

# The Prevalence, Knowledge and Attitude Regarding Atopic Dermatitis among Adult Population in Saudi Arabia

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## Abstract

**Background:** Atopic dermatitis (AD), or allergic dermatitis or atopic eczema, is a common, chronic, relapsing, and inflammatory skin disease characterized by dry and itchy skin and increased and recurring lesions affecting the general population of all ages.

**Aim:** The aim of the study is to investigate the prevalence, knowledge, and attitude associated with the factors affecting AD in the adult population of Saudi Arabia.

**Materials and Methods:** A Cross-sectional study was conducted in Saudi Arabia from January to March 2023, and 922 participants were recruited. An online questionnaire was designed by Google Forms and distributed digitally via social media applications. Logistic regression analysis was conducted to investigate the associated factors affecting AD in the population.

**Results:** The findings revealed a 30% prevalence of AD among the adult population in Saudi Arabia. This indicates a significant burden of the disease in the country. The knowledge level on AD was fair in 43% of participants, good in 25.9%, and poor in 31.1%. Similarly, the attitude towards AD was fair in 53% of participants, good in 2.6%, and poor in 44.4%. These results suggest a need for improving the understanding and perception of AD among the population.

**Conclusion:** The study findings an immediate requirement for better public education about AD in Saudi Arabia. This education should increase awareness of AD's symptoms, causes, and treatments.

**Keywords:** atopic dermatitis; eczema; asthma; allergic rhinitis; steroids

## Introduction

Atopic dermatitis (AD), or allergic dermatitis or atopic eczema, is a common, recurring, inflammatory, and chronic skin condition particularly frequent in developed countries [1]. AD incidences are common in the adult population of all countries, ranging from 2.1% to 4.9% [2]. These incidences are generally higher in females than males and lower in older age groups, with a peak prevalence mostly observed in the age groups of

25-44 years [3]. Although the pathophysiology of AD is not yet fully known, numerous study findings observe immunological dysregulation and skin barrier disruption as a cause [4].

Severe dryness of the skin, episodes of intense pruritus, lichenification, and susceptibility to skin infections form the disease characteristics. Full

remission may occur during adolescence, followed by a recurrence during adulthood [5]. Most patients' conditions improve, which can occur for people of all ages. AD follows a chronic cycle and flares up periodically. AD affects the body's different parts in adults compared to manifestations in children. Managing AD involves relieving symptoms and increasing the time period between periodical flare-ups [6].

Most patients with AD do not present a common allergen immunoglobulin E (IgE) reaction. "Atopic eczema" or "atopic dermatitis" is still often used to describe a poorly defined inflammatory skin condition with surface changes, flexures, and a history of asthma or allergic rhinitis [7]. A family history of eczema or asthma is correlated with a higher risk of having eczema. In addition, no significant association could be observed between smoking or breastfeeding and the risk of having eczema [8].

AD is common in Saudi Arabia as primary health care providers' (PHCPs) knowledge about the skin condition disease is inadequate [9]. A study conducted among the adult population in Saudi Arabia on knowledge and attitude reported a lack of knowledge and skills among physicians for managing AD. AD is mostly treated with topical corticosteroids once daily, and a continuous dose can help reduce the recurrent relapse in patients with moderate to serious forms. A lack of knowledge for managing dermatological issues was noted [10], also observed in England, Wales and Northern Ireland [11].

Information on the prevalence and awareness of AD in Saudi Arabia is scarce in our area, yet significant studies were found when other Kingdom regions were investigated. Hence, our study aimed to evaluate the prevalence, knowledge, attitude, and factors associated with AD among the adult population in Saudi Arabia.

## Materials and method

### Study design, setting, and time period:

A cross-sectional study was conducted in Saudi Arabia from January to March 2023.

### Study population:

The inclusion criteria for the study were Saudi Arabian adults aged 18 - 30 years. The exclusion criteria were non-Saudi Arabian citizens and age, excluding the specified range [12].

### Sample size:

A sample size was calculated [13], and a total of 922 participants were selected.

### Data collection:

An online questionnaire was designed by Google Forms and distributed digitally via social media applications. Participants' demographics, knowledge, and attitudes regarding eczema and previous diagnosis with eczema by a physician and related conditions were included in the questionnaire to collect data [14,15]. A participant was considered to have a poor knowledge level if they scored less than 50% of the correct answers on knowledge items, a fair knowledge level if they scored 50-75%, and a good knowledge level if they scored more than 75%. The same scoring was followed for the attitude scoring (negative, fair, and positive attitudes) [14,16].

### Ethical approval:

Ethical approval was obtained for conducting the study from the Umm Al-Qura University, KSA, research ethics committee, approval no. HAPO-02-K-012-2022-11-1350

### Statistical analysis:

Data were analyzed by applying the SPSS software version 26. Qualitative data were expressed as numbers and percentages to test the relationship between variables, and the Chi-squared test ( $\chi^2$ ) was applied. The mean and standard deviation (Mean + SD) were applied to express quantitative data. Spearman's test was used to analyze the correlations, and a p-value of less than 0.05 was considered statistically significant. A logistic regression analysis was conducted to find the associated factors of AD in the study population.

## Results

An overview of the socioeconomic and demographic traits of the population under study is given by the data that has been made available. A lesser percentage of respondents are male (19.8%), while the majority of respondents are female (80.2%). The majority of respondents (89.9%) are single, and the ratio of married people (10.1%) is less. Most have completed high school or more, with bachelor's degree holders accounting up the largest group (58.6%). Students make up the majority (74.2%), followed by employers (11.5%), and the unemployed and retirees account for minor percentages. A significant fraction of respondents fell into the 10000-20000 SR range, with respondents being spread evenly across various income levels. The respondents are dispersed over several regions, with a marginally higher presence in the Western and Central regions than in the other regions.

Variable	No. (%)
Gender	
Female	739 (80.2)
Male	183 (19.8)
Marital status	
Single	829 (89.9)
Married	93 (10.1)
Education	
Illiterate	7 (0.8)
Elementary or middle school	15 (1.6)
High school	291 (31.6)
Bachelor's degree	540 (58.6)
Diploma	53 (5.7)
PhD	4 (0.4)
Master's	12 (1.3)
Employment	
Student	684 (74.2)

Unemployed	130 (14.1)
Retired	2 (0.2)
Employee	106 (11.5)
Monthly family income (SR)	
less than 5000	239 (25.9)
5000-10000	254 (27.5)
10000-20000	259 (28.1)
More than 20000	170 (18.4)
KSA region	
Southern	136 (14.8)
Eastern	206 (22.3)
North	94 (10.2)
western	244 (26.5)
Central	242 (26.5)

**Table 1:** Distribution of studied participants based on their demographic features (No. 922).

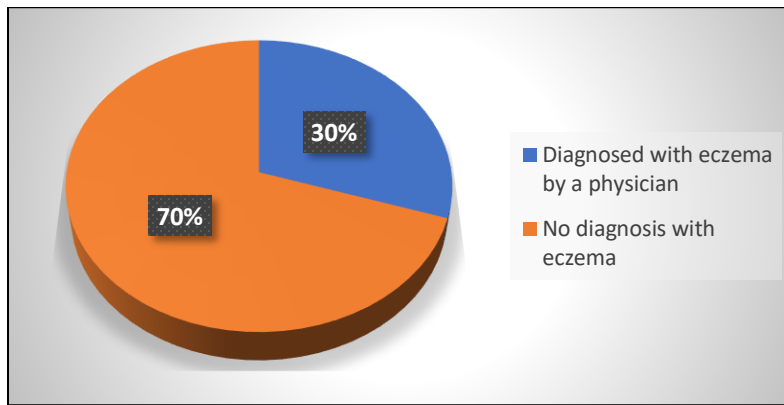
Table 2 demonstrates the participants' responses to knowledge and attitude items concerning eczema. Of the participants, 90.8% knew atopic dermatitis or atopic eczema, and 67.4% understood that eczema is not contagious. Also, 62% (62.3%) knew about therapy's role in controlling the disease, and 82.8% knew the importance of constant daily moisturization for treating and managing eczema. About 56% (56.4%) knew that a patient with eczema could pass the disease from them to their

children, 34.2% were aware that a person with eczema could develop asthma, and 82.1% knew that perfumes and scented soaps could worsen eczema. Only 29.9% understood that not every child with eczema suffers all of life. Only 20.2% did not agree that topical steroids are not a safe treatment for eczema, even if prescribed and followed up by a dermatologist. About 35% (35.5%) agreed that every case doesn't worsen eczema in patients if they ate certain foods (Table 2).

Variable	No. (%)
Do you know the skin disease called atopic Dermatitis?	
No	85 (9.2)
Yes*	837 (90.8)
Is eczema contagious?	
No*	621 (67.4)
I don't know	210 (22.8)
Yes	91 (9.9)
What is the role of therapy in eczema?	
Control the disease *	574 (62.3)
Cure the disease	229 (24.8)
I don't know exactly	119 (12.9)
What is the importance of constant daily moisturization in the treatment of eczema?	
Not important	1 (0.1)
Somewhat important	91 (9.9)
Very important *	763 (82.8)
I don't know exactly	67 (7.3)
Can the offspring of a patient with eczema inherit the disease from their parent?	
No	132 (14.3)
I don't know	270 (29.3)
Yes*	520 (56.4)
Can a person with eczema develop asthma?	
No	123 (13.3)
I don't know	484 (52.5)
Yes*	315 (34.2)
Can a person with eczema develop allergic rhinitis?	
No	76 (8.2)
I don't know	511 (55.4)
Yes*	335 (36.3)
Can perfumes and scented soaps worsen eczema	
No	23 (2.5)
I don't know	142 (15.4)
Yes*	757 (82.1)
Will every child with eczema suffer all their life from eczema?	
No	251 (27.2)
I don't know	258 (28)
Yes	137 (14.9)

Not every case*	276 (29.9)
Do you agree or disagree Topical steroids are not a safe treatment for eczema, even if prescribed and followed up by a dermatologist? I don't know No, I don't agree * Yes, its not safe	549 (59.5) 186 (20.2) 187 (20.3)
Do you agree or disagree that certain foods always make eczema worse in every patient? I don't know Not in every case * Yes, I agree food always causes flare ups	279 (22.2) 445 (35.5) 530 (42.3)

**Table 2:** Distribution of studied participants based on their knowledge and attitude concerning eczema (No.922).



**Figure 1:** Illustrates that 277 (30%) of all studied participants were diagnosed with eczema by a physician.

Table 3 demonstrates that out of all 277 patients diagnosed with eczema, 23.4% were diagnosed with a dermatologist, 36.9% had a parental history of atopic dermatitis, and 31.5% had eczema in the elbow. More than half (50.7%) had reported recurring symptoms more than one night/week a

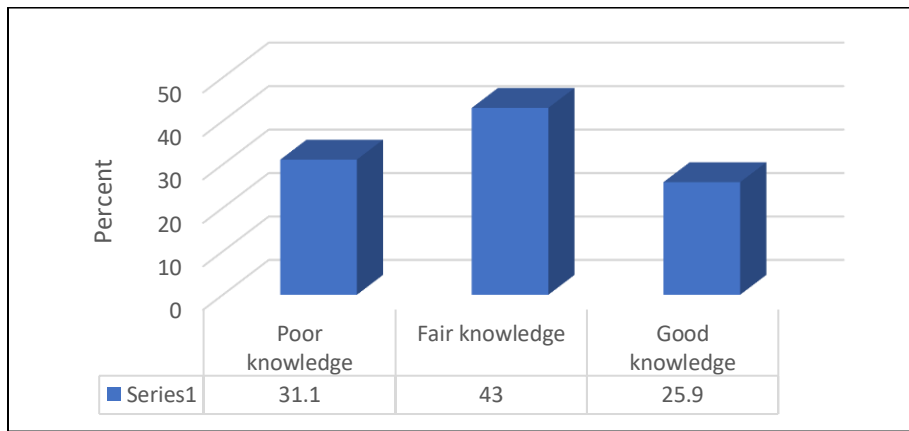
week. Of them, 56% also affected their daily activities or work performance. Also, 30% revealed that atopic dermatitis affects their close relationships, and 73.7% reported severity of itching has direct effects on night sleep.

Variable	No. (%)
What is the specialty of that doctor? (No.: 277)	
Pharmacist	4 (0.4)
Family doctor	15 (1.6)
pediatrician	12 (1.3)
Dermatologist	216 (23.4)
Allergist and immunologist	2 (0.2)
General Doctor	25 (2.7)
What I remember	3 (0.3)
Parental history of atopic dermatitis (No.:277)	
No	175 (63.1)
Yes	102 (36.9)
Where is the most common site of lesions? (No.:277)	
Knee	23 (8.3)
Chest or back	30 (10.8)
Neck	23 (8.3)
Ankle	58 (20.9)
Elbow	87 (31.5)
Face	56 (20.2)
How many times do symptoms occur in a week? (No.:277)	
More than one night/ week	140 (50.7)
Once per month	40 (14.4)
One night/ week	42 (15.1)

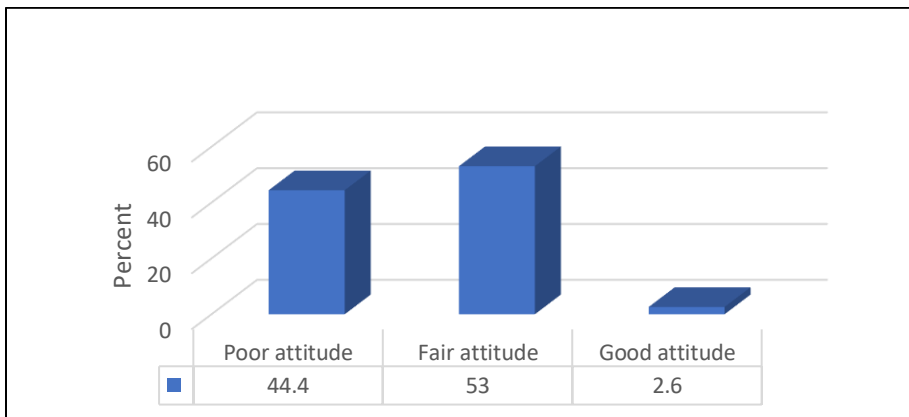
Rarely	55 (19.8)
Do you think that atopic dermatitis affects your daily activities or work performance?	
No	122 (44)
Yes	155 (56)
Do you think that atopic dermatitis affects your close relationships?	
No	194 (70)
Yes	83 (30)
Does the severity of itching affect your sleeping at night?	
No	73 (26.3)
Yes	
	204 (73.7)

**Table 3:** Distribution of participants with eczema based on disease circumstances (No. 277).

The mean knowledge and attitude scores were considered  $4.3 \pm 1.71$  and  $1.66 \pm 0.93$ , respectively. Figure 2 illustrates the participants' knowledge levels, with 31.1%, 43% and 25.9% having a poor, fair and good knowledge level, respectively. However, 44.4%, 53% and 2.6% of the participants had negative, fair and positive attitudes, respectively (Figure 3).



**Figure 2:** Distribution (%) of studied participants based on their knowledge of eczema.



**Figure 3:** Distribution (%) of studied participants based on their attitude level towards eczema (No.922).

Table 4 shows the prevalence of females with previous diagnoses of eczema by a physician to be significantly higher compared to male participants (84.1% vs. 15.9%), and prevalence is higher in students as well ( $p < 0.05$ ). The data in this table shows the correlation between a set of participant's demographic characteristics and their prior eczema diagnosis from a physician. The variables analyzed include Gender, Marital status, Education, Employment, Monthly family income, and KSA region. For Gender, there's a statistically significant association between gender and previous diagnosis of eczema, with females having a

higher prevalence of eczema diagnosis compared to males ( $p = 0.048$ ). Marital status, Education, Monthly family income, and KSA region did not show statistically significant associations with previous eczema diagnosis ( $p > 0.05$ ), although there were varying prevalence rates across categories within each variable. Employment status showed a statistically significant association with previous eczema diagnosis ( $p = 0.036$ ), with employed individuals having a higher prevalence of eczema diagnosis compared to students, unemployed, and retired individuals.

Variable	No previous physician diagnosis with eczema No. (%)	Previous physician diagnosis with eczema No. (%)	$\chi^2$	p-value
Gender				
Female	506 (78.4)	233 (84.1)	3.91	0.048
Male	139 (21.6)	44 (15.9)		
Marital status				
Single	585 (90.7)	244 (88.1)	1.45	0.227
Married	60 (9.3)	33 (11.9)		
Education				
Illiterate	4 (0.6)	3 (1.1)	6.27	0.393
Elementary or middle school	9 (1.4)	6 (2.2)		
High school	211 (32.7)	80 (28.9)		
Bachelor's degree	374 (58)	166 (59.9)		
Diploma	37 (5.7)	16 (5.8)		
PhD	4 (0.6)	0 (0.0)		
Master's	6 (0.9)	6 (2.2)		
Employment				
Student	494 (76.6)	190 (68.6)	8.52	0.036
Unemployed	79 (12.2)	51 (18.4)		
Retired	2 (0.3)	0 (0.0)		
Employee	70 (10.9)	36 (13)		
Monthly family income (SR)				
less than 5000	172 (26.7)	67 (24.2)	2.69	0.441
5000-10000	168 (26)	86 (31)		
10000-20000	182 (28.2)	77 (27.8)		
More than 20000	123 (19.1)	47 (17)		
KSA region				
Southern	97 (15)	39 (14.1)	0.9	0.924
Eastern	145 (22.2)	61 (22)		
North	67 (10.4)	27 (9.7)		
western	156 (25.6)	79 (28.5)		
Central	171 (26.5)	71 (25.6)		

**Table 4:** Relationship between previous diagnosis of eczema by a physician and participants' demographics (No.:922).

Table 5 demonstrates a good knowledge level about eczema and reveals it to be significantly higher among females, single, had a bachelor's degree of education, a monthly income of 10000-20000 SR, and among participants previously diagnosed with eczema by a physician (59.4%) ( $p < 0.05$ ). Firstly, gender significantly impacts knowledge levels ( $\chi^2 = 23.84$ ,  $p < 0.001$ ), with females exhibiting more knowledge across all categories than males. Single persons had better knowledge levels than married ones ( $\chi^2 = 8.59$ ,  $p = 0.011$ ). Stronger education levels correlate with stronger eczema knowledge ( $\chi^2 = 26.23$ ,  $p = 0.01$ ). Although job status is associated, it is not statistically significant ( $\chi^2 = 7.23$ ,  $p = 0.3$ ).

Knowledge levels are significantly correlated with income levels ( $\chi^2 = 20.77$ ,  $p = 0.002$ ), with higher income groups indicating greater knowledge levels. Geographic region (KSA) associations are not statistically significant ( $\chi^2 = 15.41$ ,  $p = 0.052$ ). Physician-diagnosed eczema patients have considerably greater knowledge levels ( $\chi^2 = 31.71$ ,  $p < 0.001$ ) compared to those without a diagnosis. These findings imply that focused education and awareness initiatives, especially among demographic groups with lesser knowledge, can enhance eczema comprehension and management.

Variable	Knowledge level			$\chi^2$	p-value
	Poor No. (%)	Fair No. (%)	Good No. (%)		
Gender					
Female	204 (71.1)	341 (86.1)	194 (81.2)	23.84	<0.001
Male	83 (28.9)	55 (13.9)	45 (18.8)		
Marital status					
Single	249 (86.8)	354 (89.4)	226 (94.6)	8.59	0.011
Married	38 (13.2)	42 (10.6)	13 (5.4)		
Education					
Illiterate	4 (1.4)	3 (0.8)	0 (0.0)	26.23	0.01
Elementary or middle school	8 (2.8)	3 (0.8)	4 (1.7)		
High school	102 (35.5)	116 (29.3)	73 (30.5)		
Bachelor's degree	143 (49.8)	247 (62.4)	150 (62.8)		
Diploma	25 (8.7)	22 (5.6)	6 (2.5)		
PhD	2 (0.7)	1 (0.3)	1 (0.4)		

Master's	4 (1.4)	3 (0.8)	0 (0.0)		
Employment					
Student	206 (71.8)	292 (73.7)	186 (77.8)	7.23	0.3
Unemployed	44 (15.1)	63 (15.9)	23 (9.6)		
Retired	1 (0.3)	1 (0.3)	0 (0.0)		
Employee	36 (12.5)	40 (10.1)	30 (12.6)		
Monthly family income (SR)					
less than 5000	80 (27.9)	106 (26.8)	53 (22.2)	20.77	<b>0.002</b>
5000-10000	87 (30.3)	110 (27.8)	57 (23.8)		
10000-20000	71 (24.7)	124 (31.3)	64 (26.8)		
More than 20000	49 (17.1)	56 (14.1)	65 (27.2)		
KSA region					
Southern	46 (16)	62 (15.7)	28 (11.7)	15.41	0.052
Eastern	72 (25.1)	93 (23.5)	41 (17.2)		
North	28 (9.8)	44 (11.1)	22 (9.2)		
western	79 (27.5)	98 (24.7)	67 (28)		
Central	62 (21.6)	99 (25)	81 (33.9)		
Have you ever been diagnosed with eczema by a physician?					
No	234 (81.5)	269 (67.9)	142 (59.4)	31.71	<b>&lt;0.001</b>
Yes	53 (18.5)	127 (32.1)	97 (40.6)		

**Table 5:** Relationship between participants' knowledge level about eczema and their demographic features (No. 922).

Table 6 shows the attitude levels of all participants. A positive attitude towards understanding and knowing eczema was significantly higher among females, those having a bachelor's degree in education, and residents of the Central KSA region ( $p < 0.05$ ).

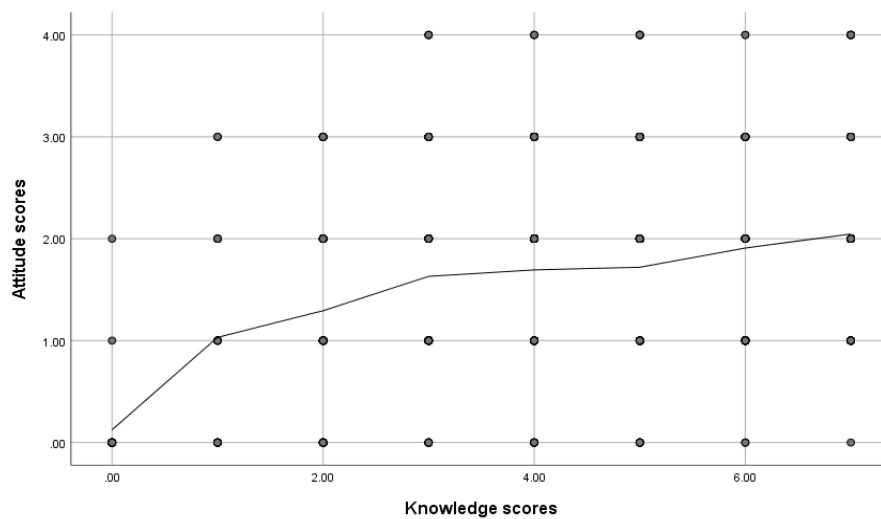
Variable	Attitude level			$\chi^2$	p-value
	Negative No. (%)	Fair No. (%)	Positive No. (%)		
Gender					
Female	315 (77)	408 (83.4)	16 (66.7)	8.58	<b>0.014</b>
Male	94 (23)	81 (16.6)	8 (33.3)		
Marital status					
Single	370 (90.5)	437 (89.4)	22 (91.7)	0.38	0.827
Married	39 (9.5)	52 (10.6)	2 (8.3)		
Education					
Illiterate	3 (0.7)	4 (0.8)	0 (0.0)	39.14	<b>&lt;0.001</b>
Elementary or middle school	13 (3.2)	2 (0.4)	0 (0.0)		
High school	141 (34.5)	142 (29)	8 (33.3)		
Bachelor's degree	216 (52.8)	313 (64)	11 (45.8)		
Diploma	28 (6.8)	23 (4.7)	2 (8.3)		
PhD	2 (0.5)	1 (0.2)	1 (4.2)		
Master's	3 (0.7)	2 (0.8)	2 (8.3)		
Employment					
Student	299 (73.1)	369 (75.5)	16 (66.7)	3.31	0.769
Unemployed	58 (14.2)	69 (14.1)	3 (12.5)		
Retired	1 (0.2)	1 (0.2)	0 (0.0)		
Employee	51 (12.5)	50 (10.2)	5 (20.8)		
Monthly family income (SR)					
less than 5000	103 (25.2)	128 (26.2)	8 (33.3)	7.08	0.313
5000-10000	102 (24.9)	144 (29.4)	8 (33.3)		
10000-20000	129 (31.5)	124 (25.4)	6 (25)		
More than 20000	75 (18.3)	93 (19)	2 (8.3)		

KSA region					
Southern	79 (19.3)	56 (11.5)	1 (4.2)	19.21	<b>0.014</b>
Eastern	85 (20.8)	118 (24.1)	3 (12.5)		
North	38 (9.3)	52 (10.6)	4 (16.7)		
western	112 (27.4)	126 (25.8)	6 (25)		
Central	95 (23.2)	137 (28)	10 (41.7)		
Have you ever been diagnosed with eczema by a physician?					
No	278 (68)	350 (71.6)	17 (70.8)	1.38	0.5
Yes	131 (32)	139 (28.4)	7 (29.2)		

**Table 6:** Relationship between participants’ attitude level for eczema and their demographic features (No. 922).

The figure demonstrating a significant positive correlation between knowledge and attitude scores indicates that as knowledge levels increase, attitude scores also tend to increase, and vice versa. the correlation coefficient is 0.31, indicating a moderate positive correlation. Essentially, this p-value suggests that the observed correlation between knowledge

and attitude scores is highly unlikely to be due to chance alone. With a positive correlation coefficient ( $r = 0.31$ ) and a significant p-value ( $<0.001$ ), It can confidently conclude that there is a meaningful and statistically significant positive relationship between knowledge and attitude scores (Figure 4).



**Figure 4** demonstrates a significant positive correlation between the knowledge and attitude scores ( $r = 0.31$ ,  $p$ -value =  $<0.001$ ).

**Logistic regression analysis:**

**Discussion**

Our study focused on identifying AD’s prevalence and exploring its knowledge and attitude among the adult population in Saudi Arabia. Our research centered on determining the prevalence of AD and delving into the knowledge and attitudes toward it among adults in Saudi Arabia. These findings hold particular importance when compared to prevalence rates in other regions. For instance, recent studies in the United States have shown a prevalence of 7.5% among adults [17], while Canada, the EU, and Japan report rates of 3.5%, 4.4%, and 2.1%, respectively [2].

A survey in Danish reported prevalence among adults aged 30 to 89 during the first year was 14% [18]. In Sweden, the prevalence was 11% based on a survey conducted in 2012 among individuals aged 16–75 years [19]. In England, research conducted applying the Royal College of General Practitioners Research and Surveillance Centre’s primary care research database of 3.85 million children and adults for studying eczema incidences and their outcomes being highest among infants within a year, lowest in adults aged 40–49, and raised from middle age to a second smaller peak in people 80 years or older [20]. In children aged 2, the incidence was 16.5% and decreased in adults aged 30–39 (2.8%). Our study findings also reported eczema incidences higher in females for all age groups [20]. Compared to studies conducted in the regions of the same country, as mentioned in our study, we found a study conducted in Jazan

among University students resulted in 18.3% having AD. Still, only 5.5% had been diagnosed by doctors [21]. In Hail, eczema accounted for 37% of all dermatologic conditions, with AD accounting for 12% of all eczema patients [22]. Similarly, in Al Qassim, eczema or AD was the most common skin disease, with a prevalence of 19.5% [23]. The prevalence varied based on the diagnostic criteria, study methodology, sample size, and period.

In the current study, the AD prevalence was significantly higher among females (84.1%) than males (15.9%). A previous report documented by Ali H Ziyab found similar sex-related differences, with females (10.2%) and males (5.8%) affected [24]. Also, another study reported by Zelma C. Fuxench et al. showed females having a 1.65 higher adjusted odds ratio for AD than males [17]. It is postulated that skin care methods, occupational exposures, increased awareness, or disease misclassification may all play a role in these events, but these elements have not been systematically researched [25]. In addition, a recent study reported no association between AD and endogenous sex hormones in either teenagers or adults [26].

Table 2 shows the knowledge and attitude levels in which 90.8% knew about the skin disease called atopic dermatitis or atopic eczema, and 67.4% knew that eczema is not a contagious disease; the knowledge level was fair in 43% of participants (Figure 2). Similarly, a cross-sectional study conducted in Yaoundé stated that the knowledge level on AD was moderate (65%). In our study, 56.4 % of participants knew that eczema



could be passed down from parent to child, while 43% chose genetics as the main cause of AD [27].

According to our study outcomes, 31.1% had poor, 43% fair, and 25.9% good knowledge levels, respectively. In another study in Saudi Arabia, 73.9% of Saudi parents were highly aware of AD [28]. Hence, the discrepancy might be due to most of our sample being single. As per the findings by Relji et al., married or partnered parents were more likely to be aware of AD [29]. We could observe in our study that the degree of education had directly impacted the knowledge of AD, similar to another cross-sectional study finding [28].

However, no sufficient studies could be performed to assess the attitude of patients towards AD in adults. Still, we could conclude by comparing other studies conducted to assess the parents' awareness of AD in children. KSA showed 73.9 % had high levels of awareness, especially among male, married participants [28]. The novelty of the study lies in its comprehensive exploration of atopic dermatitis (AD) within the adult population of Saudi Arabia, a focus that distinguishes it from existing literature. By conducting a cross-sectional study specifically targeting adults, the research not only determines a significant 30% prevalence rate of AD in the country but also delves into the populace's knowledge levels and attitudes towards the condition. This multi-faceted approach is novel, as it sheds light on a demographic often overlooked in AD research, providing nuanced insights into how AD is perceived, understood, and managed among Saudi Arabian adults.

### Limitations

Our study had several limitations. First, it was a cross-sectional study design that restricted the ability to observe the patient from the time of diagnosis and the limitations of the accuracy of the questionnaire's answers. The study relies on participants who were recruited through online channels, which shows the sampling biasness. Another potential limitation was difficulties acquiring answers for the questionnaire in some regions in Saudi Arabia. While the study utilized an online questionnaire via Google Forms, the validity and reliability of the questionnaire in accurately measuring knowledge and attitudes about AD may not have been formally assessed or reported. This could affect the robustness of the study's findings.

### Conclusion

Eczema is a widespread disease in Saudi Arabia. The cross-sectional study revealed 277 out of 922 participants (30%) diagnosed with eczema, with a majority of female. The most prevalent regions in KSA for eczema included the central (26.5%) and the western (25.6%) regions. The frequent clinical feature identified was the intense itching that interfered with night-time sleep (73.7%). Besides, 43% and 53% of participants had a fair knowledge and attitude level, respectively. The knowledge and attitudes regarding AD were significantly higher among females, bachelor's degree holders, and those with eczema. Hence, educational campaigns on awareness and attitude toward AD should be conducted to improve and enhance knowledge levels from fair to good in the majority of the Saudi Arabia population.

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