

# Impact of the COVID-19 Pandemic on Care for Patients With Atopic Dermatitis

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## PRACTICE POINTS

- The landscape of dermatology has seen major changes due to the COVID-19 pandemic, as many patients now utilize telemedicine to receive care.
- Understanding accessibility to in-person care for patients with atopic dermatitis during the COVID-19 pandemic can assist with the development of methods to enhance management.

To the Editor:

Atopic dermatitis (AD) is a widely prevalent dermatologic condition that can severely impact a patient's quality of life.<sup>1</sup> Individuals with AD have been substantially affected during the COVID-19 pandemic due to the increased use of irritants, decreased access to care, and rise in psychological stress.<sup>1,2</sup> These factors have resulted in lower quality of life and worsening dermatologic symptoms for many AD patients over the last few years.<sup>1</sup> One major potential contributory component of these findings is decreased accessibility to in-office care during the pandemic, with a shift to telemedicine instead. Accessibility to care

during the COVID-19 pandemic for AD patients compared to those without AD remains unknown. Therefore, we explored the impact of the COVID-19 pandemic on care for patients with AD in a large US population.

Using anonymous survey data from the 2021 National Health Interview Survey,<sup>3</sup> we conducted a population-based, cross-sectional study to evaluate access to care during the COVID-19 pandemic for patients with AD compared to those without AD. We assigned the following 3 survey questions as outcome variables to assess access to care: delayed medical care due to COVID-19 pandemic (yes/no), did not get care due to COVID-19 pandemic (yes/no), and virtual medical appointment in the last 12 months (yes/no). In Table 1, numerous categorical survey variables, including sex, health insurance status, race/ethnicity, education, US citizenship, birth in the United States, public assistance/welfare, and region, were analyzed using  $\chi^2$  testing to evaluate for differences among individuals with and without AD. Multivariable logistic regression models evaluating the relationship between AD and access to care were constructed using Stata/MP 17 (StataCorp LLC). In our analysis we controlled for age, sex, health insurance status, race/ethnicity, education,

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**TABLE 1. Impact of COVID-19 Pandemic on Medical Care for Patients With Atopic Dermatitis vs Without Atopic Dermatitis (N=29,142)**

Characteristic	With AD (n=2159) <sup>a</sup> (weighted % [95% CI]) <sup>b</sup>	Without AD (n=26,983) <sup>a</sup> (weighted % [95% CI]) <sup>b</sup>	P value
Delayed medical care due to pandemic? <sup>c</sup>			
Yes	30.7 (28.3-33.1)	17.9 (17.3-18.5)	<.0001 <sup>d</sup>
No	69.4 (66.9-71.7)	82.1 (81.5-82.7)	
Did not get care due to pandemic? <sup>e</sup>			
Yes	20.8 (19.0-22.8)	11.2 (10.8-11.7)	<.0001 <sup>d</sup>
No	79.2 (77.2-81.0)	88.8 (88.3-89.2)	
Virtual medical appointment in the last 12 months? <sup>f</sup>			
Yes	50.9 (48.4-53.4)	35.9 (35.1-36.7)	<.0001 <sup>d</sup>
No	49.1 (46.6-51.6)	64.2 (63.3-65.0)	
Public assistance/welfare payments? <sup>g,h</sup>			
Yes	4.5 (3.4-5.8)	3.3 (3.0-3.6)	.02 <sup>d</sup>
No	95.6 (94.3-96.6)	96.8 (96.4-97.0)	
Sex <sup>i</sup>			
Male	37.4 (35.1-39.7)	49.1 (48.4-49.8)	<.0001 <sup>d</sup>
Female	62.6 (60.3-64.9)	50.9 (50.2-51.6)	
Health insurance? <sup>j,k</sup>			
Yes	95.2 (93.9-96.2)	91.2 (90.6-91.8)	<.0001 <sup>d</sup>
No	4.8 (3.8-6.1)	8.8 (8.2-9.4)	
Race/ethnicity			
Non-Hispanic White	66.1 (63.5-68.6)	62.6 (61.0-64.2)	<.0001 <sup>d</sup>
Non-Hispanic Black	13.7 (11.8-15.8)	11.5 (10.6-12.4)	
Hispanic	11.2 (9.7-12.9)	17.4 (16.1-18.8)	
Other	9.1 (7.7-10.6)	8.5 (7.8-9.3)	
Education <sup>l</sup>			
Some/no high school	6.8 (5.5-8.3)	9.6 (9.0-10.2)	<.0001 <sup>d</sup>
High school graduate/GED equivalent	23.0 (20.8-25.5)	28.7 (27.9-29.6)	
Some college/associate degree/college degree	54.0 (51.4-56.6)	48.8 (47.9-49.7)	
Postgraduate degree	16.2 (14.5-18.0)	12.9 (12.3-13.5)	

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TABLE 1. (continued)

Characteristic	With AD (n=2159) <sup>a</sup> (weighted % [95% CI]) <sup>b</sup>	Without AD (n=26,983) <sup>a</sup> (weighted % [95% CI]) <sup>b</sup>	P value
US citizen? <sup>m</sup>			
Yes	96.6 (95.4-97.6)	92.1 (91.4-92.7)	<.0001 <sup>d</sup>
No	3.4 (2.5-4.6)	8.0 (7.3-8.6)	
Born in the United States? <sup>n</sup>			
Yes	89.5 (87.8-91.0)	81.1 (79.9-82.1)	<.0001 <sup>d</sup>
No	10.5 (9.0-12.2)	18.9 (17.9-20.1)	
Region			
Northeast	19.1 (17.0-21.5)	17.3 (16.2-18.5)	0.1
Midwest	22.0 (19.7-24.4)	20.8 (19.6-22.0)	
South	35.3 (32.5-38.2)	38.1 (36.5-39.6)	
West	23.6 (21.2-26.3)	23.9 (22.4-25.4)	

Abbreviations: GED, General Equivalency Diploma; N/A, not applicable; NHIS, National Health Interview Survey.

<sup>a</sup>Atopic dermatitis status was assessed by the question, "Have you ever been told by a doctor or other health professional that you had eczema or atopic dermatitis?"

<sup>b</sup>Weighted percentage was calculated using NHIS survey design parameters.

<sup>c</sup>Delayed medical care due to pandemic was assessed by the question, "Was there any time when you delayed getting medical care because of the coronavirus pandemic?"

<sup>d</sup>Values that are statistically significant (2-sided  $P \leq .05$ ).

<sup>e</sup>Did not get care due to pandemic was assessed by the question, "Was there any time when you needed medical care for something other than coronavirus, but did not get it because of the coronavirus pandemic?"

<sup>f</sup>Virtual medical appointment was assessed by the question, "In the past 12 months, have you had an appointment with a doctor, nurse, or other health professional by video or by phone?"

<sup>g</sup>Received public assistance or welfare payments was assessed by the question, "Any public assistance or welfare payments from the state or local welfare office?"

<sup>h</sup>1176 patients missing.

<sup>i</sup>2 patients missing.

<sup>j</sup>Health insurance status was assessed by the question "Are you covered by any kind of health insurance or some other kind of health care plan?"

<sup>k</sup>33 patients missing.

<sup>l</sup>147 patients missing.

<sup>m</sup>779 patients missing.

<sup>n</sup>729 patients missing.

Data from the National Center for Health Statistics.<sup>3</sup>

**TABLE 2. Multivariable Logistic Regression Analysis for Patients With Atopic Dermatitis vs Without Atopic Dermatitis**

Variable	Weighted % <sup>a</sup>		OR (95% CI)		P value	
	With AD	Without AD <sup>b</sup>	Unadjusted	Adjusted <sup>c</sup>	Unadjusted	Adjusted <sup>c</sup>
All patients						
No care <sup>d</sup>	20.8	11.2	2.08 (1.84-2.35)	1.94 (1.71-2.22)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Delayed care <sup>f</sup>	30.7	17.9	2.03 (1.80-2.28)	1.91 (1.69-2.16)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Virtual <sup>g</sup>	50.9	35.9	1.86 (1.67-2.06)	1.72 (1.54-1.93)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Males						
No care <sup>d</sup>	18.0	8.9	2.25 (1.80-2.83)	2.20 (1.74-2.79)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Delayed care <sup>f</sup>	24.3	14.4	1.91 (1.56-2.33)	1.85 (1.50-2.28)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Virtual <sup>g</sup>	47.8	30.7	2.07 (1.73-2.48)	1.99 (1.63-2.43)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Females						
No care <sup>d</sup>	22.5	13.5	1.86 (1.60-2.16)	1.81 (1.55-2.11)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Delayed care <sup>f</sup>	34.5	21.3	1.94 (1.68-2.24)	1.92 (1.66-2.22)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Virtual <sup>g</sup>	52.8	47.2	1.62 (1.42-1.84)	1.55 (1.35-1.76)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
White						
No care <sup>d</sup>	22.2	11.4	2.23 (1.93-2.58)	2.15 (1.85-2.51)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Delayed care <sup>f</sup>	32.9	18.6	2.14 (1.86-2.47)	2.11 (1.82-2.44)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Virtual <sup>g</sup>	51.1	38.1	1.69 (1.49-1.93)	1.64 (1.43-1.87)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Non-White						
No care <sup>d</sup>	18.1	11.1	1.78 (1.41-2.26)	1.82 (1.44-2.32)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Delayed care <sup>f</sup>	26.2	16.7	1.78 (1.42-2.22)	1.79 (1.43-2.23)	<.001 <sup>e</sup>	<.001 <sup>e</sup>
Virtual <sup>g</sup>	50.6	32.1	2.17 (1.79-2.63)	2.14 (1.75-2.61)	<.001 <sup>e</sup>	<.001 <sup>e</sup>

Abbreviations: AD, atopic dermatitis; NHIS, National Health Interview Survey; OR, odds ratio.

<sup>a</sup>Weighted percentage was calculated using NHIS survey design parameters.

<sup>b</sup>Reference group for logistic regression models.

<sup>c</sup>Logistic regression models were adjusted for age, sex, health insurance status, race/ethnicity, education, US citizenship, birth in the United States, public assistance/welfare, and region.

<sup>d</sup>Did not get care due to pandemic was assessed by the question, "Was there any time when you needed medical care for something other than coronavirus, but did not get it because of the coronavirus pandemic?"

<sup>e</sup>Values that are statistically significant (2-sided *P* value  $\leq .05$ ).

<sup>f</sup>Delayed medical care due to pandemic was assessed by the question, "Was there any time when you delayed getting medical care because of the coronavirus pandemic?"

<sup>g</sup>Virtual medical appointment was assessed by the question, "In the past 12 months, have you had an appointment with a doctor, nurse, or other health professional by video or by phone?"

Data from the National Center for Health Statistics.<sup>3</sup>

US citizenship, birth in the United States, public assistance/welfare, and region.

There were 29,142 adult patients (aged  $\geq 18$  years) included in our analysis. Approximately 7.4% (weighted) of individuals had AD (Table 1). After adjusting for confounding variables, patients with AD had a higher odds of delaying medical care due to the COVID-19 pandemic (adjusted odds ratio [AOR], 1.91; 95% CI, 1.69-2.16;  $P < .001$ ), not receiving care due to the COVID-19 pandemic (AOR, 1.94; 95% CI, 1.71-2.22;  $P < .001$ ), and having a virtual medical visit in the last 12 months (AOR, 1.72; 95% CI, 1.54-1.93;  $P < .001$ ) (Table 2) compared with patients without AD.

Our findings support the association between AD and decreased access to in-person care due to the COVID-19 pandemic. Moreover, telemedicine was utilized more among individuals with AD, possibly due to the accessibility of diagnostic tools for dermatologic diagnoses, such as high-quality photographs.<sup>4</sup> According to Trinidad et al,<sup>4</sup> telemedicine became an invaluable tool for dermatology hospitalists during the COVID-19 pandemic, as many physicians were able to comfortably diagnose patients with cutaneous diseases without an in-person visit. Utilizing telemedicine for patient care can help reduce the risk for COVID-19 transmission while also providing quality care for individuals living in rural areas.<sup>5</sup> Chiricozzi et al<sup>6</sup> discussed the importance of telemedicine in Italy during the pandemic, as many AD patients were able to maintain control of their disease while on systemic treatments.

Limitations of this study include self-reported measures; inability to compare patients with AD to individuals with other cutaneous diseases; and additional potential confounders, such as chronic comorbidities. Future studies should evaluate the use of telemedicine and access to care among individuals with other common skin diseases and help determine why such discrepancies exist. Understanding the difficulties in access to care and the viable alternatives in place may increase awareness and assist clinicians with adequate management of patients with AD.

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