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Table SI Information from the past year used to calculate the direct and indirect costs

|  | Unit<br>costs | Total cohort (n=101) | Mild AD (n=38) | Moderate AD (n=37) | Severe AD (n=26) |  |
|--|---------------|----------------------|----------------|--------------------|------------------|--|
|  | (€)           | Volumes (mean (SD))  |                |                    |                  |  |
| Health care utilization  |               |                      |                | · //               |                  |  |
| Dermatologist consultations  | 176.80        | 2.0±1.9              | 1.6±1.6        | 1.5±1.3            | 3.4±2.4          |  |
| Dermatology nurse (specialist) consultations   | 156.73        | 2.4±1.7              | 2.1±1.5        | 2.2±1.3            | 3.0±2.4          |  |
| Dermatologist telephone consultations  | 56.10         | 1.0±1.0              | 1.0±1.0        | 0.0±1.0            | 1.0±2.0          |  |
| Dermatology nurse (specialist) telephone consultations   | 18.34         | 0.7±1.0              | 0.6±0.8        | 0.7±0.9            | 1.1±1.4          |  |
| Social worker consultations  | 70.72         | $0.0\pm0.0$          | $0.0\pm0.0$    | $0.0\pm0.0$        | $0.0\pm0.0$      |  |
| Other medical specialists consultations  | 176.80        | 0.0±1.0              | 1.1±1.1        | 0.0±1.0            | 1.1±1.1          |  |
| GP consultations (for AD treatment)  | 35.36         | 2.0±2.0              | 2.0±2.0        | 2.0±2.0            | 1.0±0.0          |  |
| Transportation costs   |               |                      |                |                    |                  |  |
| Distance between UMCU and residence in km, unit costs/km   | 0.21          | 57.5±39.4            | 52.3±34.8      | 64.4±43.1          | 55.4±40.3        |  |
| Visits with transportation costs and parking costs, unit costs/parking   | 3.24          | 5.0±3.0              | 4.0±3.0        | 4.0±2.0            | 7.0±3.0          |  |
| Indirect costs   |               |                      |                |                    |                  |  |
| Absenteeism of caregivers' work due to child with AD in the past year, hours, unit costs value of productivity loss/hour | 27.70         | 21.0±63.0            | 12.0±34.0      | 28.0±92.0          | 24.0±38.0        |  |
| Missing, n (%)   | 1 (1.0)       | 0 (0.0)              | 0 (0.0)        | 0 (0.0)            | 1 (3.8)          |  |

SD = Standard Deviation. AD = Atopic Dermatitis. GP = General Practitioner.

Table SII. Mann-Whitney U tests between severity groups, patient-reported outcomes

|  | Comparison  | Comparison mild | Comparison     | Comparison mild | Comparison         | Comparison         |
|--|-------------|-----------------|----------------|-----------------|--------------------|--------------------|
|  | mild to     | to moderate AD  | mild to severe | to severe AD    | moderate to severe | moderate to severe |
|  | moderate AD | Adjusted P-     | AD             | Adjusted P-     | AD                 | AD                 |
|  | P-value*    | value*          | P-value*       | value*          | P-value*           | Adjusted P-value*  |
| POEM, median (IQR) <sup>a</sup>                              | < 0.001     | < 0.001         | 0.006          | 0.024           | 0.139              | 0.445              |
| VAS itch, median (IQR) <sup>b</sup>                          | < 0.001     | < 0.001         | 0.250          | 0.364           | 0.090              | 0.360              |
| VAS pain, median (IQR) <sup>b</sup>                          | 0.028       | 0.066           | 0.005          | 0.024           | 0.735              | 0.878              |
| CDLQI, median (IQR)b   | < 0.001     | < 0.001         | 0.013          | 0.042           | 0.877              | 0.878              |
| DLQI, median (IQR) <sup>c</sup>                              | 0.092       | 0.147           | 0.092          | 0.184           | 0.469              | 0.852              |
| DFI, median (IQR) <sup>d</sup>                               | 0.029       | 0.066           | 0.247          | 0.364           | 0.796              | 0.878              |
| EQ-5D-Y 'problems', n (%)a                                   |             |                 |                |                 |                    |                    |
| Mobility   | 0.504       | 0.583           | 0.893          | 0.893           | 0.636              | 0.878              |
| Self-care  | 0.897       | 0.957           | 0.625          | 0.667           | 0.549              | 0.878              |
| Daily activity   | 0.510       | 0.583           | 0.189          | 0.336           | 0.479              | 0.852              |
| Pain/discomfort  | 0.050       | 0.100           | 0.436          | 0.537           | 0.317              | 0.725              |
| Anxiety/depression   | 0.064       | 0.114           | 0.065          | 0.149           | 0.878              | 0.878              |
| VAS EQ-5D-Y, median (IQR) <sup>a</sup>                       | 0.013       | 0.042           | < 0.001        | < 0.001         | 0.060              | 0.360              |
| T-score PROMIS anxiety,<br>median (IQR) <sup>e</sup>         | 0.107       | 0.156           | 0.274          | 0.365           | 0.822              | 0.878              |
| Impairment in caregivers'                                    | 0.007       | 0.006           | 0.065          | 0.140           | 0.001              | 0.260              |
| work, median (IQR) <sup>d</sup>                              | 0.986       | 0.986           | 0.065          | 0.149           | 0.081              | 0.360              |
| Impairment in caregivers' daily                              | 0.347       | 0.463           | 0.499          | 0.570           | 0.195              | 0.520              |
| activities, median (IQR) <sup>d</sup>                        |             |                 |                |                 |                    |                    |
| School absenteeism, days per year, median (IQR) <sup>d</sup> | 0.007       | 0.028           | <0.001         | <0.001          | 0.007              | 0.112              |

<sup>\*</sup>P-value <0.05 was considered significant.