

# Optimizing Communication About Topical Corticosteroids: A Quality Improvement Study

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## Abstract

**Background:** Patients are often non-adherent to topical corticosteroids (TCS). This may be in part due to poor communication between patients and dermatologists.

**Objectives:** This quality improvement (QI) study aims to describe dermatologist–patient communication about TCS treatments and to compare communication before and after the implementation of an educational intervention.

**Methods:** This QI study assesses the communication between dermatologists and new dermatology outpatients receiving a TCS prescription in a tertiary care center. The QI intervention is 2-pronged, consisting of an educational pamphlet for patients and a communication workshop for the dermatology team. Encounters were audiotaped, and communication was analyzed using a coding system (MEDICODE). Phase 1 recordings happened preintervention and reflect the usual dermatologist–patient communication in this practice setting and phase 2 recordings were postintervention.

**Results:** Phase 1 reveals that dermatologists frequently address informational medication themes, such as naming the medications and informing patients about their proper use. They less frequently discuss patient experience themes, such as goals of treatment, adverse effects of treatments, and exploring patients' emotions about medications (such as anxiety, fears, etc.). After the intervention, there was more frequent discussion of patient experience themes without increasing consultation length. But, in both phases, physicians address most themes as a monolog with little verbal input from patients.

**Conclusions:** Our study raises awareness regarding dermatologists' communication patterns about TCS, identifying specific areas for improvement, such as discussions of adverse effects, and explicitly addressing patients' attitudes and emotions. This is an essential step to foster a sense-making of TCS for patients.

## Keywords

topical corticosteroids, dermatologic agents/therapeutic use, communication, patient education, corticophobia, eczema, psoriasis

## Introduction

Topical corticosteroids (TCS) are one of dermatologists' primary tools for treating numerous skin diseases, notably inflammatory conditions. However, many patients do not properly use TCS as prescribed by their physicians.<sup>1–3</sup> Studies show a clear link between lack of treatment adherence and treatment failure.<sup>3–7</sup> For patients suffering from atopic dermatitis, treatment adherence, even for a short course, is only about 40%.<sup>1</sup>

A contributor to low adherence is corticosteroid-related concerns or “corticophobia”: fears, erroneous beliefs or negative feelings toward TCS.<sup>4,8,9</sup> Corticophobia is extremely common.<sup>8–12</sup> A recent systematic review in atopic dermatitis suggests that corticophobia ranges from 21% to 84%.<sup>8</sup> Patients' most common concerns are about the adverse effects of skin thinning and steroid systemic effects on growth and development.<sup>4,9</sup> The fears surrounding TCS stem from a lack of

patients' basic knowledge about corticosteroids.<sup>12–14</sup> Friends, family, and the Internet are potential sources of

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misinformation.<sup>15</sup> Patients receive conflicting advice from dermatologists, general practitioners, and pharmacists regarding TCS application and adverse effects.<sup>10,12,16</sup> These differences are due in part to variability in professionals' TCS knowledge as well as the professionals' own fears regarding the potential adverse effects of these treatments.<sup>10,14,17,18</sup>

Patients are looking for information,<sup>19-28</sup> particularly about adverse effects.<sup>29-33</sup> However, studies have shown that physicians provide little information regarding pharmacological treatments.<sup>34-38</sup> According to the patient medication-taking practice model developed by Bajcar, making "sense of the purpose" of the medication is of significant importance for adherence.<sup>39</sup> A good time to discuss this information is with a new diagnosis. Patients value structured one-on-one communication with dermatologists, as well as information pamphlets.<sup>37,40</sup> Corticosteroid concerns were significantly reduced in patients who were provided with written information.<sup>7</sup>

Most studies aimed at describing or improving topical treatment adherence have been conducted in a pediatric setting, often in the specific context of eczema.<sup>10,11,41,42</sup> Studies concerning topical treatments on adult populations are rare. Few studies focus exclusively on TCS. The current study aims to address these gaps in the literature. The objective of our quality improvement (QI) study is to describe the communication issues of TCS treatment discussions during new consultations between dermatologists and adult patients and to compare this communication profile before and after the implementation of a 2-pronged educational intervention. One intervention is geared toward dermatologists to improve their doctor/patient communication skills. The second intervention consists of providing patients with written information about TCS.

## Patients and Methods

### Study Design

This QI study has a complete Plan, Do, Study, Act (PDSA) cycle. Phase 1 was performed before the implementation of the 2-pronged educational intervention and phase 2 was performed afterward. The protocol received ethics approval from the Center Hospitalier de l'Université de Montréal (CHUM) Institutional Review Board (IRB). Patients and physicians gave informed consent.

### Setting

The study took place at the dermatology outpatient clinic of the Center Hospitalier de l'Université de Montréal (CHUM), a tertiary care hospital.

### Participants

Any dermatologist at the CHUM (staff and training residents) who had clinics scheduled during the weeks of patient enrolment participated in phase 1 or 2 of the study. All

patients meeting a CHUM dermatologist for the first time were enrolled if they met the following criteria: aged 18 years old and above, able to consent, able to read and write French or English, and receiving a TCS prescription.

### Procedures

Phase 1 took place from December 2015 to January 2016. It provided data on routine adult patient–dermatologist encounters. Phase 2 occurred in March 2017 and provided data following the implementation of our educational interventions. In both phases, all encounters were audiotaped, and patients completed exit questionnaires. All written prescriptions were retrieved from patient charts. Clinical information on present and past medical history were also abstracted from patients' charts by 2 of the authors (VJG and AH).

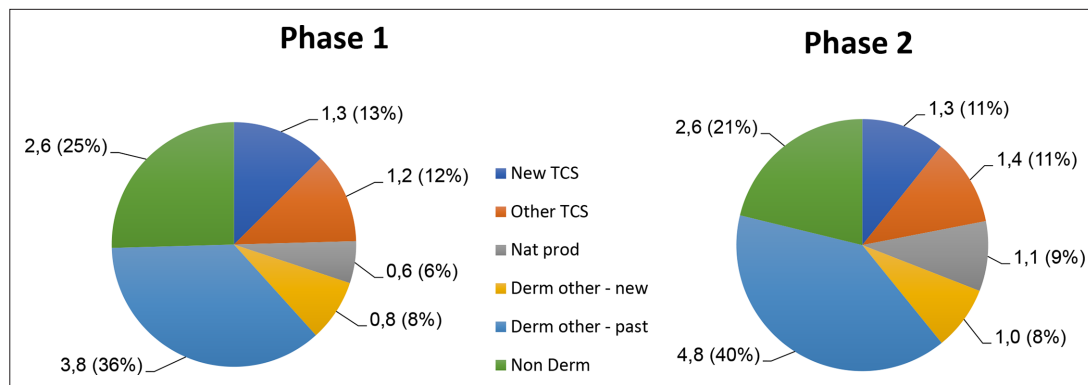
The exit questionnaire focused on clinical and sociodemographic information. It included elements from the Primary Care Assessment Survey<sup>43</sup> as well as elements to characterize our dermatology practice. The exit questionnaire also included open questions developed explicitly after the literature review regarding TCS and corticophobia, asking patients whether they lacked information about their TCS prescription, which could impact their adherence.

### Educational Interventions

Based on the data generated in phase 1, there were 2 interventions introduced as the "act" part of the PDSA cycle. These consisted of a training workshop for dermatologists in communication skills and an information pamphlet for patients.

The patient pamphlet (see Supplemental Material) used a question–answer format to explain TCS-based treatments. It included a section illustrating how to apply the medications to the skin and another section about TCS myths and facts. By using the data generated in phase 1 of the PDSA cycle, we were able to integrate common patient questions into the pamphlet. An interdisciplinary committee, including a patient–partner and communication experts at the hospital, reviewed the pamphlet. We aimed to create a pamphlet with a grade 6–7 literacy level. The pamphlet achieved a grade 9 literacy level, as evaluated by the patient information bureau of the CHUM, on par with many other patient pamphlets at this hospital. Phase 2 asked dermatologists to present a paper copy of the pamphlet to patients to augment their verbal explanations and to provide the link to the online version of the pamphlet, to allow continued access to the information.

The educational intervention for dermatologists consisted of a 90-minute training workshop on evidence-based communication strategies to improve information exchange about TCS. As part of this reflective practice workshop, dermatologists were shown the phase 1 communication results and discussed ways to improve. They also discussed 2 videos illustrating dermatologist–patient conversations about TCS. The first video



**Figure 1.** Overview of average number of medications discussed during the consultations,  $n = 10.3$  for phase 1 and  $n = 12.2$  for phase 2. \*Note: derm other-new, new prescription for a dermatological medication that is not a topical corticosteroid; derm other-past, a previously used dermatological medication that is not a topical corticosteroid; nat prod, natural product (eg, vitamin D); new TCS, new prescription for a topical corticosteroid; nonderm, a nondermatological medication; other TCS, renewal prescription for a topical corticosteroid; TCS, topical corticosteroid.

illustrated a routine encounter as observed during phase 1 and the second one demonstrated the use of efficient communication strategies.

### Main Outcomes

Dermatologist–patient communication was analyzed with MEDICODE, a validated medical-encounter coding system explicitly developed for describing medication-related exchanges.<sup>44</sup> MEDICODE does not require verbatim transcription. Trained coders listen to the entire encounter and identify sections discussing medications. Trained coders classify medications; for example, they are new prescriptions versus past prescriptions or dermatological medications versus nondermatological medications. Different codes for medication categories used here are shown in Figure 1.

This study focused specifically on new TCS prescriptions. For each discussion of a new TCS, we used MEDICODE to code the 5 following medication themes: “name”, “usage instructions” (how to use medication), “main effects” (goals of the treatment), “adverse effects” (side effects of the treatment), and “attitudes/emotions” towards medication (such as anxiety, fears, concerns, doubts). These are the most frequently discussed and most relevant medication-taking practice themes.<sup>38,39</sup> We calculated the frequency that these 5 themes occurred during each patient encounter as one of our primary outcomes.

MEDICODE also encodes the extent to which the discussion between patient and dermatologist is a monolog or a dialog, that is, whether or not there was significant back and forth discussion between the dermatologist and the patient.<sup>38,45</sup> The other predetermined outcome for this study was the percentage of each medication theme discussion discussed as a dialog rather than a monolog.

Two independent research assistants, experts in the use of MEDICODE, performed the coding. Authors (VJG and AH) participated in discussions of TCS specific coding and iteratively reviewed coding to ensure conformity. MEDICODE is validated, and inter-rater reliability has consistently shown to be strong ( $\kappa > 0.8$ ).<sup>46</sup>

### Statistical Analyses

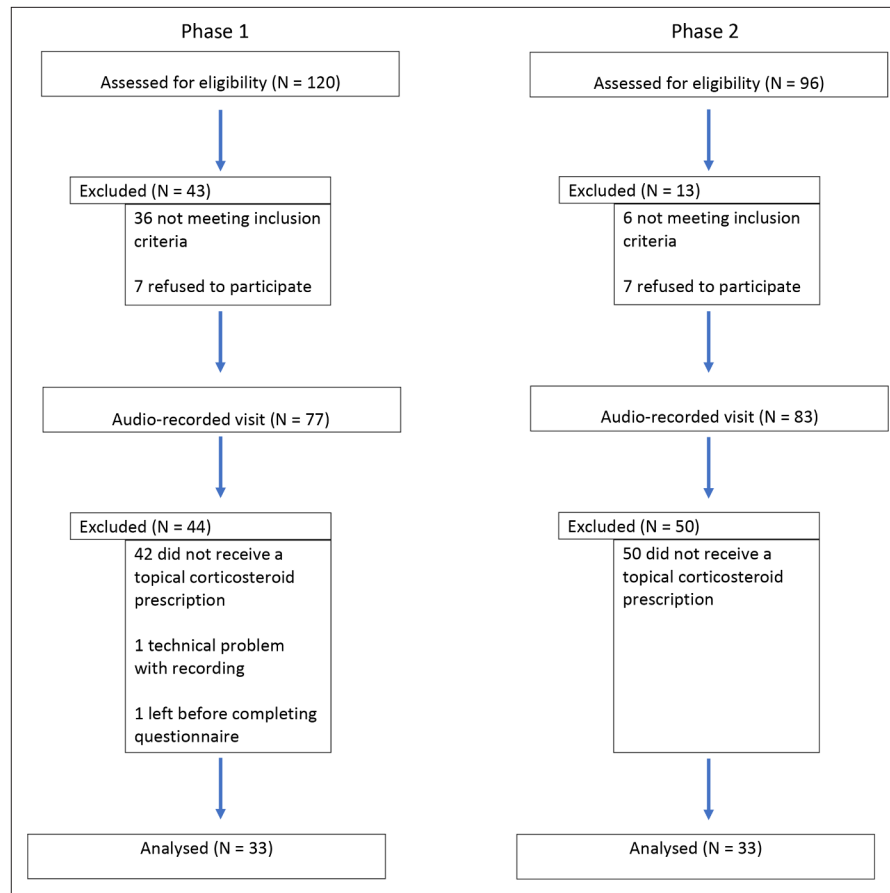
We used the Statistical Package for Social Sciences (SPSS, Version 20) software to perform descriptive analyses for all variables.

## Results

### Context Description

We evaluated a total of 216 patients for eligibility, of which 160 patients (phase 1 = 77 and phase 2 = 83) were enrolled (Figure 2). Of these patients, 33 in each phase were prescribed TCS and included in the final analyses. In general, these patients were middle-aged, white, and had comorbid conditions (Table 1). In phase 1, there were more male patients, and the sample was better educated and wealthier than in phase 2. In both phases, the most common diagnosis requiring a TCS prescription was eczema, followed by psoriasis. In each phase, 7 patients were prescribed more than one new TCS. The average encounter length was 26.03 min in phase 1 and 22.62 min in phase 2.

Table 1 also shows physicians (staff and residents) participating in the study. Five of these physicians participated in both phases 1 and 2. Generally, in this outpatient academic clinic, residents evaluate the patient first, and then they are reviewed and re-examined with the staff.



**Figure 2.** Patients' flow diagram for phases 1 and 2.

### Intervention

All participating dermatologists and residents completed the communication workshop. Half attended the one-time in-person educational workshop, while the other half completed a condensed online training equivalent.

In phase 2, 9 of 33 patients discussed a paper copy of the pamphlet with their dermatologist and received an invitation to further view the pamphlet online. Eleven patients were only given an invitation to check out the pamphlet online by their dermatologist. Twelve patients received the online invitation from the research assistant while completing the exit questionnaire. One patient did not receive this invitation at all. Data from the website indicated that 8 patients (25%) accessed the information online on their own time. The average time spent on the web page was 5 minutes.

### Encounter Analyses on Medication Discussions

Figure 1 shows the breadth of different medication categories discussed during consultations. In phase 1, an average of 10.3 medications was discussed per consultation, most of these, as the dermatologist establishes the patients' active

medication list. Some medications were more thoroughly discussed. This represents a total of 342 medications discussed in 33 encounters. In phase 2, an average of 12.2 medications was discussed per consultation, representing a total of 401 medications discussed in 33 encounters. New TCS discussions represent 13% ( $n = 43$ ) and 11% ( $n = 43$ ) of all medication discussions in phase 1 and phase 2, respectively.

Figure 3 shows the frequency of TCS medication themes discussed in phase 1 compared with phase 2. Themes such as "medication name", "adverse effects", and "attitudes/emotions" were discussed more frequently in phase 2.

Table 2 examines the presence of dialog when discussing medication themes. Overall, in both phases 1 and 2, few medication discussions were dialogs with verbal participation of both patients and dermatologists. One exception in both phases was the "usage instructions" theme. "Attitudes/emotions" were discussed more frequently and with more dialog in phase 2 compared with phase 1. "Adverse effects" were also discussed more frequently in phase 2, yet with less dialog.

**Table 1.** Sociodemographic, Clinical, and Encounter Characteristics for Physicians and Patients in Phases 1 and 2.

	Phase 1	Phase 2
<b>Patients</b>		
Total number of patients, <i>N</i> (%)	33 (100 %)	33 (100 %)
Age mean (SD)	47.7 (16.1)	49.5 (19.2)
Gender <i>N</i> (%) male	20 (61 %)	16 (49 %)
Ethnicity <i>N</i> (%) white	32 (97 %)	26 (80 %)
Education <i>N</i> (%)		
≥High school	30 (91 %)	26 (79 %)
Income <i>N</i> (%)		
≥Than 20 000 \$ (can)	3 (9 %)	8 (24 %)
20 000–39 999\$ (can)	7 (21 %)	5 (15 %)
40 000–59 999\$ (can)	9 (27 %)	8 (24 %)
≥60 000 \$ (can)	14 (42 %)	12 (36 %)
≥1 Comorbid condition <i>N</i> (%)	22 (67 %)	22 (67 %)
TCS related diagnosis received at consultation <i>N</i> (%) <sup>a</sup>		
Eczema	18 (54 %)	16 (49 %)
Psoriasis	5 (15 %)	8 (24 %)
Infectious diseases	4 (12 %)	1 (3 %)
Other	17 (52 %)	10 (30 %)
<b>Encounter characteristics <i>N</i> (%)</b>		
Clinic type		
Regular	21 (64 %)	19 (58 %)
Emergency	9 (27 %)	13 (39 %)
Specialized	3 (9 %)	1 (3 %)
Dermatology team		
Staff only	4 (12 %)	0 (0 %)
Resident only	2 (6 %)	0 (0 %)
Both	27 (82 %)	33 (100 %)
Number of prescribed TCS per consultation <i>N</i> (%)		
1	26 (79 %)	26 (79 %)
2	5 (15 %)	5 (15 %)
≥3	2 (6 %)	2 (6 %)
<b>Physicians</b>		
Total number of physicians <i>N</i> (%)	18 (100 %)	12 (100 %)
Staff <i>N</i> (%)	10 (56 %)	7 (58 %)
Residents <i>N</i> (%)	8 (44 %)	5 (42 %)
Gender <i>N</i> (%) female	15 (83 %)	11 (92 %)

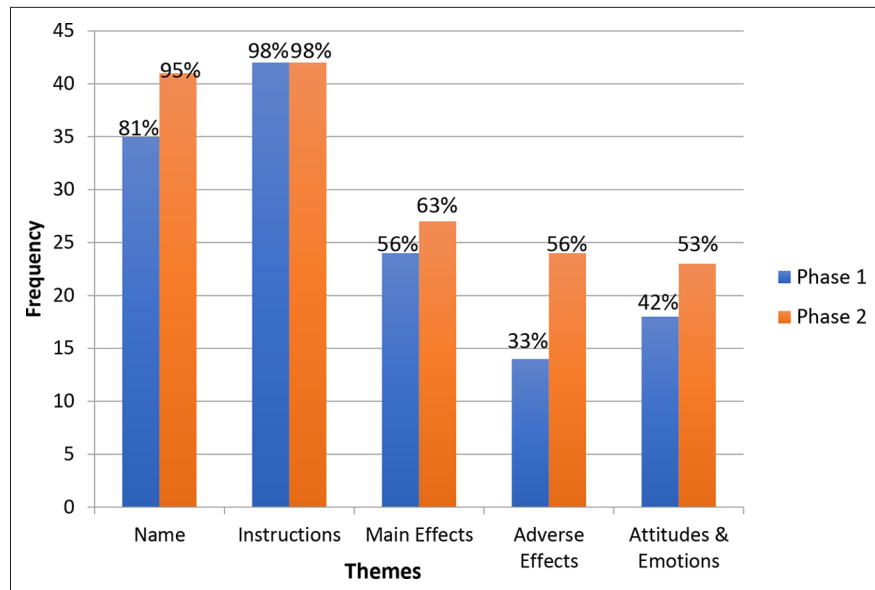
<sup>a</sup>Note: Some patients received more than one diagnosis requiring a new TCS.

## Discussion

This study aimed to describe communication between dermatologists and their patients regarding newly prescribed TCS. In phase 2, we attempted to positively influence dermatologists' communication by providing them with a communication training workshop and integrating an educational patient pamphlet at the time of consultation. We found that

these interventions contributed to changing communication patterns about TCS.

We evaluated discussions about new TCS prescriptions by categorizing the presence of 5 crucial medication themes: "medication name", "usage instructions", "main effects", "adverse effects", and "attitudes/emotions" related to the medication. These themes can be categorized as either being



**Figure 3.** Frequency of theme discussions for newly prescribed TCS in phase 1 and phase 2 ( $n = 43$  Rx discussions in each phase).

technical or related to patient experience, similar to the categories described by Roter et al called “biomedical” and “socioemotional”.<sup>47</sup> Phase 1 of our study revealed that dermatologists routinely addressed technical needs related to TCS. They almost unanimously named the medications they prescribe and give instructions on the application. Technical communication continued in phase 2. Dermatologists and patients mentioned patient experience themes, such as “main effects”, “adverse effects”, and “attitudes/emotions”, in less than half of medication discussions in phase 1, representing the “study” part of the PDSA cycle. The low frequencies of patient experience themes reported in phase 1 are consistent with the literature, and the frequencies reported here were somewhat higher than those seen in previous studies.<sup>38,48</sup> Our study took place in an academic tertiary care outpatient clinic, where it would be expected that residents and staff provide extensive explanations to patients. In phase 2, there

was more discussion of patient experience themes. Specifically, “adverse effects” were discussed in 56% of TCS discussions in phase 2 compared with only 33% of TCS discussions of phase 1 consultations. Most patients are concerned about adverse effects. Not understanding these effects can lead to corticophobia and poor adherence.<sup>8,9,12-14</sup> The workshop and patient pamphlet likely motivated both physicians and patients to more frequently address this critical theme. The literature shows that when physicians address patient emotions, it can have a positive impact on health outcomes.<sup>49,50</sup> Furthermore, when these patient experience themes are more present in discussions, patients have improved recall of their treatments.<sup>51</sup>

We know that most medication discussions are physician monologs.<sup>36,38,52</sup> Our study was no exception. Themes were discussed in a dialog format less than a third of the time, even when a generous definition of “dialog” was used, that being any minimal verbal exchange between physician and patient. Technical themes, such as “medication name”, would logically require less exchange. However, one would expect patient experience themes to at least minimally involve the patient. In phase 2, there was greater dialog when discussing “attitudes and emotions” toward TCS medications. “Adverse effects” were discussed more frequently in phase 2, although dialog was not increased. It would appear that physicians learned the importance of mentioning this theme with patients, but did not increase the extent to which they engaged and encouraged patients to participate in discussions actively. Studies have shown that discussions with increased dialog promote better recall of treatment information.<sup>51</sup> Our workshop included training that showed physicians how to use

**Table 2.** Presence of Dialog Between Dermatologists and Patients When Discussing Medication Themes.

	Presence of dialog <sup>a</sup> , n/frequency discussed	
	Phase 1	Phase 2
Name	6/35 (17%)	9/41 (22%)
Instructions	22/42 (52%)	24/42 (57%)
Main effects	6/24 (25%)	6/27 (22%)
Adverse effects	5/14 (36%)	4/24 (17%)
Attitudes and emotions	2/18 (11%)	8/23 (35%)

<sup>a</sup>Dialog is defined as verbal exchanges in which both patients and dermatologists contribute content.



statements, such as “what are your questions?” rather than “do you have any questions?”, as this kind of communication has been shown to help patients comfortably verbalize their questions and concerns.<sup>53</sup> Many physicians cite time as an external constraint for having productive conversations about medications with their patients.<sup>54</sup> It is of note that phase 2 consultations were on average 3 minutes shorter than phase 1 conversations, despite differences in communication patterns discussed above.

TCS prescriptions were the main pharmacological treatments provided for patients' skin diseases. However, in our study, patients named or discussed over 10 medications with their providers. It is essential to remind physicians that the patient's medication “universe” is often vast and sometimes confusing, potentially impacting adherence negatively.<sup>55</sup> Involving patients in discussions about the medication being actively prescribed is an effective way of encouraging patients to “own” and integrate this medication-related information.

This QI study has limitations. First, we only measured dermatologist–patient communication. We did not directly measure corticophobia or adherence as this was beyond the scope of our study. We, therefore, cannot make a definitive statement on the impact of the intervention on either corticophobia or patient TCS adherence. However, other studies show that adherence is related to patient–provider communication.<sup>56</sup> Second, because of the quality improvement study design, we did not perform inferential analyses and a direct comparison between phase 1 and phase 2 is not possible. Also, we included TCS prescriptions with different potencies and analyses did not take this variable into account. Another important potential source of bias is that the team of dermatologists and residents was not the same in both phases. Even if we consider our physicians' knowledge about TCS to be comparable, there are some inherent differences in a physician's natural communication style, which most likely cannot be standardized even by the best communication workshop. We also noted that the information pamphlet was used irregularly during the consultations of phase 2, reflecting real-life working conditions. Finally, because of the nature of a tertiary care center setting and the relatively small number of patients, the results might not be generalizable to all clinical settings.

This study shows many strengths. It was an original study performed in an adult outpatient dermatological setting, treating heterogeneous diseases with TCS. The assessment of communication was objective. Our QI iterative study design allowed for the creation of a 2-pronged intervention pertinent to both dermatologists and patients based on phase 1 results. We raised awareness regarding dermatologists' communication patterns, identifying specific areas for improvement such as the importance of discussing adverse effects and explicitly addressing attitudes and emotions regarding TCS. These are essential steps

fostering TCS sense-making for patients. Understanding TCS treatment is known to empower patients to better adhere to them and more actively manage their skin disease.<sup>39</sup>

In conclusion, this QI study included the development and testing of a 2-pronged dermatology-specific communication intervention aimed at improving the discussions about TCS. Based on the encouraging results of this QI dermatology resident-led initiative, akin to a feasibility study, researchers are now in a position to propose a randomized clinical trial to assess the impact of a communication intervention on patient corticophobia and adherence to TCS.

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### Supplemental Material

Supplemental material for this article is available online.

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