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#### Determining patient understanding of commonly used dermatology terms: A multicenter cross-sectional survey



To the Editor: Disparities in health literacy are associated with poorer use of health care services and worse health outcomes.<sup>1</sup> This is in part due to providers incorrectly assessing patient comprehension of technical jargon.<sup>2</sup> Because treatment outcomes are influenced by whether patients understand their diagnosis and treatment instructions, it would be helpful for providers to be more informed about their patients' understanding of basic dermatology terms. We sought to compare patients' confidence in frequently used dermatology terms versus the accuracy of their understanding.

This institutional review board-approved, single-blinded, multicenter survey was conducted with patients 18 years and older recruited from academic dermatology clinics. Participants completed an in-person survey of 11 dermatology terms that are frequently used during patient care. Each term was presented along with a sentence using the term in context (see Supplementary Material; available via Mendeley at <https://doi.org/10.17632/sx6kn3dx8p.1> and <https://doi.org/10.17632/tfs9bm98pm.1>). Participants rated their level of confidence in understanding each term using a 5-point Likert-type scale (perceived understanding) and then defined the term using their own words. Two blinded physicians graded these definitions using a 5-point scale (accuracy of understanding). Student *t* tests, chi-square tests, and Pearson coefficients were used to identify associations between perception and accuracy of understanding ( $P < .05$  considered statistically significant). Median and Fisher exact tests were substituted when parametric assumptions could not be verified.

A total of 313 respondents completed the survey (85% response rate) (Table I). The average term perceived understanding was  $3.7 \pm 1.2$  out of 5. The average term accuracy was  $3.8 \pm 1.4$  out of 5 (reviewer concordance, 93.2%). Women were more confident ( $4.0 \pm 1.2$  vs  $3.5 \pm 1.2$ ) and had higher accuracy than men ( $P < .01$ ) (Table I). Definition accuracy was positively associated with education level ( $P < .001$ ) and previous experience in the medical field ( $P < .0001$ ). Age was not associated with perception ( $r = .03$ ,  $P = .65$ ) or accuracy ( $r = -0.07$ ,  $P = .23$ ). Patients reported being *not confident* or *not at all confident* in a term in 20.1% of instances; 75.6% of patients reported being *not confident* or *not at all confident* in a term at least 1 time during the survey. In comparison, an accuracy of 1 or 2 out of 5 was reported in 24.2% of cases (Table I).

Patients had a higher perceived understanding than graded accuracy (overestimation) in 20.5% of cases (Table I). This overestimation increased with higher education levels (24.4% with graduate degrees vs 17.9% with high school diplomas) and previous medical experience (25.7% vs 19.6% without previous experience) (Table I). Patients confident in their understanding (reporting values of 4 or 5) overestimated at even higher rates (21.7% of overall instances) (Table I). White patients overestimated more frequently than black patients (24.9% vs 15.9% overall, Table I). Patients were least confident and accurate about the terms *pathology* and *metastasis* (Table II).

**Table I.** Overall term understanding and confidence\*

Participant characteristics	n	Overall score, mean (SD)		Not confident on self-examination, % <sup>‡</sup>	Low accuracy on physician grading, % <sup>§</sup>	Overestimation, %	
		Self <sup>†</sup>	Physician <sup>†</sup>			Overall <sup>  </sup>	When confident <sup>¶</sup>
Overall	313	3.7 ± 1.2	3.8 ± 1.4	20.1	24.2	20.5	21.7
Sex							
Male	217	3.5 ± 1.2	3.7 ± 1.4	23.1	26.1	20.2	22.2
Female	96	4.0 ± 1.2	4.0 ± 1.4	13.5	19.9	21.1	20.7
Education							
High school	161	3.2 ± 1.1	3.5 ± 1.4	31.1	32.3	17.9	19.3
College	102	4.1 ± 1.0	4.1 ± 1.4	9.9	17.4	22.6	22.6
Graduate school	47	4.4 ± 0.9	4.2 ± 1.2	6.8	12.8	24.4	23.8
Race							
White	154	4.2 ± 1.1	4.0 ± 1.3	10.3	18.0	24.9	25.8
Black	150	3.1 ± 1.0	3.6 ± 1.3	29.5	30.3	15.8	12.7
Experience working in medical field							
Yes	46	4.5 ± 0.9	4.2 ± 1.3	6.1	15.8	25.7	25.5
No	267	3.5 ± 1.2	3.8 ± 1.4	22.7	25.7	19.6	20.6

SD, Standard deviation.

\*Patient recruitment: The University of Kansas (n = 113), The University of Missouri (n = 43), and Wayne State University (n = 157). Age: 18-34 (n = 28), 35-54 (n = 68), and 55+ years (n = 203). Education was defined as the highest level completed. Demographic comparisons excluded because of low sample size were education level less than high school diploma (n = 3), Hispanic ethnicity (n = 5), and other ethnicity (n = 4). Overall confidence in understanding location effect:  $\chi^2 = 102.4$ ,  $P < .0001$ . Overall physician-graded accuracy location effect:  $\chi^2 = 15.2$ ,  $P < .001$ .

<sup>†</sup>Patient-reported scores (confidence) and physician-reported scores (accuracy) are reported as average ± SD based on 1-5 scales (see Supplementary Material).

<sup>‡</sup>The overall percentage of terms for which a patient reported a value of 1 or 2 out of 5.

<sup>§</sup>The overall percentage of instances when a physician graded a term with a value of 1 or 2 out of 5.

<sup>||</sup>The percentage of instances for which a patient reported a confidence higher than the physician-graded accuracy.

<sup>¶</sup>The percentage of instances in which a patient reported a term confidence of 4 or 5 out of 5 but received a physician-graded accuracy of less than his/her reported score.

**Table II.** Term-specific understanding and confidence\*

Terms	Overall score, mean (SD)		Not confident on self-examination, %	Low accuracy on physician grading, %	Overestimation, %	
	Self	Physician			Overall	When confident
General terms						
Biopsy	4.1 ± 0.9	4.4 ± 0.9	6.1	5.1	15.0	19.7
Excision	3.1 ± 1.4	3.7 ± 1.6	32.6	24.6	11.2	16.3
Lesion	3.7 ± 1.0	3.3 ± 1.3	8.0	28.8	44.4	58
Outpatient	4.7 ± 0.6	4.7 ± 0.9	1.0	6.4	9.6	9.0
Pathology	3.0 ± 1.5	2.8 ± 1.5	42.8	45.7	30.6	51.2
Topical	3.7 ± 1.3	4.3 ± 1.4	18.5	15.0	7.0	7.0
Cancer-related terms						
Benign	3.8 ± 1.3	3.9 ± 1.7	20.8	25.6	27.2	14.1
Malignant	3.8 ± 1.1	4.27 ± 1.3	10.5	13.4	14.7	18.0
Melanoma	3.6 ± 1.2	3.8 ± 1.5	19.2	34.2	21.4	6.3
Metastasis	3.0 ± 1.5	3.3 ± 1.7	40.6	34.5	15.7	22.3
Precancer	3.5 ± 1.2	3.5 ± 1.5	22.7	33.9	28.8	38.4

SD, Standard deviation.

\*The confidence and accuracy of individual terms, as defined by patients and physicians. Values reported follow the explanations defined in Table I.

In conclusion, patients frequently did not understand common dermatology terms. Moreover, overestimation increased with education and confidence, suggesting patients with some medical

knowledge may be particularly at risk (and less likely to seek clarification) for not understanding jargon. Providers should be cognizant of these barriers and, whenever possible, take time to

elaborate and reaffirm understanding of terminology being used.

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## The value of pantomiming for allergic contact dermatitis



To the Editor: Pantomiming enables humans to communicate through mimicry in a context in which the physical tools of reference are not present.<sup>1,2</sup>

Pantomime in dermatology can be useful to help understand the pattern of allergic contact dermatitis (ACD). For example, *Alstroemeria*, the Peruvian lily, is a well-documented occupational allergen for florists (Fig 1).<sup>3</sup> The distribution of ACD can be



**Fig 1.** Allergic contact dermatitis in a florist due to tulipalin A allergen in the Peruvian lily. Classic distribution involves the tips of the thumbs and radial surfaces of the index and middle fingers of the dominant hand.

clarified when a florist pantomimes how he or she places the hand on the flower to strip the stem.<sup>3</sup> Garlic is another well-recognized cause of ACD; pantomime can help explain a distribution involving the nondominant thumb and index finger, which hold the garlic as the dominant hand cuts it (Fig 2).<sup>4</sup>

We present 3 cases for which pantomime was useful in diagnosing ACD.

Case 1: Explaining rash distribution. A patient presented with sharply demarcated dermatitis of the left side of the neck. She had positive reactions on patch tests to gold, neomycin, and budesonide. Pantomiming the application of topical medications was helpful in understanding the distribution of her ACD (Fig 3). If the hands are spared (and, therefore, the relevance of topical medicament is questioned), it can be useful to ask what was used to apply the medication (eg, fingertips, cotton applicators, gauze, tissues). Sparing of fingertips may be explained if an applicator was used or if the hands were washed immediately after application.

Case 2: Guiding selection of patch test allergens. An auto body shop worker presented with bilateral dorsal hand dermatitis. When pantomiming daily work tasks, the patient demonstrated using the dorsal aspect of his hands to put pressure on panels after applying an adhesive. Possible exposure to acrylate adhesive residue on the panels prompted testing an acrylate adhesive series. He showed allergy to ethylene glycol dimethacrylate and other acrylates that may have been missed on testing with only a standard screening series.

Case 3: Identifying the primary source of relevance. A pipefitter presented with dermatitis of the left hand and periumbilical region. Overlying the rash were splotches of dried white material on his shirt, which prompted a request for him to pantomime how that substance got there. The