PATIENT PREFERENCE FOR ELECTRONIC PATIENT-REPORTED OUTCOMES (PROs): ASSESSMENT IN PATIENTS WITH PSORIATIC ARTHRITIS (PsA)

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OBJECTIVE

To assess mode equivalence, as well as mode acceptance, ease of use, and preference of paper and electronic tablet versions of seven PROs.

METHOD

Study design

- Randomized, crossover mode equivalency study

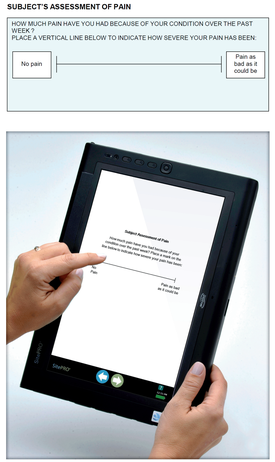
Sample

- Recruitment targeted adults from the United States (US) with a physician-confirmed diagnosis of active PsA by Classification Criteria for Psoriatic Arthritis (CASPAR). The study sample was intended to be distributed across age and US geographic regions and be generally representative of patients who would use the electronic tablet versions of the PROs in future clinical trials of a drug to treat PsA.

Measures and Methods

- The seven PROs included the SF-36v2© Health Survey (Standard), Bath Ankylosing Spondylitis Disease Activity Index©, Health Assessment Questionnaire©, Dermatology Life Quality Index©, Patient Global Assessment of Disease Activity, Subject Assessment of Pain, and Fatigue Visual Analogue Scale.
- Electronic PROs were administered on the Motion J3500 Tablet (screen size 12.1") programmed by eResearch Technologies (ERT, Pittsburgh, PA). One question was presented per screen and patients responded by tapping on the screen with a stylus or finger. Paper versions were the format designed by the scale developers. Figure 1 shows an example of both the paper and tablet versions of the Subject Assessment of Pain.

Figure 1: Paper and Tablet Versions of the Subject Assessment of Pain.



- After patients completed the paper and tablet versions of each PRO by randomized, crossover assignment, they completed a survey on ease of use, acceptability and preference for the two versions.

Analyses

- For each PRO studied, the overall score, and domain scores where relevant, were calculated.
- Agreement between the two versions was assessed by means of the intraclass correlation coefficient (ICC).
- For each of the outcome variables analyzed using ICC, the mean difference was examined by mode (paper and tablet).
- Descriptive statistics summarized ease of use, acceptability, and preferences.

RESULTS

Sample

- Patients (n=53; 34 women) aged 18-83 years (mean 56 years) of varying educational levels and ethnicities were recruited from four sites in the US (Gainesville, GA, Kansas City, MO, Forest Hills, NY, and Duncansville, PA).

Equivalence of Paper and Electronic PROs

- Intraclass Correlation Coefficients ranged from 0.75 to 0.97, all above the generally accepted threshold of .70 (Lohr, 1996).
- T-tests revealed no significant mean difference between paper and electronic tablet scores, and mean score differences between mode versions were small and within an acceptable limit of equivalence.

Patient Acceptability, Ease of Use, and Preference for Paper and Electronic PROs

- Patient ratings of acceptability were high for both paper (50; 96.2%) and tablet (52; 98.1%).
- Few patients reported problems using paper (4; 7.6%) or tablet (2; 3.8%).
- Patient quotes suggest some problems may have been directly related to patients' PsA. Although they did not report difficulty using the stylus to respond to questions on the tablet, patients did express concerns about holding a pen to complete the paper:

"My handwriting is not as good and my hand was getting tired due to the arthritis and little painful and stiff."

"Holding a pen becomes difficult over time."

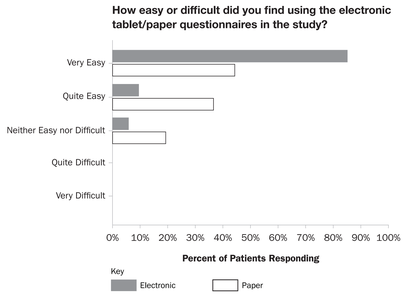
"Discomfort in hands at times with pen."

- Patients reported additional difficulties related to vision for both the tablet and paper versions. In reference to the tablet, two patients reported having to move the tablet to avoid glare from overhead lighting. With regard to paper, one patient noted:

"I have trouble reading paper for a long time."

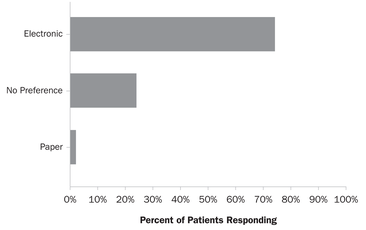
- Despite similarities in ratings of acceptability for the tablet and paper, the majority of patients (45; 84.9%) reported that the electronic tablet was 'very easy' to use, while fewer than half (23; 44.2%) reported the same rating for paper (p<.001) (See Figure 2).

Figure 2: Patient Ratings of the Electronic Tablet and Paper Questionnaires.



- The majority of patients (37; 74%) preferred the tablet to paper, while 12 (24%) had no preference, and only 1 (2%) preferred paper (See Figure 3).

Figure 3: Patient Ratings of Preference for the Electronic Tablet or Paper Questionnaires.



- Patient quotes reflect the general acceptance of the tablet, and the preference for it over paper:

"I think the tablet is easier to use because you are just tapping and it, it takes you right to the next question. You don't have to hold a pen."

"I think everyone should use one; it's very easy to use."

"It's easier, faster, comfortable."

"Much easier than the paper to use."

CONCLUSIONS

- Although results indicate that the PRO scores are equivalent when administered to patients with PsA via electronic and paper modes, tablet versions may be a more viable option for use in clinical trials with PsA patients.
- Patient reports of specific problems holding a pen or writing for long periods of time suggest that electronic tablets may reduce the burden of data collection on PsA patients in clinical trials, and patients rated the tablet version to be easier to use, and reported a clear preference for it over paper.
- These results support the use of the electronic tablet versions of PRO measures in PsA clinical trials.

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DISCLOSURES

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Brian Tiplady: Employed by ERT currently and during the conduct of this work; owns shares in AstraZeneca

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