

Impact Of Day-to-Day Sleep Disruption on The Burden of Disease In Moderate-severe Adult Atopic Dermatitis Patients

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BACKGROUND

- Atopic Dermatitis (AD) is a common inflammatory skin disease with symptoms including itching, dry, red and scaly skin.
- Itch and associated skin pain can frequently lead to sleep disruption (S-D) among patients with AD with resulting daytime fatigue and disturbed cognition.^{1, 2}
- While recent studies have demonstrated a link between higher AD severity and reduced sleep quantity and quality,³ real-world data for AD from the patient perspective is still limited and the role of S-D frequency and its impact on patient quality of life (QoL) requires further exploration.

OBJECTIVE

- To assess the impact of day-to-day (not related to a flare) S-D frequency on patients with moderate-to-severe AD using patient-reported outcomes (PROs).

METHODS

Data Source

- Data were drawn from the Adelphi Atopic Dermatitis Disease Specific Programme (DSP™), a multi-national, point in time survey of physicians (dermatologists, allergists and PCPs) and their consulting AD patients in the US (during 2018), Germany (2019), Italy (2019), UK (2019), France (2020) and Spain (2021).
- The study used data from adults aged ≥18 years with physician-assessed moderate-to-severe AD.

Patient-Reported Outcomes

- Patients completed PRO questionnaires in which they were asked to select ongoing day-to-day symptoms they usually experienced (not related to a flare) from a list including S-D, itch, skin pain, anxiety, and depression/low mood, and to rate the symptom frequency.
- Two patient groups were evaluated: those with frequent S-D (all the time/regularly) and those with infrequent S-D (sometimes/rarely/none).

KEY RESULTS

Figure 1. Patient-reported day-to-day symptoms in moderate-to-severe adult AD patients according to the frequency of S-D.

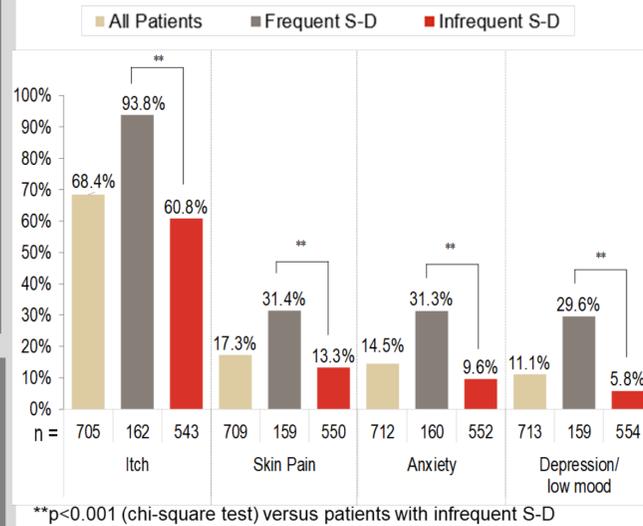


Figure 2. WPAI due to AD in moderate-to-severe adult AD patients according to the frequency of S-D.

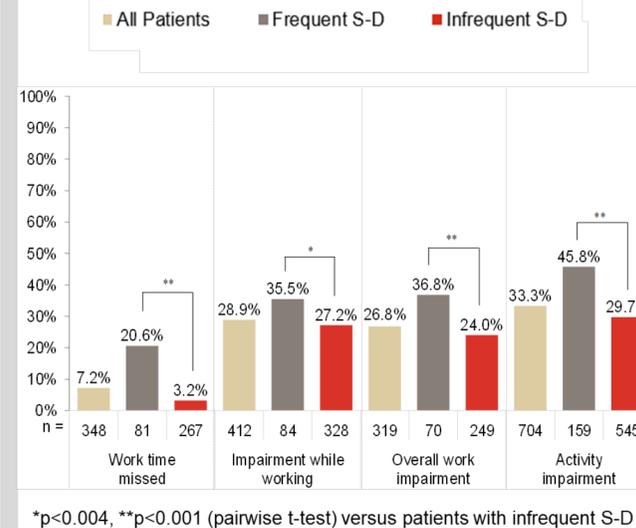
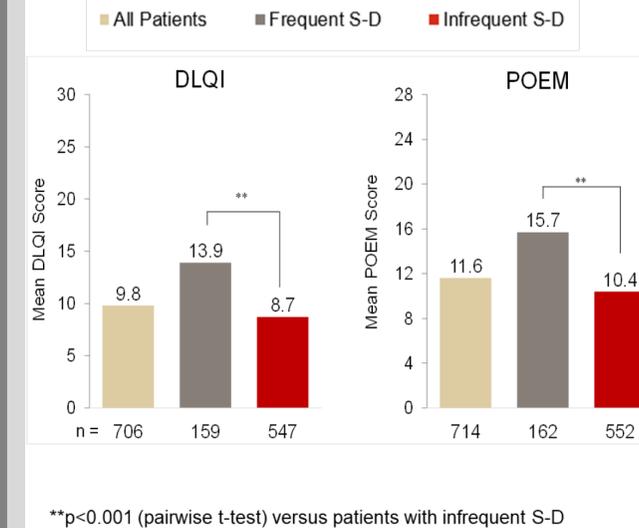


Figure 3. Mean DLQI and POEM scores in moderate-to-severe adult AD patients according to the frequency of S-D.



CONCLUSIONS

- More than one fifth of moderate-to-severe adult AD patients experience S-D regularly or all the time.
- Compared with infrequent S-D patients, frequent S-D patients have significantly more frequent day-to-day itch and are also more likely to experience skin pain, anxiety and depression more frequently.
- Patients with frequent S-D have greater activity/work productivity impairment and higher disease burden.
- These results reinforce the link between itch, skin pain, anxiety, and depression with S-D, and underline the importance of sleep for patient's QoL.

Table 1. Physician-reported demographics and clinical characteristics for adults with moderate-to-severe AD according to the frequency of S-D.

	All patients (n=719)	Frequent S-D (n=162)	Infrequent S-D (n=557)	p-value
Mean age (years)	38.5 ± 14.5	37.0 ± 14.5	38.9 ± 14.4	0.142
Male, n (%)	347 (48.3%)	83 (51.2%)	264 (47.4%)	0.390
Body mass index (kg/m ²)	25.7 ± 13.4	26.9 ± 27.2	25.3 ± 4.1	0.175
Psychological comorbidities, n (%)				
Anxiety	132 (18.4%)	29 (17.9%)	103 (18.5%)	0.864
Depression	69 (9.6%)	18 (11.1%)	51 (9.2%)	0.457
Employed ^a , n (%)	549 (64.6%)	97 (60.2%)	362 (65.8%)	0.194
Time since AD diagnosis (years) ^b	10.9 ± 12.1	12.3 ± 11.9	10.5 ± 12.1	0.192
Current EASI score	9.9 ± 8.0	12.2 ± 10.0	9.2 ± 7.3	<0.001
Current BSA affected (%) ^c	23.7 ± 16.2	24.5 ± 17.1	23.5 ± 16.0	0.512

Results are presented as mean ± standard deviation unless stated otherwise

^aN=711, 161 and 550 for the three groups, respectively; ^bN=433, 98 and 335 for the three groups, respectively; ^cN=627, 140 and 487 for the three groups, respectively

AD, atopic dermatitis; S-D, sleep disruption

- The patient questionnaire included the following validated PRO assessments:
 - Patient Orientated Eczema Measure (POEM)^{4,5}
 - Dermatology Life Quality Index (DLQI)⁶
 - Work Productivity and Activity Impairment (WPAI)⁷
- Statistical comparisons for the two patient groups were made using pairwise t-tests for continuous variables and chi-squared for categorical variables.

RESULTS

- 719 patients with a physician assessment of moderate or severe AD completed the PRO questionnaire and were included in this analysis
 - 22.5% experienced day-to-day frequent S-D and 77.5% infrequent S-D.
- Table 1 shows patient demographics and clinical characteristics.
- Patients with patient-reported day-to-day frequent S-D were significantly more likely to experience frequent itch, skin pain, anxiety and depression than those with infrequent S-D (Figure 1).

- Overall work and activity impairment due to AD was significantly increased in patients with frequent S-D than those with infrequent S-D, as shown in Figure 2.
- Figure 3 shows burden of disease on QoL and AD symptoms was higher for patients with frequent versus infrequent S-D.

STRENGTHS AND LIMITATIONS

Strengths

- Adelphi DSPs provide data from large international databases, providing real-world information on disease characteristics, management and outcomes

Limitations

- Assessment of AD severity was not based on a standardized definition but utilised physician judgement.
- The S-D definition was based on patient-report rather than a standardised measure and rated in terms of frequency and not intensity.
- The study was limited by factors associated with any survey, such as accurate recall and variability in the interpretation of questions
- Point-in-time design therefore cannot be used to demonstrate cause and effect

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DISCLOSURES

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