RESEARCH LETTER

Perspectives on Pediatric Hidradenitis Suppurativa Care: A Survey of Pediatric Providers

Rahul Masson, BS[1], Terri Shih, BS[2], Devea R. De, BS[3], Swetha Atluri, BS[4], Shahram Yazdani, MD[5], Christopher J. Sayed, MD[6], Vivian Y. Shi, MD[7], Jennifer L. Hsiao, MD[8]

[1] Keck School of Medicine of USC, University of Southern California, Los Angeles, CA
[2] David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA
[3] University at Buffalo, Jacobs School of Medicine and Biomedical Sciences, Buffalo, NY
[4] University of Arizona College of Medicine, Tucson, AZ
[5] Division of General Pediatrics, University of California Los Angeles, Los Angeles, CA
[6] Department of Dermatology, The University of North Carolina at Chapel Hill, Chapel Hill, NC
[7] Department of Dermatology, University of Arkansas for Medical Sciences, Little Rock, AR
[8] Department of Dermatology, University of Southern California, Los Angeles, CA

ABSTRACT

Background: Hidradenitis suppurativa, or HS, is a chronic, inflammatory skin condition characterized by abscesses, nodules, and fistulas typically in intertriginous areas of the body. Pediatric providers are key front-line providers for children and adolescents with HS, yet little is known about their diagnostic and management approach.
Objective: In this survey study, we elicited the perspectives and experiences of pediatric providers regarding HS care.
Methods: An anonymous survey was distributed to pediatric providers through online pediatric organizational listservs. Survey questions addressed providers' perspectives on HS diagnosis and management. Comparative statistics between survey responses and provider experience were performed using t-tests and a p-value <0.05 was considered significant.
Results: Among the 50 respondents, less than one-half were confident in knowing the available treatment options for HS (46%), managing mild HS (42%) or moderate-severe HS (6%), knowing pediatric HS comorbidities (30%), addressing challenges that HS patients face in school (22%), knowing when to discuss surgical treatments (20%), managing menstrual HS flares (14%), discussing the impact of HS on sexual health (14%), and managing patients with non-prescription therapies (0%). Of the 25 participants who saw patients with HS, less than two-thirds "often/sometimes" screened for substance abuse (64%), polycystic ovarian syndrome (60%), premature adrenarche (28%), and inflammatory bowel disease (20%).
Conclusion: Educational resources targeted towards pediatric providers and increased collaboration with dermatologists may improve HS care for children and adolescents.

INTRODUCTION

Hidradenitis suppurativa (HS) is a progressive inflammatory skin condition.[1] Studies have found that up to 50% of HS patients have symptom onset between 10-21 years.[2] However, there is a paucity of data regarding pediatric providers' perspectives on HS care. Herein, we characterized the

(c) 2022 THE AUTHORS. Published by the National Society for Cutaneous Medicine.

perspectives and experiences of pediatric providers on HS diagnosis and management to identify any knowledge and practice gaps.

METHODS

An anonymous survey was distributed with permission from May-September 2022 through online pediatric organizational listservs. T-tests were used for comparative statistical analyses between survey responses and provider experience (number of HS patients seen monthly and number of years in practice). Significance was determined at a p-value <0.05.

RESULTS

Only 50% (n=25) of the 50 respondents reported seeing any HS patients in their practice, at an average rate of 1.4 patients per month (standard deviation 0.6, range 1-3) (**Table 1**). Providers' perspectives on HS care are highlighted in **Figure 1**. Of the 25 respondents who saw HS patients, the majority often/sometimes screened for obesity (96%), mental health comorbidities (84%), hypertension (80%), diabetes (72%), hyperlipidemia (72%), substance abuse (64%) and polycystic ovarian syndrome (PCOS) (60%). Less than one-third screened for premature adrenarche (28%) and inflammatory bowel disease (20%). Top treatments prescribed often/sometimes included topical (88%) and oral (80%) antibiotics. Less than half often/sometimes prescribed oral contraceptives (48%), oral retinoids (20%), and spironolactone (12%); none often/sometimes prescribed biologics, cyclosporine, or methotrexate. Similarly, a minority of the 25 respondents often/sometimes performed incision and drainage (16%) and deroofing procedures (4%); none often/sometimes performed intralesional steroid injections or wide local excisions.

The majority of the 25 respondents often/sometimes referred patients to dermatologists (96%) followed by nutritionists (48%), mental health specialists (44%), general surgery (40%), endocrinology (16%), obstetrics/gynecology (16%), HS support groups (12%), plastic surgery (8%), infectious disease (4%), and pain management (0%). Most of the 50 respondents strongly/somewhat preferred internet-based medical education resources (100%), peer-reviewed papers (96%), and podcasts or webinars (72%) to learn more about HS, while a minority preferred conferences (40%) and textbooks (26%). Providers who saw ≥2 HS patients per month were more confident in diagnosing HS (p=0.019), knowing the available treatments (p=0.001), and managing mild HS (p=0.01) compared to those who saw fewer patients. Physicians who were ≥5 years post-residency were more confident in knowing when surgical treatments should be discussed (p=0.004) and managing mild HS (p=0.046), compared to those <5 years post-residency.

DISCUSSION

A large percentage of providers in this study reported a lack of confidence in diagnosing or managing pediatric patients with HS. This may lead to delayed diagnosis and suboptimal treatment.

A 2021 study of 481 pediatric HS patients found that the average time to HS diagnosis was almost 2 years, with nearly 80% presenting with HS complications such as scarring and psychological distress at the time of their first dermatology clinic visit.[3] Timely treatment of HS may enhance

(c) 2022 THE AUTHORS. Published by the National Society for Cutaneous Medicine.

Table 1. Survey respondents' demographic characteristics*.

Demographic Characteristics	N (%)
Gender (n=50)	
Female	39 (78.0%)
Male	10 (20.0%)
Prefer not to specify	1 (2.0%)
Age, mean ± SD (range) (n=50)	39.1 ± 7.9 (27-65)
Average number of HS patients seen per month, mean ± SD (range)	0.7 ± 0.8 (0-3)
Type of provider (n=50)[†]	
Physician (MD/DO)	47 (94.0%)
Attending physician (training completed)	39 (83.0%)
Resident	6 (12.8%)
Fellow	2 (4.2%)
PAs/NPs	3 (6.0%)
Number of attending years in practice, mean ± SD (range) (n=39)	9.8 ± 6.2 (1-28)
Practice setting (n=50)	
Community	32 (64.0%)
Academic	18 (36.0%)
Practice location (n=50)	
Urban	26 (52.0%)
Suburban	23 (46.0%)
Rural	1 (2.0%)
Disease severity of the typical HS patient seen (n=25)	
Stage I	16 (64.0%)
Stage II-III	6 (24.0%)
Equal amounts of Hurley I and II-III	3 (12.0%)

Abbreviations: N, number; SD, standard deviation; PA, physician's assistant; NP, nurse practitioner; HS, hidradenitis suppurativa

*Listservs included the University of California, Los Angeles Pediatrics Department, Los Angeles County-University of Southern California Pediatrics Department, University of North Carolina at Chapel Hill Pediatrics Department, a private practice pediatric group in North Carolina, and a pediatric Facebook online group.

[†]All respondents practiced general pediatrics except one was a pediatric gastroenterologist

(c) 2022 THE AUTHORS. Published by the National Society for Cutaneous Medicine.

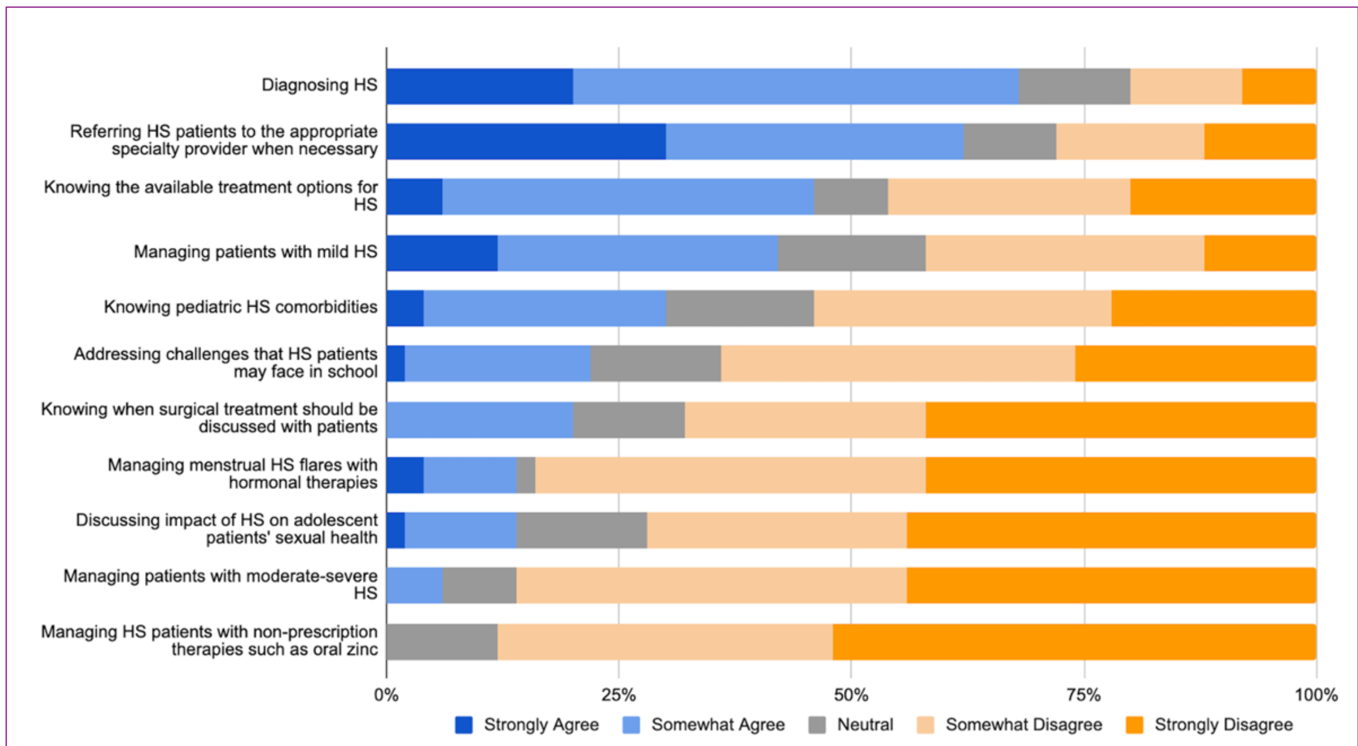

Figure 1. Pediatric providers' self-reported confidence level regarding HS diagnosis and management (n=50).

(c) 2022 THE AUTHORS. Published by the National Society for Cutaneous Medicine.

therapeutic response and prevent irreversible tissue damage.[4]

Increased awareness of the metabolic, endocrine, and psychosocial associations of HS is necessary as pediatric providers play an important role in screening for and addressing these issues.[5] Special considerations for females include screening for PCOS and using OCPs/spironolactone to treat post-pubertal adolescents with hormonal HS flares.[6] Other key pediatric management domains include addressing school-related challenges that HS patients may face and utilizing an evidence-based standard of care approach for first-line management of HS.

Study limitations include a small number of respondents and a US-based study population. The number of pediatric providers who reported not seeing any HS patients may have been skewed by underdiagnosis of HS. Increased educational resources for pediatricians and collaboration with dermatologists may improve HS care for pediatric patients.

Acknowledgements: We would like to thank the respondents who participated in our study.

Conflict of Interest Disclosures: CJS is a speaker for Abbvie and Novartis, consultant for Abbvie, Novartis, UCB, Alumis, Incyte, Sonoma Biotherapeutics, and InflaRx, is an investigator for Abbvie, Novartis, UCB, InflaRx, Chemocentryx, and Incyte, and is on the board of the HSF. VYS is on the board of directors for the Hidradenitis Suppurativa Foundation (HSF), an advisor for the National Eczema Association, is a stock shareholder of Learn Health and has served as an advisory board member, investigator, speaker, and/or received research funding from Sanofi Genzyme, Regeneron, AbbVie, Genetech, Eli Lilly, Novartis, SUN Pharma, LEO Pharma, Pfizer, Incyte, Boehringer Ingelheim, Alumis Aristea Therapeutics, Menlo Therapeutics, Dermira, Burt's Bees, Galderma, Kiniksa, UCB, Target-PharmaSolutions, Altus Lab/cQuell, MYOR, Polyfins Technology, GpSkin and Skin Actives Scientific. JLH is on the Board of Directors for the Hidradenitis Suppurativa Foundation, has served as a consultant for Boehringer Ingelheim, Novartis, and UCB, and has served as a consultant and speaker for AbbVie. All other authors report no conflicts of interest.

Funding: None

Corresponding Author:
Jennifer L. Hsiao, MD
Associate Clinical Professor, USC Dermatology
1441 Eastlake Ave, Ezralow Tower, Suite 5301
Los Angeles, CA 90033
Phone: (310) 601-3367
Email: j.hsiao.publications@gmail.com

References:

1. Alikhan A, Lynch PJ, Eisen DB. Hidradenitis suppurativa: A comprehensive review. *Journal of the American Academy of Dermatology*. 2009;60(4):539-561. doi:10.1016/j.jaad.2008.11.911
2. Hallock KK, Mizerak MR, Dempsey A, Maczuga S, Kirby JS. Differences Between Children and Adults With Hidradenitis Suppurativa. *JAMA Dermatol*. 2021;157(9):1095. doi:10.1001/jamadermatol.2021.2865
3. Liy-Wong C, Kim M, Kirkorian AY, et al. Hidradenitis Suppurativa in the Pediatric Population: An International, Multicenter, Retrospective, Cross-sectional Study of 481 Pediatric Patients. *JAMA Dermatol*. 2021;157(4):385-391. doi:10.1001/jamadermatol.2020.5435
4. Marzano AV, Genovese G, Casazza G, et al. Evidence for a 'window of opportunity' in hidradenitis suppurativa treated with adalimumab: a retrospective, real-life multicentre cohort study*. *Br J Dermatol*. 2021;184(1):133-140. doi:10.1111/bjd.18983
5. Seivright JR, Collier E, Grogan T, Hogeling M, Shi VY, Hsiao JL. Physical and psychosocial comorbidities of pediatric hidradenitis suppurativa: A retrospective analysis. *Pediatr Dermatol*. 2021;38(5):1132-1136. doi:10.1111/pde.14765
6. Collier EK, Price KN, Grogan TR, Naik HB, Shi VY, Hsiao JL. Characterizing perimenstrual flares of hidradenitis suppurativa. *International Journal of Women's Dermatology*. 2020;6(5):372-376. doi:10.1016/j.ijwd.2020.09.002

(c) 2022 THE AUTHORS. Published by the National Society for Cutaneous Medicine.