Patient Preferences for Features of Systemic Atopic Dermatitis Therapies: A Discrete-Choice Experiment Study

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Background and Objective: Atopic dermatitis (AD) is a chronic skin disorder characterized by dry skin, eczematous lesions, pruritus, and skin pain. With the development of new systemic therapies, understanding the relative importance of treatment attributes to patients can help guide treatment decisions. We assessed patient preferences regarding systemic AD treatment attributes using a discrete-choice experiment (DCE) in the United States.

Methods: An online DCE survey was conducted among adults in the US with moderate (n=100) or severe AD (n=100). Respondents were instructed to choose between a series of 2 hypothetical AD treatments characterized by 6 treatment-related attributes with varying levels: level of itch improvement after 4 months from baseline (10%, 30%, 80%, 100%), time to itch reduction (1, 2, 7, 14 days), chance of clear or almost clear skin after 4 months (5%, 30%, 55%, 70%), annual risk of serious infection (5%, 2%, 0.8%, 0%), annual risk of developing acne (25%, 16%, 5%, 0%), and need for prescription topical corticosteroids (yes, no). Preference weights were estimated by a random-parameters logit (RPL) model and the conditional relative importance (CRI) was assessed for each attribute across its specified range. RPL model estimates were used to characterize benefit-risk tolerance by estimating minimum acceptable benefits (MABs) and maximum acceptable risks (MAR) relative to a selected treatment attribute.

Results: Respondents (median age, 44 years; female, 60%) rated their mean worst imaginable itch in the past 7 days as 5.7 (scale, 0 [none] to 10 [worst imaginable]) and 65% reported experiencing ≥3 days of itch in the last week. Most reported moderate or severe AD symptoms (75%) and ≥3% of body area affected by AD (57%). CRI estimates indicated that improving itch from a 10% improvement to a 100% improvement was the most important change to patients, conditional on the attributes and levels included in the survey. Improvement in itch was followed by a change in the chance of clear or almost clear skin from 5% to 70%, faster itch relief in 1 day instead of 14 days, avoiding 25% risk of acne, avoiding a 5% risk of serious infection, and avoiding the need for prescription topical corticosteroids (Figure). MAB analyses indicated that respondents on average required an increase in itch improvement of 25 percentage points to accept a decreased chance of clear or almost clear skin from 70% to 5%; an increase in itch improvement of 15 percentage points to accept an increase in time until noticeable itch improvement after starting the medicine from 1 day to 14 days; and an increase in itch improvement of 9 percentage points to accept an increased acne risk from 0% to 25%. MAR analyses indicated that respondents on average were willing to accept a >5% serious infection risk to achieve almost every improvement offered in the DCE choice tasks, such as a 20 percentage-point increase in itch reduction from 10% to 30%, a 5-day reduction in time to itch improvement from 7 days to 2 days, or a 15 percentage-point increase in the chance of achieving clear or almost clear skin from 55% to 70%. Subgroup analyses showed no notable differences in preferences based on AD location, history of acne, body surface area, or severity (moderate or severe).

Conclusion: Patients with AD prefer, in order of preference, systemic treatments that provided greater itch improvement, a greater likelihood of clear or almost clear skin, and a faster itch reduction. Acne and serious infection risk were relatively less important for the risk ranges studied. Greater understanding of patient preferences can enable healthcare providers and decision makers to select treatment options that align with patients' treatment goals while appropriately balancing associated risks.
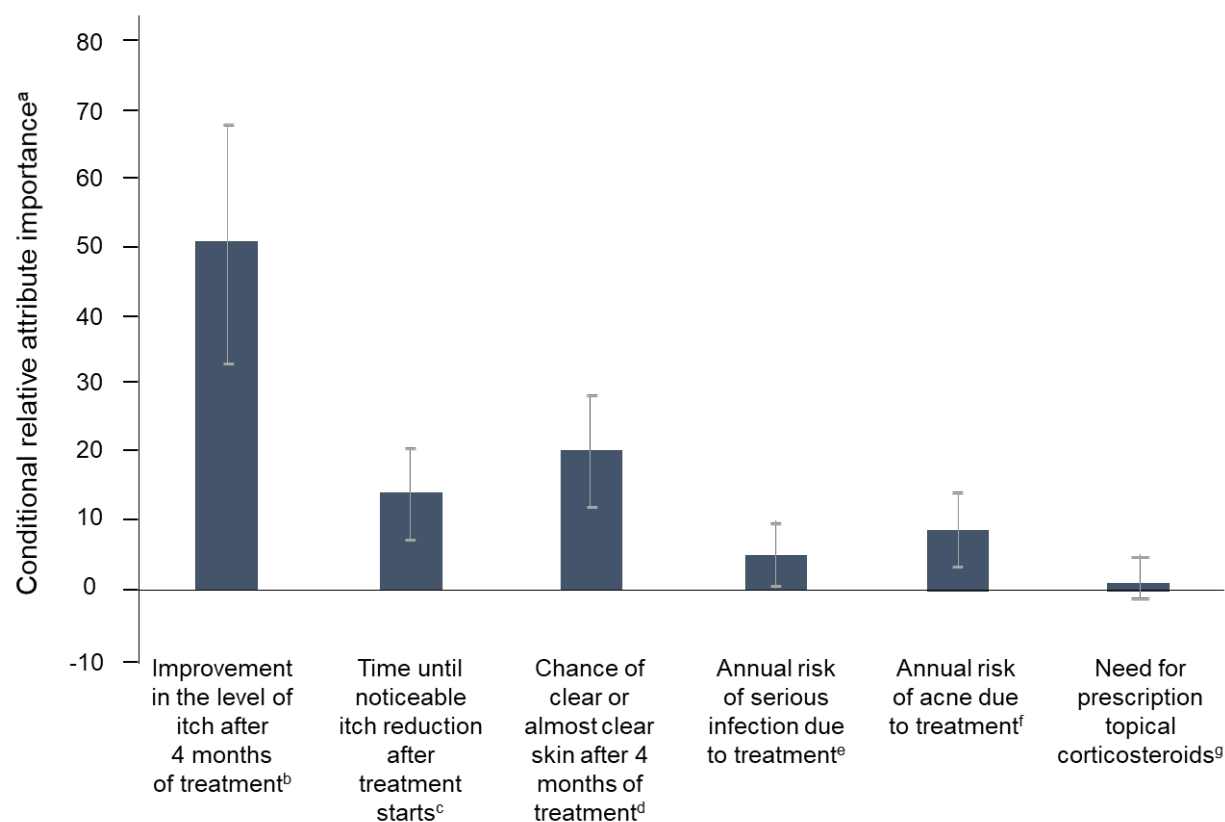
Figure. Conditional relative attribute importance for respondents (N=200).
[a]A greater value represented a greater importance to patients, conditional on the attributes and levels included in the survey.
[b]Improvement in itch was assessed from levels of 10% to 100%.
[c]Time until itch reduction was noticeable was assessed from levels of 1 to 14 days.
[d]Chance of clear or almost clear skin was assessed from levels of 5% to 70%.
[e]Annual risk of a serious infection due to treatment was assessed from levels of 0% to 5%.
[f]Annual risk of acne due to treatment was assessed from levels of 0% to 25%.
[g]Need for topical corticosteroids was assessed from levels of "yes" or "no."

Disclosures: