration; DMARD medication; disease severity (RA2K-SF3’s) beliefs about efficacy/tolerability, necessity/concern regarding current DMARD medication (using a modified BDMARD-comorbidity (SCQ-DM))

Results

Study Population

For interim analysis, questionnaires from 835 patients had been received. 58% of patients had been recruited from 33 office based rheumatologists across Germany. The majority of patients are female (74% [N = 619], 50 to 64 years of age (46% [N = 471] with <10 years of disease duration (54% [N = 448]) – reflecting typical epidemiological characteristics of the RA patient population). Most patients (63%) report mild to moderate disease activity according to RA2K-SF (Figure 2). Common comorbidities included: back pain (47% [N = 396], arthritis (42%, [N = 348], hypertension (40%, [N = 338]), and diabetes (29%, [N = 159]).

Conclusion

The present study aims to determine the relative importance of DMARD characteristics for RA patient preferences. Analyses are based on an RA sample with typical epidemiological characteristics – suggesting a representative sample – and prior experience with injectable DMARDs by majority. Among attributes included in the study, route of administration appeared most important in guiding patients’ preferences, with oral application being most desirable (selected as best in 55% and worst only 20% of cases). Necessity to combine one treatment with methylprednisolone yields second most important attribute, with no need for combination therapy being preferred (43% of cases). Therefore, an oral DMARD that does not have to be combined with methylprednisolone appears a highly favorable second-line treatment option for RA patients.

References


Figure 1: Example of a DCE scenario as used in the questionnaire.

Figure 2: Disease activity.

Figure 3: Current DMARD Status.

Figure 4: Results of count analysis.

Figure 5: Results of regression analysis.

Figure 6: Table of results.