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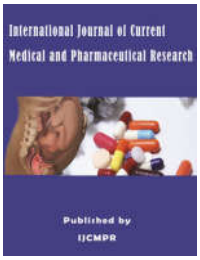

AWARENESS OF SKIN DISEASES AMONG FAMILY MEDICINE RESIDENTS IN MAKKAH, SAUDI ARABIA

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ABSTRACT

Skin diseasesare rarely life-threatening, but the high prevalence rate places it among the top four chronic disease groups when entire communities are considered. A cross-sectional study was conducted at the joint program of family medicine in Makkah city to assess the awareness of skin diseases. The study included 58 out of 70 invited to participate, giving a response rate of (82.8 %). (93.1 %) Of them were between 21 to 30 years of age. All were Saudi nationals; majorities were females (62.1%). (27.6 %) Third level residents, and (25.9 %) fourth level. More than two-thirds of the residents were aware about skin diseases. The study shows statistical significance difference among the residents in respect to their gender and level of residency. There was no statistically significant difference between age groups, attendance of educational activities, how do residents think about the role of primary physician can play in management of skin diseases, what is the most defect If any is incompetent to manage skin disorder, or to which degree they feel competent to manage patient with skin disease and awareness score. Overall, there is a good level of awareness about skin diseases among senior residents and low level of awareness among junior residents.

INTRODUCTION

In spite of the fact that skin disease is seldomlife-threatening, its moderate morbidity rate multiplied by its high prevalence rate places skin disease among the top four chronic disease groups when entire communities are considered.[1] Unlike other specialties, dermatology has 1000 to 2000 diseases. However, the reasons for 70% of dermatology consultations are caused by less than ten skin disease groups.[1]

Moreover, Deforming skin disease of visible sites like the face (e.g. acne) can result in depression, more reduced job prospects and loss of self-esteem. Patients with skin disease have lower quality-of-life scores than patient with other medical disorders.[2]

Eventhough, a new skin disease being the most frequent reason for visiting the primary care doctors, there is a limited level of training and knowledge of primary care doctors in dermatology.[3] Primary care doctors should have enough knowledge in dermatology because accurate diagnosis, appropriate treatment, and patient participation are fundamental for skin disease management.[4] Alongside the accurate knowledge, primary care doctors can manage the most common skin problems and when to decide further referral, which may decrease the hospital visits and reduce expenditure.[5] Primary care doctors face ever-expanding obstacles in the recognition and management of skin diseases. They must be expert in disease approach, as well asthe limitations and when to refer.[6] This study aimed to assess the awareness ofskin diseases among family medicine residents in Makkah, Saudi Arabia, and to correlate the awareness level with the demographic characteristics and other possibly relevant factors of the studied residents.

MATERIALS AND METHODS

A cross-sectional study was conducted at the Joint Program of Family Medicine in Makkah city in 2016. Total of 70 residents at the time of the study. We exclude Residents not on duty during the data collection period and those who refused to participate in the study. The sample size was calculated by assuming that 50% of family medicine residents will have a reasonable awareness level of diagnosing and managing skin diseases. To achieve this at the 95% confidence level with an acceptable error of 5%. Seventy residents were enrolled in the studyand 70 questionnaires were distributed to them.

A two-part self-administered questionnaire in this research. Part one was assessing the demographic characteristics: Age, sex, nationality, and level of residency. Part two was adopted from Görgülüye *et al*. study.[4] to evaluate the awareness of

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skin diseases among family medicine residents. Other possibly relevant factors that may affect the awareness levelwere added. We distributed the questionnaire to the residents by direct contact in the academic day. Care was taken not to disturb the healthcare workers duty. We were available to clarify any issue, and the answered questionnaires were collected soon after the encounter.

Statistical Analysis

Data were coded then entered into a personal computer after been verified by hand. Data had been analyzed by SPSS version 20. Hence all data were categorical, descriptive statistics were applied using frequency and percentage. Analytical statistics were applied using a chi-square test for testing the difference or association between categorical variables. Significance was determined at p-value < 0.05. Residents` awareness regarding skin diseases were categorized according to the mean awareness score into four categories; inadequate (mean score <60%), good (mean score 60-75%), very good (mean score >75-85%), and excellent (mean score >85%).

Those whose mean awareness score above 60% were considered as having adequate awareness for statistical analysis.

Ethical approval was officially provided by the research committee of the joint program of family medicine as well as informed consent asked from all respondents. All the residents had the right not to participate or withdraw from the study before completion. The researcher clarifies the purpose of the study tothe participants. Confidentiality and privacy were guaranteed for the participants. This study was not funded.

RESULTS

The study included 58 Family Medicine Residents out of 70 invited to participate in the study, giving a response rate of (82.8 %). The demographic characteristics of the participated residents shown in *Table 1*.

Table 1 shows that there wasstatistically significant difference (p-value 0.034) between residents' gender and awareness score. Moreover, it is evident that there was statistically significant difference between different levels of residency and skin diseases awareness score.In diversity, there were no statistically significant differences between different age groups and awareness score.

Table 1 Demographic characteristics of family medicine residents regarding the awareness of skin diseases, Makkah, Saudi Arabia

Factor	Awareness score				P-value
	Aware		Not Aware		
	No.	*%*	*No.*	*%*	
Age (in years)					
21 - 30	35	60.34	19	32.75	NS
31 or more	4	6.89	0	0	
Gender					
Male	18	31.03	4	6.89	**<0.03**
Female	21	36.20	15	25.86	
Residency level					
R1	3	5.17	11	18.90	
R2	8	13.79	5	8.62	**<0.001**
R3	14	24.13	2	3.44	
R4	14	24.13	1	1.72	

NS = Not Significant

Table 3 Relevant possible factors affecting the awareness score among family medicine residents.

Factor	Knowledge score				P-value
	Good		Insufficient		
	No.	*%*	***No.***	*%*	
Did youparticipate in educational activities?					
Yes	32	55.17	12	20.68	NS
No	7	12.06	7	12.06	
Do you think that primary care doctors can play an important role in the management of common skin disorders?					NS
Strongly agree	3	5.17	1	1.72	
agree	36	62.06	18	31.03	
What is your reason for incompetence in managing skin diseases?					NS
Lack of knowledge	35	60.34	17	29.31	
Lack of skills	4	6.89	2	3.44	
How competent do you feel in managing skin diseases?					
Very competent	32	55.17	15	25.86	NS
Competent to some extent	7	12.06	3	5.17	
Incompetent	0	0	1	1.72	

NS = Not Significant

Most of the residents (75.9 %) had educational activities in dermatology. The majority (93.1 %) agreed that family doctors could play an important role in the management of common skin disorders while only (6.9 %) strongly agreed. Fortunately

(1.7 %) felt incompetent to manage apatient with a skin disorder, most of them (81 %) felt that they were very competent to manage apatient with a skin disorder, while only (17.2 %) felt competent to some extent. (89.7 %) of them admitted that the Lack of Knowledge is the main defect to make them incompetent to manage skin disorder, while (10.3 %) their defect because of Lack of Skill.

topical steroids must be used for inguinal area and face (20.7 %).

Overall, 67.2 % of the participant residents considered to be Aware " who answered more than 14 (60 %) questions out of 24 questions ", on the other hand only 32.8 % recognized to be Not Aware.*(Figure 1)*

Table 3 Awareness score of skin diseases among family medicine residents.(correct response)

QUESTIONS	TRUE		FALSE		Have No idea	
	No	%	No	%	No	%
1-All of the skin disorders are constituted to internal organs which cause disorder	(35)	60.3	(20)	34.5	(3)	5.2
2-Acneis at close relationship range with German diet	(31)	53.4	(18)	31.0	(9)	15.5
3-Anti-histaminic drugs do affect all itch similar symptoms	(50)	86.2	(6)	10.3	(2)	3.4
4-Steroids may have side effects with local using	(48)	82.8	(5)	8.6	(5)	8.6
5-Psoriasis may infect others with direct contact at approximately %20 rate	(21)	36.2	(30)	51.7	(7)	12.1
6-Topical steroids provide a speedyrecovery in the folliculitis	(13)	22.4	(41)	70.7	(4)	6.9
7-Angioedema in urticaria disease requires the emergent evaluation of the patient	(43)	74.1	(14)	24.1	(1)	1.7
8-The factor of vitiligo's disease is strep. Viridans	(12)	20.7	(40)	69	(6)	10.3
9-Scabies is characterized by night itches	(38)	65.5	(13)	22.4	(7)	12.1
10-Urticaria constitutes as a reason of drug, infection or foods	(30)	51.7	(12)	20.7	(16)	27.6
11-Systemic steroids provide a speedy recoveryin the psoriasis	(11)	19	(41)	70.7	(6)	10.3
12-The river disorders are the most frequent cause acne.	(7)	12.1	(41)	70.7	(10)	17.2
13-Powerful topical steroids should be used for face and inguinal region because of the insufficient effect	(9)	15.5	(37)	63.8	(12)	20.7
14-Behcet' disease may cause genital ulcerations	(37)	63.8	(6)	10.3	(15)	25.9
15-U.V. are accusedon the etiology of skin cancer	(42)	72.4	(4)	6.9	(12)	20.7
16-To moisture, the feet is as important as using drugs for prevention of tinea pedis	(25)	43.1	(32)	55.2	(1)	1.7
17-Fungal diseases of the foot are always itchy	(28)	48.3	(23)	39.7	(17)	12.1
18-Decubitus ulcerations for patients are given to at least one of the two times positional change	(31)	53.4	(20)	34.5	(7)	12.1
19-Air-circulated bed use is proposed for decubitus ulceration's patients	(52)	89.7	(5)	8.6	(1)	1.7
20-Behcet' disease is one of the causesof oral ulcerations	(41)	70.7	(4)	6.9	(13)	22.4
21-The blood glucose following is a must to make because systemic steroids decrease blood glucose	(16)	27.6	(31)	53.4	(11)	19
22-The most frequent cause of male-type hair loss is vitamin insufficiency	(9)	15.5	(41)	70.7	(8)	13.8
23-Applying heat to the acute inflammatory region facilitates the recovery	(10)	17.2	(43)	74.1	(5)	8.6
24-Blisters and scar tissue points out severe burn for burn patients	(42)	72.4	(12)	20.7	(4)	6.9

Additionally, Table 2 showed that there was no statistically significant associations between awareness score of the residents who attended educational activities, those who thought that primary care doctors could playessential roles in the management of common skin diseases, or with those who felt a reasonable degree of competence in managing patients with skin disease.

As shown in *Table 3,* the majority of the residents knew correctly that Air-circulated bed use is proposed for decubitus ulceration's patients (89.7 %), Antihistaminic drugs do affect all itch similar symptoms (86.2 %), Steroids may have side effects with local using (82.8 %), Angioedema in urticaria disease require the emergent evaluation of the patient (74.1 %), and (74.1 %) answered correctly false for Applying heat to the acute inflammatory region facilitates the recovery.

On the other hand, only (51.7 %) of them answered correctly that Urticaria constitutes as a reason of drug, infection or food,(51,7 %) responded that Psoriasis might infect others with direct contact at approximately 20% is not correct, (39,7 %) recognized that Fungal diseases of the foot are always itchy is a false question.

Finally, there are some questions that answered with have no idea, Urticaria constitutes as a reason of drug, infection or food (27.6 %), Behcet' disease may cause genital ulcerations (25.9 %), one of the causes of oral ulcerations is Behcet' disease(22.4 %), Because of the insufficient effect, powerful

Level of Awareness was divided into inadequate (Less than 60 %) is 32.8 %, good (between 60 % to 75 %) is 48.3 %. Very good (more than 75 % to 85 %) is 17.2 %, and excellent (more than 85 %) is 1.7 %.

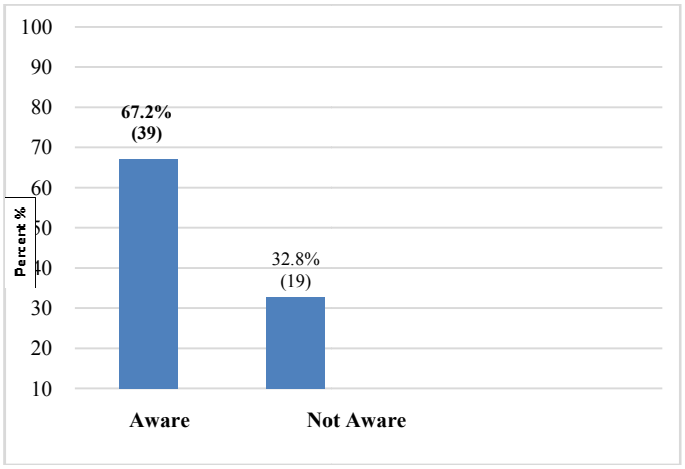

Figure 2 Awareness of skin diseases among family medicine residents, Makkah

DISCUSSION

A response rate of 82.8% was obtained in this study, which could be attributed to the fact that the questionnaires were delivered to the participants directly in the academic day. Additionally, they were assembled by the researcher

simultaneously. The demographic characteristics of the study residents were a bit surprising since most of the participated residents were females (62.1%) rather than males (37.9%). This difference could be because the acceptance rate in the residency program is higher for female physicians than the males, Our results showed that The Family Medicine Residents who responded to this survey had low awareness level (32.8%) about skin disease than one could expect considering their essential role in recognition of skin diseases. The awareness score in the study was comparable to previous studies in the mid-nineties that report many physicians score as substandard care for patients with skin diseases.[16-17] However, only residents in level four and three have good skin diseases awareness score.

As we noticed in the study 78.6 % of residents in level one, 38.5 % of residents in level two, 12.5 % of residents in level three and 6.7 % of residents in level four were not aware regarding the treatment of skin diseases.

A study demonstrated the benefit of engaging physician learners through a Web-Based Platform focused on Individualized End-of-Life Education, the participants who use clinical guidelines and research papers were more likely to have a higher score on knowledge and attitude items, and demonstrate score improvements. [15]

A lower level of knowledge participates in the high rate of referral to dermatologist, although, primary care doctors make more dermatologic diagnoses and prescribe more treatments than previously most of these diseases are straight forward.[7] There are many methods could play an essential role in continuous education and decrease referral rate, a web tool and virtual community of practice for general practice training is a method that studied to bind those doctors who consider being isolated into this virtual community, then professional isolation using virtual community can also lead to decrease rural work and reduced hours, and positive outcome on the rural medical workforce. [14]

Another study done was aimed to investigate the characteristics of referrals from primary care centers to dermatology, primary care physicians were found to overdiagnose dermatological diseases, so creating this virtual community could help doctors avoiding overdiagnosis. [8] Skin conditions in primary care: an analysis of referral demand, this study showed that the primary care doctors are more qualified to rule out a given skin disorder (high specificity) other than providing an accurate diagnosis (reduced sensitivity).[5]

One statementwas asking about acne vulgaris, found that more than two-thirds(53.4%) of residents did not answer it correctly. In comparison with Al-Shobaili's study, which aimed to assess Knowledge and practice of primary healthcare physicians for management of acne vulgaris.The study disclosed that physicians practicing at PHC centers have inadequate knowledge and practice for management of acne. [9] Our studied residents were asked if psoriasis was an infectious disease or not. 51.7% chose the right answer, and 12.1% selected the option of "have no idea." Additionally, 36.2% answered incorrectly, giving a total of 48.3% who could be considered to have low awareness on the subject. Similarly, Nelson *et al*. found that GPs need to gain more skills and knowledge regarding assessment and management of psoriasis.[10]

Another statement was asking about "Fungal diseases of the foot are always itchy?" found that almost the half (48.3%) of the residents did know the correct response.

Regarding vitiligo, about one third (31%) of the residents had low awareness (10.3% had no idea, 20.7% gave incorrect answers). In contrast, in the study done by Görgülüye *et al*. in Turkey, a high percentage (87%) of students marked the option "have no idea" for the same question on vitiligo.[4]

On the other hand, there is one question asked about "Air-circulated bed use are proposed for decubitus ulceration's patients?" most of the residents (89.7%) answered this question correctly.

In this study, we did not find a significant statistical association between the awareness of theresidents and attendance of educational activities in dermatology. In contrast, Al-Hoqail *et al*. found that short clinical training in dermatology for primary care doctors resulted in better performance in detecting, diagnosing, and managing skin diseases than those without training.[11]

Most of the studied residents (89.7%) acknowledged that a lack of knowledge was the predominant reason that they felt incompetent to manage skin diseases. Previously, Bahelah *et al*. investigated primary care doctors' self-perception of competency and knowledge in dermatology. Their study concluded that the self-perception of competency was not associated with a higher ability in the classification of skin lesions.[12]

Primary health care doctors need to build up their knowledge about dermatology.[12] As revealed by many studies teledermatology,[13] dermatology workshops, training activities, and lectures can help in better achievement.[9] Working as a clinical assistant in a dermatology clinic will improve the knowledge gaining.[1]

CONCLUSION

Generally, in Makkah, Saudi Arabia, the Family Medicine Residents' Awareness regarding skin diseases was inadequate, showing the need to enhance such knowledge among them. Since they are the first doctors consulted by patients having skin problems in a PHC setting, building their knowledge in dermatology is fundamental. Training should be augmented with the cooperation of academic dermatologists, who should organize lectures, workshops, and educational activities for PHCPs.

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