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Ethics approval: All study procedures were performed in accordance with the Ethics Committee of the University Hospital Joseph Raseta Befelatanana Antananarivo, Madagascar.

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Evaluation of how atopic dermatitis (AD) affects the quality of life (QoL) of patients and their families is crucial [1]. Studies related to QoL in patients with atopic dermatitis are uncommon in Africa, notably in Madagascar. Therefore, we aim to assess the impact of atopic dermatitis in Malagasy children and their families QoL.

A cross-sectional study, was carried out in the dermatology department of the university hospital in Antananarivo, Madagascar, from January to December 2020. According to the criteria of United Kingdom Working Party criteria, 66 children with a confirmed diagnosis of AD between the ages of 0-16 years were included.

The scoring atopic dermatitis (SCORAD) was used to assess the severity of AD. Infants’ Dermatitis Quality of Life (IDQOL), Children’s Dermatology Life Quality Index (CDLQI), Dermatitis Family Impact (DFI) questionnaires were used to evaluate the QoL for participants under 5 years, between 5 and 16 years and parents of children with AD, respectively.

Epi info® version 7.2.2.6 was used for the statistical analysis. The correlations between the demographic, clinical parameters and QoL scores of the patients were analyzed. Fisher’s exact test is applied for qualitative variables, and its p value ≤ 0.05 is considered as statistically significant.

The mean age of patients was 4.1± 4.6 years (min : 2 months ; max : 15 years). The sex ratio M/F was 0.67. The median age of onset was 5 months. The mean atopic dermatitis lasted 2.76±8.83 years. The mean±SD SCORAD was 40.3±14.5. Sociodemographics and clinical characteristics of children with atopic dermatitis are shown in Table 1.

Table 1: Sociodemographics and clinical characteristics of children with atopic dermatitis (N=62)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>&lt; 5 years</td>
<td>41</td>
</tr>
<tr>
<td>5-16 years</td>
<td>21</td>
</tr>
<tr>
<td>Mean±SD</td>
<td>4.17±4.6</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>25</td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
</tr>
<tr>
<td>Education of parents</td>
<td></td>
</tr>
<tr>
<td>Low (primary school)</td>
<td>0</td>
</tr>
<tr>
<td>Middle (secondary school)</td>
<td>16</td>
</tr>
<tr>
<td>High (university)</td>
<td>46</td>
</tr>
<tr>
<td>Age of onset [0-2]</td>
<td>46</td>
</tr>
</tbody>
</table>
Disease duration (years)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>8</td>
</tr>
<tr>
<td>[1-3]</td>
<td>10</td>
</tr>
<tr>
<td>[3-5]</td>
<td>11</td>
</tr>
<tr>
<td>≥5</td>
<td>33</td>
</tr>
</tbody>
</table>

Concomitant atopic disease

- Asthma: 4
- Allergic rhinitis: 0
- Allergic conjunctivitis: 2
- Food allergy: 5

Family history of atopy

- Asthma: 19
- Allergic rhinitis: 0
- Allergic conjunctivitis: 17
- Atopic dermatitis: 3
- Food allergy: 4

Topography of lesions

- Face: 16
- Trunk: 19
- Upper limbs: 17
- Lower limbs: 9

Severity according to SCORAD

- Mild AD (SCORAD < 25): 38
- Moderate AD (SCORAD 25-50): 15
- Severe AD (SCORAD > 50): 40.33±14.57

Our results show moderate impact of AD on children’s QoL, the mean IDQOL score was 11.3±3.8 for infants < 5 years. After treatment the mean IDQOL score decreased significantly to 9.3±4.4. The mean CDLQI score was 10.9±3.7 for children aged 5 to 15 years. The mean CDLQI score following treatment was higher than it was at baseline (14±2.2 vs 10.9±3.7).

Moderate impact on families QoL was observed, the mean DFI score was 10.6±4.6. No correlation between demographic and therapeutic parameters and QoL was found in our study. However, significant correlation was found between the severity of AD and QoL in infants and children. More AD was severe, more the effect in children quality of life was important. The impairment of QoL in infants and their families was also proportional to the severity of AD (Table 2).
Table 2: Quality of life scores in relation to severity of atopic dermatitis

<table>
<thead>
<tr>
<th>AD severity (SCORAD)</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDQOL (mean±SD)</td>
<td>4.9±3.1</td>
<td>10.7±3.8</td>
<td>18.5±4.9</td>
<td>0.001</td>
</tr>
<tr>
<td>CDLQI (mean±SD)</td>
<td>6.2±3.2</td>
<td>9.9±4.1</td>
<td>16.5±4.1</td>
<td>0.005</td>
</tr>
<tr>
<td>DFI (mean±SD)</td>
<td>5.9±2.9</td>
<td>9.8±3.2</td>
<td>16.9±5.2</td>
<td>0.002</td>
</tr>
</tbody>
</table>

The correlation between the severity of AD and children’s QoL may be explained by the high rate of first consultation in our study; these children would probably have presented AD for a long time. Hence, AD had a significant impact on their QoL. Similar results were also reported in Romania [2] and in Danemark [3]. Furthermore, the impairment of parents’ QoL was highly correlated to the severity of AD in infants under 5 years. Its finding was consistent with that reported by Yang et al [4] and Beattie et al [5].

Our study suggests that AD is associated with an impaired QoL in Malagasy children and their families.

Key words: quality of life, children, atopic dermatitis

Abbreviation list

AD: Atopic dermatitis
IDQOL: Infants’ Dermatitis Quality of Life
CDLQI: Children’s Dermatology Life Quality Index
DFI: Dermatitis Family Impact
SCORAD: Scoring atopic dermatitis
SD: Standard Deviation

Availability of data and materials: Not applicable
Author's contributions: FAS and TIR conceived this study and performed statistical analyses. All authors were involved in patient clinical care or in the drafting and writing of the manuscript. All authors read and approved the final manuscript.

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REFERENCES


