Assessing depression and anxiety in the caregivers of pediatric patients with chronic skin disorders

Avaliação da depressão e ansiedade em cuidadores de pacientes pediátricos com dermatoses crônicas

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Abstract:
BACKGROUND: The literature has shown that the presence of emotional disturbances in caregivers of children with skin diseases affects the course and treatment of the disease. Anxiety and depression are among the most frequently reported psychiatric diagnoses related to this fact. OBJECTIVE: To evaluate the presence of anxiety and depression in caregivers of pediatric patients with chronic skin disorders, exemplified by atopic dermatitis, psoriasis and vitiligo, and correlate them to the quality of life of the patients. METHODS: The sample consisted of 118 patients with atopic dermatitis, psoriasis and vitiligo, monitored by their main caregiver. The levels of anxiety and depression in the caregivers were assessed using the Hamilton Anxiety Scale and the Beck Depression Inventory, respectively. The Children's Dermatology Life Quality Index was applied. RESULTS: Anxiety was observed in 36% of the caregivers of the patients with atopic dermatitis, in 36% of those of children affected by psoriasis, and in 42% of those responsible for pediatric patients with vitiligo. Depression occurred in 36% of the caregivers of patients with atopic dermatitis, in 36% of those of children affected by psoriasis and in 26% of those responsible for pediatric patients with vitiligo. There was a significant correlation between poor quality of life scores in patients with vitiligo and the presence of depression and anxiety in their caregivers. CONCLUSION: Emotional disorders tend to be present among close family members of children with the chronic skin diseases studied and their prevention can help in controlling and treating these diseases.

Keywords: Anxiety; Depression; Dermatitis, atopic; Psoriasis; Vitiligo

Resume: FUNDAMENTOS: A literatura tem demonstrado que a presença de distúrbios emocionais nos cuidadores de crianças com dermatoses influenciam no curso e tratamento da doença. A ansiedade e a depressão estão entre os diagnósticos psiquiátricos descritos, porém a maioria das publicações afere esta relação de forma indireta e não de escalas diretas para ansiedade e depressão. OBJETIVO: Avaliar a presença de ansiedade e depressão nos cuidadores de pacientes pediátricos com dermatite atópica, vitíligo e psoriase e correlacioná-las à qualidade de vida dos pacientes. MATERIAIS E MÉTODOS: Amostra composta por 118 pacientes com dermatite atópica, vitíligo e psoriase acompanhados pelo principal responsável por seus cuidados diários. A avaliação da ansiedade nos cuidadores foi realizada através da Escala de Hamilton de Ansiedade e a depressão através do Inventário de Beck para Depressão. Foi aplicado o Índice de Qualidade de Vida na Dermatologia Infantil. RESULTADOS: Ansiedade foi verificada em 36% dos cuidadores do grupo de pacientes com dermatite atópica, em 36% do grupo com psoriase e 42% do grupo com vitíligo. Depressão ocorreu em 36% dos cuidadores de pacientes com dermatite atópica, 36% dos pacientes com psoriase e 26% dos cuidadores de pacientes com vitíligo. Observou-se uma correlação significativa entre a pior qualidade de vida dos pacientes com vitíligo e a presença de depressão e ansiedade nos seus cuidadores. CONCLUSÃO: Distúrbios emocionais tendem a estar presentes no nicho familiar de crianças com dermatoses crônicas estudadas, e que a prevenção pode auxiliar no controle e no tratamento dessas doenças.

Palavras-chave: Ansiedade; Depressão; Dermatite atópica; Psoriase; Vitiligo

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INTRODUCTION

Many authors have referred to the close relationship between the skin and the psyche. This association has been shown to be important, from the formation of the ego to the understanding of the skin as a means of communication with the outside world. Based on this evidence, the literature has demonstrated the influence of psychological issues in the treatment of certain skin diseases and the necessity of understanding these mechanisms in order to obtain better treatment results.25,26

In the context of pediatric dermatology, one must pay attention to the intense emotional and biological connection between children and their caregivers and the degree to which this relationship regulates and influences children’s behavior.1,2 The skin has an important role in this connection because it is through the skin that the child perceives its first sensations and begins to identify what is pleasurable or not.1,2 Thus, the presence of skin disease can have repercussions on the children-adult bond and the healthy development of a relationship.1,2

It is estimated that there is some psychosomatic influence on the genesis of the disease in one third of patients with dermatoses.3 Therefore, it is important to assess the difficulties faced by patients and their caregivers and to provide healthy adaptive responses toward the disease. In the pediatric population, some authors suggest that the early onset of skin diseases is seldom related to a psychic trigger event.1,2 However, other studies have shown that children are susceptible to imbalances in their homes, contributing to psychosomatization even at an early age.1,2,4,6

It has been reported that deprivation or stress in early childhood causes alterations in brain structure and neuroendocrine secretions.7 Furthermore, studies on pediatric populations have demonstrated the influence of stress factors in obtaining good treatment results, and pointed to the need for cognitive-behavioral monitoring for both children and their families.2,3,4 Skin diseases have a clear negative impact on family life and caregivers tend to feel overwhelmed, present sleep disturbances, fear of the future, in addition to having higher rates of absence from work and job abandonment, in order to attend to sick children.2,3 The literature also identifies the influence of the caregiver’s behavioral disturbances on the child’s illness, the evolution of the disease and even on the development of future adults who could be socially ill-adapted.4,9,10

Anxiety and depression in caregivers are among the psychiatric diagnoses that most affect pediatric dermatoses.9,15 Yet, the majority of publications attempt to gauge this relationship indirectly, mainly by using scales that assess quality of life.13,14 Thus, this study aims to assess directly the levels of anxiety and depression in caregivers of pediatric patients with atopic dermatitis, vitiligo and psoriasis, which are considered the main chronic skin diseases in this age group. Additionally, we intend to investigate the correlation between caregivers’ emotional symptoms and the patients’ quality of life and the extent of the body area affected by the disease.

MATERIALS AND METHODS

Sample

A transversal and observational study with patients with atopic dermatitis (AD), vitiligo (Vi) and psoriasis (Ps), diagnosed according to the classical clinical criteria for these dermatoses, or histopathological confirmation in the case of diagnostic uncertainty.4,10,16 Each selected patient was accompanied by his/her respective main caregiver in accordance with the definition from Balkrishman et al.10 Patients aged 5 to 16 were suitable for the application of the Children’s Dermatology Life Quality Index (CDLQI).20,21 The exclusion criteria for caregivers were: the presence of chronic diseases and the use of neuropsychiatric medications.

Data collection was conducted between June 2009 and December 2010.

Sample Calculation

This served to estimate the frequency of patients with values below the cutoff value of 50%, considering the confidence interval of 95% and a margin of error of 15%. The sample makes it possible to detect a difference of 30 percentage points between the illnesses (alpha = 0.05 and statistical power of 80%).

Survey Methodology

The demographic information and illness duration of all patients were noted. A complete dermatological examination was performed by outlining the total affected body surface and visible, exposed areas (face, neck, forearms, and hands). The percentage of the affected body surface was calculated according to the human model for burns patients.20 Quality of Life (QoL) was assessed using the Children’s Dermatology Life Quality Index (CDLQI) questionnaire, which has been validated for Brazilian Portuguese.21 This instrument is made up of 10 questions to be answered by patients aged between 5 and 16, taking into account 6 domains - symptoms and feelings, leisure, school or holidays, personal relationships, sleep and treatment. Each question is scored as follows:

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patients were accompanied by their primary care- 
group when compared with the other two groups. All 
to the lower prevalence of the disease in this age 

sis. The psoriasis group was significantly smaller due 
atopic dermatitis, 43 had vitiligo, and 25 had psoria-

informed about the nature of the study and gave their 
Board. All patients and their caregivers were fully 
ted to and approved by the Institutional Review 

coefficient was used to associate quantitative variables. 
multiple comparisons. The Spearman’s correlation 
tion was performed in order to use the Tukey’s test for 
Kruskal-Wallis test and variable position transforma-

comparisons. Quantitative variables with asymmetri-

cal distribution were analyzed by means of the 
Kruskal-Wallis test and variable position transfor-
pation was performed in order to use the Tukey’s test for 
multiple comparisons. The Spearman’s correlation 
coefficient was used to associate quantitative variables. 
The project and all its procedures were submit-
ted to and approved by the Institutional Review 
Board. All patients and their caregivers were fully 
formed about the nature of the study and gave their 
written consent.

RESULTS
Of the total of 118 patients analyzed, 50 had 

atopic dermatitis, 43 had vitiligo, and 25 had psoria-
sis. The psoriasis group was significantly smaller due 
to the lower prevalence of the disease in this age 
group when compared with the other two groups. All 
patients were accompanied by their primary care-
givers: the mother (78% of cases), father (9.5%), grand-

parents (8.5%), sister (1%) and stepfather (1%). 
Anxiety was present in 36% of caregivers in the 
group of patients with atopic dermatitis, in 36% of 
those responsible for patients with psoriasis and in 
42% of those responsible for patients with vitiligo. 
Similarly, depression was observed in 36% of the care-
givers of atopic dermatitis patients, 36% of those 
responsible for patients with psoriasis and 26% of 
caregivers of patients with vitiligo. 
An analysis of depression and anxiety symp-
toms among the caregivers of patients with the three 
types of dermatoses revealed a statistically significant 
correlation between the worse quality of life of vitili-
go patients and the presence of both depression and 

anxiety in their caregivers. This significance was not 
observed in the groups with atopic dermatitis and 
psoriasis (Table 1).

The assessment of the total body surface affect-
ed by dermatosis and the presence of emotional 
symptoms in caregivers demonstrated a statistically 
significant correlation between the total extent of the 
disease and the presence of depression and anxiety in 
the caregivers of patients with psoriasis. The other 
dermatoses examined did not show such a correlation 
(Table 1). However, a similar analysis of the visible 
body surface area demonstrated a significant correla-
tion with the presence of anxiety in the caregivers of 
vitiligo patients (Table 1).

The quality of life analysis showed statistically 
significant differences, with worse QoL scores in the 
groups of patients with atopic dermatitis and psoria-
sis, compared with those with vitiligo. However, it 
was not possible to demonstrate significant correla-
tions between the QoL indexes and the rates of 
depression and anxiety among the caregivers of 
patients in the sample studied (Table 2).

DISCUSSION
Caring for children affected by chronic skin dis-
eses is a task that requires a significant degree of fam-
ily involvement. However, we still lack a full under-
standing of what particular psychosocial problems are 
experienced and their impact on childhood ill-
ness.14,25,26 In studies on the quality of life of relatives 
of patients with chronic skin diseases, the presence 
of anxiety and depression are often 
mentioned.14,25,26 However, these reports do not assess 
directly their frequency and impact on pediatric 
chronic dermatoses.

In the present study, higher percentages of anx-

iety and depression were observed in caregivers of the 
three disease groups (DA 36% Vi 42% and 36% for 
anxiety Ps; DA 36% Vi 26% and 36% for depression Ps) 
when compared with data on the general population.
Assessing depression and anxiety in the caregivers of...

(10-15% for anxiety and depression to 5-10%). Possible explanations for this finding are difficult to interpret, yet the results of this study suggest that the pediatric dermatoses studied may have influenced the higher rates of anxiety and depression in caregivers. This may be due to the parents lacking in adequate adaptive mechanisms when faced with their child’s disease, as the child’s physical appearance may not conform to the parents’ or family’s idealized image. Thus, the patient’s improvement may be compromised both by poor adherence to treatment, which is the responsibility of the caregiver, and the psychosomatization of the child who experiences the psychological distress of their caregivers.

Studies have shown that one of the difficulties encountered within the family environment of a child with chronic skin disease is that the mother-child relationship tends to resemble more closely that of caregiver and patient. This is due to the level of demand required to ensure that all the necessary preventive and therapeutic procedures are performed. Caring for a child with skin disease may be more stressful than caring for patients with apparently more serious diseases such as diabetes mellitus.

Upon analyzing the quality of life of patients and the presence of anxiety and depression in caregivers, there was a statistically significant relationship between the decrease in QoL of patients with vitiligo...
and the presence of both anxiety and depression in their caregivers. Patients in the age group studied are characterized by emotional vulnerability. Their exposure to negative experiences related to anxiety and depression in their main caregiver can have the effect of reducing their quality of life.6,30 In turn, psychosomatic mechanisms may be linked to the worsening of skin diseases reported in pediatric studies.26 The inverse situation may also occur, where the patient’s low capacity to adapt to the illness triggers anxiety and depression in caregivers who feel unable to protect their child from a stigmatized disease such as vitiligo.6 However, this study could not demonstrate the expected significant relationship between the low quality of life of patients with psoriasis and atopic dermatitis, and the presence of anxiety and depression in their caregivers. Further studies with larger samples could perhaps enrich understanding.

Caregivers of patients with psoriasis revealed a statistically significant relationship between the largest percentage of total body surface affected by the disease and the highest rate of depression and anxiety among their caregivers. This finding may be explained by the presence of feelings such as shame due to the relative limitations in leisure situations imposed by the disease and the amount of time spent performing more complex treatment.6,25,28 Another factor that may help explain these findings is the known relationship between the psychological impact of major illness on the family and the severity of disease, which can be reflected by the body area affected by it.1,10 Similarly, it should be asked to what degree psychosomatization in a patient under the care of an adult suffering from anxiety or depression can lead to worsening of the disease.1,10

An analysis of the presence of anxiety and depression among caregivers in relation to the extent of the disease in constantly exposed areas, showed there was a statistically significant relationship between caregivers of patients with vitiligo and the presence of anxiety. Published data suggests that the stigma brought about by the visibility of skin lesions is associated with mental illness and reduced quality of life in patients with vitiligo, atopic dermatitis, and psoriasis.1,6 Moreover, authors have described a phenomenon that links the exposure of skin diseases to a worse perception of the disease, regardless of the presence of symptoms or the total body surface affected.4,7 In the quality of life analysis of patients with exposed dermatoses, the social domain is the most affected due to the association made between skin lesions and the possibility of contagion.4 Furthermore, the influence of placing a child in a troubled environment can act as a trigger, maintainer or aggravator of the disease.4 Another fact to be emphasized is that caregivers of patients with chronic skin diseases tend to be overprotective towards the child, causing them to have higher rates of mental illnesses in adulthood.4

By comparing the three groups of dermatoses with the presence of anxiety and depression in their caregivers and quality of life, we found a significant relationship between the presence of a poorer quality of life of patients with atopic dermatitis and psoriasis, compared with vitiligo patients. The literature has clearly demonstrated the impact of atopic dermatitis and psoriasis on QoL.25,26 This is due to several factors relating to negative feelings such as dissatisfaction with appearance, anxiety, depression, shame, sadness, loss of self-esteem, stigma, restricted social life and poor quality of sleep.7,14,23,25

### TABLE 2: Comparison of the presence of anxiety and depression in the caregivers and quality of life of pediatric patients with chronic skin diseases

| GROUPS OF SKIN DISEASES | Atopic Dermatitis | Vitiligo | Psoriasis |
|------------------------|-------------------|----------|-----------|
| SCORES OF THE EVALUATED SCALE | MEDIAN (P25–P75) | Rank average | MEDIAN (P25–P75) | Rank average | MEDIAN (P25–P75) | Rank average |
| QUALITY OF LIFE | 9 (5 - 13) | 72.69a | 2 (1 - 6) | 39.66a | 7 (3 - 14.5) | 67.24a |
| DEPRESSION | 9 (4 - 16.5) | 61.34a | 6 (3 - 17) | 58.36a | 9 (3 - 14.5) | 57.78a |
| ANXIETY | 11.5 (5.8 - 19.3) | 58.61a | 10 (5 - 19) | 55.99a | 13 (8.5 - 23.5) | 67.32a |

Average ranks followed by distinct letters differ significantly, using the non-parametric Kruskal Wallis test, complemented by the multiple comparisons test, at a significance level of 5%.

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Nonetheless, studies refer to a significant decrease in the QoL of patients with vitiligo, but none of them evaluate comparatively the quality of life of these three groups of dermatoses. Thus, to our knowledge, the present study is the first to demonstrate this finding. This may be due to the fact that atopic dermatitis and psoriasis are linked to the presence of symptoms such as itching, burning and pain, while vitiligo is typically asymptomatic. Thus, the discomfort caused by Vit is only related to aesthetic embarrassment.

CONCLUSION
Thus, we believe that preventing and treating emotional disorders present within the close family of children with chronic skin diseases can help the therapeutic process, as well as providing a more stable life and future with fewer repercussions.

REFERENCES
1. Bick E. The experience of skin in early object relations. Int J Psychoanal. 1968;49:484-6.
2. Weber MB, Fontes Neto Pde T, Prati C, Goeller M, Mazzotti NG, Baranaki B, et al. Improvement of pruritus and quality of life of children with atopic dermatitis and their families after joining support groups. J Eur Acad Dermatol Venereol. 2008;22:962-7.
3. Fortune DG, Richards HL, Kirby B, Bowcock S, Main CJ, Griffths CE. A cognitive-behavioral symptom management programme as an adjunct to psoriasis therapy. Br J Dermatol. 2002;146:456-65.
4. Carral CL, Ballesteros R, Feldman SR, Fleischer AB Jr, Manuel JC. The Burden of Atopic Dermatitis: Impact on the Patient, Family, and Society. Pediatr Dermatol. 2005;22:192-9.
5. Potocka A, Tuncyan-Jablonska K, Merce D. Psychological correlates of quality of life in dermatology patients: the role of mental health and self-acceptance. Acta Dermato-Venereol. 2009;99:53-8, 60, 62.
6. Linthorst Homan MW, de Korte J, Groothuis MA, Bos JD, Sprangiers MA, van der Veen JP. Impact of childhood vitiligo on adult life. Br J Dermatol. 2008;159:915-20.
7. Kent G, Keeshan S. Social anxiety and disfigurement: the moderating effects of fear of negative evaluation and past experience. Br J Clin Psychol. 2001;40:23-34.
8. Ricci G, Bendandi B, Aiazzi R, Patriol A, Masi M. Three Years of Italian Experience of an Educational Program for Parents of Young Children Affected by Atopic Dermatitis: Improving Knowledge Produces Lower Anxiety Levels in Parents of Children with Atopic Dermatitis. Pediatr Dermatol. 2009;26:1-5.
9. Goh C, Lane AT, Bruckner AL. Support Groups for Children and Their Families in Pediatric Dermatology. Pediatr Dermatol. 2007;24:302-5.
10. Haynes J, Koo J. Psoriasis: depression, anxiety, smoking, and drinking habits. Dermatol Ther. 2010;23:174-80.
11. Cvetkovski RS, Zachariae R, Jensen H, Olsen J, Johansen JD, Agner T. Quality of life and depression in a population of occupational hand eczema patients. Contact Dermatitis. 2006;54:106-11.
12. Hong J, Koo B, Koo J. The psychosocial and occupational impact of chronic skin disease. Dermatol Ther. 2008;21:54-9.
13. Loney T, Standage M, Lewis S. Not just 'skin deep': psychosocial effects of dermatology-related social anxiety in a sample of acne patients. J Health Psychol. 2008;13:47-54.
14. Fried Rg, Gupta MA, Gupta AK. Depression and skin disease. Dermatol Clin. 2005;23:657-64.
15. Picardi A, Pasquini P, Abeni D, Fassone G, Mazzotti F, Fava GA. Psychosomatic assessment of skin diseases in clinical practice. Psychol Psychother. 2005;74:315-22.
16. Klein DA, Silverberg NB. Atopic dermatitis in children, part I: epidemiology, clinical features, and complications. Cutis. 2006;78:241-7.
17. Benoit S, Ham M. Childhood psoriasis. Clin Dermatol. 2007;25:555-62.
18. Hughes RH, Schwartz RA, Janierck GX. Childhood vitiligo. Cutis. 2007;79:277-80.
19. Ballesteros R, Hourman TS, Carral C, Feldman SR, Fleischer AB. Disease severity and associated family impact in childhood atopic dermatitis. Arch Dis Child. 2003;88:423-7.
20. Vale, ECS. Initial management of burns: approach by dermatologists. An Bras Dermatol. 2005;80:28-35.

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