

Quality of Life of Family of Children with Atopic Dermatitis Using the Dermatitis Family Impact Questionnaire in West- Africa

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Abstract

Background: Atopic Dermatitis (AD) is a chronic, pruritic inflammatory skin disease of multifactorial origin that most often occurs in genetically predisposed individuals. It has been described as a global burden, impacting the quality of life of sufferers and their relatives.

Objective: Our study aimed to assess the quality of life (QoL) of family of children with AD.

Methods: This was a descriptive cross-sectional study conducted over 10 months in the Dermatology-Venerology Department of Treichville University Hospital. It included 100 parents of children with moderate to severe AD. Their quality of life was assessed using the Dermatitis Family Impact (DFI) questionnaire.

Results: Our population consisted of 75 women and 25 men, giving a sex ratio (M/F) of 1/3. The mean age of the parents was 34.7 years. Almost all the parents (97%) had an impact of AD on their QoL, with a mean DFI score of 6.9. Increased expenses (89%), emotional stress (74%) and exhaustion (70%) were the variables that most affected the parents' QOL. An association between occupation and QoL score was found, more specifically for the self-employed and students. Living in a small courtyard shared by several low-rise buildings in poor neighbourhoods had a negative impact on parents' QoL.

Conclusion: The DFI score in our study confirms that AD has an impact on the quality of life of parents in Abidjan. Comprehensive management of this condition includes therapeutic education, which has led to the creation of an atopy school.

Key Words: Atopic dermatitis, Quality of life, Family, Therapeutic Education.

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Introduction

Atopic dermatitis (AD) is a chronic, itchy inflammatory skin disease. It is multifactorial in origin and occurs in genetically predisposed individuals. The disease begins in childhood or adolescence and is characterised by a course of flare-ups and remissions against a backdrop of permanent skin xerosis. AD has been described as a global burden affecting the quality of life of patients and their relatives.^{1,2} This would explain the vital role of therapeutic education through atopy schools.³⁻⁴

In sub-Saharan Africa, to our knowledge, no

study has yet looked at the impact of AD on families' quality of life. Most studies generally focus on clinical and therapeutic epidemiological aspects or patients' quality of life.⁵⁻⁸ It therefore seemed important to us to initiate this study, the aim of which was to assess the quality of life of parents of children with AD using the 'Dermatitis Familial Index' (DFI) questionnaire.⁹

Methods

This was a descriptive cross-sectional study aimed at assessing the quality of life of parents of

children with atopic dermatitis. The nature of the study was fully explained to the population studied. Informed verbal or written consent was obtained from each participant. Ethical approval was obtained from the institutional review boards. Our survey took place from November 2020 to August 2021. Cases were recruited from the paediatric dermatology consultation at Treichville University Hospital. All parents whose children had moderate to severe AD were included in the study.

Data were collected using a questionnaire, which was completed during a face-to-face interview with the patients and their parents.

Once the diagnosis of AD had been made during the consultation, the severity of the AD was assessed using the SCORAD (Scoring Atopic Dermatitis) index.¹⁰ Patients were classified into the following three categories: mild disease (SCORAD <20), moderate disease (SCORAD 20-40) and severe disease (SCORAD >40). We collected the parent's socio-demographic data. To assess the impact of AD on the parents' quality of life, we used a questionnaire containing DFI items.^{9;11}

The data were recorded in CSPRO VERSION 6 and then exported to SPSS 23 for statistical analysis. Probability values of less than 0.05 are considered statistically significant. Graphs were produced using OFFICE EXCEL 2013 and tables using Office Word 2013.

Results

We surveyed 100 parents whose children had moderate to severe AD (SCORAD). Table 1 presents the social and demographic characteristics of this population. There were 75 women and 25 men, giving a sex ratio (M/F) of 1/3. The mean age of the parents in our study was 34.7 ± 3.1 years, with extremes of 21 and 52 years. The 30-40 age group was the most represented (56%). These parents lived in urban areas in 92% of cases, and 60% lived in urban flats. The self-employed accounted for 38% of the study population, followed by private sector employees (30%). The average monthly cost of caring for children with AD in our

series was estimated by the parents at 35.5 ± 14.5 US Dollars.

Table 1: Socio-demographic data(N=100).

Characteristics	N
Gender	
Female	75
Male	25
Age	
[20-30years [22
[30-40years [56
[40-50years [21
[50-60years [1
Area of residence	
Urban	92
Rural	8
Housing type	
Apartment	60
Detached Villa	27
Courée*	13
Profession	
Liberal and independent	38
Public-sector employee	20
Private sector employees	30
Students and unemployed	12

AD has an impact on the QoL of almost all parents (97%). Figure 1 shows the distribution of parents according to the effect of AD on family life. The mean total DFI score was 6.9 ± 3.7 with extremes of 0 and 17. the mean quality of life score for each item in the DFI questionnaire is shown in Table 2. The items 'Increased expenditure', 'Exhaustion and fatigue' and 'Emotional stress' had the highest mean scores with 1.5 ± 0.8 , 1.0 ± 0.8 and 1.1 ± 0.8 respectively. Concerning the individual scores for each item of the DFI questionnaire

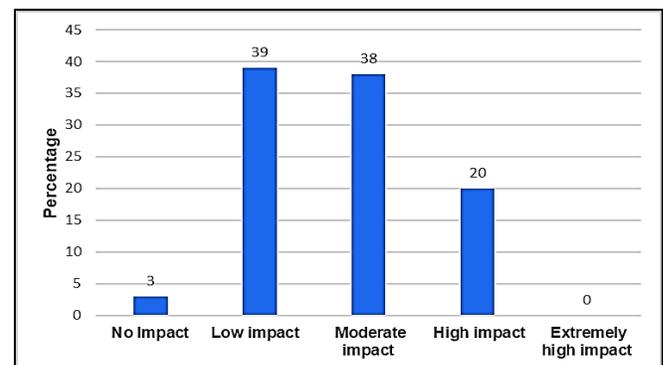


Figure 1: Distribution of parents by DFI quality of life index.

shown in Figure 2, 48% of female parents reported disruption of household activities. Only 26.6% of the women had problems with cooking. Of all the parents, 48% had disturbed sleep. Leisure activities were disrupted in 39% of cases. A change in the amount of time spent in the supermarket was noted in 40% of the parents. In 89% of cases, parents noted an increase in expenditure. The majority of parents (70%) felt exhausted and

Table 2: The mean score for each question of the Dermatitis Family Impact Questionnaire.

Items	Mean ± SD	Min - Max
Disruption of household activities (Q1)	0,6 ± 0,7	0 - 2
Disruption of cooking and eating (Q2)	0,3 ± 0,6	0 - 2
Sleep disturbance of other family members (Q3)	0,7 ± 0,9	0 - 3
Family leisure activities (Q4)	0,5 ± 0,7	0 - 2
Change in time spent at the supermarket (Q5)	0,6 ± 0,8	0 - 2
Increased spending (Q6)	1,5 ± 0,8	0 - 3
Exhaustion and fatigue (Q7)	1,0 ± 0,8	0 - 3
Emotional stress (Q8)	1,1 ± 0,8	0 - 3
Disturbed relationship with child (Q9)	0,3 ± 0,6	0 - 3
Negative effect on primary caregiver (Q10)	0,1 ± 0,5	0 - 3
Total quality of life score	6,9 ± 3,7	0 - 17

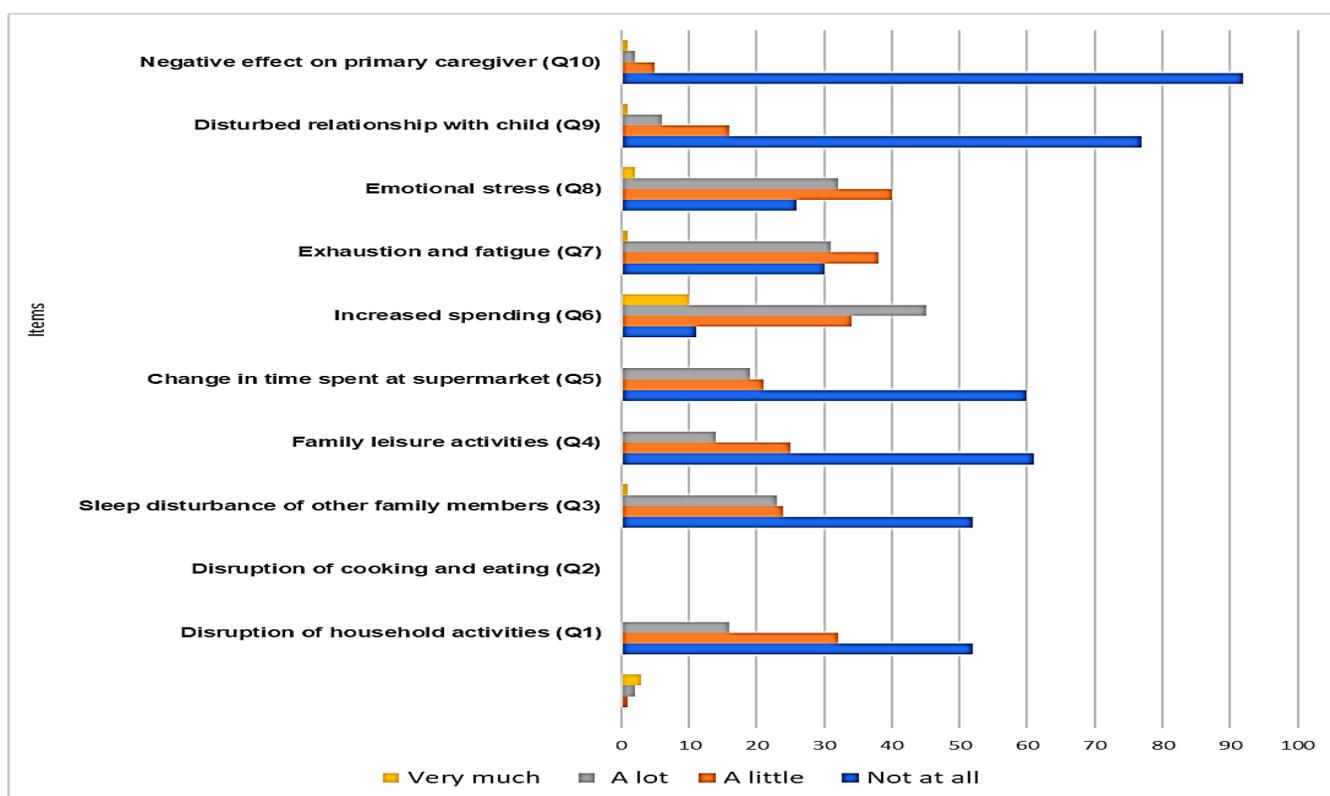


Figure 2: DFI scores for each question.

tired. Emotional stress was noted in a quarter of cases. In 23% of cases, parents who were carers experienced problems in their relationships with other family members. Only 8% of parents noted negative effects of the treatment.

The search for associations between the level of quality of life and sociodemographic characteristics (Table 3) revealed that there was a statistically significant association between profes-

sion and QoL score. More specifically, the liberal professions, students and the unemployed had a significantly more impaired QoL than employees in the private and public sectors. There was also a statistically significant association between the quality-of-life score and the type of dwelling. Living in a small courtyard shared by several low-rise buildings in poor neighbourhoods had a negative impact on the quality of life of the parent whose child has AD.

Table 3: Search relationship between quality of life and socio-demographic characteristics (N=100)

Sociodémographic Characteristics	Quality of life score Median	p-value
Profession		
Liberal and independent	10,5 (9,0 -10,5)	0,03
Private sector employees	5,0 (3,0 - 8,0)	
Public-sector employee	5,5 (3,0 - 8,5)	0,03
Students and unemployed	3,0 (3,0 - 3,0)	
Housing type		
Apartment	5,5 (3,0 - 8,0)	0,07
Detached Villa	7,0 (4,0 - 11,0)	0,36
Courée*	8,0 (6,5 - 11,5)	0,02

*A small courtyard shared by several low-rise buildings in poor neighbourhoods

Discussion

Females predominated in our study, as in other studies carried out in England, Croatia and California, which found a majority of women to be the main carers.¹²⁻¹⁴ This could be explained by the fact that women or mothers are more sensitive to children's health and would be the main and most available caregivers. The average age in our series was 34.7 years. This average age could be explained by the fact that the Ivorian population is predominantly young. More than three-quarters (75.6%) of the Ivorian population is under 35 years of age.¹⁵

The mean DFI score was 6.9, with extremes of 0 and 17. Our result is lower than that obtained in a study carried out in Saudi Arabia, where the mean score was 13.9.¹⁶ For almost all (97%), AD had an impact on parents' quality of life in our study. This effect was moderate to severe in nearly 60% of cases. The variables that most affected participants' QoL were increased expenses, emotional stress, and exhaustion. Our result was identical to that of Beattie P.E and Lewis-Jones M.S in England, who found that the dimensions (sentimental and exhaustion) were the most important.¹⁷

The quality of life of affected individuals and their families is often severely impaired due to the psychological pressure of pruritus, sleep disturbance, exhaustion, increased expenditure and emotional stress. Overall, quality of life is more impaired in AD than in childhood asthma or

diabetes.¹⁶⁻²⁰ According to a study in Saudi Arabia, sleep deprivation, financial burden and meal preparation were the main factors affecting the quality of life of parents of children with AD.¹⁶

Sleep deprivation may affect all family members, including siblings, and may result in poor work performance and reduced coping skills, both at work and at home.²¹ Other factors that would add to the burden of caring for a child with AD are the financial costs of treatment, time off work for doctor's appointments and lack of understanding and social support from friends and family.^{16;20-22} AD is a chronic condition whose costly treatment is often not reimbursed by insurance companies, particularly emollients and cleansing products, which are relatively expensive. The permanent xerosis of the skin and the recurrent flare-ups associated with pruritus are thought to be a source of permanent stress for patients and their relatives.^{18;19} In our series, self-employed parents and schoolchildren had a greater impact of their child's AD on their quality of life. When you are self-employed, your activity is that of a non-salaried worker and your income depends on your daily activities. This impact on quality of life could be explained by the lack of availability for follow-up and, above all, financial concerns linked to their child's care. For students, this impact is also linked to class absenteeism, exhaustion and poor school results.¹⁹⁻²² The results of our study showed a significant relationship between quality of life and housing type. Living in a small courtyard shared by several low-rise buildings in poor neighbourhoods had a negative impact on the quality of life of parents of children with AD. This impact on the quality of life of parents living in these homes can be explained by the way the child is viewed and commented on by neighbours because of the displaying nature of the disease.

Conclusion

Atopic dermatitis is a chronic inflammatory condition that is now considered a burden impairing the quality of life not only of patients but also of all family members. Our study investigated the quality of life of parents of children with AD in hospital practice in Treichville, the mean DFI score

was 6.9. Increased expenses, emotional stress, and exhaustion were the items that had the greatest impact on quality of life. The DFI score in our study suggests that AD has an impact on the quality of life of parents in Abidjan. Comprehensive management of this condition includes therapeutic education, which has led to the creation of an atopy school within the dermatology-venereology department of Treichville University Hospital.

Ethical Approval: Ethical approval was obtained from the institutional review boards.

Conflict of Interest: There was no conflict of interest to be declared by any author.

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Author's Contribution

AKC: Conception & design, acquisition of data, drafting the article, final approval of the version.

AAS: Acquisition of data, analysis & interpretation of data, drafting the article, final approval of the version.

AKW: Analysis & interpretation of data, critically revision for important intellectual content.

GKP: Analysis & interpretation of data, critically revision for important intellectual content.

NTP: Acquisition of data, final approval of the version.

CSA: Analysis & interpretation of data, critically revision for important intellectual content.

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