Objectives

Chronic autoimmune diseases require continuous disease-modifying medication to influence disease progression. Real-life efficacy of treatments rests on patient adherence. Since patient beliefs regarding medication impact on adherence, this could be supported by treatments better respecting these beliefs.

Rheumatoid arthritis (RA) is a chronic inflammatory autoimmune disease with a variety of systemic manifestations. Using an RA sample, the present study establishes how far patient beliefs are reflected by patient preferences for treatment characteristics of disease-modifying antirheumatic drugs (DMARDs).

Methods

Preferences were assessed using a discrete choice experiment (DCE) with best-worst scaling: 1,574 RA patients were to be asked to choose most and least preferred DMARDs among hypothetical treatment options using decision cards. These entailed varying levels of five different treatment attributes (see Figure 1).

Results

N=1,388 patients from 44 rheumatologists completed the DCE. The majority of patients were female (74%), 50 to 64 years of age (45%), reported <10 years of disease duration (54%) and mild to moderate disease activity (63%). The vast majority were receiving DMARDs (98%) and reported that they were satisfied with their current treatment (84%) – 54% were receiving injectables, 43% were being administered exclusively oral DMARDs; with regard to other medication, overall, 57% were currently receiving an injectable.

According to the modified BMQ, most patients were classified as ‘accepting’ or ‘ambivalent’ (both characterised by low concern regarding their current medication) (Table 1).

Adjusted regression results (see Figure 2) yielded ‘mode of administration’ to be the most important attribute with ‘oral application’ being most desired (highest positive β in regression analysis) and ‘intravenous (iv) infusion’ being most strongly rejected (highest negative β in regression analysis). The second most relevant attribute was ‘necessity of combination therapy with MTX’ (‘no combination’ being preferred), followed by ‘frequency of administration’ (‘every 1 to 2 weeks’ being most strongly rejected), ‘side effects’ (allergic reactions’ being accepted and ‘deterioration of laboratory values’ being rejected most often) and ‘time to onset of effect’ (‘up to one month’ being preferred over ‘up to three months’).

Group regression analysis yielded statistically relevant differences (in terms of non-overlapping confidence intervals) for ‘mode of administration’ and ‘tolerance of side effects’ (see Figure 3, red boxes). Patients defined as ‘sceptical’ showed stronger rejection (more negative β-weight of ‘subcutaneous (sc) self-injection’ than patients defined as ‘accepting’ or ‘indifferent’. Moreover, solely ‘sceptical’ patients showed rejection of ‘infections.’

Conclusions

Results indicate that patient beliefs are meaningfully associated with patient preferences regarding treatment characteristics.

While RA patients with an ‘accepting’ or ‘indifferent’ attitude (both characterised by low concern regarding their current medication) do not mind having to inject themselves and readily accept the risk of infections posed by DMARDs, for ‘sceptical’ patients (characterised by high concern regarding their current medication), these aspects are viewed as negative.

This may offer important leads to improving adherence in chronic diseases by designing more consumer-friendly pharmaceutical products tailored to different subgroups of patients.

References