Published patient preference studies can influence the choice of endpoints in clinical trials: An example from Atopic Dermatitis

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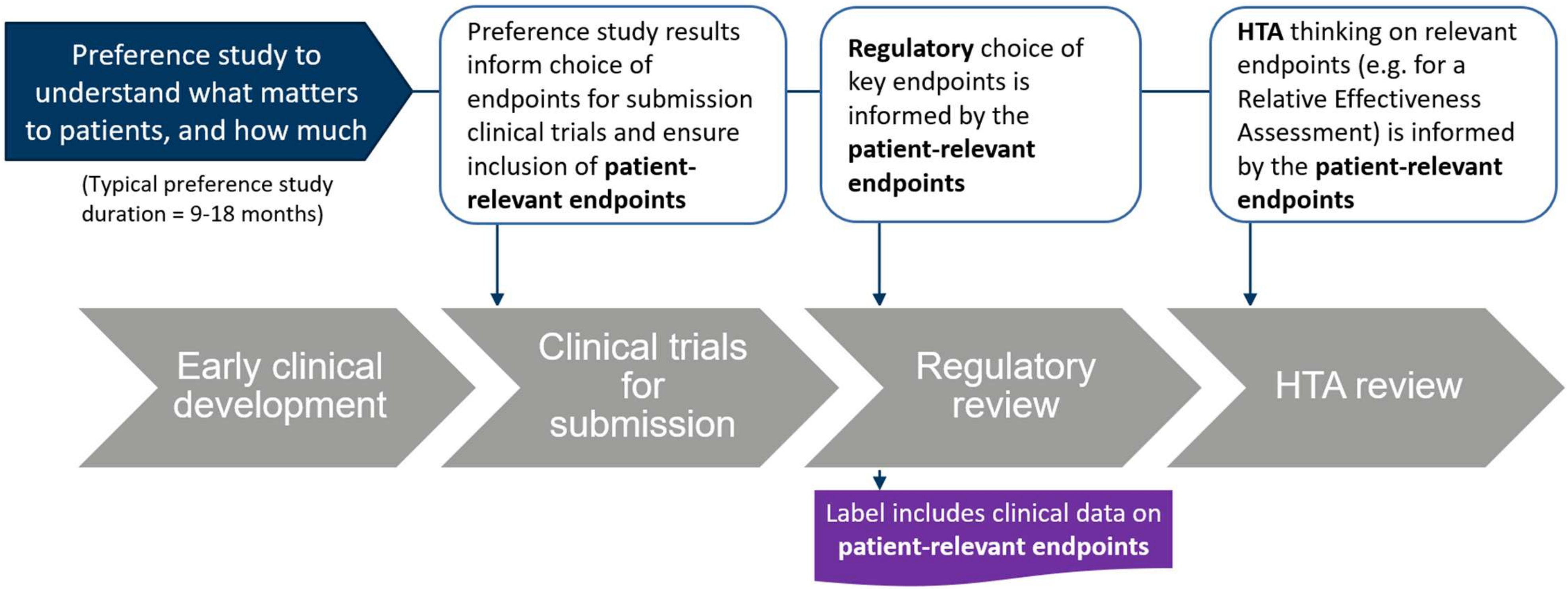
Topics to be covered

1. **Brief introduction to patient preference studies** (Discrete Choice Experiment).
   – Where and when they can be used in drug development.
   – Definition of Attributes and Levels.
   – Choice tasks and experimental design.
2. How a **review of published preference studies** in Atopic Dermatitis(AD) **informed the choice of endpoints** for a Phase 2 clinical trial.
   - Which **avoided running a new preference** study to learn about the importance patients place on AD symptoms.

Where patient preference studies fit into drug development



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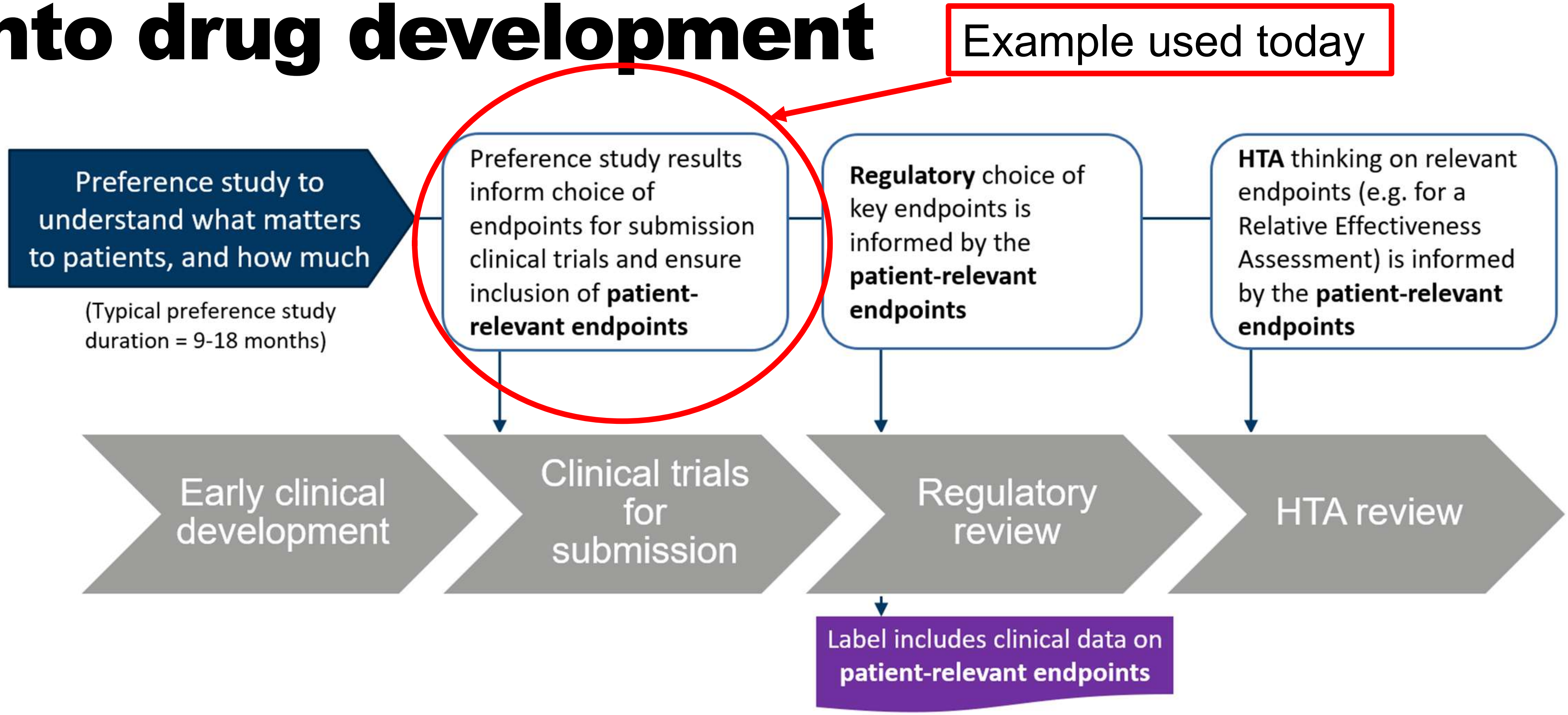
Where patient preference studies fit into drug development



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Atopic Dermatitis (AD)

AD is a chronic inflammatory skin disease affecting approximately 15-20% of children and up to 10% of adults.

It can make the skin:

red, itchy, scaly, thickened, blister or bleed.

https://www.nhs.uk/conditions/atopic-eczema/

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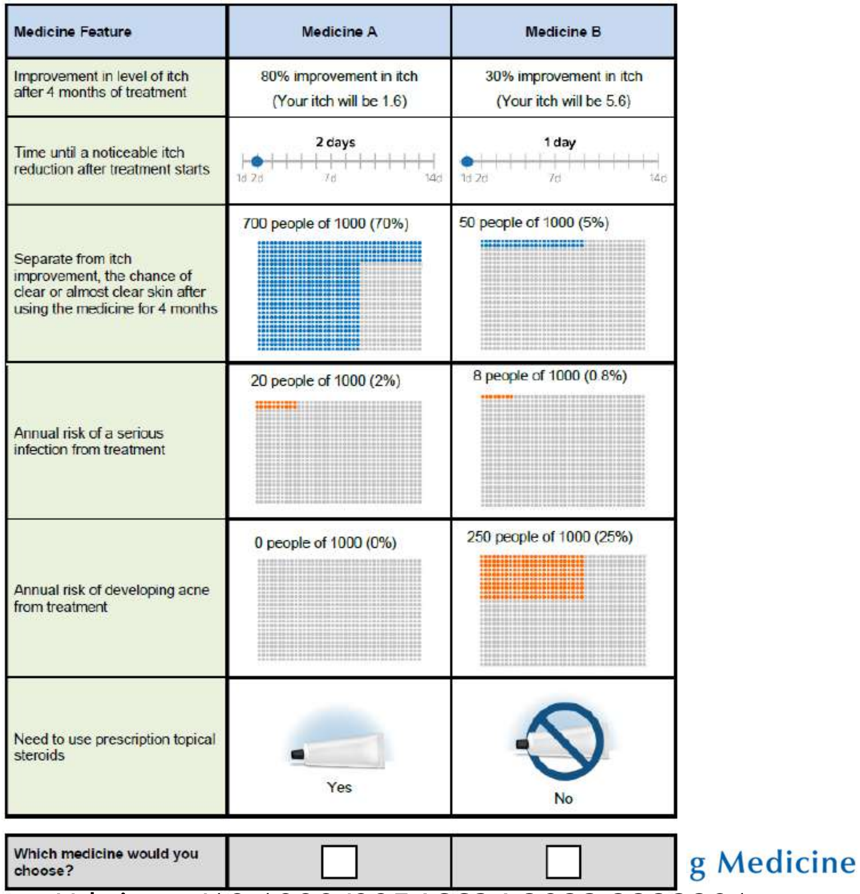
How are patient preferences elicited in a Discrete Choice Experiment (DCE)?

In a Discrete Choice Experiment, patients are shown a **series of choice tasks**, and asked to choose the alternative they prefer.

See the example from an AD DCE on the right.

The **trade-offs patients make reveal the importance** they attach to different treatment attributes



https://doi.org/10.1080/09546634.2023.2222201

How are patient preferences elicited in a Discrete Choice Experiment (DCE)?

Medicine Feature	Medicine A	Medicine B
Improvement in level of itch after 4 months of treatment	80% improvement in itch (Your itch will be 1.6)	30% improvement in itch (Your itch will be 5.6)
Time until a noticeable itch reduction after treatment starts	2 days 1d 2d 7d 14d	1 day 1d 2d 7d 14d
Separate from itch improvement, the chance of clear or almost clear skin after using the medicine for 4 months	700 people of 1000 (70%)	50 people of 1000 (5%)
	20 people of 1000 (2%)	8 people of 1000 (0.8%)

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Separate from itch improvement, the chance of clear or almost clear skin after using the medicine for 4 months	700 people of 1000 (70%)	50 people of 1000 (5%)
Annual risk of a serious infection from treatment	20 people of 1000 (2%)	8 people of 1000 (0.8%)
Annual risk of developing acne from treatment	0 people of 1000 (0%)	250 people of 1000 (25%)
Need to use prescription topical steroids	Yes	No
Which medicine would you choose?	☐	☐

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Attributes and levels grid for AD DCE

The choice tasks are constructed using an efficient experimental design based on a attributes and levels grid.

$(4^5) \times 2 = 2048$ possible factorial combinations.
Efficient design reduces this to 8 blocks of 9 questions per patient.

Attribute (Medicine Feature)	Level
Improvement in level of itch after 4 months of treatment	100%, 80%, 30%, 10%
Time until a noticeable itch reduction after treatment starts	1 day, 2 days, 7 days, 14 days
Separate from itch improvement, the chance of clear or almost clear skin after using the medicine for 4 months	70%, 55%, 30%, 5%
Annual risk of a serious infection from treatment	0%, 0.8%, 2%, 5%
Annual risk of developing	0%, 5%, 16%, 25%

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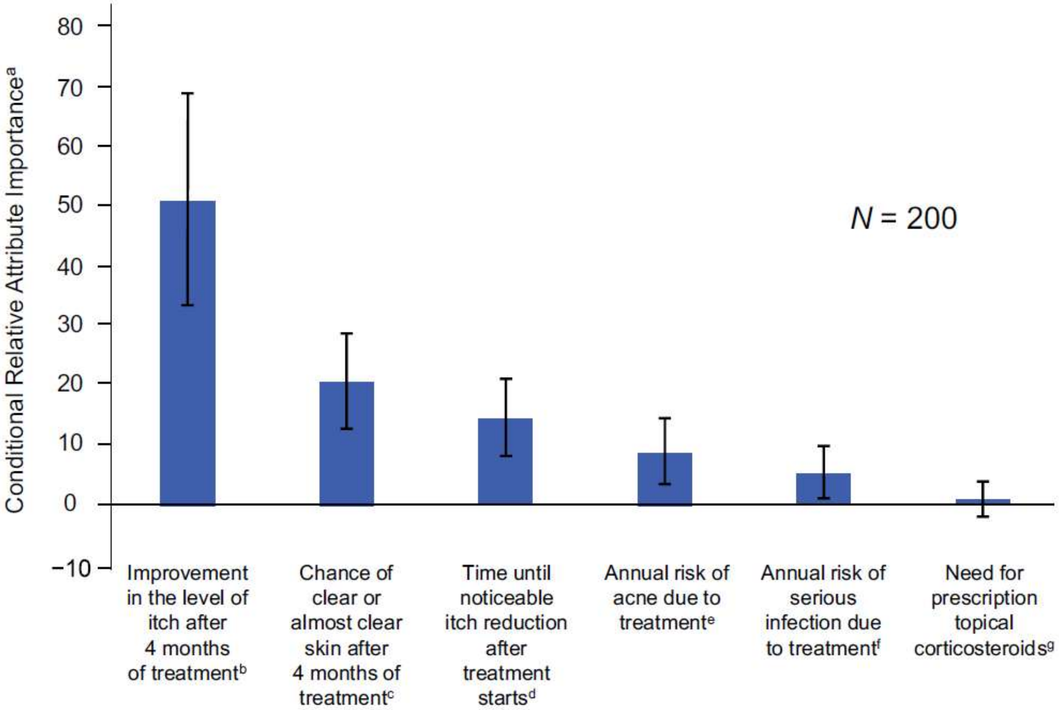
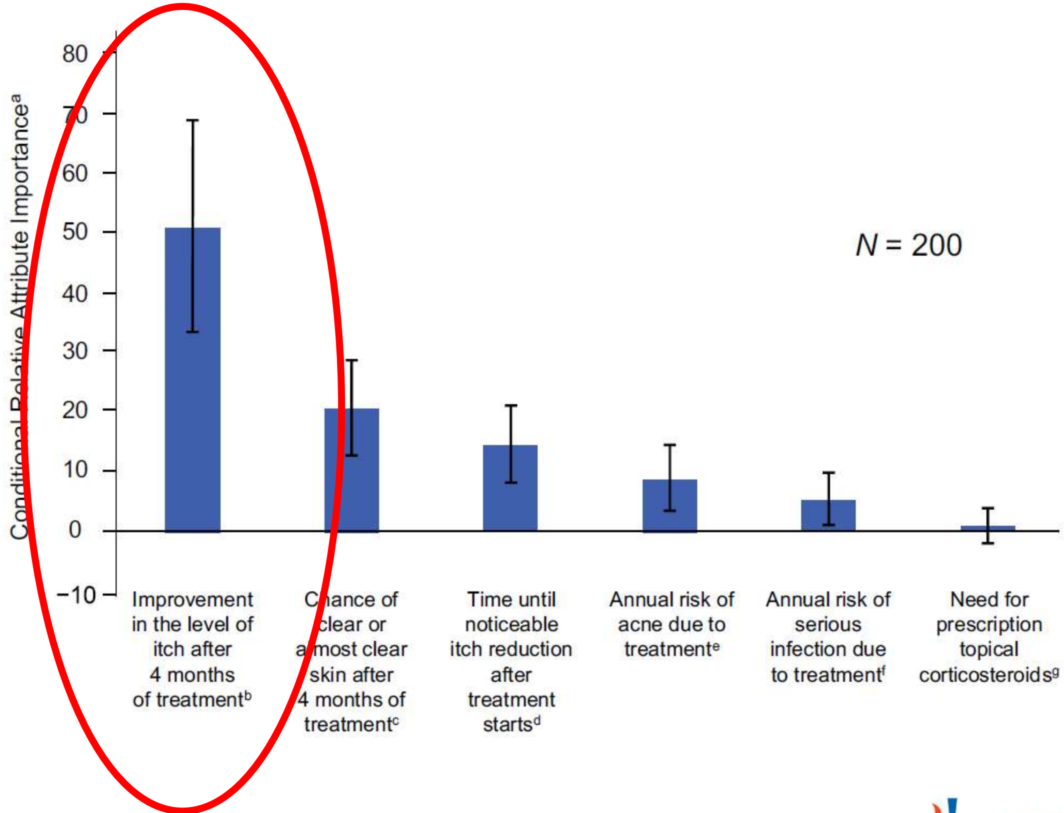
One useful outcome from a DCE: Relative Importance of Attributes



One useful outcome from a DCE: Relative Importance of Attributes



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Traditional endpoint for Atopic Dermatitis (AD)

- **Traditionally clinical trials have** included the **physician-administered** endpoint Eczema Area and Severity Index (**EASI**) as a primary or co-primary endpoint in regulatory AD trials.
- **EASI** is the **recommended validated core instrument** for measuring signs in AD trials and is used in regulatory trials.
  - **EASI weighs equally** the **extent** (body surface area) and **severity** of skin signs (redness, edema, excoriation and lichenification) to produce a composite score.
- **This may not reflect how patients regard the importance of their symptoms.**

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The targeted literature review

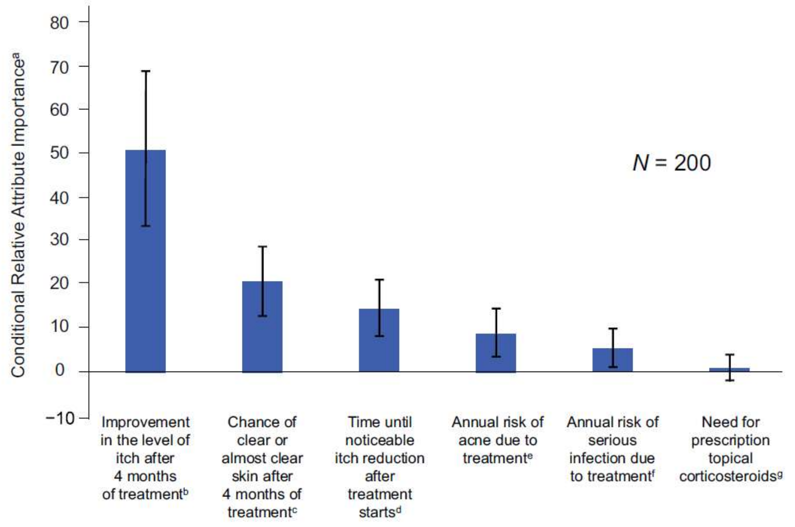
- A **targeted literature review** was conducted in October 2023. The search was conducted using EMBASE for studies published in the last 10 years. Additionally, the Health Preference Study and Technology Registry (HPSTR) data base was searched.

- **Five published patient preference studies** were identified and used as evidence to help support and prioritise recommendations on a patient-centred outcome (PCO) strategy for a new asset in development for the treatment of atopic dermatitis.
- [The papers are listed at the end of the presentation slides.]
- As we will see, **other symptoms**, and not what EASI measures, were **considered most important**.

Robust Patient Experience Data on what matters to patients influenced choice of outcomes in atopic dermatitis

- Regulatory trials **traditionally** rely on the **physician-administered** Eczema Area and Severity Index (EASI), which captures the extent and **severity of skin signs** of redness and edema
- **Five** published preference studies indicated that **patients most valued**
  - a clear or almost clear skin
  - relief of itching
  - time to relief of symptoms of itch
- Investigator Global Assessment (IGA, **skin clear or almost clear**) was considered as a **joint secondary endpoint** alongside the EASI.

Patient preference study shows patients value improvement in itch & chance of a clear skin



Robust Patient Experience Data on what matters to patients influenced choice of outcomes in atopic dermatitis program

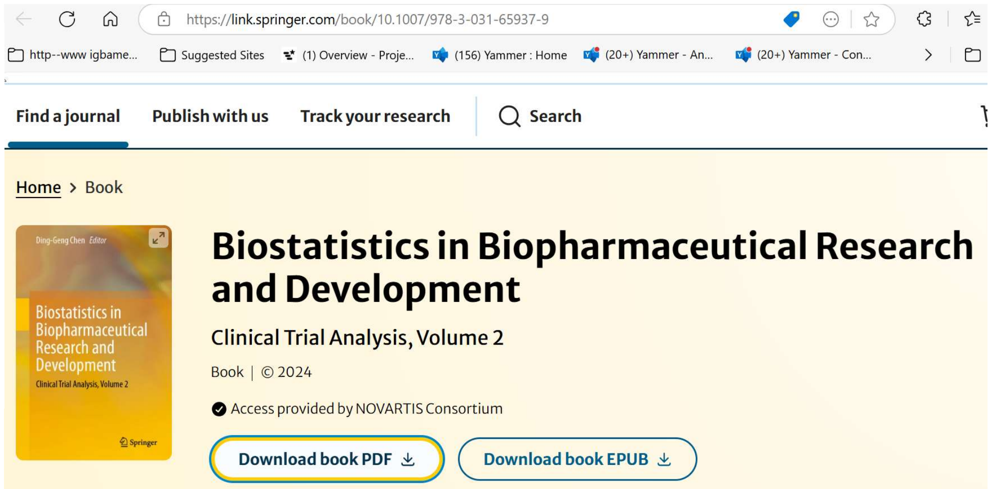
- Based on patient feedback, **additional patient reported outcomes** were included in the clinical program: itch, pain, quality of life and sleep quality.
- **Digital endpoints** were proposed to collect high-frequency data on key symptoms scratch and sleep to investigate the speed of onset of effects.

If you want to learn more about patient preference studies: new book chapter published online in January 2025

Chapter 7
Introduction to Patient Preference Studies

Check for updates

Byron Jones, Conny Berlin, Nigel Cook, Sheila Dickinson, Tianmeng Lyu, and Mo Zhou



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1. William Johnston
2. Seren Phillips
3. Rania Al-Kawafha
4. Jessica McCarthy
5. Randall Winnette
6. Conny Berlin

The five published patient preference studies

Open access Original research

BMJ Open **Patient preferences for atopic dermatitis medications in the UK, France and Spain: a discrete choice experiment**

Caitlin Thomas [1], Afaf Raibouaa,[2] Andreas Wollenberg,[3] Jean-Philippe Capron,[2] Nicolas Krucien,[1] Hayley Karn,[1] Tommi Tervonen [1]

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Patient preferences for atopic dermatitis treatments: a discrete choice experiment

Shawn G. Kwatra[a], Peter Lio[b], Stephan Weidinger[c], Brian Calimlim[d], Barry Ladizinski[d], Namita Vigna[d], Willings Botha[e] and Carol Mansfield[f]

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Journal of Dermatological Treatment

ISSN: 0954-6634 (Print) 1471-1753 (Online) Journal homepage: https://www.tandfonline.com/loi/ijdt20

Patient and physician preferences for atopic dermatitis injection treatments in Japan

Yukari Okubo, Kerrie-Anne Ho, Simon Fifer, Hiroyuki Fujita, Yasuyo Oki & Yurie Taguchi

Journal of Dermatological Treatment

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ijdt20

Treatment preferences among patients with mild-to-moderate atopic dermatitis

Kelley Myers, Jonathan I. Silverberg, Shreekant Parasuraman, Anna Pierce, Lawrence F. Eichenfield & Christine Poulos

Journal of Dermatological Treatment

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ijdt20

Quantifying patient preferences for systemic atopic dermatitis treatments using a discrete-choice experiment

Marco Boeri, Jessie Sutphin, Brett Hauber, Joseph C. Cappelleri, William Romero & Marco Di Bonaventura

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Thank you