Clinical Characteristics, Treatment Patterns, and Quality of Life Impacts Among Patients With Alopecia Areata in Saudi Arabia and the United Arab Emirates

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BACKGROUND

- Alopecia areata (AA) is an autoimmune disease characterized by patchy or complete nonscarring hair loss[1]
- AA can lead to a substantial psychosocial burden and health-related quality of life (HRQOL) impairment[2,3]
- In the Kingdom of Saudi Arabia (KSA) and the United Arab Emirates (UAE), conventional AA treatments are associated with limitations in effectiveness, adverse events, and duration of use[4,5]
- As new advanced systemic therapies (such as kinase inhibitors) are integrated into clinical practice, it is necessary to understand the burden of AA and unmet needs with conventional treatments, to ensure that patients who may benefit have access to new treatment options

Objective

- This study examines disease burden and unmet treatment needs in patients with AA in the KSA and UAE

METHODS

Data Source and Patients

- Data were analyzed from the Adelphi Real World AA Disease Specific Programme™ (DSP),[6,7] a cross-sectional survey of dermatologists and their adult patients with AA they were consulting, conducted in the KSA and UAE from September 2022 to March 2023 (**Figure 1**)
- Dermatologists reported patient demographics, clinical characteristics, and treatment information for their next 4 patients in the KSA (1 with mild AA, 1 with moderate AA, and 2 with severe/very severe AA) and next 3 in the UAE (1 each with mild, moderate, and severe AA)
- The same patients were invited to complete a voluntary questionnaire, which included the Skindex-16, Hospital Anxiety and Depression Scale (HADS), and Work Productivity and Activity Impairment[8-10]

Figure 1. Study design
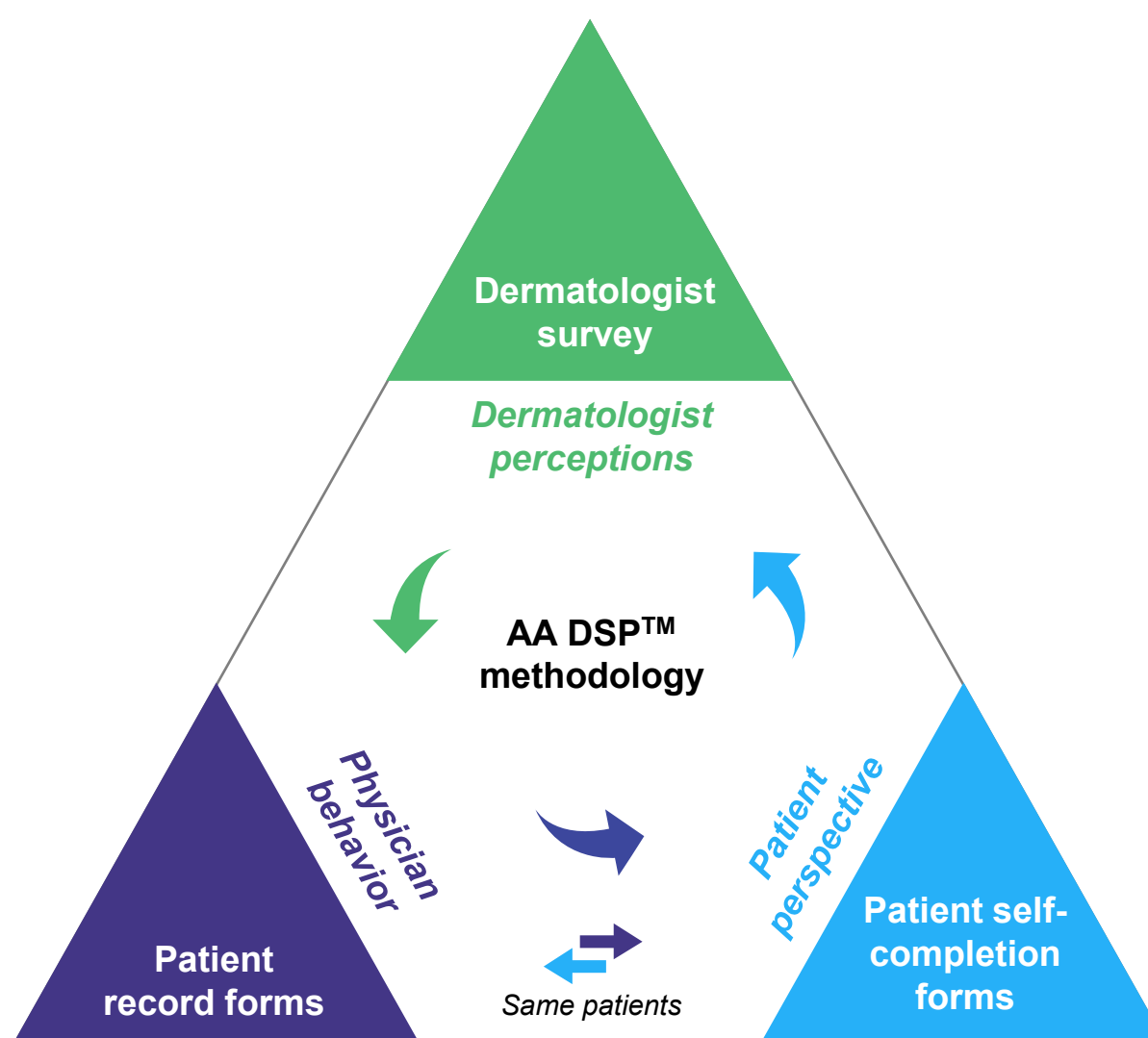
- Patient inclusion criteria:
  - Age ≥18 years
  - A physician-confirmed diagnosis of AA
  - Not currently involved in a clinical trial
- Dermatologist inclusion criteria:
  - Actively involved in AA drug management
  - A minimum monthly workload of:
    - 4 adults with AA in the KSA (including ≥1 patient with mild, 1 with moderate, and 2 with severe/very severe AA)
    - 3 adults with AA in the UAE (including ≥1 patient each with mild, moderate, and severe AA)

Analysis

- Results were stratified by country and percent scalp hair loss (SHL)
- Statistical analysis was conducted using Stata version 17 (StataCorp). Statistical analyses across severity groups were conducted using bivariate analysis, with ANOVA for numeric variables and Fisher's Exact for categorical variables

RESULTS

Participants

- A total of 329 patients with AA were analyzed, with 185 from the KSA and 144 from the UAE (**Table 1**)
  - Most patients (99.2%) with ≥50% SHL were assessed by their physician as having severe/very severe disease
  - Hair loss on areas other than the scalp varied by country, with 51.9% and 32.4% of patients from the KSA experiencing eyebrow and facial hair loss, respectively, compared with 22.9% and 15.3% of patients from the UAE
  - Although the majority of patients were adults at the onset of AA symptoms (90.4%), 7.4% were adolescents (3.8% of patients from the KSA and 12.1% of patients from the UAE)

Table 1. Patient demographics and clinical characteristics by country and percent SHL

Characteristic	Total (N=329)	≤20% SHL (n=113)	21-49% SHL (n=84)	≥50% SHL (n=132)	P Value	Total (N=329)	≤20% SHL (n=113)	21-49% SHL (n=84)	≥50% SHL (n=132)	P Value	Total (N=144)	≤20% SHL (n=57)	21-49% SHL (n=43)	≥50% SHL (n=44)	P Value
		All Patients					KSA					UAE			
Age, mean (SD), years	28.4 (7.7)	24.8 (7.4)	28.5 (5.9)	31.4 (7.6)	<0.0001	28.3 (6.7)	24.4 (6.2)	28.4 (6.2)	30.8 (6.2)	<0.0001	28.5 (8.7)	25.2 (8.5)	28.6 (5.7)	32.7 (9.9)	<0.0001
Male, n (%)	185 (56.2)	56 (49.6)	51 (60.7)	78 (59.1)	0.2	108 (58.4)	27 (48.2)	28 (68.3)	53 (60.2)	0.1	77 (53.5)	29 (50.9)	23 (53.5)	25 (56.8)	0.8
Age at first AA symptom, n (%)	n=324	n=110	n=82	n=132	0.2	n=183	n=54	n=41	n=88	0.7	n=141	n=56	n=41	n=44	0.1
Child (3-11 years)	7 (2.2)	3 (2.7)	1 (1.2)	3 (2.3)		5 (2.7)	1 (1.9)	1 (2.4)	3 (3.4)		2 (1.4)	2 (3.6)	0	0	
Adolescent (12-17 years)	24 (7.4)	12 (10.9)	2 (2.4)	10 (7.6)		7 (3.8)	2 (3.7)	0	5 (5.7)		17 (12.1)	10 (17.9)	2 (4.9)	5 (11.4)	
Adult (≥18 years)	293 (90.4)	95 (86.4)	79 (96.3)	119 (90.2)		171 (93.4)	51 (94.4)	40 (97.6)	80 (90.9)		122 (86.5)	44 (78.6)	39 (95.1)	39 (88.6)	
Time since initial diagnosis, mean (SD), years	2.1 (2.8)	1.3 (1.8)	1.9 (2.2)	2.9 (3.5)	<0.0001	2.2 (3.1)	1.2 (1.5)	2.0 (2.8)	2.9 (3.7)	0.006	2.0 (2.3)	1.4 (2.1)	1.8 (1.3)	3.0 (3.0)	0.002
Scalp hair loss, n (%)	329 (100)	113 (100)	84 (100)	132 (100)	–	185 (100)	56 (100)	41 (100)	88 (100)	–	144 (100)	57 (100)	43 (100)	44 (100)	–
Eyebrow hair loss, n (%)	129 (39.2)	29 (25.7)	31 (36.9)	69 (52.3)	<0.0001	96 (51.9)	18 (32.1)	22 (53.7)	56 (63.6)	0.001	33 (22.9)	11 (19.3)	9 (20.9)	13 (29.5)	0.5
Facial hair loss (mustache/beard), n (%)	82 (24.9)	8 (7.1)	29 (34.5)	45 (34.1)	<0.0001	60 (32.4)	6 (10.7)	20 (48.8)	34 (38.6)	<0.0001	22 (15.3)	2 (3.5)	9 (20.9)	11 (25.0)	0.003
Eyelash hair loss, n (%)	27 (8.2)	1 (0.9)	4 (4.8)	22 (16.7)	<0.0001	16 (8.6)	1 (1.8)	1 (2.4)	14 (15.9)	0.0043	11 (7.6)	0	3 (7.0)	8 (18.2)	0.002
Current physician-assessed severity, n (%)					<0.0001					<0.0001					<0.0001
Mild	93 (28.3)	90 (79.6)	3 (3.6)	0		43 (23.2)	42 (75.0)	1 (2.4)	0		50 (34.7)	48 (84.2)	2 (4.7)	0	
Moderate	92 (28.0)	16 (14.2)	75 (89.3)	1 (0.8)		45 (24.3)	9 (16.1)	35 (85.4)	1 (1.1)		47 (32.6)	7 (12.3)	40 (93.0)	0	
Severe/very severe	144 (43.8)	7 (6.2)	6 (7.1)	131 (99.2)		97 (52.4)	5 (8.9)	5 (12.2)	87 (98.9)		47 (32.6)	2 (3.5)	1 (2.3)	44 (100)	

### Patient Health-Related Quality of Life

- Of all patients, 39.2% had abnormal levels of anxiety, which increased to 54.5% among patients with ≥50% SHL (**Figure 2A**; patients with ≤20% SHL: 33.3%; patients with 21%-49% SHL: 26.1%)
  - 32.7% of patients in the KSA and 48.1% in the UAE had abnormal anxiety
- 37.4% of all patients had abnormal depression; this was >30% across all degrees of SHL (**Figure 2B**)
  - 32.7% of all patients in the KSA and 43.6% in the UAE had abnormal anxiety

Figure 2. Patient HADS anxiety (A) and depression (B) scores, overall and by extent of SHL

*** P<0.005.
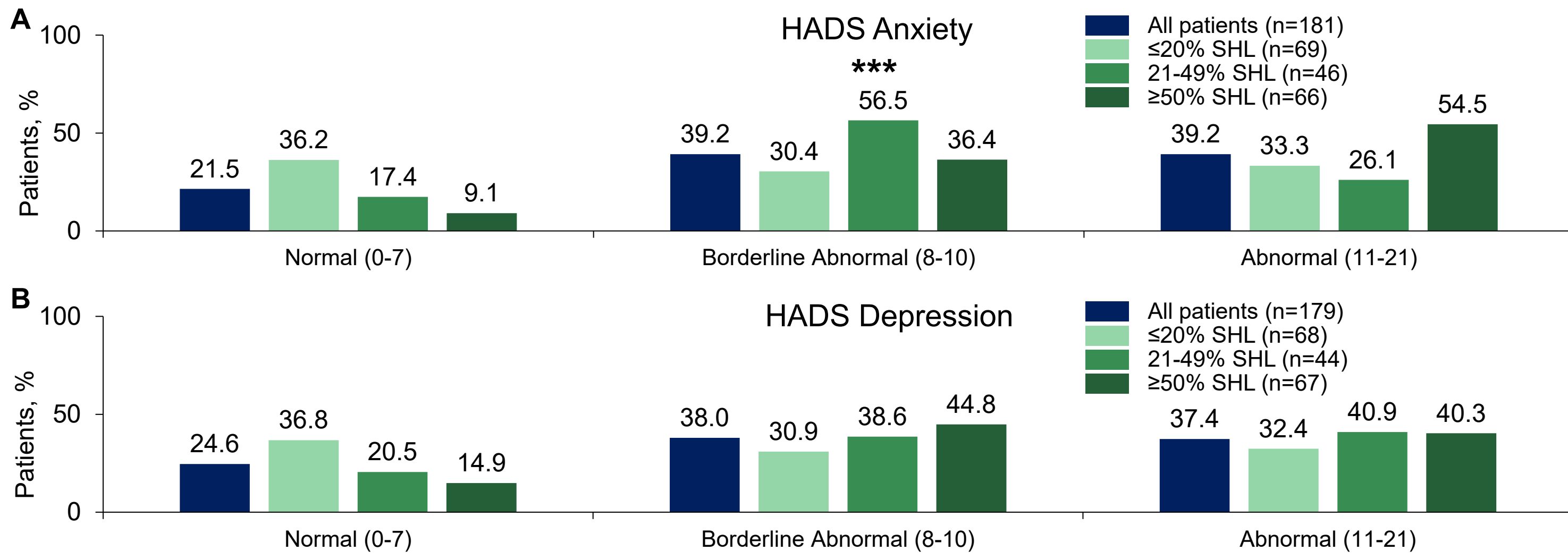
- Skindex-16 scores of 34.4, 37.6, and 30.3 were reported across the Emotions, Symptoms, and Functioning domains (**Figure 3**)
  - Patients in the KSA reported scores of 32.7, 32.8, and 27.5 compared with those in the UAE reporting scores of 36.6, 43.5, and 33.8
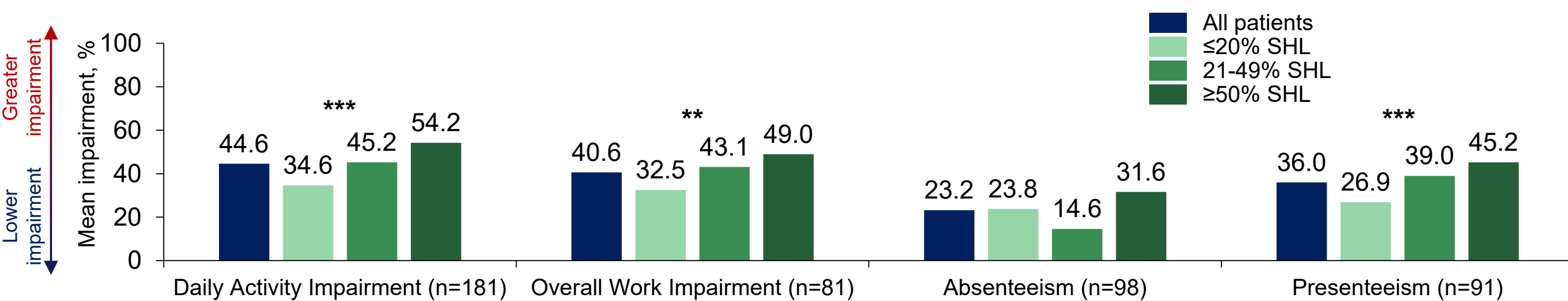
Figure 3. Mean patient Skindex-16 subscores* overall and by extent of SHL
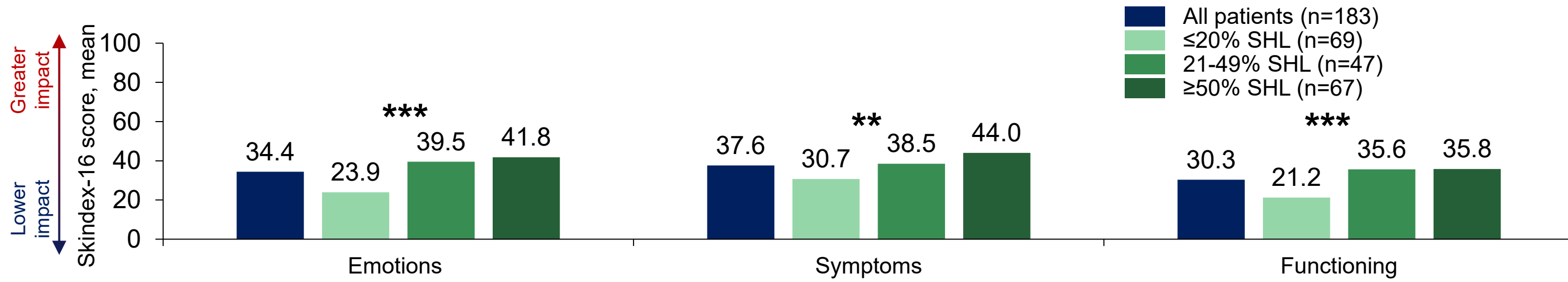
*Skindex-16 subscores for the Emotions, Symptoms, and Functioning domains range from 0 to 100, with higher scores indicating greater negative impact on quality of life.
**P<0.01 ***P<0.005

- Based on the WPAI-AA, patients reported 44.6% activity impairment and 40.6% work impairment, with the greatest impact seen among those with ≥50% SHL (**Figure 4**)
  - Patients in the KSA generally had numerically lower impairment than those in the UAE, except for absenteeism

Figure 4. Patient WPAI-AA productivity impacts* overall and by extent of SHL

*WPAI-AA impact scores range from 0% to 100%, with higher percentages indicating greater impairment. **P<0.01 ***P<0.005

Patient Treatment Goals

- The most common treatment goals for all patients and among those in the KSA were reducing SHL (97.6% and 98.4%, respectively), improving HRQOL (76.9% and 83.8%), and achieving long-term control (62.3% and 81.6%)
- The most common treatment goals in the UAE were reducing SHL (96.5%), reducing scalp itching/irritation (70.2%), and improving HRQOL (68.1%)
- The most common current treatments were oral corticosteroids (38.9%) and topical corticosteroids (37.7%) (**Figure 5**)
  - In the KSA, the most common treatments were oral corticosteroids (33.5%) and oral or topical minoxidil (30.8%; **Figure S1**)
  - In the UAE, the most common treatments were topical corticosteroids (48.6%) and oral corticosteroids (45.8%)
- Common treatments differed between patients with ≥50% SHL and those with <50% SHL (**Figure 5**)

Figure 5. Patient current treatments by extent of SHL

*Anthralin/dithranol/dioxyanthranol, finasteride, imiquimod, minoxidil (oral or topical), platelet-rich plasma, prostaglandin analog (eg, latanoprost, bimatoprost, F2-alpha eye drops), Retin-A/vitamin A acid/tretinoin (prescription dose), slow-release iron/oral iron (prescription dose), iron injection/transfusion (prescription dose), vitamin D (prescription dose), vitamin E (prescription dose), and zinc (prescription dose).
***P<0.005.

Treatment Patterns

- Most patients (87.4%) were receiving their first AA treatment, including 83.1% in the KSA and 92.9% in the UAE (**Table 2**)
  - Overall, 7.9% of all patients were on their second treatment, and 4.7% were on their third or subsequent treatment. In the KSA, these proportions were 7.1% and 1.8%, respectively, while in the UAE, they were 5.0% and 2.1%, respectively
- Among those who had received prior AA treatment, the most common reasons for switching from their first line of prior therapy in the KSA were loss of response, worsening AA, and lack of initial efficacy. In the UAE, lack of compliance, lack of tolerability, and an improving condition were the main reasons for switching

Table 2. Patient treatment history

Characteristic	Total (N=329)	≤20% SHL (n=113)	21-49% SHL (n=84)	≥50% SHL (n=132)	P Value	Total (N=329)	≤20% SHL (n=113)	21-49% SHL (n=84)	≥50% SHL (n=132)	P Value	Total (N=144)	≤20% SHL (n=57)	21-49% SHL (n=43)	≥50% SHL (n=44)	P Value
		All Patients					KSA					UAE			
Current treatment duration, mean (SD), years	1.4 (1.1)	0.9 (0.7)	1.4 (1.1)	1.8 (1.0)	<0.0001	1.3 (1.0)	0.8 (0.6)	1.2 (0.7)	1.6 (1.0)	<0.0001	1.5 (1.2)	1.0 (0.8)	1.6 (1.3)	2.1 (1.4)	<0.0001
Total number of treatment lines, n (%)	N=317	n=112	n=81	n=124		N=177	n=56	n=40	n=81		N=140	n=56	n=41	n=43	
1	277 (87.4)	106 (94.6)	68 (84.0)	103 (83.1)	0.01	147 (83.1)	51 (91.1)	32 (80.0)	64 (79.0)	0.1	130 (92.9)	55 (98.2)	36 (87.8)	39 (90.7)	0.2
2	25 (7.9)	5 (4.5)	8 (9.9)	12 (9.7)		18 (10.2)	4 (7.1)	5 (12.5)	9 (11.1)		7 (5.0)	1 (1.8)	3 (7.3)	3 (7.0)	
3+	15 (4.7)	1 (0.9)	5 (6.2)	9 (7.3)		12 (6.8)	1 (1.8)	3 (7.5)	8 (10.0)		3 (2.1)	0	2 (4.9)	1 (2.3)	

Limitations

- Patients included in the AA DSP in the KSA and UAE are representative of the consulting AA population and may overrepresent those with healthcare-seeking behavior. Due to soft sampling severity quotas, they may not reflect natural distribution of severity
- The cross-sectional design of this study enabled the inclusion of patients at various stages of their treatment course. As such, some patients may be experiencing better treatment effects than others in the sample

CONCLUSIONS

- Patients with AA experience significant anxiety, depression, reduced productivity, and emotional, symptom, and functional impairments, with these burdens being especially pronounced among those with more extensive hair loss (>20% SHL)
- Patients with severe disease often have ≥50% SHL, with many experiencing loss of eyebrow and facial hair
- The limited long-term efficacy and safety limitations of conventional treatments highlight the need for new treatments that provide more effective and long-term solutions, particularly for patients with more extensive hair loss

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