



Identifying Barriers to Developing Expertise in Hidradenitis Suppurativa

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BACKGROUND: Hidradenitis suppurativa (HS) is a chronic inflammatory disorder of hair-bearing intertriginous areas with a profound impact on quality of life. **OBJECTIVE:** We sought to determine what barriers to treatment exist among both HS experts and non-experts. **METHODS:** An IRB-approved, anonymous, voluntary survey was distributed to dermatologists through the HS Foundation listserv from June to September 2021. **RESULTS:** Eighty-eight total responses were collected from 49 (55.7%) experts and 39 (44.3%) non-experts. Statistically significant differences were found in the comfort level of treating moderate ($p=0.0001$) to severe ($p<0.0001$) disease between experts and non-experts, as well as interest in treating moderate ($p=0.0001$) and severe ($p<0.0001$) disease. Multiple barriers to developing expertise were identified (e.g., access to necessary equipment). HS experts also indicated higher levels of knowledge and experience than non-experts with several medical treatments (e.g., IV Ertapenem, $p<0.0001$). **LIMITATIONS:** We were unable to calculate response rate since listserv survey recipients were encouraged to share the survey through their personal networks. **CONCLUSION:** This data demonstrates statistically significant differences in levels of comfort and interest between experts and non-experts in treating moderate to severe disease, as well as differences in medical therapies utilized. Furthermore, multiple barriers to expertise were identified by both experts and non-experts. **KEYWORDS:** Dermatology; hidradenitis suppurativa; expertise; medicine; surgery; training

Hidradenitis suppurativa (HS) is a chronic inflammatory disorder of hair-bearing, intertriginous areas of the body.¹ The estimated prevalence is about 1 to 4 percent in most countries, such as the United States, and patients with HS tend to have significantly decreased quality of life (QoL).^{1–4} The average time to diagnosis of HS from symptom onset is approximately 7.2 years,⁵ which may contribute to HS patient dissatisfaction towards the healthcare system.^{6,7}

From the perspective of a patient with HS, barriers to HS management include lack of practitioner medical knowledge about HS, including treatment options and potential outcomes; poor practitioner communication with HS patients, including lack of practitioner empathy; "rampant distrust" of the medical community by HS patients; patients' experiences of living with HS, including lesion pain and social stigma; and accessing specialists with expertise in HS.⁸

Although North American guidelines for HS management were recently published in 2019 from both the United States and Canadian HS Foundations, barriers to HS expertise among dermatologists still exist.^{9,10} We sought to identify the barriers to developing expertise in hidradenitis suppurativa among dermatologists through a survey of both HS experts and non-experts.

METHODS

This study was conducted through an anonymous online survey via Qualtrics from June to September 2021. IRB approval was obtained through Wayne State University. The survey was distributed to dermatologists through the HS Place listserv, with instructions to share with colleagues. Survey respondents self-identified as HS experts or non-experts.

Statistical analysis. Mann-Whitney U tests were used to compare survey responses of HS experts and non-experts. A Bonferroni correction was used to control the false discovery rate under multiple hypothesis testing ($\alpha=0.00063$). All analyses were conducted using R Statistical Software (v4.1.1).¹¹

RESULTS

In total, 88 survey responses were recorded, 49 HS experts (55.7%) and 39 non-experts (44.3%).

Table 1 shows the results from the Mann-Whitney U tests for comfort level treating HS patients, interest in regularly providing care for HS patients, amount of HS education, and barriers to becoming an HS expert. HS experts were found to be significantly more comfortable than

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non-experts in treating moderate ($p=0.0001$) and severe disease ($p<0.0001$). HS experts also demonstrated more interest in treating moderate ($p=0.0001$) and severe disease ($p<0.0001$). Non-experts were significantly more likely to refer HS patients with moderate-to-severe disease to another dermatologist ($p<0.0001$). No significant differences were found between experts and non-experts on items related to the amount of HS education and barriers to becoming an HS expert.

Mann-Whitney U tests were also used to test for differences between experts and non-experts related to specific medical and surgical treatments for HS (Table 2). HS experts indicated higher levels of knowledge and experience with several medical treatments for HS (IV ertapenem, $p<0.0001$; cyclosporine, $p=0.0006$; dapsone, $p=0.0004$; infliximab, $p<0.0001$; other biologics, $p=0.0002$), and experts also reported using some treatments more frequently than non-experts (combination clindamycin and rifampin therapy, $p=0.0006$; IV ertapenem, $p=0.0001$; infliximab, $p<0.0001$; other biologics, $p=0.0001$). There were no significant differences between experts and non-experts in their knowledge, experience or frequency of use of surgical treatments for HS.

DISCUSSION

This study elucidated valuable information about the differences between HS experts and non-experts and what challenges they face in being experts. Not surprisingly, HS experts are more comfortable and interested in treating moderate and severe HS than non-experts. Additionally, HS experts have higher levels of knowledge and experience with a variety of medical therapies beyond first-line medical treatments, namely IV ertapenem, cyclosporine, dapsone, infliximab, and other biologics, but not necessarily surgical modalities (Table 2). Identifying these differences in treatment provides dermatologists with targeted areas to expand their therapeutic armamentarium.

Experts and non-experts agreed in identifying barriers to treating patients with HS, with no significant differences (Table 1). Experience with surgical therapies, training and education on surgical therapies, insurance coverage, and access to equipment were ranked as very significant barriers by over half of the dermatologists surveyed. Surgical techniques for dermatologists treating HS, particularly

TABLE 1. Differences between experts and non-experts in HS background, interest, and barriers to expertise

VARIABLE	EXPERT (N=49) MEAN	NON-EXPERT (N=39) MEAN
Comfort level treating patients with HS		
Mild disease	4.62	4.39*
Moderate disease	4.54	4.00**
Severe disease	4.23	3.16**
Interest in regularly providing care for HS patients		
Mild disease	4.51	3.90*
Moderate disease	4.72	3.74**
Severe disease	4.67	3.29**
I would rather refer HS patients with moderate-to-severe disease to another dermatologist	1.67	3.00**
Amount of HS education		
Medical School	1.62	1.63
Residency	3.28	3.59
Residency training provided experience using medical therapies for		
Mild disease	3.82	4.23
Moderate disease	3.59	3.87
Severe disease	3.21	3.17
Residency training provided experience using surgical therapies for		
Mild disease	3.18	3.50
Moderate disease	2.92	2.76
Severe disease	2.67	2.21
Barriers to becoming an HS expert		
Training/education on medical therapies	2.82	2.88
Experience with medical therapies	3.05	2.83
Training/education on surgical therapies	3.59	4.08
Experience with surgical therapies	3.67	4.13
Support/mentorship in treating advanced disease	3.33	3.67
Insurance coverage/reimbursement for HS treatments	3.54	3.67
Clinic logistics (e.g., adjusting schedule for HS appointments)	3.33	3.43
Access to equipment (ex: laser)	3.55	3.29
Statistical significance of Mann-Whitney U test denoted by * $p<0.05$, ** $p<0.00063$ (Bonferroni-adjusted α)		

in-office procedures, are a relatively recent development.¹² They are not included in the procedures required in dermatology training, and every dermatology resident is not exposed to these procedures during their residency training. Expanding opportunities to learn HS surgical techniques during and after residency can help address these barriers.

Limitations. The authors were unable to calculate a survey response rate since it was distributed through the HS Foundation listserv

and recipients were encouraged to share the survey through their personal networks. The final number of people who received the survey cannot be determined.

CONCLUSION

Patients with hidradenitis suppurativa face disparities including delayed diagnosis and access to dermatologists with experience and expertise in managing moderate-to-severe disease. Our survey identified several

TABLE 2. Differences between experts and non-experts in HS knowledge, experience, and frequency of use of HS medical and surgical treatments

VARIABLE	KNOWLEDGE AND EXPERIENCE		FREQUENCY OF USE	
	EXPERT (N=49) MEAN	NON-EXPERT (N=39) MEAN	EXPERT (N=49) MEAN	NON-EXPERT (N=39) MEAN
Medical treatments				
Topical clindamycin	4.82	4.68	4.32	4.48
Resorcinol 15% cream	3.03	1.97*	1.62	1.13*
Antibacterial washes (i.e., chlorhexidine wash)	4.69	4.67	4.11	4.39
Benzoyl peroxide wash	4.62	4.71	3.97	4.26
Oral tetracyclines	4.77	4.87	4.39	4.52
Oral contraceptives	4.26	3.84	3.66	3.03*
Spironolactone	4.74	4.61	4.42	3.55*
Combination clindamycin and rifampin therapy	4.49	3.66*	3.92	2.77*
IV Ertapenem	3.41	1.74**	2.16	1.29*
Isotretinoin	4.51	3.87*	2.53	2.39
Acitretin	4.54	3.55*	2.71	1.97*
Methotrexate	4.23	3.43*	2.21	1.58*
Cyclosporine	4.18	3.10**	1.95	1.58
Dapsone	4.26	3.23**	2.45	1.65*
Oral steroids	4.54	3.87*	3.00	2.13*
Adalimumab	4.77	4.07*	4.55	3.65*
Infliximab	4.63	3.32**	4.24	2.65*
Other biologics (i.e., anakinra, ustekinumab)	4.36	3.19**	3.34	2.13*
Surgical treatments				
Intralesional steroid injection	4.72	4.77	4.36	4.32
Local excision	4.42	3.68*	3.38	2.53*
Wide excision	3.63	2.93*	2.97	2.13*
Unroofing/deroofting	4.05	3.10*	3.38	2.33*
Laser evaporation	2.05	1.87	1.31	1.19
CO ₂ laser excision	2.13	1.77	1.49	1.29
Electrosurgical peeling	1.95	1.65	1.18	1.13
Cryosurgery	2.36	2.73	1.33	1.35
Incision and drainage	4.38	4.23	3.18	3.19
Laser hair removal	3.49	2.77*	2.87	2.33

Statistical significance of Mann-Whitney U test denoted by * $p < 0.05$, ** $p < 0.00063$ (Bonferroni-adjusted α)

medications utilized more frequently by HS experts, which present opportunities for non-experts to advance their treatment options. We also identified surgical technique training as a major barrier to developing expertise in HS. Identifying and addressing barriers to achieving expertise in the treatment of HS can help provide access to high quality care for patients with HS and reduce the health disparities they face.

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