

Atopic Dermatitis - Knowledge and Attitude of Primary Health Care Providers, Majmaah, Saudi Arabia

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ABSTRACT

BACKGROUND

Atopic dermatitis (AD) is common in Saudi Arabia. Level of primary health care providers' (PHCPs) knowledge about the disease is inadequate. We wanted to determine the knowledge and attitude of primary health care providers (PHCPs) in Majmaah, Saudi Arabia, toward atopic dermatitis (AD).

METHODS

This cross-sectional study was conducted in Majmaah, Saudi Arabia, from August to October 2020. The data was collected from eight primary healthcare centres in the city by a pre-tested questionnaire. The data was analysed using SPSS 26.0. Pearson-chi-square / Fisher Exact test were applied to observe associations between qualitative variables. A P-value of < 0.05 was considered as statistically significant.

RESULTS

The data was collected from 23 PHCPs. The qualification obtained by most of the PHCPs (78.3 %) was Bachelor of Medicine & Bachelor of Surgery (MBBS), 17.4 % were diploma holders and only one had master's degree. The average AD score out of 8 items was 5.95 + 1.18. The minimum and maximum scores were 3 and 8. Converting the scores to percentages, the participants who had good knowledge about AD were 17 (73.91 %). Five (21.74 %) had average knowledge and only one (4.35 %) had poor knowledge.

CONCLUSIONS

The level of atopic dermatitis knowledge of PHCPs in Majmaah, Saudi Arabia, was found to be adequate, whereas the attitude was observed to be negative. Focus-group discussions, tailored sessions, or continuous medical education programs can be conducted to discuss the management guidelines on this condition with the PHCPs.

KEY WORDS

Atopic Dermatitis, Primary Healthcare Centres, Knowledge, Attitude, Saudi Arabia

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BACKGROUND

Atopic dermatitis, also called allergic dermatitis or atopic eczema, is an inflammatory skin disease with a chronically relapsing course. The disease is characterized by episodes of intense pruritus, lichenification, severely dry skin, and susceptibility to cutaneous infections.¹⁻³ The disease may have periods of complete remission, particularly in adolescence, and may then recur in early adult life. Most patients improve; this can occur at any age. AD affects almost one-fifth of all individuals during their lifetime; however, the prevalence differs in different countries.^{4,5} It was stated that the AD prevalence rate is rising, and it affects 15 % – 30 % and 2 % – 10 % of children and adults, respectively, worldwide.^{6,7}

The disease is common in children but can occur at any age.^{8,9} Atopic dermatitis runs a chronic course and tends to flare periodically. It may be accompanied by asthma or hay fever. AD is often associated with an elevation in serum immunoglobulin E and family history of atopy, that describes a group of diseases including eczema, allergic rhinitis, and asthma. In adults, AD affects different parts of the body compared to manifestations in children.^{10,11} Management of AD consists of relieving symptoms and increase time between flare-ups. Use of emollients at regular basis is recommended. The pharmacologic treatment of the disease is primarily topical corticosteroids once daily. A maintenance dose of topical corticosteroids may help reducing relapse in patients with recurrent moderate to severe forms of the disease. Although some experiences showed possible link between AD treatment and some malignancies like lymphoma, this was not demonstrated with strong evidence. Some forms of complementary and alternative medicines such as traditional chinese medicine (TCM) and Homeopathy are used to treat AD, but their effect is still a controversy.¹²

Atopic Dermatitis is common in Saudi Arabia, Alqhtan JM reported that the disease was present in 40.5% of Najran University students in south-western Saudi Arabia.¹³ The prevalence of AD among children in Jazan, Saudi Arabia showed considerable difference in presentation from those reported at local and regional levels. The results showed that population living in plain areas were more susceptible to AD than those living in other areas.¹⁴

Knowledge of PHC practitioners about dermatological conditions including AD was inadequate as reported by Alkatheri AA et al. who found that 94% of PHCP in Jeddah, Saudi Arabia had inadequate knowledge.¹⁵ A study conducted by Al-Zahrani et al. in Abha, Saudi Arabia intending to evaluate the knowledge Attitude and Practice of PHC physicians found that most of the respondents had low education related to dermatology. The study also showed that most of the primary healthcare physicians lacked basic knowledge of common dermatological disorders including atopic dermatitis. They also reported lack of guidelines for management of dermatological disorders.¹⁶ A study conducted in Sudair Area of Saudi Arabia reported lack in knowledge and practice among physicians regarding management of Atopic Dermatitis. The study demonstrated that the practice of physicians was affected by age.¹⁷

This inadequate knowledge was also reported in England, Wales, and North India.^{16,18,19} To improve physicians' experiences, five key consistent, evidence-based messages were stated by Cowdell F et al. - "eczema is more than just dry

skin, eczema does not just go away, moisturizers are for every day, steroid creams are okay when you need them, and you know your child's eczema best".²⁰ We wanted to determine Atopic Dermatitis knowledge and attitude of Primary Health Care Providers in Majmaah, Saudi Arabia.

METHODS

This cross-sectional study was conducted in Majmaah, Saudi Arabia from August – October 2020. The data was collected from eight primary healthcare centres (PHCs), Alfiha, Alfaisilia, Alyarmook, Almatar, Al Majmaah, Albusera and Harma in Majmaah city. A total of 23 primary healthcare physicians (PHCPs) were working in all PHCs. Complete enumeration sampling technique was used to collect the data using direct investigation method. The research was approved by the Central Institutional Review Board, Ministry of Health, Kingdom of Saudi Arabia vide reference no 2019 - 0174E. A self-prepared questionnaire was used to collect the data. The submitted questionnaire comprised of four sections. Section A contained questions related to the demographic and educational information of the PHCPs, Section B and C comprised of knowledge and attitude questions, respectively. The Internal Consistency Reliability (ICR) through Cronbach Alpha was evaluated for each section separately.

Section B (knowledge) comprised of 8 multiple choice questions (MCQ's), each MCQ had only one correct answer with responses coded as 0 = wrong, 1= don't know, and 2 = correct. The scores ranged from 0 - 8; a higher score indicated a higher level of knowledge. In the second step, the quantitative knowledge score was categorized into percentage. A score of < 50 % was categorized as having poor knowledge, 50 - 75 % was regarded as average knowledge and > 75 % was considered as having adequate knowledge. The Cronbach Alpha for Knowledge section was 0.641. Section C comprised of 14 questions that assessed PHCP's attitude towards AD. All the questions were measured on a five - point Likert scale. The attitude of the PHCPs was further classified as positive and negative based on the mean scores. Values at or above the mean were classified as having a positive attitude, and values below the mean were referred to as having a negative attitude. The Cronbach Alpha for attitude section was 0.613.

Sample Size

The entire kingdom of Saudi Arabia (KSA) is divided into Health Clusters. Majmaah is a town near Riyadh with a population of around 60,000. It has 8 primary healthcare centres and 23 PHCPs are working there. We have used the complete enumeration sampling technique to collect the data from all PHCP's working in 8 PHC's.

Statistical Analysis

The data was entered and analysed using SPSS 26.0 (IBM Corp., New York, NY, USA). Mean \pm S. D had been reported for quantitative variables like age. Frequencies and percentages were given for qualitative variables. One-sample t-test was applied to evaluate the participants mean AD knowledge score with the threshold value of 50 %. One-sample chi-square test

was also applied to compare the distribution of positive and negative attitude. Pearson-chi-square / Fisher Exact test were applied to observe associations between qualitative variables (knowledge, attitude, and practice with demographic variables). A P - value of < 0.05 was considered as statistically significant.

RESULTS

The data was collected from 23 PHCPs with the mean age of 43.57 ± 7.23 years. All the PHCPs were non-Saudi and most were males 12 (52.2 %) as compared to the females 11 (47.8 %). Almost 60 % of the PHCPs belonged to the age-group of 35 - 44 years, followed by > 50 years. 6 (26.1 %) and only 3 (13 %) PHCPs were between the age of 45 and 49 years. Five PHCPs (21.7 %) were working at Almatar PHC, 4 (17.4%) each at Alfaha and Harma PHCs, 3 (13 %) each at Alfaisilia and Alyarmook PHC's and 2 (8.7 %) each at Al Majmaah and Albusera PHCs. Of all the qualification obtained by most of the PHCPs, 18 (78.3 %) had Bachelor of Medicine & Bachelor of Surgery (MBBS), 4 (17.4 %) were Diploma holders and only one had master's degree. More than 90 % of the PHCPs were general practitioners and only 2 (8.7 %) were residents. In-terms of experience, most of them 12 (52.2 %) had between 7 and 10 years, followed by > 10 years who were 10 (43.5 %) and only one had experience between 4 and 6 years. Results are presented in Table 1.

Demographic Characteristics		N (%)
Gender	Male	12 (52.2)
	Female	11 (47.8)
Age (years)	35 - 39	7 (30.4)
	40 - 44	7 (30.4)
	45 and more	9 (39.1)
	Masters	1 (46.0)
Qualification	MBBS	18 (54.0)
	Diploma	4 (17.4)
Specialty	General Practitioner	21 (91.3)
	Resident	2 (8.70)
Experience (years)	4 - 10	13 (56.5)
	> 10	10 (43.5)
PHC	Alfaha	4 (17.4)
	Alfaisilia	3 (13.0)
	Alyarmook	3 (13.0)
	Almatar	5 (21.7)
	Al Majmaah	2 (8.70)
	Albusera	2 (8.70)
	Harma	4 (17.4)

Table 1. Demographic Characteristics of PHCP (N = 23)

All are non-Saudi

Item	Stem	N (%) Correct Answers
1	Familiarity with diagnostic criteria for atopic dermatitis	21 (91.3)
2	Knowledge of the aetiology of AD	21 (91.3)
3	Associated factors with AD	19 (82.6)
4	The most important symptom of AD	22 (95.7)
5	The common sites of AD in children (0-5 years old)	18 (78.3)
6	The common sites of AD in adults (25 years old and above)	8 (34.8)
7	Clinical presentation of AD	9 (39.1)
8	Prevention of recurrence of AD after proper treatment?	19 (82.6)

Table 2. Atopic Dermatitis - Knowledge of the PHCP's (N = 23)

The average AD score out of 8 items was 5.95 + 1.18, the minimum and maximum scores were 3 and 8. Converting the scores to percentages, the participants had fair knowledge

(74.45 %) about AD. The result of a one-sample t-test confirmed that the participants had overall significant fair knowledge about AD (P < 0.001). This was achieved by comparing the AD percentage score (74.45 %) with the threshold value of 50 %. The percentages of correct answers for each item are presented in Table 2. Overall, the majority of participants had adequate knowledge 17 (73.91 %) about AD, 5 (21.74 %) had fair knowledge and only 4.35 % had poor knowledge about AD (Figure 1).

Results presented in Table 3 shows that no significant association was observed between gender and knowledge of the participants about AD (P = 0.544), participant's knowledge about AD was also not significantly associated with working PHC (P = 0.327), age (P = 0.073), qualification (P = 0.961), specialty (P = 0.679), and experience in specialty (P = 0.231).

Socio-Demographics	Knowledge Score			Significance P-Value	
	Poor	Fair	Adequate		
Gender	Female	1 (100 %)	2 (40.0 %)	9 (52.9 %)	0.544
	Male	0 (0.0 %)	3 (60.0 %)	8 (47.1 %)	
Working PHC	Alfaha	0 (0.0 %)	0 (0.0 %)	4 (23.5 %)	0.327
	Alfaisilia	0 (0.0 %)	2 (40 %)	1 (5.9 %)	
	Alyarmook	1 (100 %)	0 (0.0 %)	2 (11.8 %)	
	Almatar	0 (0.0 %)	1 (20 %)	4 (23.5 %)	
	Al Majmaah	0 (0.0 %)	0 (0.0 %)	2 (11.8 %)	
	Albusera	0 (0.0 %)	1 (20 %)	1 (5.9 %)	
	Hamra	0 (0.0 %)	1 (20 %)	3 (17.6 %)	
Age (years)	35 - 39	0 (0.0 %)	3 (60 %)	4 (23.5 %)	0.073
	40 and more	1 (100 %)	2 (40.0 %)	13 (76.5 %)	
Qualification	Masters	0 (0.0 %)	0 (0.0 %)	1 (5.9 %)	0.961
	Diploma, MBBS	1 (100 %)	5 (100 %)	16 (94.1 %)	
Specialty	General Practitioner	1 (100 %)	5 (100 %)	15 (88.2 %)	0.679
	Resident	0 (0.0 %)	0 (0.0 %)	2 (11.8 %)	
Experience Specialty	4 - 6 years	0 (0.0 %)	1 (20 %)	0 (0.0 %)	0.231
	7 years and more	1 (100.0 %)	4 (80 %)	17 (100.0 %)	

Table 3. Association between AD Knowledge and Socio-Demographic Characteristics (N = 23)

Socio-demographics	Attitude Score		Significance P - Value	
	Negative	Positive		
Gender	Female	9 (56.3 %)	3 (42.9 %)	0.554
	Male	7 (43.8 %)	4 (57.1 %)	
Working PHC	Afhiha	4 (25.0 %)	0 (0.0 %)	0.193
	Alfasailia	1 (6.30 %)	2 (28.6 %)	
	Alyarmook	1 (6.30 %)	2 (28.6 %)	
	Almatar	3 (18.8 %)	2 (28.6 %)	
	Almajmaah	1 (6.30 %)	1 (14.3 %)	
	AlBusera	2 (12.5 %)	0 (0.0 %)	
	Alhamra	4 (25.0 %)	0 (0.0 %)	
Age (years)	35 - 39	5 (31.3 %)	2 (28.6 %)	0.784
	40 - 44	4 (25 %)	3 (42.9 %)	
	45 - 49	2 (12.5 %)	1 (14.3 %)	
	> 50	5 (31.3 %)	1 (14.3 %)	
Qualification	Masters	0 (0.0 %)	0 (0.0 %)	0.022*
	MBBS	15 (93.8 %)	3 (42.9 %)	
	Diploma	1 (6.30 %)	3 (42.9 %)	
Experience Specialty	4 - 6 years	1 (6.3 %)	0 (0.0 %)	0.435
	7 - 10 years	7 (43.8 %)	5 (71.4 %)	
	More than 10 years	8 (50 %)	2 (28.6 %)	
Specialty	General Practitioner	14 (87.5 %)	7 (100 %)	0.328
	Resident	2 (12.5 %)	0 (0.0 %)	

Table 4. Association between AD Attitude and Socio-Demographics (N = 23)

The overall mean AD score of 8 items was 3.08 ± 0.34. The mean score of AD was then categorized into as having a positive and negative attitude. Majority of the PHCP's had negative attitude 16 (69.57 %) and 7 (30.43 %) had positive attitude (Figure 2). The result of one-sample chi-square test

showed that the overall attitude of PHCP's was inappropriate ($\chi^2 = 7.05 (1), P = 0.016$).

The positive and negative attitude when compared with the demographic variables showed no significant association, age ($P = 0.784$), gender ($P = 0.554$), working PHC ($P = 0.193$), specialty ($P = 0.328$) and experience in specialty ($P = 0.435$).

Whereas qualification and attitude were significantly associated ($P = 0.022$) showing that those with MBBS qualification had significantly negative attitude towards AD. Results are presented in Table 4.

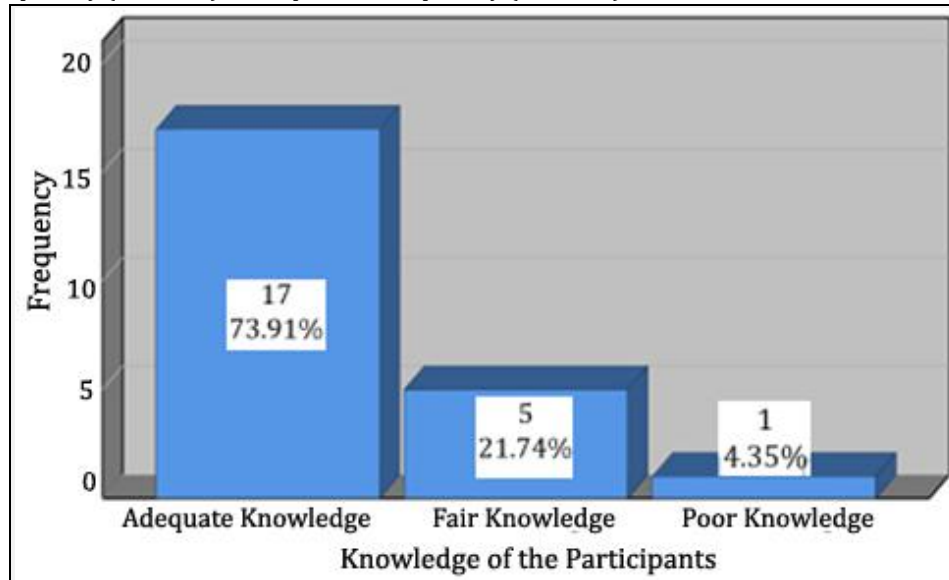


Figure 1. PHCP's Knowledge about AD

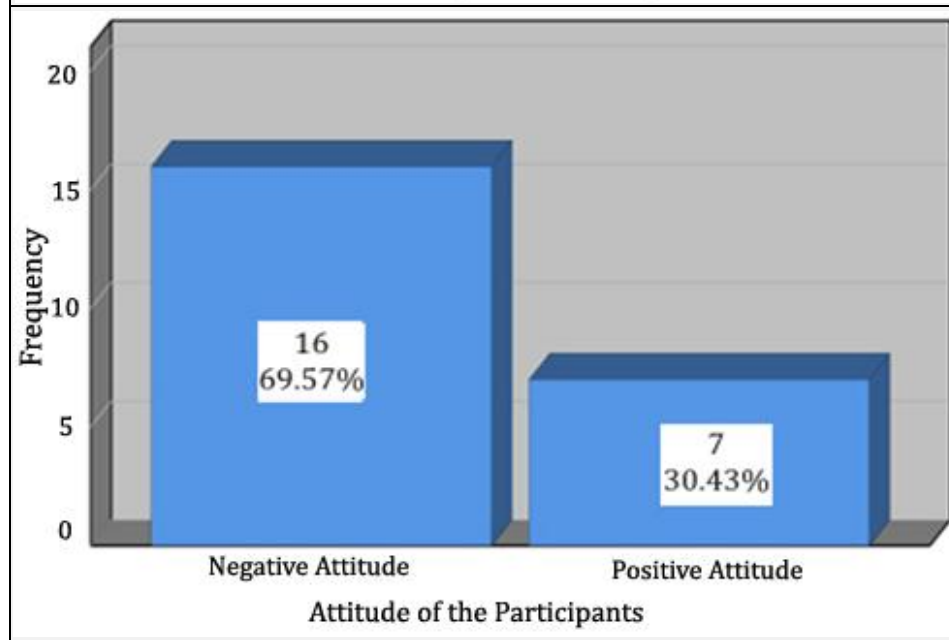


Figure 2. PHCP's Attitude Regarding AD

DISCUSSION

This study was designed to assess the level of knowledge and attitude of PHC practitioners about Atopic Dermatitis. All Primary Health Care Providers (PHCPs) working in Majmaah, Saudi Arabia were included in the study.

Most of the participants correctly identified the cause of AD (91.3 %). This was higher than what was reported by Kouotou EA et al. who reported that 64 % of the respondents reported allergy as a cause of AD while 43 % stated that genetic causes were also responsible for the disease, the psychological cause was rarely mentioned in his study.²¹ In our study, most of the PHC physicians were familiar with diagnostic criteria of atopic dermatitis. This was consistent with results of a study conducted in Southeast Asian

dermatologists in Singapore, Malaysia, Thailand, Taiwan, and Hong Kong in the management of atopic dermatitis.²²

Results showed that 73.9 % of the primary health care physicians in Majmaah had adequate AD knowledge. This finding was higher than the level of knowledge reported among PHCPs in Jeddah, Saudi Arabia which found an average level of knowledge between 41.1 % and 55.2 % in the domains of self-assessment, overall knowledge, and management of AD. In a study conducted in Cameron, PHC practitioners had poor to average knowledge about AD.²¹

In our results no relation was found between Level of AD knowledge and gender, age, qualifications, specialty, or experience in specialty. Studies conducted in Saudi Arabia found a significant relationship between AD knowledge and gender with females having better knowledge than males.^{20,21} Almaliki RA et al. found a statistical significance between AD

knowledge and the age of respondents.²⁰ A study conducted elsewhere found relation between AD knowledge and specialty.²⁰

Our results found that the attitude of PHCPs towards AD was appropriate; This was in consistent with a study conducted by Kouotou EA et al. who found that most of the PHCPs had poor attitude towards the disease.²¹ The author attributed poor attitude to the inadequate knowledge and poor practice towards the disease.

CONCLUSIONS

The level of knowledge of PHCPs in Majmaah, Saudi Arabia, with regard to atopic dermatitis was found to be adequate, whereas, the attitude was observed to be negative. Focus-group discussions, tailored sessions, or continuous medical education programs can be conducted to discuss the management guidelines on this condition with the PHCP's. Special training and continuous supervision are recommended to improve the attitude of the PHCPs towards the disease.

Data sharing statement provided by the authors is available with the full text of this article at jemds.com.

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