**Clinical Review & Education** 

#### JAMA Dermatology | Consensus Statement

# The Alopecia Areata Severity and Morbidity Index (ASAMI) Study Results From a Global Expert Consensus Exercise on Determinants of Alopecia Areata Severity

ASAMI Consensus Survey Study Group

**IMPORTANCE** Current measures of alopecia areata (AA) severity, such as the Severity of Alopecia Tool score, do not adequately capture overall disease impact.

**OBJECTIVE** To explore factors associated with AA severity beyond scalp hair loss, and to support the development of the Alopecia Areata Severity and Morbidity Index (ASAMI).

**EVIDENCE REVIEW** A total of 74 hair and scalp disorder specialists from multiple continents were invited to participate in an eDelphi project consisting of 3 survey rounds. The first 2 sessions took place via a text-based web application following the Delphi study design. The final round took place virtually among participants via video conferencing software on April 30, 2022.

**FINDINGS** Of all invited experts, 64 completed the first survey round (global representation: Africa [4.7%], Asia [9.4%], Australia [14.1%], Europe [43.8%], North America [23.4%], and South America [4.7%]; health care setting: public [20.3%], private [28.1%], and both [51.6%]). A total of 58 specialists completed the second round, and 42 participated in the final video conference meeting. Overall, consensus was achieved in 96 of 107 questions. Several factors, independent of the Severity of Alopecia Tool score, were identified as potentially worsening AA severity outcomes. These factors included a disease duration of 12 months or more, 3 or more relapses, inadequate response to topical or systemic treatments, rapid disease progression, difficulty in cosmetically concealing hair loss, facial hair involvement (eyebrows, eyelashes, and/or beard), nail involvement, impaired quality of life, and a history of anxiety, depression, or suicidal ideation due to or exacerbated by AA. Consensus was reached that the Alopecia Areata Investigator Global Assessment scale adequately classified the severity of scalp hair loss.

**CONCLUSIONS AND RELEVANCE** This eDelphi survey study, with consensus among global experts, identified various determinants of AA severity, encompassing not only scalp hair loss but also other outcomes. These findings are expected to facilitate the development of a multicomponent severity tool that endeavors to competently measure various disease impact. The findings are also anticipated to aid in identifying candidates for current and emerging systemic treatments. Future research must incorporate the perspectives of patients and the public to assign weight to the domains recognized in this project as associated with AA severity.

+ Supplemental content

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Group Information: The authors and collaborators of the ASAMI Consensus Survey Study Group appear at the end of the article.

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A lopecia areata (AA) is a clinically heterogeneous disease characterized by variable degrees of nonscarring hair loss.<sup>1</sup> The estimated lifetime risk of developing AA is between 1.7% and 2.1%<sup>2-4</sup> with 7.8 to 12.5 million people affected globally at any given time.<sup>5.6</sup> The chronic and relapsing nature of AA can lead to clinically significant psychosocial morbidity that can accumulate, contributing to increased distress, sleep disorders, anxiety, depression, and suicidality.<sup>7.8</sup> Furthermore, when compared with the general population, patients with AA are more likely to require time off work or have antidepressants prescribed.<sup>9</sup>

Widely used measures of AA severity, such as the Severity of Alopecia Tool (SALT), have predominantly focused on the extent of scalp hair loss, without consideration of non–scalp hair loss or the psychosocial domains of disease.<sup>10-12</sup> Recently, multidimensional assessment tools such as the Alopecia Areata Severity Scale have been proposed in an attempt to capture the multiple patient- and illness-related domains of AA.<sup>13</sup>

Insights into the etiopathogenesis of AA have led to the emergence of several novel, highly effective treatments, including Janus kinase (JAK) inhibitors.<sup>14,15</sup> Baricitinib, a selective and reversible JAK1/JAK2 inhibitor is now approved by the US Food and Drug Administration,<sup>16</sup> European Medicines Agency,<sup>17</sup> and Medicines & Healthcare Products Regulatory Agency<sup>18</sup> for the treatment of severe AA in adults. A global consensus of AA experts agreed that "if all treatments were equally reimbursed, JAK inhibitors would be the ideal choice of systemic therapy in adults"<sup>19</sup>; however, the substantial cost of JAK inhibitor medication could be prohibitive.<sup>20</sup> In resource-limited settings, severity assessment tools that adequately capture the multidimensional burden of AA will help to equitably identify the most appropriate candidates for current and emerging therapies. Through expert consensus, this project aimed to complement existing international efforts<sup>12,13</sup> by identifying key factors that determine AA disease burden, establishing severity thresholds for the initiation of systemic treatment, and recognizing relevant considerations pertaining to the funding of JAK inhibitors for treatment. This study's findings will play a crucial role in shaping the development of the Alopecia Areata Severity and Morbidity Index (ASAMI), a proposed multidimensional AA severity assessment tool.

## Methods

This study was reported with reference to a checklist developed for similar Delphi exercises<sup>21-23</sup> and followed the Standards for Quality Improvement Reporting Excellence (SQUIRE) 2.0 reporting guideline.<sup>24-26</sup> Consistent with previous studies of a similar nature, the Medical Research Involving Human Subjects Act was not applicable to this study.<sup>5,19,26</sup>

#### **Expert Panel Selection**

A total of 74 hair and scalp disorder specialists from 6 continents were invited to participate in a 3-round eDelphi process. In the pursuit of fostering a diverse array of international perspectives, invitations were extended based on previous involvement in international AA research projects, recommendations from individuals with a history of presenting at international conferences or publishing in peerreviewed journals, or endorsements from international hair research societies.

## **Key Points**

**Question** What are the key factors that determine alopecia areata severity?

**Findings** This preliminary global consensus survey study, consisting of 64 hair and scalp disorder specialists from 6 continents, identified several key factors associated with alopecia areata severity independent of the extent of scalp hair loss.

**Meaning** The findings from this study pave the way for the development of a comprehensive and multicomponent severity tool that aims to effectively measure disease impact and identify candidates for current and emerging systemic treatments.

#### eDelphi Process

The Delphi process is a validated technique utilized to achieve convergence of viewpoints from experts on predetermined topic areas.<sup>24,27,28</sup> Participants iteratively answer a questionnaire through successive rounds; each round enables participants to review their answers while considering the anonymous replies of other participants.<sup>24,27,28</sup> Unlike the traditional Delphi process, which consists of 2 or more rounds of face-to-face interactions, the eDelphi process empowers expert participants to anonymously engage online and asynchronously in their own time.<sup>4,19,26,29</sup>

#### ASAMI eDelphi Survey

The primary questionnaire was designed by a panel of 7 clinicians with extensive AA experience. A comprehensive literature search was performed to ascertain critical determinants of AA severity. Four main categories were identified: disease surface area, disease activity, disease visibility, and psychosocial morbidity (Table 1). We formulated questions within these domains to identify objective factors that increased AA disease severity, determine thresholds for initiation of systemic treatment based on severity, and discern important considerations regarding the funding of JAK inhibitors for treating AA. The ASAMI questionnaire's design acknowledged variation in AA treatment and that the use of systemic treatment may not be widespread. The questionnaire was distributed electronically using the Welphi online platform<sup>30</sup> for round 1 and round 2. The third round was conducted through a video conferencing meeting (Zoom Video Communications),<sup>31</sup> with the Delphi questionnaire distributed via Poll Everywhere software (Poll Everywhere).<sup>32</sup>

The questionnaire included a total of 107 statements and questions, with 79 using a 5-point Likert scale<sup>33,34</sup> and 28 in a non-Likerttype format. Participants rated their agreement with Likert-type statements on a 5-point scale, ranging from strongly agree (1) to strongly disagree (5). Non-Likert questions encompassed free-text and multiple-choice formats, and participants had the option to mark not applicable where appropriate. When responding to the questionnaire, participants subjectively defined a low SALT score (LSS) as being just below the threshold at which they would consider a patient consistently eligible for systemic treatment. The questionnaire included instructions to contextualize statements. The consensus threshold for Likert-type and multiple-choice statements was defined as at least 66% participant agreement or disagreement. Freetext questions were not subjected to consensus thresholds but were used to explore participant attitudes. Likert-type and multiplechoice statements that did not achieve consensus were included in

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Table 1. ASAMI Key Consensus Outcomes on Factors Affecting Alopecia Areata Disease Severity <sup>a</sup>			
Questionnaire domain	Consensus agreement, %		
Disease surface area			
I agree with the AA-IGA scale's interpretation of scalp disease severity.	79.7		
Disease activity			
Disease duration			
In a patient with a low SALT score, the duration of an AA episode may increase disease severity.	79.7		
Severity of AA is increased by an episode duration lasting ≥12 months.	81.0		
Relapse history			
In a patient with a low SALT score, a history of disease relapse may increase AA severity.	73.4		
≥3 Lifetime relapses increase AA disease severity.	88.9		
Refractory disease			
A history of inadequate response to topical and/or intralesional agents may increase AA severity.	85.9		
As a minimum, 2 topical and/or intralesional agents must be trialed before defining an inadequate response.	95.0		
A history of inadequate response to systemic therapy may increase AA severity.	93.8		
As a minimum, 2 systemic agents must be trialed before defining an inadequate response.	89.5		
Trichoscopy and other examination findings			
Trichoscopy provides meaningful information in the assessment of AA disease severity.	73.4		
Trichoscopic features associated with adverse prognosis (such as yellow dots and broken hairs), increase AA severity.	85.0		
In a patient with a low SALT score:			
A diffuse positive hair pull test increases AA disease severity rating.	92.2		
Rapid progression of hair loss over weeks increases AA disease severity rating.	89.1		
An ophiasis distribution increases overall AA severity rating.	85.9		
Disease visibility			
Ability to cosmetically camouflage/conceal AA			
The presence of AA patches in more visible areas of the scalp increases disease severity rating irrespective of SALT score.	87.9		
In a patient with a low SALT score, an inability (or difficulty) to cosmetically conceal/camouflage AA increases disease severity rating.	70.3		
Eyebrow involvement (including extent and severity)			
Limited eyebrow disease in AA is defined by the presence of minimal gaps in eyebrow hair with even distribution (corresponding to Eyebrow ClinRO Measure 1).	92.2		
Moderate eyebrow disease in AA is defined by the presence of significant gaps in eyebrow hair or uneven distribution (corresponding to Eyebrow ClinRO Measure 2).	93.8		
Severe eyebrow disease in AA is defined by the presence of no eyebrow hair (corresponding to Eyebrow ClinRO Measure 3).	95.3		
Eyebrow hair involvement should be incorporated into the overall assessment of AA severity as opposed to being assessed separately.	82.8		

Table 1. ASAMI Key Consensus Outcomes on Factors Affecting Alopecia Areata Disease Severityª (continued)			
Questionnaire domain	Consensus agreement, %		
In a patient with a low SALT score:			
Concurrent unilateral eyebrow hair involvement increases scalp AA severity.	75.0		
Concurrent bilateral eyebrow hair involvement increases scalp AA severity.	81.3		
Eyebrow hair involvement that results in functional or occupational impairment increases scalp AA severity.	82.8		
Eyelash involvement (including extent and severity)			
Limited eyelash disease in AA is defined by the presence of minimal gaps in eyelash hair with even spacing along the eyelids on both eyes (corresponding to Eyelash ClinRO Measure 1).	93.8		
Moderate eyelash disease in AA is defined by the presence of significant gaps in eyelash hair or uneven spacing along the eyelids (corresponding to Eyelash ClinRO Measure 2).	95.3		
Severe eyelash disease in AA is defined by the presence of no notable eyelashes (corresponding to Eyelash ClinRO Measure 3).	96.9		
Eyelash hair involvement should be incorporated into the overall assessment of AA severity as opposed to being assessed separately.	78.1		
In a patient with a low SALT score:			
Concurrent unilateral eyelash hair involvement increases scalp AA severity.	78.1		
Concurrent bilateral eyelash hair involvement increases scalp AA severity.	79.7		
Eyelash hair involvement that results in functional or occupational impairment increases scalp AA severity.	85.9		
Beard involvement			
Beard hair involvement should be incorporated into the overall assessment of AA severity as opposed to being assessed separately.	75.9		
In a patient with a low SALT score, concurrent beard hair involvement increases scalp AA severity. (Assume that the beard has no cultural or religious significance when answering this question.)	70.7		
Nail involvement			
Mild nail disease in AA is defined by at least 1 nail being a little damaged (eg, pitted, rough, brittle, split) (corresponding to Nail ClinRO Measure 1).	84.4		
Moderate nail disease in AA is defined by at least 1 nail being a moderately damaged (eg, pitted, rough, brittle, split) (corresponding to Nail ClinRO Measure 2).	84.4		
Severe nail disease in AA is defined by at least 1 nail being very damaged (eg, pitted, rough, brittle, split) or the loss of at least 1 nail (corresponding to Nail ClinRO Measure 3).	81.3		
Nail involvement should be incorporated into the overall assessment of AA severity as opposed to being assessed separately.	75.9		
In a patient with a low SALT score:			
Nail involvement increases scalp AA severity.	70.3		
Nail involvement that results in functional or occupational impairment is sufficient criteria for commencing systemic therapy.	76.6		
Quality of life and psychosocial morbidity			
The psychosocial impact of disease is an important criterion when assessing AA severity.	87.5		

(continued)

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Table 1. ASAMI Key Consensus Outcomes on Factors Affecting Alopecia Areata Disease Severityª (continued)			
Questionnaire domain	Consensus agreement, %		
In a patient with a low SALT score, the following increases the overall severity of AA:			
A history of anxiety due to or exacerbated by AA.	81.3		
A history of depression due to or exacerbated by AA.	84.4		
A history of suicidal ideation due to or exacerbated by AA.	82.8		
In a patient with a low SALT score:			
Racial, ethnic, or religious factors may increase the overall severity of AA. (For example, consider a patient with beard AA, where the beard has a special cultural or religious significance.)	70.3		
Impaired quality of life (as measured by DLQI) increases AA severity.	81.3		
A DLQI score of <6 does not affect the overall severity rating of AA.	Range, 71.9-82.8		
A DLQI score of ≥6 upgrades the overall severity rating of AA.	Range, 74.1-81.3		
Abbreviations: AA alonecia areata: AA-IGA Alonecia Areata Investigator Globa			

Abbreviations: AA, alopecia areata; AA-IGA, Alopecia Areata Investigator Global Assessment; ASAMI, Alopecia Areata Severity and Morbidity Index; DLQI, Dermatology Life Quality Index; SALT, Severity of Alopecia Tool.

<sup>a</sup> A detailed record of survey questions and participant responses across the 3 rounds can be found in eFiles 1 and 2 in Supplement 1.

the subsequent eDelphi round. Statements achieving consensus were excluded from the next round. A detailed record of survey questions and participant responses across the 3 rounds can be found in eFiles 1 and 2 in Supplement 1.

#### **Statistical Analysis**

The data analysis was performed using SPSS Statistics, version 28.0 (IBM).<sup>35</sup> Categorical data were presented in terms of frequency and percentages. The results from non–Likert-type questions were presented in a qualitative manner.

## Results

## **Expert Panel**

Figure 1 summarizes expert participation in the ASAMI eDelphi project. Of the 74 invited expert participants, 64 (86.5%) completed round 1, 58 (78.4%) completed round 2, and 42 (56.8%) completed round 3. Representation from 6 continents was achieved, with the following distribution: Africa (3; 4.7%), Asia (6; 9.4%), Australia (9; 14.1%), Europe (28; 43.8%), North America (15; 23.4%), and South America (3; 4.7%). A total of 60 experts (93.8%) reported routinely treating adults and children with hair loss disorders. Thirteen participants (20.3%) exclusively worked in public practice, 18 (28.1%) exclusively in private practice, and 33 (51.6%) in both.

#### **ASAMI Rounds**

Figure 2 summarizes the ASAMI eDelphi rounds, encompassing 107 questions regarding disease surface area, disease duration, number of AA episodes, relapse history, refractory disease, trichoscopy findings, examination findings, the ability to conceal disease, psychosocial morbidity, and factors pertaining to third-party funding of JAK in-



Figure 1. Expert Participation in the Alopecia Areata Severity

This flowchart provides an overview of the number and characteristics of the experts involved in the ASAMI eDelphi project.

hibitors. Round 1 achieved consensus in 54 of 104 questions, round 2 achieved consensus in 21 of 46 questions, and the final session conducted via video communication software achieved consensus in 21 of 27 questions. During this final session, 1 question was split into 2 parts, and an additional question regarding the use of the Dermatology Life Quality Index (DLQI) was included based on expert dialogue. Overall, consensus was achieved in 96 of 107 questions.

#### **Consensus Outcomes**

Assessment of Disease Severity

Disease Surface Area (Scalp Involvement) | Consensus agreement was reached for the accurate classification of scalp AA severity using the Alopecia Areata Investigator Global Assessment scale.<sup>36</sup> In this classification, limited disease is defined by a SALT score between 1 and 20, moderate as SALT score between 21 and 49, severe as SALT score between 50 and 94, and very severe as SALT score between 95 and 100.

Disease Duration | Consensus was achieved that AA severity is increased by an episode lasting more than 12 months. Additionally, participants agreed that in a patient with LSS, the duration of an AA episode may increase disease severity.

Number of AA Episodes and Relapse History | Consensus was achieved that AA severity is increased by a history of 3 or more relapses. Additionally, participants agreed that in a patient with LSS, a previous history of disease relapse may increase disease severity.

Refractory Disease | There was agreement that a history of inadequate response to topical treatments (eg, corticosteroids, immunotherapy, dithranol, and minoxidil) and/or intralesional agents may increase AA severity. As a minimum, 2 topical and/or intralesional agents must be trialed before defining an inadequate response.

Participants also agreed that a history of inadequate response to systemic therapy (eg, systemic corticosteroids [including oral, intramuscular, or intravenous administration] azathioprine, cyclospor-

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This flowchart provides an overview of the ASAMI eDelphi rounds, covering 107 questions regarding disease characteristics, trichoscopy findings, examination results, concealment ability, psychosocial morbidity, and factors pertaining to third-party funding of Janus kinase inhibitors.

ine, methotrexate, and JAK inhibitors) may increase AA severity. As a minimum, 2 systemic agents must be trialed before defining an inadequate response.

Trichoscopy and Examination Findings | It was agreed that trichoscopy provides meaningful information in the assessment of AA disease severity and that trichoscopic features associated with adverse prognosis increase AA severity. In patients with LSS, the factors that increase AA disease severity rating include a diffuse positive hair pull test result, rapid progression of hair loss over weeks, and/or an ophiasis distribution.

**Cosmetic Camouflage** | The experts concurred that, in a patient with LSS, the disease severity rating is increased by challenges in cosmetically concealing or camouflaging their condition. Additionally, the presence of AA patches in more visible areas of the scalp, regardless of the overall SALT score, was associated with increased severity ratings.

## Nonscalp Involvement |

*Eyebrow Involvement* The consensus among the experts was that eyebrow hair involvement should be incorporated into the overall assessment of AA severity, rather than assessing eyebrows separately. Additionally, the participants agreed that, in a patient with LSS, concurrent unilateral or bilateral eyebrow involvement was associated with heightened overall AA severity. The experts also concurred that in a patient with LSS, eyebrow hair involvement resulting in functional or occupational impairment was associated with increased severity of scalp AA.

The experts agreed regarding the severity of eyebrow disease:

 Minimal gaps with even distribution indicated limited eyebrow disease (corresponding to Eyebrow ClinRO Measure 1<sup>37</sup>).

- Significant gaps or uneven distribution indicated moderate eyebrow disease (corresponding to Eyebrow ClinRO Measure 2<sup>37</sup>).
- No eyebrow hair indicated severe eyebrow disease (corresponding to Eyebrow ClinRO Measure 3<sup>37</sup>).

*Eyelash Involvement* Participants agreed that eyelash hair involvement should be incorporated into the overall assessment of AA severity rather than be assessed separately and that in a patient with LSS, overall AA severity is increased by concurrent unilateral or bilateral eyelash involvement. It was also agreed that eyelash hair involvement that results in functional or occupational impairment increases scalp AA severity.

The following were agreed on by the group regarding the severity of eyelash disease:

- Minimal gaps with even spacing along the eyelids on both eyes indicated limited disease (corresponding to Eyelash ClinRO Measure 1<sup>37</sup>).
- Significant gaps or uneven spacing along the eyelids indicated moderate disease (corresponding to Eyelash ClinRO Measure 2<sup>37</sup>).
- No notable eyelashes indicated severe disease (corresponding to Eyelash ClinRO Measure 3<sup>37</sup>).

Beard Hair Involvement The group agreed that beard hair involvement should be incorporated into the overall assessment of AA severity rather than be assessed separately. The experts also reached consensus that in a patient with LSS, concurrent beard involvement increases overall AA severity, regardless of whether the beard has any cultural or religious significance.

*Nail Involvement* The experts concurred that nail involvement should be incorporated into the overall assessment of AA severity rather than be assessed separately. The participants also agreed that, in a patient with LSS, nail involvement increases overall AA severity. Fur-

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Table 2. Expert Perspectives From Round 1 Regarding the Initiation of Systemic Treatment for Alopecia Areata Based on SALT Score

P ti	articipant SALT score hreshold	No. of experts	Proportion of total (N = 64), %
W S	What is the SALT score above which you would always consider initiating systemic therapy?		
	≥10	1	1.6
	≥20	7	10.9
	≥25	3	4.7
	≥30	5	7.8
	≥40	6	9.4
	≥50	27	42.2
	≥60	1	1.6
	≥70	2	3.1
	NA <sup>a</sup>	12	18.8
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What is the SALT score below which you would never consider initiating systemic therapy?

≤5	4	6.3
≤10	15	23.4
≤15	1	1.6
≤20	15	23.4
≤25	9	14.1
≤30	1	1.6
≤35	1	1.6
≤90	1	1.6
NA <sup>a</sup>	17	26.6

Abbreviations: NA, not applicable; SALT, Severity of Alopecia Tool.

<sup>a</sup> Additional factors identified as influencing the decision to commence systemic therapy included hair loss location, examination findings (eg, hair pull test results, trichoscopic findings), alopecia areata duration, quality of life outcomes, and treatment history and response.

thermore, consensus was achieved on considering nail involvement that resulted in functional or occupational impairment as sufficient criteria for initiating systemic therapy.

The following were agreed on by the group regarding the severity of nail disease:

- At least 1 nail with a little damage indicated mild nail disease (eg, pitted, rough, brittle, split) (corresponding to Nail ClinRO Measure 1<sup>37</sup>).
- At least 1 moderately damaged nail indicated moderate nail disease (eg, pitted, rough, brittle, split) (corresponding to Nail ClinRO Measure 2<sup>37</sup>).
- At least 1 very damaged nail (eg, pitted, rough, brittle, split) or the loss of at least 1 nail indicated severe nail disease (corresponding to Nail ClinRO Measure 3<sup>37</sup>).

## Quality of Life and Psychosocial Morbidity

Mood and Anxiety Disorder History | Participants agreed on the importance of psychosocial outcomes as a crucial criterion in assessing AA severity. The experts also concurred that in a patient with LSS, a history of anxiety, depression, or suicidal ideation attributed to or exacerbated by AA increases overall AA severity.

Quality of Life | Consensus was reached that, in a patient with LSS, increased overall AA severity may be increased by racial, ethnic, or religious factors, for example, if the beard has a special cultural or religious significance. Furthermore, experts agreed in the third video communication round that the DLQI<sup>38</sup> is not an adequate measure of quality of life in patients with AA, despite being commonly used to assess AA impact. However, in the absence of a validated, universal quality of life (QOL) measure, participants agreed that the overall severity rating of AA is not affected by a DLQI score of O to 5 and is increased by a DLQI score of 6 to 30.

## Initiation of Systemic Treatment

## Disease Surface Area (Scalp Involvement)

For the initiation of systemic treatment, careful consideration of disease surface area, specifically scalp involvement, is crucial. **Table 2** summarizes expert perspectives from round 1 regarding the commencement of systemic therapies based on the SALT score.

## **Disease Duration**

When considering AA episode duration, the experts agreed that patients with rapidly progressive AA may be eligible for systemic treatment, regardless of disease duration. In patients with AA that is not rapidly progressive, the minimum episode duration a patient must experience to be eligible for systemic treatment is 6 months; additionally, participants agreed that systemic treatment should not be precluded by a maximum duration, even though evidence suggests its lower likelihood of success in long-standing disease.<sup>15,39</sup>

## Number of AA Episodes and Relapse History

Consideration of the number of AA episodes and relapse history is an integral aspect of determining eligibility for systemic treatment. Consensus was reached among experts that such eligibility should not be contingent on the count of relapses, emphasizing a nuanced approach to treatment decisions.

## **Refractory Disease**

In a patient with LSS, participants agreed that a history of inadequate response to topical and/or intralesional agents was sufficient criterion for commencing systemic therapy. Also, the experts agreed that, as a minimum, 2 topical and/or intralesional agents must be tried before commencing systemic therapy.

## **Trichoscopy and Examination Findings**

In a patient with LSS, trichoscopic features associated with an adverse prognosis are not sufficient criteria for the initiation of systemic therapy. Experts also agreed that rapid AA onset, a positive diffuse hair pull test result, or an ophiasis distribution are sufficient criteria for the initiation of systemic therapy.

## **Cosmetic Camouflage**

It was agreed that challenges in cosmetically concealing or camouflaging AA in patients with LSS were sufficient for initiation of systemic therapy. This acknowledgment underscores the importance of considering individual needs and experiences in treatment decisions.

## Nonscalp Involvement

In a patient with LSS, concurrent unilateral eyebrow, beard, or nail involvement was considered insufficient criteria to commence systemic therapy. However, eyebrow, eyelash, or nail involvement resultThe Alopecia Areata Severity and Morbidity Index (ASAMI) Study

ing in functional or occupational impairment sufficed to commence systemic therapy.

#### Quality of Life and Psychosocial Morbidity

In a patient with LSS, a DLQI score between O and 10 is insufficient criteria to commence systemic therapy. However, a DLQI score of more than 10 or a history of anxiety, depression, or suicidal ideation due to or exacerbated by AA was considered sufficient criteria.

#### **Third-Party Funding of JAK Inhibitors**

Overall, 26 questions explored factors associated with the funding of JAK inhibitors by third-party payers. A third-party payer was defined as the entity paying for the cost of treatment, such as an insurer or publicly funded health care system.

The group agreed that, regardless of SALT score, third-party payers should be encouraged to provide funding for JAK inhibitors to treat individuals with any of the following features:

- An AA episode lasting 12 months or more;
- Challenges with cosmetically concealing or camouflaging scalp areas affected by AA;
- Beard involvement when the beard has special cultural or religious significance;
- Nail involvement resulting in functional or occupational impairment;
- A history of anxiety, depression, or suicidal ideation due to or exacerbated by AA; and
- A DLQI score of more than 10.

Consensus was reached that the presence of a comorbidity responsive to a JAK inhibitor (eg, rheumatoid arthritis, atopic dermatitis) should alter the threshold for starting this treatment route, as well as the decision of which JAK inhibitor to prescribe. When a JAK inhibitor has achieved regulatory approval for a second disease in addition to AA (eg, AA and atopic dermatitis), the severity assessment of the other disease (eg, Eczema Area and Severity Index [EASI] score) was considered relevant to the decision to commence JAK inhibitor therapy for AA.

Additionally, experts were given the opportunity to record a freetext SALT score minimum for which third-party payers should be encouraged to provide funding for JAK inhibitor treatment for AA. **Table 3** presents these responses and their frequencies among the experts.

Neither the number of AA relapses nor the duration of an episode were identified as prohibitive factors for third-party funding of JAK inhibitors. The group agreed that the following factors did not automatically warrant third-party funding of JAK inhibitor treatment:

- The number of AA relapses experienced by a patient;
- AA with isolated involvement of the eyebrows, eyelashes, beard, or nails;
- Trichoscopic features associated with adverse AA prognosis; and
- a DLQI score of 10 or less.

#### **Outcomes Without Consensus**

Consensus was not achieved for 46 questions in the first round, 25 questions in the second round, and 6 questions in the third round. Notably, no consensus was reached regarding whether eyelash involvement (unilateral or bilateral) or bilateral eyebrow involvement in a patient with LSS was sufficient for commencing systemic therapy. Consensus was not reached about encouraging third-party funding for JAK inhibitor Table 3. Expert Perspectives From Round 1 Regarding Third-Party Funding of JAK Inhibitors Based on SALT Score

Participant SALT score threshold	No. of experts	Proportion of total (N = 64), %		
Third-party payers should be encouraged to provide funding for JAK inhibitors to treat individuals who have a SALT score of:				
≥10	1	1.6		
≥20	5	7.8		
≥25	3	4.7		
≥30	7	10.9		
≥40	4	6.3		
≥50	27	42.2		
≥60	3	4.7		
≥70	5	7.8		
≥75	3	4.7		
≥80	2	3.1		
≥90	1	1.6		
NA <sup>a</sup>	3	4.7		

Abbreviations: JAK, Janus kinase; NA, not applicable; SALT, Severity of Alopecia Tool.

<sup>a</sup> Additional factors identified as influencing the decision to commence systemic therapy included hair loss location, examination findings (eg, hair pull test results, trichoscopic findings), alopecia areata duration, quality of life outcomes, and treatment history and response.

therapy in patients with inadequate response to topical and/or systemic agents or rapidly progressive disease without first considering the SALT score.

## Discussion

In an era of emerging treatments for AA, the need for a multidimensional severity assessment tool that accurately captures disease burden, streamlines clinical assessment, and guides management has been identified by leading international hair specialists.<sup>12,13</sup> As a precursor, we undertook a large-scale global expert consensus study and, in doing so, identified several key determinants of AA severity and their relevance to the clinical decision to initiate systemic treatment.

Although experts agreed that the Alopecia Areata Investigator Global Assessment scale adequately defines scalp disease severity, they also concurred that nonscalp hair loss measures must be incorporated into an overall severity assessment tool. Furthermore, participants agreed that several factors were associated with an increase in AA severity independent of the percentage scalp hair loss. These factors included a history of 3 or more AA relapses, an episode lasting 12 months or more, rapid progression of disease indicated by a positive diffuse hair pull test result, involvement of facial hair (including involvement of eyebrow[s], eyelashes, or beard), the presence of nail disease, identification of trichoscopic features associated with adverse prognosis, and a history of inadequate response to 2 or more topical and/or 2 or more systemic agents. Several of these factors were also identified via expert consensus as sufficient criteria for the commencement of systemic therapy, even in the presence of LSS. Facial hair loss alone was considered insufficient to warrant systemic treatment initiation, unless concurrent scalp involvement, functional impairment, or adherence to cultural or religious requirements

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were observed. Furthermore, in patients with AA that is not rapidly progressing, the experts agreed that a minimum episode duration of 6 months was required before starting systemic therapy, reflecting the spontaneous regrowth that may occur during this time.

The psychosocial impact of AA was underscored by nearunanimous agreement that a history of anxiety, depression, or suicidal ideation due to or exacerbated by AA sufficed for systemic treatment initiation. Despite being used to measure QOL in AA by some clinicians, experts agreed that DLQI score was an inadequate measure in this context, presenting an argument for the development and validation of a more tailored QOL tool completed through future international collaborations. However, when DLQI is used to decide whether to initiate systemic treatment, a score of more than 10 was found to suffice for systemic treatment initiation, with experts acknowledging the possible discordance between objective AA severity and the personal burden of disease.

As newer treatments for AA emerge, dermatologists, funding agencies, and patient advocacy groups must work together to ensure appropriate and equitable allocation of health resources. JAK inhibitors signify a notable advancement in the treatment of AA; however, the considerable expense associated with this treatment may pose a barrier in resource-limited settings. This study sought to further characterize the perspectives of hair experts regarding guidelines for third-party payers for funding JAK inhibitors to treat AA. Including the perspectives of clinicians at this early stage is vital because of their practical experience with prescribing JAK inhibitors and pivotal role in ensuring effective, safe use. Although establishing eligibility criteria for treatment access is a separate task, experts concurred that third-party payers should be encouraged to fund JAK inhibitors for various reasons, irrespective of SALT score. Notably, no consensus was achieved on the number of prior therapies that should be attempted before encouraging funding for JAK inhibitor treatment. Given the transformative influence of JAK inhibitors on AA treatment, the areas lacking consensus emphasize the necessity of customizing prescription practices based on the systemic medication class, each exhibiting unique responses.

#### Limitations

Although considerable efforts were made in the design phase to produce a clear questionnaire, different interpretations of some

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questions were noted through obtaining expert feedback. Of note, although two-thirds of the group reached consensus on many items, there remained significant dissent between experts on some issues. Further, an inherent flaw of the eDelphi design is that individual expert opinions may not necessarily be grounded in established evidence. This concern reflects the subjective nature of assessing and managing AA in a clinical setting, demonstrating the importance of reaching a consensus for establishing a globally adopted, cohesive tool. Additionally, expert representation across 6 continents decreased from the first round conducted via text-based eDelphi web application to the third round conducted via video conferencing, highlighting the challenges encountered when conducting global eDelphi surveys (eTable in Supplement 1). Not all experts were represented in the first 12 questions of the third round because of logistical difficulties arising from multiple time zones. Furthermore, the video conference was not chaired by an independent, nonvoting expert, thereby introducing potential bias. Finally, this study did not involve perspectives from patients or the public.

## Conclusions

These findings are anticipated to provide a crucial foundation for the development of a multidimensional tool to adequately assess AA severity, ensuring a comprehensive understanding of the disease burden. This tool also will aim to aid in the identification of suitable candidates for both existing and emerging systemic therapies. Future research must assign weight to each of the domains that have been identified as contributing to AA severity. Patient and public involvement will be essential in this pursuit, capturing the voices of those who live with AA. Connected, harmonized patient registries will be useful moving forward for assessing treatment safety, efficacy, and quality of life outcomes.<sup>26,40</sup>

The ASAMI study provides international expert consensus on factors that modulate AA disease severity and insight into current experts' thresholds for the initiation of systemic treatment. Identification of determinants of AA severity is the first step toward development of the ASAMI tool: a proposed international expertdefined clinical assessment tool for AA.

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