

Knowledge and Practices about Recognition and Treatment of Hidradenitis Suppurativa and Associated Factors in Primary Healthcare among Family Medicine Residents

Samah Mohammed AlQurashi (1) *, Khlood Khalid AlSadi (1), Nehal Damanhori (2)

(1) Family Medicine Resident, Makkah, Saudi Arabia

(2) Consultant Family Medicine, Saudi Board of Family Medicine, Saudi Arabia

Received 15/11/2021; revised 17/12/2021; accepted 10/1/2022

*Corresponding author, *Email: samahmq@outlook.com

Abstract

Introduction: Early identification of Hidradenitis Suppurativa (HS) has a significant role to prevent the complication of the disease, which is the role that can be played by family physicians. This study aimed to determine the level of knowledge and practice of family medicine residents living in Makkah regarding recognition and treatment of HS.

Methods: An analytical cross-sectional study was carried out on 2020-2021 among a sample of family medicine residents recruited from all family medicine program centers in Makkah city. A reliable valid self-administered questionnaire was used online to collect information regarding demographic data from the candidate, general knowledge about all aspects of HS, participants' believe regarding who should take care of and follow up with HS patients and the overall confident in HS diagnosis and treatment.

Results: The study included 158 resident physicians. Their age ranged between 20 and 44 with a mean±SD of 27.7±2.8 years. Females represent 52.5% of them. All were Saudi nationals. Almost two-thirds of the participants (67.1%) were aware of HS. The main source of information about HS was clinical practice (50.9%), followed by medical school (15.1%). Overall, 63.3% of the participants had sufficient knowledge level regarding HS. Female residents were more knowledgeable about HS compared to male residents, $p=0.033$. Most of resident physicians who reported rotation in dermatology department (79.3%) compared to 46.1% of those who did not report such rotation had sufficient knowledge about HS, $p<0.001$. With increasing the number of dermatology cases seen, the level of sufficient knowledge about HS increased, $p=0.002$. Majority of the resident family physicians put responsibility on dermatologists, followed by PHC physicians regarding HS diagnosis and treatment.

Conclusions: A considerable proportion of family medicine residents enrolled in Makkah Family Medicine program were aware and expressed good level of knowledge regarding Hidradenitis suppurativa. Despite of that, majority of them put responsibility on dermatologists regarding HS diagnosis and treatment.

Keywords: Perception, Hidradenitis, Awareness, Practices, Family medicine, Saudi

Introduction

Hidradenitis Suppurativa is a chronic inflammatory skin disorder. The clinical course is variable, from mild to severe cases [1]. It occurs multiple times, and mostly in axillary, inguinal, and perianal areas, [2] and can occur in multiple sites at the same time. Characterized by painful subcutaneous nodules end up with fibrosis and sinuses affecting the apocrine gland [3]. Pathophysiology of HS is not yet fully understood, there are multiple theories and one theory is blockage of the apocrine opening result in an expansion of the glands and create a good environment for bacterial infection followed by microbial infection and gland burst then the infection covers all the subcutaneous tissues [1]. Early identification of HS has a significant role to prevent the complication of the disease which is the family physician can recognize it [4].

In Saudi Arabia, among 104 primary healthcare physicians, 71.2% of participants knew about HS, and of those participants, their sources of knowledge were the following: clinical practice (39.4%), medical school (21.2%), a colleague (11.5%), a previously diagnosed patient (5.8%), and other sources (9.6%), which included scientific meetings, social media, and lectures. Of all respondents, 39.6% (40) had diagnosed HS in their practice, and 90% (36) of them correctly answered the first question, which regarded spot diagnosis the limitation of this study is that there are few studies in Saudi Arabia on HS with which the present results could be compared. Additionally, the sample size may have been affected as many practitioners were on vacation leave at the time of the study [5].

In the literature, a cross-sectional study found that HS patients were referred to dermatology by 273 of residents (80%) and eight consultants (53%), and this difference is statistically significant ($p < 0.05$). Regarding acute treatment, 84% prescribed topical antibiotics and 76% oral antibiotics. Respecting the therapeutic approach, we observed that treatment with non-steroidal anti-inflammatory drugs is higher among older residents (51%) compared to younger ones (36%, $p < 0.02$) and the prescription of oral

clindamycin is higher among consultants (31%) compared to residents (12%, $p < 0.04$) [6].

A validated questionnaire was developed by Claudio Marasca and her colleagues, which assessed knowledge about HS. The questionnaire is structured as follows: 6 knowledge questions about the pathology: 5 related questions to HS diagnosis, therapies and follow up. The questionnaire was studied on 150 GPs from Campania, Italy. The results were expressed as a percentage in the diagnosis of HS, dermatologists are slightly most involved (33%) compare to the surgeon (24%), GP (26%), and plastic surgeon (17%). In the HS therapy setting the reference figure is dermatologist (39%), surgeon (20%), GP (26%), plastic surgeon (15%). In the management of drug therapy (topical / systemic) the reference figures are as follow: dermatologist (44%), surgeon (16%), GP (24%), plastic surgeon (16%). In the follow up of the HS the reference figures are as follow dermatologist (30%), surgeon (24%), GP (31%), a plastic surgeon (15%) [4].

Hidradenitis Suppurativa is an unrecognized chronic inflammatory and debilitating disease with severe consequences for patients' quality of life [5]. To our knowledge, this is the first study to assess the knowledge and attitude of adult people living in Makkah regarding Hidradenitis Suppurativa. Family medicine residents were chosen as a target population since they will be the first contact with the patients and their insufficient knowledge will lead to patients that suffer from complications as scarring and sinus tract formation. This study aimed to assess the level and determinants of family medicine resident's knowledge and practices regarding HS. The findings could help in increasing their awareness about the HS in Makkah city, 2020.

Methods

This is a cross-sectional observational study design conducted in all family medicine residents in all family medicine program Centers in Makkah city, 2020. The total number of the joint program of family medicine candidates in Makkah, as provided officially by the program administration, is 162 resident doctors. Based on that, the sample size is 115 resident doctors, calculated by using (raosoft.com) it's a margin error of

5%, and confidence level 95% and response distribution 50%. We added 10 % of participants to overcome the possible number of defaulters and non-responders to be 126 participants.

A reliable self-administered questionnaire was used, which had been validated based on another published study in Saudi Arabia after permission was obtained from the principal investigator [6]. Some modifications that helped the objectives of the current study were done on some parts and were revalidated by two consultants (one in dermatology and one in family medicine). The questionnaire consisted of three parts in English. The first part collected information about demographic data from the candidate (age, gender, resident year, nationality, years of clinical experience before residency, previous rotation in the dermatological clinic, and the number of dermatological cases seen).

The second part consisted of 3 sections in general knowledge about all aspects of HS. In this part, first the researchers provided each candidate with a high-resolution picture of HS in different stages with case scenarios to assess whether they could reach the correct diagnosis of HS from a given list of choices. Second, consist of a table, the researchers asked if they had ever heard about HS and their source of information about the disease, then if they had ever diagnosed HS and, if so, the number of cases was asked. The third, consisted of tables has six questions with (yes, no, or I don't know) responses regarding the features of HS. The third part of the questionnaire one table had five questions testing the candidate's knowledge about who should take care of and follow up with HS patients (dermatology, family medicine, general surgery, plastic surgery, I don't know), then question about confidence in HS diagnosis and treatment was rated (Excellent, very good, good, average or poor).

Data were collected by an online questionnaire through what's app groups. Concerning knowledge about HS, 6 statements and one picture were utilized. Correct answers were assigned a score of "1" whereas incorrect or don't know answers were assigned a score of "0". The total score and its median value were computed. Participants who scored at the median

value or above were considered to have "sufficient knowledge" whereas those who scored below the median value were considered to have "insufficient knowledge". Data were described by frequency and percentage for categorical variables, and mean & standard deviation for continuous variables. Association between HS knowledge level and other categorical variables was tested using Chi-square test. Statistical Package for Social Sciences (SPSS), version 26 was utilized for data entry and statistical analysis and p value<0.05 was considered as a cut of value for statistical significance. A pilot study was conducted on 10% of the population size among family medicine residents in other programs of family medicine using the same data collection techniques, to test the clarity and applicability of the questionnaire and the necessary time to complete it. The results of the pilot study were not included in the main study.

Before conduction of the study, all necessary approvals were obtained. Individual consent is a prerequisite for data collection. It was written on the front page of the questionnaire that the "Answering questionnaire means agreement of participation in the study". All information were kept confidential and will not be accessed except for scientific research.

Results

This study included 158 resident physicians. The age ranged between 20 and 44 with a mean±standard deviation (SD) of 27.7±2.8 years. Females represent 52.5% of them. All were Saudi nationals and they were almost equally distributed on the four residency years (Table 1). Most of the participants (58.1%) had no clinical experience before the residency program, whereas 20.3% had between one and five years of clinical experience. Slightly more than half of the residents (51.9%) reported previous rotation in dermatology clinic. Among them, 64.6% had one month or more of rotation and 51.2% had this rotation in the last year. More than one third of the residents (36.1%) had seen an average of more than 5 dermatology cases per day in their practice (Table 2).

Almost two-thirds of the participants (67.1%) were aware of Hidradenitis suppurativa. The main source of

Table 1: Personal characteristics of the participants

| Characteristics | Frequency | Percentage |
|--|-----------|------------|
| Age in years | | |
| ≤25 | 19 | 12.0 |
| 26-30 | 128 | 81.0 |
| >30 | 11 | 7.0 |
| Range | 20-44 | |
| Mean±SD | 27.7±2.8 | |
| Gender | | |
| Male | 75 | 47.5 |
| Female | 83 | 52.5 |
| Nationality | | |
| Saudi | 158 | 100 |
| Non-Saudi | 0 | 0.0 |
| Current year in residency program | | |
| First | 40 | 25.3 |
| Second | 38 | 24.1 |
| Third | 41 | 25.9 |
| Fourth | 39 | 24.7 |

information about HS was the clinical practice (50.9%), followed by the medical school (15.1%).

Most of the residents (81%) could recognize the picture demonstrating a case of Hidradenitis suppurativa, out of 4 pictures. Regarding HS manifestations, most of them (76.6%) knew correctly that HS occurs with lesions typically localized in the following regions: axillary, inter-inframammary, inguinal, perineal, gluteus. Almost two-thirds knew that HS manifests with abscesses (67.7), inflammatory nodules (67.1%) and painful skin lesions (65.8%). More than half of the residents (58.2%) knew correctly that HS manifests with scars while less than half of them (48.7%) knew that it manifests with draining fistulas (Table 3).

Overall, 63.3% of the participants had sufficient knowledge level regarding Hidradenitis. Female residents were more knowledgeable about HS compared to male residents as 71.1% of them compared to 54.7% of males had sufficient knowledge about HS, $p=0.033$. Residents' age and residency level were not significantly associated with HS knowledge level (Table 4).

Most of the resident physicians who reported rotation in the dermatology department (79.3%) compared to

Table 2: Clinical experience/average number of dermatological cases seen/day of the participants

| Characteristics | Frequency N=158 | Percentage |
|--|--------------------|------------|
| Years of clinical practice before residency | | |
| None | 92 | 58.1 |
| <1 | 29 | 18.4 |
| 1-5 | 32 | 20.3 |
| >5 | 5 | 3.2 |
| History of previous rotation in dermatology clinic | | |
| Yes | 82 | 51.9 |
| No | 76 | 48.1 |
| Duration of rotation in dermatology clinics (n=82) | | |
| <1 month | 29 | 35.4 |
| ≥ 1 month | 53 | 64.6 |
| Last time of rotation in dermatology clinics (n=82) | | |
| This year | 21 | 25.6 |
| Last year | 42 | 51.2 |
| >one year | 19 | 23.2 |
| Average number of dermatology cases seen/day | | |
| <1 | 42 | 26.5 |
| 1-3 | 45 | 28.5 |
| 4-5 | 14 | 8.9 |
| >5 | 57 | 36.1 |

46.1% of those who did not report such rotation had sufficient knowledge about HS, $p<0.001$. With increasing the number of dermatology cases seen, the level of sufficient knowledge about HS increased, $p=0.002$. Years of clinical practice before residency and duration as well as last time of rotation in dermatology clinics were not significantly associated with the level of HS knowledge among resident physicians (Table 5). The majority of physicians who were aware about HS (82.1%) compared to only 25% of their counterparts expressed sufficient knowledge about HS, $p<0.001$. The source of information about HS was not significantly associated with the level of knowledge about the disease. Majority of them put responsibility on dermatologists, followed by PHC physicians.

Table 3: Participants` responses to knowledge pictures and statements about Hidradenitis suppurativa

| Knowledge statements and questions | Correct answer | | |
|--|----------------|-----------|---------|
| | Answer | Frequency | Percent |
| Which picture best describe hidradenitis suppurativa? | C | 128 | 81.0 |
| HS manifest with painful skin lesions | Yes | 104 | 65.8 |
| HS manifest with inflammatory nodules | Yes | 106 | 67.1 |
| HS manifests with abscesses | Yes | 107 | 67.7 |
| HS manifests with draining fistulas | Yes | 77 | 48.7 |
| HS manifests with scars | Yes | 92 | 58.2 |
| HS occurs with lesions typically localized in the following regions: axillary, inter-inframammary, inguinal, perineal, gluteus | Yes | 121 | 76.6 |

Only 17.7% of the resident physicians ever diagnose a case of HS; among them 39.2% diagnosed more than two cases. Almost two-thirds of them (67.1%) preferred to manage the early stage of HS while only 12.7% preferred to treat the resistant case of HS. Minority of the participants expressed an excellent level of overall confidence in diagnosis (3.2%) and treatment (1.3%) of HS (Table 6).

None of the studied residents` personal characteristics (age, gender and current years in residency program) was associated with history of ever diagnosis of a case of HS. Almost a quarter (25.6%) of residents who reported a history of previous rotation in dermatology clinic compared to only 9.2% of those without such history had ever diagnosed a case of HS, $p=0.007$. Also, residents who have seen an average of >5 dermatology cases/day were more likely to report ever diagnosing a case of HS compared to those who have seen less than 1 dermatology cases/day (26.3% versus 4.8%), $p=0.046$ (Tale 7).

About one-fourth of residents (26.4%) who were aware of HS compared to none of those who were not aware about the disease reported ever diagnosis of a case of HS, $p<0.001$.

There was a statistically significant association between knowledge level about HS and history of ever diagnosing a case of the disease among the resident physicians, $p=0.005$. Also, there was a significant association between knowledge level about HS and preferring to manage early stage of HS ($p<0.001$) and to treat resistant case of HS ($p=0.039$) as demonstrated in table 8.

Discussion

Diagnosis and treatment of HS are challenging as it has to be shared by several specialists, although only one is usually concerned with this [7]. Therefore, this disease by characterized by a very long delay in diagnosis, reaching up to 14 years which result in impairment in the clinical status of patients as well as deterioration of their quality of life [8].

Primary healthcare physicians, including family physicians usually are in the front line facing these patients. Therefore, their role in early diagnosis and consequently management is essential to prevent the adverse outcomes of the disease on patients [9-11]. In this context, the present study was done to assess family medicine resident`s awareness, and knowledge regarding HS diagnosis and management in Makkah city, Kingdom of Saudi Arabia (KSA).

The current study revealed that almost two-thirds of the family medicine residents (67.1%) were aware of Hidradenitis suppurativa. This percentage is quite acceptable as the disease is very rare in Saudi Arabia and very limited studies were cited from Saudi Arabia about the disease. [1, 12]. The main source of information about Hidradenitis suppurativa in the present survey was the clinical practice (50.9%), followed by the medical school (15.1%). In another similar Saudi study carried out among primary healthcare physicians in Jeddah, similar results were

Table 4: Residents` personal characteristics associated with knowledge about Hidradenitis suppurativa

| | Level of knowledge about HS | | p-value* |
|--|-------------------------------|------------------------------|----------|
| | Insufficient N=58 N (%) | Sufficient N=100 N (%) | |
| Age in years | | | 0.416 |
| ≤25 (n=19) | 6 (31.6) | 13 (68.4) | |
| 26-30 (n=128) | 46 (35.9) | 82 (64.1) | |
| >30 (n=11) | 6 (54.5) | 5 (45.5) | |
| Gender | | | 0.033 |
| Male (n=75) | 34 (45.3) | 41 (54.7) | |
| Female (n=83) | 24 (28.9) | 59 (71.1) | |
| Current year in residency program | | | 0.085 |
| First (n=40) | 17 (42.5) | 23 (57.5) | |
| Second (n=38) | 14 (36.8) | 24 (63.2) | |
| Third (n=41) | 19 (46.3) | 22 (53.7) | |
| Fourth (n=39) | 8 (20.5) | 31 (79.5) | |

identified as 71.2% of participants have heard about HS, and their main sources of information were clinical practice (39.4%), followed by the medical school (21.2%) [5]. In the present study, almost two-thirds (63.3%) of the family medicine residents expressed sufficient knowledge level regarding Hidradenitis suppurativa. The same has been observed in a recent study carried out in Jeddah (KSA) [5]. On the other hand, a better level of knowledge (81.3%) has been observed in a study carried out in Denmark and Belgium among general practitioners (GPs) [13]. However, in a similar recent study conducted among primary healthcare physicians in Portugal, overall insufficient knowledge regarding HS was observed,[6] despite the fact that HS is more common in Europe than in our region. Explanation of findings and comparison between studies should be speculated in the light of using different tools and using variable sample sizes as well as different characteristics of the participants.

This study showed that most of the residents could recognize the picture demonstrating a case of Hidradenitis suppurativa, as well as correctly recognized that HS occurs with lesions typically localized in the following regions: axillary, inter-

inframammary, inguinal, perineal, gluteus. Also, approximately two-thirds of them knew that HS manifests with abscesses, inflammatory nodules and painful skin lesions while less proportion could recognize that HS manifests with scars or draining fistulas. Family physicians have a fundamental role in differentiating HS from other similar skin disorders that may lead to misdiagnosis [10,14]. It has been reported that once the patient has recurrent abscesses nodules, or furunculosis, HS should be considered for differential diagnosis and early referral to confirm the diagnosis [15].

Female residents were more knowledgeable about HS compared to male residents in the current study. This could be attributed to the fact that most of dermatological cases seen are females and usually they usually, because of cultural reasons prefer to be seen by female doctors, so female doctors expose more to such cases. On the other hand, the gender difference was not observed in another Saudi study [5]. In accordance with others [5], physicians` age was not significantly associated with HS knowledge level in the present study. Family medicine residents who had rotation in dermatology department had sufficient knowledge about HS. This finding highlights the importance of dermatological rotation for resident physicians in diagnosing and treating even rare and difficult dermatological cases.

With increasing the number of dermatology cases seen, the level of sufficient knowledge about HS increased among family medicine residents in the current study. In a similar study carried out in Jeddah among primary healthcare physicians, knowledge level about HS was significantly associated with history of ever previously diagnosis of the disease [5]. This also highlighting the importance of practice for the family physicians in dermatology field to increase their knowledge in dealing with such cases. Years of

clinical practice before residency and duration as well as last time of rotation in dermatology clinics were not significantly associated with the level of HS knowledge among resident physicians in the present study. On the other hand, Alhawsawi EM, et al.

Table 5: Residents` clinical experience associated with knowledge about Hidradenitis suppurativa

| | Level of knowledge about HS | | p-value* |
|--|-------------------------------|------------------------------|----------|
| | Insufficient N=58 N (%) | Sufficient N=100 N (%) | |
| Years of clinical practice before residency | | | 0.066 |
| None (n=92) | 32 (34.8) | 60 (65.2) | |
| <1 (n=29) | 10 (34.5) | 19 (65.5) | |
| 1-5(n=32) | 13 (40.6) | 19 (59.4) | |
| >5 (n=5) | 3 (60.0) | 2 (40.0) | |
| History of previous rotation in dermatology clinic | | | <0.001 |
| Yes (n=82) | 17 (20.7) | 65 (79.3) | |
| No (n=76) | 41 (53.9) | 35 (46.1) | |
| Duration of rotation in dermatology clinics (n=82) | | | 0.564 |
| <1 month (n=29) | 5 (17.2) | 24 (82.8) | |
| ≥ 1 month (n=53) | 12 (22.6) | 41 (77.4) | |
| Last time of rotation in dermatology clinics (n=82) | | | 0.375 |
| This year (n=21) | 3 (14.3) | 18 (85.7) | |
| Last year (n=42) | 8 (19.0) | 34 (81.0) | |
| >one year (n=19) | 6 (31.6) | 13 (68.4) | |
| Average number of dermatology cases seen/day | | | 0.002 |
| <1 (n=42) | 23 (54.8) | 19 (45.2) | |
| 1-3 (n=45) | 20 (44.4) | 25 (55.6) | |
| 4-5 (n=14) | 3 (21.4) | 11 (78.6) | |
| >5 (n=57) | 12 (21.1) | 45 (78.9) | |

reported a significant association between current job title and medical degree of primary healthcare physicians and their knowledge level about HS [5]. Comparison between studies, although very few and using the same tool, is not practical due to variation in the demographics of the participants. In the present study, the majority of the family resident physicians put responsibility for diagnosis, treatment and follows up of HS cases on dermatologists, followed by PHC

physicians and there was some defect in confidence as regard to diagnosis and treatment of this disease. However, observing that knowledge was better among those who have rotation in dermatology and have seen a lot of dermatological cases confirmed that increasing confidence of resident physicians in diagnosis as well as treating cases of HS can be achieved through continuous practical training.

Two important limitations of the present study are identified. First, the conduction of the study among family medicine residents could impact the ability to generalize the findings over the others and this is can be attributed to the time limit. Second, very few studies were identified locally as well as internationally, which limit our ability to compare our findings with others. Despite of those two limitations, the study tackled topic rarely investigated in Saudi Arabia, up to our knowledge.

Conclusions

A considerable proportion of family medicine residents enrolled in Makkah Family Medicine program were aware and expressed a good level of knowledge regarding Hidradenitis suppurativa. Their main source of information was clinical practice, followed by medical school. Female residents, those who reported rotation in dermatology department and those who see a higher number of dermatology cases were more knowledgeable about HS.

A majority of the family medicine residents put the responsibility on dermatologists, followed by PHC physicians regarding HS diagnosis and treatment. A minority of the resident physicians ever diagnose a case of HS. Most of them preferred to manage the early stage of HS. Also, a minority of the participants expressed an excellent level of overall confidence in diagnosis and treatment of HS.

Encouragement of family medicine residents to take their responsibility in the diagnosis and management of HS is needed, as they are the future primary care physicians. Conduction of workshops in collaboration with dermatology consultants is needed, to increase the awareness and knowledge of family medicine residents regarding various dermatological disorders, including HS. All family Medicine residents should have an effective rotation in dermatology departments,

under good supervision, including both genders. Further study is recommended including primary healthcare physicians from different disciplines as well as other specialties physicians in Makkah. Community awareness of the disease is needed.

Conflict of interests

The authors declared no conflict of interests.

Acknowledgements

We would like to thank Ebtisam M. F. Alhawsawi and her colleagues who conducted a similar cross-sectional study in 2019, for their support.

References

1. Shirah, B.H. and H.A. Shirah, The clinical pattern of axillary hidradenitis suppurativa among Saudi Arabians: Mode of presentation and treatment challenges. *Journal of Cutaneous and Aesthetic Surgery*, 2017. 10(2): p. 95.
2. Vinkel, C. and S.F. Thomsen, Hidradenitis suppurativa: causes, features, and current treatments. *The Journal of Clinical and Aesthetic Dermatology*, 2018. 11(10): p. 17.
3. Patil, S., et al., Hidradenitis suppurativa: Inside and out. *Indian journal of dermatology*, 2018. 63(2): p. 91.
4. Marasca, C., et al., A dermatological questionnaire for general practitioners with a focus on hidradenitis suppurativa. *Open Access Macedonian Journal of Medical Sciences*, 2018. 6(10): p. 1902.
5. Lopes, S., et al., Awareness, knowledge, and practice patterns of general practitioner residents and specialists toward hidradenitis suppurativa: A survey study. *Age (years)*, 2019. 30(298): p. 81.
6. Alhawsawi, E.M., et al., Knowledge about and determinants for diagnosing hidradenitis suppurativa by ministry of health primary healthcare physicians in Jeddah city 2019: An analytical cross-sectional study. *Journal of Family Medicine and Primary Care*, 2020. 9(3): p. 1448.
7. Jemec GB, Kimball AB. Hidradenitis suppurativa: epidemiology and scope of the problem. *J Am Acad Dermatol*. 2015;73:S4–7.
8. Saunte DML, Jemec GBE. Hidradenitis suppurativa: advances in diagnosis and treatment. *JAMA*. 2017;318:2019–32.
9. Von Der Werth JM, Jemec GBE. Morbidity in patients with hidradenitis suppurativa. *Br J Dermatol*. 2001;144:809–13.
10. Wang SC, Wang SC, Sibbald RG, Alhusayen R, Bashash M, Alavi A. Hidradenitis suppurativa: A frequently missed diagnosis, Part 1: A review of pathogenesis, associations, and clinical features. *Adv Skin Wound Care*. 2015;28:325–32.
11. Napolitano M, Megna M, Timoshchuk EA, Patruno C, Balato N, Fabbrocini G, et al. Hidradenitis suppurativa: From pathogenesis to diagnosis and treatment. *Clin Cosmet Investig Dermatol*. 2017;10:105–15.
12. Melibary YT. Hidradenitis suppurativa in a patient with hyperandrogenism, insulin-resistance and acanthosis nigricans (HAIR-AN syndrome) *Dermatol Rep [Internet]* 2018;10 Available from: <https://www.pagepress.org/journals/index.php/dr/article/view/7546> .
13. Daoud M, Njimi H, Benhadou F, Suppa M, Daxhelet M, Karama J, et al. Metascoring Hidradenitis suppurativa. *J Eur Acad Dermatol Venereol*. 2021 Apr;35(4):e272-e274. doi: 10.1111/jdv.17022.
14. Shah N. Hidradenitis suppurativa: A treatment challenge. *Am Fam Phys*. 2005;72:1547–52.
15. Lee EY, Shear N. What is hidradenitis suppurativa? *Can Fam Physician*. 2017;63:114-20.

Table 6: Practice of the participants regarding hidradenitis suppurativa

| Characteristics | Frequency | Percentage |
|--|------------------|-------------------|
| History of ever diagnosis of a case of hidradenitis suppurativa | | |
| No | 130 | 82.3 |
| Yes | 28 | 17.7 |
| Number of diagnosed cases (n=28) | | |
| One | 5 | 17.9 |
| Two | 12 | 42.9 |
| More than two | 11 | 39.2 |
| Do you prefer to manage early stage of HS? | | |
| Yes | 106 | 67.1 |
| No | 8 | 5.1 |
| Not sure | 44 | 27.8 |
| Do you prefer to treat resistant case of HS? | | |
| Yes | 20 | 12.7 |
| No | 79 | 50.0 |
| Not sure | 59 | 37.3 |
| Level of overall confidence in HS diagnosis | | |
| Excellent | 5 | 3.2 |
| Very Good | 40 | 25.3 |
| Average | 65 | 41.1 |
| Poor | 48 | 30.4 |
| Level of overall confidence in HS treatment | | |
| Excellent | 2 | 1.3 |
| Very Good | 30 | 19.0 |
| Average | 70 | 44.3 |
| Poor | 56 | 35.4 |

Table 7: Residents` personal and work characteristics that associated with history of ever diagnosis of a case of Hidradenitis suppurativa

| Characteristics | Ever diagnose a case of Hidradenitis suppurativa | | p-value* |
|--|--|---|----------|
| | No N=130 N (%) | Yes N=28 N (%) | |
| Age in years ≤25 (n=19) 26-30 (n=128) >30 (n=11) | 16 (84.2) 105 (82.0) 9 (81.8) | 3 (15.8) 23 (18.0) 2 (18.2) | 0.973* |
| Gender Male (n=75) Female (n=83) | 66 (88.0) 64 (77.1) | 9 (12.0) 19 (22.9) | 0.073 |
| Current year in residency program First (n=40) Second (n=38) Third (n=41) Fourth (n=39) | 33 (82.5) 33 (86.8) 36 (87.8) 28 (71.8) | 7 (17.5) 5 (13.2) 5 (12.2) 11 (28.2) | 0.227 |
| Years of clinical practice before residency None (n=92) <1 (n=29) 1-5(n=32) >5 (n=5) | 76 (82.6) 20 (69.0) 30 (93.8) 4 (80.0) | 16 (17.4) 9 (31.0) 2 (6.3) 1 (20.0) | 0.092 |
| History of previous rotation in dermatology clinic Yes (n=82) No (n=76) | 61 (74.4) 69 (90.8) | 21 (25.6) 7 (9.2) | 0.007 |
| Duration of rotation in dermatology clinics (n=82) <1 month (n=29) ≥ 1 month (n=53) | 23 (79.3) 38 (71.7) | 6 (20.7) 15 (28.3) | 0.450 |
| Last time of rotation in dermatology clinics (n=82) This year (n=21) Last year (n=42) >one year (n=19) | 16 (76.2) 29 (69.0) 16 (84.2) | 5 (23.8) 13 (31.0) 3 (15.8) | 0.443 |
| Average number of dermatology cases seen/day <1 (n=42) 1-3 (n=45) 4-5 (n=14) >5 (n=57) | 40 (95.2) 36 (80.0) 12 (85.7) 42 (73.7) | 2 (4.8) 9 (20.0) 2 (14.3) 15 (26.3) | 0.046 |

Table 8: Association between knowledge about Hidradenitis suppurativa and practice-related to it among resident physicians

| | Level of knowledge about HS | | p-value* |
|--|------------------------------------|-------------------------------------|----------|
| | Insufficient N=58 N (%) | Sufficient N=100 N (%) | |
| History of ever diagnosis of a case of hidradenitis suppurativa No (n=130) Yes (n=28) | 54 (41.5) 4 (14.3) | 76 (58.5) 24 (85.7) | 0.005** |
| Number of diagnosed cases (n=28) One (n=5) Two (n=12) More than two (n=11) | 1 (20.0) 4 (33.3) 0 (0.0) | 4 (80.0) 8 (66.7) 11 (100) | 0.113* |
| Do you prefer to manage early stage of HS? Yes (106) No (n=8) Not sure (n=44) | 26 (24.5) 6 (75.0) 26 (59.1) | 80 (75.5) 2(25.0) 18 (40.9) | <0.001* |
| Do you prefer to treat resistant case of HS? Yes (n=20) No (n=79) Not sure (n=59) | 5 (25.0) 24 (30.4) 29 (49.2) | 15 (75.0) 55 (69.6) 30 (50.8) | 0.039* |

* Chi-square test

** Fischer Exact test

Emerging Sources Citation Index (ESCI)



WEB OF SCIENCE™

