Real-world Psychosocial and Economic Burden of Atopic Dermatitis Related to Disease Severity and Use of Systemic Therapy: Results from a Multicountry Study

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Introduction: Patients with atopic dermatitis (AD) experience a substantial burden of disease, including impacts on mental health and financial costs. However, there is still a gap in the understanding of the burden of AD across all levels of disease severity, and treatment patterns are not well understood. MEASURE-AD was a cross-sectional 28-country study of patients with physician-confirmed AD who were either receiving systemic treatment or eligible for systemic therapy. Primary study findings have been reported. In this analysis, we describe the psychosocial and economic burden of AD relative to patients' disease severity and current systemic therapy use.
Methods: MEASURE-AD recruited patients with AD aged ≥12 years between December 2019 and December 2020 from Western Europe, Eastern Europe, Middle East, Asia, Canada, and Latin America. Mental health status was characterized by the 12-Item Short Form Health Survey Mental Component Summary (SF-12 MCS) score and anxiety and depression were characterized by the proportions of patients with Hospital Anxiety and Depression Scale (HADS) anxiety (HADS-A) and depression (HADS-D) subscale scores ≥8. Financial cost due to AD was characterized by the median patient-reported cost of healthcare-related expenses and everyday necessities related to AD. Results were presented by AD severity level (Eczema Area and Severity Index [EASI] of clear [0], mild [0.1-5.9], moderate [6.0-22.9], and severe [23.0-72.0]) and current systemic therapy use (yes, no). Differences were analyzed using Kruskal-Wallis tests and chi-square tests, as appropriate. Here we report analyses for adults (age ≥18 years).
Results: Among 1434 adult patients with AD, mean age was 39.1 years, 52.2% (n=748) were men, and 60.5% (n=868) were employed. Of 1428 patients with EASI data, AD severity was rated as clear, mild, moderate, and severe for 5.7%, 25.5%, 43.5%, and 25.4%, respectively. Patients with worse disease severity had significantly worse mental health status, were much more likely to meet cut-off scores for depression and anxiety, and had higher financial costs (**Table 1**). Among the 1434 patients, 813 (56.7%) were currently receiving systemic therapy,

most commonly dupilumab (n=468, 57.6%), systemic corticosteroids (n=146, 18.0%), methotrexate (n=124, 15.3%), or cyclosporine (n=122, 15.0%). Patients not currently receiving systemic therapy had significantly worse mental health status, were more likely to meet cut-off scores for anxiety or depression, and had higher financial costs compared with patients receiving systemic therapy (**Table 1**).

Conclusions: This analysis of more than 1400 adults with AD, demonstrated that a psychosocial and economic burden exists among patients with AD. The burden is higher for patients with more severe disease and for those not treated with systemic therapies. Overall, a significant unmet need remains for effective treatments to improve patients' psychosocial outcomes and reduce the economic burden of AD.

Table 1. Psychosocial and Economic Burden of Atopic Dermatitis by Disease Severity Level and Current Use of Systemic Therapy

Patient Group	Mental Status (SF-12 MCS[a]) Median (IQR)	Anxiety (HADS-A[b] ≥8) n (%)	Depression (HADS-D[b] ≥8) n (%)	Financial Costs Due to AD (USD/mo) Median (IQR)
Disease Severity (EASI)[c]				
Clear (n=81)	55.2 (49.6–57.7)	19 (23.5)	8 (9.9)	52.63 (6.05–96.80)
Mild (n=364)	49.3 (40.0–55.1)	107 (29.4)	68 (18.7)	77.82 (33.70–145.20)
Moderate (n=621)	44.0 (35.1–52.3)	291 (46.9)	186 (30.0)	89.00 (47.40–169.40)
Severe (n=362)	38.7 (30.8–47.7)	196 (54.1)	153 (42.3)	121.50 (66.55–231.00)
***P* value[d]**	<.0001	<.0001	<.0001	<.0001
Current Systemic Therapy				
Yes (n=813)	45.8 (35.6–54.5)	308 (37.9)	210 (25.8)	84.70 (42.00–164.25)
No (n=620)	43.0 (34.1–51.5)	307 (49.5)	205 (33.1)	102.70 (48.40–181.50)
***P* value[d]**	<.0001	<.0001	.0025	.0073

[a]Range 0–100; higher scores indicate better mental health.
[b]Scores of 0–7 are considered normal, and scores of ≥8–21 are borderline to abnormal.
[c]Severity levels are based on EASI score ranges per Chopra, 2017: clear, 0; mild, 0.1–5.9; moderate, 6.0–22.9; severe, 23.0–72.0.
[d]*P* values are based on Kruskal-Wallis tests for SF-12 MCS and financial costs, and on chi-square tests for HADS-A and HADS-D.
EASI, Eczema Area and Severity Index; HADS, Hospital Anxiety and Depression Scale; HADS-A, HADS-Anxiety; HADS-D, HADS-Depression; IQR, interquartile range (25th to 75th percentiles); SF-12 MCS, 12-Item Short Form Health Survey Mental Component Summary; USD, US dollars.

DISCLOSURES

V Aoki has been an investigator, speaker, and/or advisor for AbbVie, Eli Lilly, LEO Pharma, Pfizer, and Sanofi Genzyme.

K Eyerich has served as a speaker, investigator, and/or advisor for AbbVie, Almirall, Berlin Chemie, Boehringer Ingelheim, BMS, Celgene, Hexal, Galapagos, Janssen, Eli Lilly, Novartis, Sanofi, and UCB Pharma.

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C Sancho, S Takemoto, BM Calimlim, and **HD Teixeira** are full-time, salaried employees of AbbVie Inc. and may own AbbVie stock or stock options.

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