BACKGROUND

• Atopic dermatitis (AD) is the most common dermatologic diagnosis around the globe, affecting nearly 25% of children in developed countries.1
• Approximately 50% of children with AD experience significantly impaired quality of life (QOL).1 This AD-related QOL impact has been ranked higher than that of other chronic conditions such as renal disease, diabetes, and cystic fibrosis.2,3
• AD-related QOL impact goes beyond patients’ frustrations due to dry, itchy skin and is linked to increased comorbidities, decreased social functioning, and impaired psychological health.2,3

OBJECTIVE

• The purpose of this study was to review the QOL impact of AD among children around the world.

METHODS

• A targeted MEDLINE literature search (PubMed) was performed to identify studies from various countries that focused on the QOL impact of AD in children. Data extracted from each study included the population characteristics, disease severity and QOL assessment, outcomes, and conclusions.

RESULTS

• Disease severity (Table 1) was assessed via the Eczema Area and Severity Index (EASI), the Objective Scoring Atopic Dermatitis (SCORAD) tool, the Rajka and Langeland Scoring System, and patient/parent evaluation.
• QOL instruments employed (Table 1) included the Infant’s Dermatitis Quality of Life Index (IDQOL), the Children’s Dermatology Life Quality Index (CDLQI), and the Dermatology Family Index (DFI).

A Global Review of the Quality of Life Impact of Atopic Dermatitis in Children

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Table 2. Results

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Population Characteristics</th>
<th>Disease Severity</th>
<th>QOL*</th>
<th>Outcomes/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brazil</td>
<td>42 children</td>
<td>EASI 9.2 (4.9)</td>
<td>IDQOL 8.5 (4.4)</td>
<td>EASI = IDQOL correlation = 0.219</td>
</tr>
<tr>
<td>2</td>
<td>Italy</td>
<td>60 children</td>
<td>Objective SCORAD 9.4 (15.3)</td>
<td>IDQOL/CDLQI 8.5 (5.9)</td>
<td>Objective SCORAD &gt; IDQOL/CDLQI correlation = 0.401</td>
</tr>
<tr>
<td>3</td>
<td>US</td>
<td>58 children</td>
<td>Parent-assessed</td>
<td>CDLQI 5.8 (5.5)</td>
<td>Positive correlation between patient-assessed severity and itching</td>
</tr>
<tr>
<td>4</td>
<td>Ukraine</td>
<td>103 children</td>
<td>Parent-assessed 1.86 (0.80)</td>
<td>IDQOL 5.4 (5.0)</td>
<td>IDQOL and DFI results well correlated with parental assessment of disease</td>
</tr>
<tr>
<td>5</td>
<td>Czech Republic</td>
<td>126 children</td>
<td>Parent-assessed 2.11 (0.88)</td>
<td>DFI 7.65 (5.63)</td>
<td>DFI results not correlated with patients’ age</td>
</tr>
<tr>
<td>6</td>
<td>Singapore</td>
<td>44 children</td>
<td>Parent-assessed 2.07 (2.25)</td>
<td>DFI 7.4 (5.86)</td>
<td>Mean DFI results not significantly different between countries</td>
</tr>
<tr>
<td>7</td>
<td>Netherlands</td>
<td>49 children</td>
<td>Parent-assessed 1.90 (0.56)</td>
<td>DFI 4.69 (3.77)</td>
<td>AD had significant impact on child’s mood in all studied countries</td>
</tr>
<tr>
<td>8</td>
<td>Brazil</td>
<td>43 children</td>
<td>Parent-assessed 1.98 (0.94)</td>
<td>DFI 8.37 (4.43)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>South Korea</td>
<td>54 children</td>
<td>Parent-assessed 2.56 (0.88)</td>
<td>DFI 11.30 (6.20)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Disease Severity and QOL Instruments Employed

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>Scale Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>EASI</td>
<td>Assesses severity of dermatosis based on association between presence of clinical signs and body surface area</td>
<td>0-72</td>
</tr>
<tr>
<td>Objective SCORAD</td>
<td>Measures AD extent and intensity</td>
<td>0-83</td>
</tr>
<tr>
<td>Rajka and Langeland Scoring System</td>
<td>Assesses disease course over the most recent year, presents extent of AD and associated itching</td>
<td>0-5</td>
</tr>
<tr>
<td>CDLQI</td>
<td>Assesses symptoms, feelings, leisure, school/vacations, personal relationships, and treatment in children age 5-16 years</td>
<td>0-30</td>
</tr>
<tr>
<td>DFI</td>
<td>Assesses AD impact (e.g., expenses, relationships, sleep) within the family</td>
<td>0-30</td>
</tr>
<tr>
<td>IDQOL</td>
<td>Assesses sleep, humor, difficulty participating in recreational activities, family life, and more in children under 4 years old</td>
<td>0-30</td>
</tr>
</tbody>
</table>

REFERENCES

• Although AD is not categorized as a life-threatening condition, it is recognized as a disease that affects multiple domains of QOL starting as early as infancy and sometimes persisting throughout life.
• Almost all of the studies reviewed that reported CDLQI or IDQOL also reported DFI. This suggests that consideration of the QOL impact on pediatric patients with AD should not be limited to the impact on the patient, as the QOL of family members is impacted, as well.

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Figure 1. Study Regions and QOL Tools

Figure 2. Disease Severity Distribution

Objective SCORAD used in Italy1 Rajka and Langeland used in the US3

CDLQI: Pruritus, embarrassment, and mood alterations were reported as factors most impacting QOL (Table 2).

PTT2: Known = knowledge; TOT2: The power of thinking.

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