DEVELOPMENT OF A PATIENT-REPORTED OUTCOME INSTRUMENT (SKINFECT-PRO) TO STANDARDIZE AND QUALIFY SYMPTOMS OF ACUTE BACTERIAL SKIN AND SKIN STRUCTURE INFECTION (ABSSSI).

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INTRODUCTION

- There is a paucity of evidence about the most well-defined, reliable, reproducible, and feasible methods for measuring efficacy outcomes in Acute bacterial skin and skin structure infections (ABSSSI) trials for targeted patient populations. Establishing an endpoint for clinical trials of ABSSSI, especially those conducted for registrational purposes, is essential.
- For ABSSSI, evidence suggests a relationship between a decrease in lesion size and patient-centered outcomes related to pain; however, there are no patient-reported outcome (PRO) measures to capture additional symptoms which patients may experience. Consequently, The Foundation for the National Institutes of Health (FNIH) Biomarkers Consortium and ICON plc is developing a validated, reliable patient-reported outcome (PRO) measure to assess symptoms of ABSSSI, including wound infection, cellulitis, erysipelas, or abscess, and their impact on how patients with an ABSSSI feel and functions.

PURPOSE

- The purpose of this study was to develop a patient-reported outcome (PRO) instrument to assess ABSSSI symptoms in patients in clinical trials of antibacterial drugs, consistent with FDA PRO Guidance.

METHODS

- A comprehensive review of the literature and interviews with nine US and European clinical experts informed the development of a concept elicitation (CE) interview guide, and a hypothetical conceptual framework and disease model exploring patients' experience with symptoms of ABSSSI. CE was based on telephone interviews with 34 patients, after which saturation of emergent concepts was reached. Items and response options were generated based on the qualitative data and a draft instrument was prepared with input and review from an international project team of academic and industry antibacterial experts.
- Subsequently, cognitive debriefing interviews were conducted with 15 ABSSSI patients, who had not participated in the original elicitation interviews, and 3 clinical experts to assess item readability, relevance, comprehensiveness, and content validity.

RESULTS – CONCEPT ELICITATION

- CE subtypes were evaluated and included 13 (38.2%) patients with major abscess, 12 (35.3%) with wound infection, and 9 (26.5%) with cellulitis. In terms of severity, the majority (79.4%) of infections were rated as moderate by clinicians. The mean age of patients was 38.8 years; 64.7% male. Symptoms were common across all ABSSSI subtypes and supported the saturation of concepts. The frequency of themes and concepts from the concept elicitations are presented by ABSSSI subgroup (Table 1).

TABLE 1: Concept Frequency in ABSSSI Subtypes

Concept	Abscess	Cellulitis*	Wound Infection
	N = 13	N = 9	N = 12
Signs			
Color of infected area	100%	67%	92%
Growth	46%	44%	50%
Bump or Lump	31%	44%	58%
Hole in skin/ open sore/ wound	31%	56%	50%
Pop or burst	31%	33%	25%
Symptoms			
Pain/ Hurt	92%	89%	100%
Swelling	92%	89%	92%
Pus/ Draining/ Leaking	85%	56%	92%
Change in body temp/Fever	92%	56%	58%
Soreness	62%	33%	58%
Hot/ Warm to touch	38%	44%	50%
Throbbing	38%	22%	50%
Fatigue/ Tiredness	46%	44%	25%
Tenderness	46%	22%	33%
Internal Pressure	38%	33%	33%
Scratchy/ itchiness	38%	22%	42%
Other related			
Dizziness	8%	11%	17%
No appetite	15%	22%	0%
Constant urination	8%	0%	8%
Diarrhea	8%	0%	0%
Functioning			
Emotions	100%	89%	83%
Social functioning	77%	89%	75%
Activities of daily living	85%	67%	67%
Physical functioning	38%	89%	92%
Difficulty Sleeping	31%	56%	50%

* Includes erysipelas

RESULTS – COGNITIVE DEBRIEFING

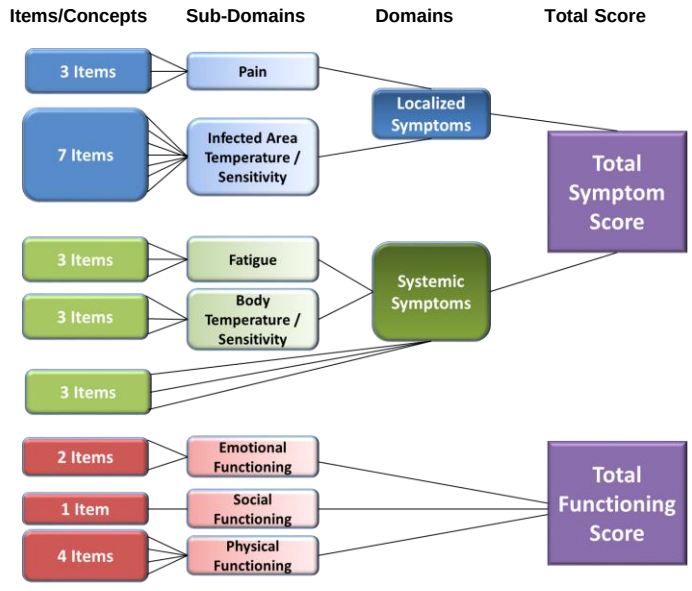
- Cognitive debriefing interviews with 15 ABSSSI patients commenced after the draft ABSSSI PRO measure was developed. The mean age of patients was 39.3 years; 67% male. Demographics and clinical characteristics of the patient samples for cognitive debriefing interviews were similar to CE and included patient representation of each ABSSSI subtype. The demographic information and clinical characteristics of the cognitive debriefing patient samples are provided in Table 2.
- Following cognitive debriefing, the conceptual framework was revised to represent the item numbers, specific domains, and total symptom and impact scores. The final conceptual framework shown in Figure 1 illustrates how the draft items are related to the symptom and functioning concepts that emerged from the qualitative concept elicitation and cognitive debriefing.

TABLE 2. Demographics and Clinical Characteristics

Characteristic	Distribution (N=15)*
Age	
Mean (SD)	39.3 (11.1)
Range	21-53
Sex: Female	5 (33%)
Race/Ethnicity	
Caucasian	10 (67%)
Hispanic	4 (27%)
Black/ African American	-
Other	1 (7%)
Education	
High School/GED	7 (47%)
Some college	4 (27%)
Associate's degree	-
Did not complete high school	3 (20%)
Bachelor's degree	1 (7%)
Graduate degree	-
Employment Status	
Student	1 (7%)
Employed full-time	5 (33%)
Employed part-time	2 (13%)
Retired	1 (7%)
Unemployed/seeking work	3 (20%)
Looking after home/family	-
Temporarily unable to work	3 (20%)
Permanently unable to work	-
Other (e.g. occasional work)	-
Type of ABSSSI	
Major abscess	4 (27%)
Cellulitis	6 (40%)
Wound Infection	5 (33%)
Clinician Rating of Severity	
Mild	-
Moderate	10 (67%)
Severe	5 (33%)

*Percentages may not add up to 100% due to rounding

FIGURE 1: Final Conceptual Framework Model



CONCLUSIONS

- SKINFECT is a PRO instrument developed to evaluate ABSSSI patient symptoms and functioning in clinical studies with documented evidence of content validity.
- Qualitative data from patients and input from experts formed the basis of the SKINFECT PRO structure and item pool, and it is now ready for psychometric reliability and validity testing.

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See Poster PIN84 for CABP PRO development related to this project