

Role of behavioral health in management of pediatric atopic dermatitis

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Key Messages

- Comprehensive management of AD must address not only the skin disease, but also associated behavioral, emotional, and interpersonal complications and consequences.
- Behavioral Health clinicians work with physicians to:
 - Help individuals and families interrupt the itch-scratch cycle.
 - Facilitate development and maintenance of effective skin care routines.
 - Address sleep disturbances and behavioral impediments to skin care.
 - Enhance family coping skills such as parenting, stress management.
 - Improve patients and families' quality of life in the context of daily activities including school, work, sports, and peer encounters.

ARTICLE INFO

Article history:

Received for publication August 1, 2017.

Received in revised form October 4, 2017.

Accepted for publication October 7, 2017.

ABSTRACT

Objective: To describe the behavioral components and complications in treating pediatric patients with atopic dermatitis (AD) and the critical role of behavioral health professionals in addressing disease impact and behavioral aspects of disease management for these patients and families.

Data Sources: Studies and review articles were selected from medical and psychology databases for relevance to pertinent topics.

Results: AD has significant negative effects in affected individuals and their families on quality of life, behavioral, emotional, and sleep disturbances, and family functioning. Effective treatment strategies for AD are available, but the challenges for children and parents in coping with disease-related concerns and in following through with the multiple aspects of treatment are considerable. A biopsychosocial model, which incorporates the interplay among biological, psychological, and social dimensions of medical care, can be implemented in various treatment settings to achieve an integrated medical and behavioral health care approach. By sharing a family orientation, using a stress and coping model, and taking into account children's developmental capabilities and concerns, medical and behavioral health care providers are equipped to bring an in-depth understanding and different evidence-based therapeutic tools to address emotional, behavioral, and interpersonal challenges imposed by moderate to severe AD in children and families.

Conclusion: Behavioral health and medical providers working together to provide integrated care play a critical role in helping children and families cope with the burdens imposed by AD, successfully manage the disease, and achieve optimal quality of life for affected children and their families.

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Introduction

Atopic dermatitis (AD) is a chronic, pruritic, inflammatory skin condition that occurs in 10% to 20% of children in developed countries.¹ The defining clinical features of AD are intense itch and

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Disclosures: Authors have nothing to disclose.

<https://doi.org/10.1016/j.anai.2017.10.023>

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eczematous lesions that result from immune processes and defects in the epidermis and its barrier functions.² Approximately 60% of children with AD have onset before 2 years of age, but the disease can emerge throughout childhood and adolescence and in adulthood.³ Children with onset of AD in the first years of life are at increased risk for persistence and severe disease throughout childhood and for a higher prevalence of comorbid atopic conditions, including food allergy, asthma, and allergic rhinitis.⁴ Prevalence of AD decreases in half the children as they get older, but those with symptoms persisting beyond early childhood tend to have severe disease.⁵ Although there is no cure, AD generally can be controlled with medical treatments and optimal skin care management.

Occurring throughout all stages of childhood and adolescence, pediatric AD imposes enormous burdens on children and their families and has the potential to create financial distress, interpersonal conflict, and significantly compromised mental health. The presence of emotional and behavioral problems in turn can interfere with the capacity of the child and family to successfully manage the illness. Therefore, comprehensive management of this complex condition must address not only the skin disease but also the associated emotional, behavioral, and interpersonal consequences. Such comprehensive management is possible with a biopsychosocial approach, in which medical care is provided within the context of the individual's psychological capabilities and social environment.

This review focuses on the impact of AD on children and families in quality of life (QoL), behavioral, emotional, and sleep disturbances, and family functioning; on the disease management demands imposed by AD and resulting challenges and stresses; and on the role of behavioral health professionals in an integrated multidisciplinary treatment approach, helping children and families to cope with the burdens imposed by AD to achieve disease control and optimal QoL for affected children and their families.

Medical Treatment Strategies and the “Itch–Scratch Cycle”

The key treatment strategies for AD include restoration and maintenance of the skin barrier (ie, healing the skin), decrease of skin inflammation, and elimination of exacerbating triggers.⁶ Decrease of skin inflammation is accomplished by the application of topical steroids and calcineurin inhibitors.⁶ Healing of the skin barrier involves insuring hydration with daily baths,⁷ application of emollients to seal the moisture, and, in some cases, wet wraps that serve to ameliorate itching and inflammation, maintain hydration and protect against scratching, and improve the penetration of topical steroids.^{8,9} Exacerbating triggers can be identified with diagnostic procedures such as skin testing and food challenges¹⁰ and then decreased or eliminated.

Pruritus, or itching, the defining feature of AD, is an intensely unrelenting and aversive sensation that typically elicits involuntary scratching (Fig 1). Scratching the skin further breaks down the skin barrier, produces AD skin lesions, exacerbates the inflammatory process, and instigates further scratching in a sequence termed the “itch–scratch cycle.” The itching of AD is the core stressor for those affected, and interruption of the itch–scratch cycle, which requires inhibition of scratching responses, is a primary behavioral imperative.

AD and Behavioral Factors

Affected children of all ages experience decrements in QoL, including irritability, mood changes, and sleep disturbances.^{11–13} Disfiguring skin lesions can affect self-esteem and influence peer interactions when children are bullied.^{14,15} Families of children with AD have impaired sleep,¹⁶ emotional distress, and financial concerns.^{13,17}



Figure 1. Anguish and misery of severe atopic dermatitis.

Many studies have reported that children with AD have higher levels of behavioral and emotional difficulties; the presence and severity of such problems are strongly related to disease severity. A national survey of children with AD 0 to 18 years old found an increased prevalence of attention deficit/hyperactivity disorder, depression, anxiety, conduct disorder, and autism; the associations between AD and psychological disorders were strongest with greater disease severity.¹⁸ Of adolescents with AD, depression, anxiety, and stress and QoL impairments were commonly reported; the level of emotional distress was correlated with biopsysiologic markers of disease severity.¹⁹ In a cross-sectional study of 2- to 12-year-old children, more profound child behavior difficulties and greater parent stress were associated with higher Scoring Atopic Dermatitis (SCORAD) scores.²⁰ AD-related sleep disturbances and decreased sleep efficiency, measured with actigraphy, are related to AD severity.²¹ For parents, too, impaired QoL and negative emotionality are strongly related to the severity of their children's AD.²²

The influences between AD severity and psychological processes appear to be bidirectional in numerous instances. Emotional stress exacerbates AD through proinflammatory mechanisms that increase itching.²³ Emotional arousal, particularly anxiety, is a common trigger for itching and scratching, which in turn lead to increasingly severe disease and worse emotional distress.²³ Nighttime sleep disruptions, which occur commonly for individuals with AD, are related in part to increased itching and scratching and to physiologic factors involving circadian rhythms and sleep cycles.²¹ AD-related sleep disturbances are associated with daytime behavior problems in affected children, including attention problems and oppositional behavior.²⁴

Family processes also involve bidirectional influences, because parents' stress, depression, and anxiety can be related to ineffective and over-reactive parenting, resulting in increased child behavior problems.²⁵ In turn, parents of children with behavior problems have more difficulties in performing tasks required for the management of their child's AD. Direct observations of parent–child dyads during routine home treatment sessions showed that less

competent task performance was associated with greater parent-reported child behavior difficulties, parent depression and stress, poor self-efficacy, parenting conflict, and relationship dissatisfaction.²⁰ Inability to adhere to treatment recommendations results in worsening AD and/or persistence of severe disease, further affecting QoL and emotional functioning in children and families. Clearly, the itch–scratch cycle and AD severity are inextricably intertwined with children and families' emotional functioning and interactions, with cycles of behavioral issues and worsening severity that also can be extremely challenging to interrupt.

Educational Interventions

Recognizing the intrinsic interplay between medical treatment and psychosocial factors in the overall management of this complex disorder, AD management programs have provided education as an adjunct to conventional therapy, incorporating psychosocial sessions regarding itch coping and stress management.^{26,27} A review of the effectiveness of the educational interventions concluded that, despite some limitations, the data provided evidence for improvement in AD severity and children and parents' QoL.²⁸ Current guidelines for the medical evaluation and management of AD recommend that physicians attend to the impact of AD on pruritus, sleep, and daily activities and assess the role of stress and its impact on QoL.^{29,30} AD education is strongly recommended, and involvement of multidisciplinary teams that include physicians, nurses, and behavioral health clinicians facilitates the management of AD.^{29,30}

Biopsychosocial Model of Behavioral Health Intervention

When the biopsychosocial model of medical care emerged almost 40 years ago, it expanded the traditional biomedical model by incorporating the interplay among biological dimensions (eg, illness factors), psychological dimensions (eg, thoughts, emotions, and behaviors), and social dimensions (eg, relationships, community, and cultural factors) of health.³¹ This model of treating “the whole person” has evolved into current illness management programs that integrate medical and behavioral health care as a means of

improving symptom control and QoL in different chronic health conditions.³² The multidisciplinary biopsychosocial approach is well suited to accommodate treatment needs spelled out by current guidelines for the comprehensive evaluation and management of AD.

Behavioral health strategies based on the biopsychosocial model encompass 3 objectives: (1) assess the family, child, and illness factors that support or interfere with successful adaptation to the illness; (2) provide brief interventions aimed at promoting child and family emotional well-being and successful illness management; and (3) maintain a focus on improving illness control, psychological adjustment, and overall QoL for the child and family (Fig 2).

The integrated behavioral health approach is based on the following guiding tenets.

First, the child is seen as a member of family and community systems. In family systems theory, the family is viewed as a system composed of interrelated parts, such that a problem for any member of a family has an effect on all others, and changes in any member result in adaptations among all other family members. AD, like other pediatric chronic illnesses, requires adjustments by all family members as they attempt to meet changing demands associated with illness onset, exacerbations, and day-to-day management.³³ As the family system works to establish a sense of stability, interactions between family members change, sometimes appearing problematic or dysfunctional. For example, parental co-sleeping with affected children to prevent scratching and regulate sleep is common³⁴ yet can severely affect parents' sleep and lead to emotional distress, marital conflict, less effective parenting, and family discord. A family systems lens views such distress not a result of psychopathology in the child or family members, but rather as coping attempts that have gone awry. Reframing a family's current approach as ineffective coping attempts allows new and more adaptive coping strategies to be identified. Importantly, a family systems conceptualization does not indicate that family therapy is necessarily the treatment of choice.³³ Interventions can focus on the child, parent–child dyad, parental dyad, or other family members, with the understanding that change in any member of a family will affect the entire family system.

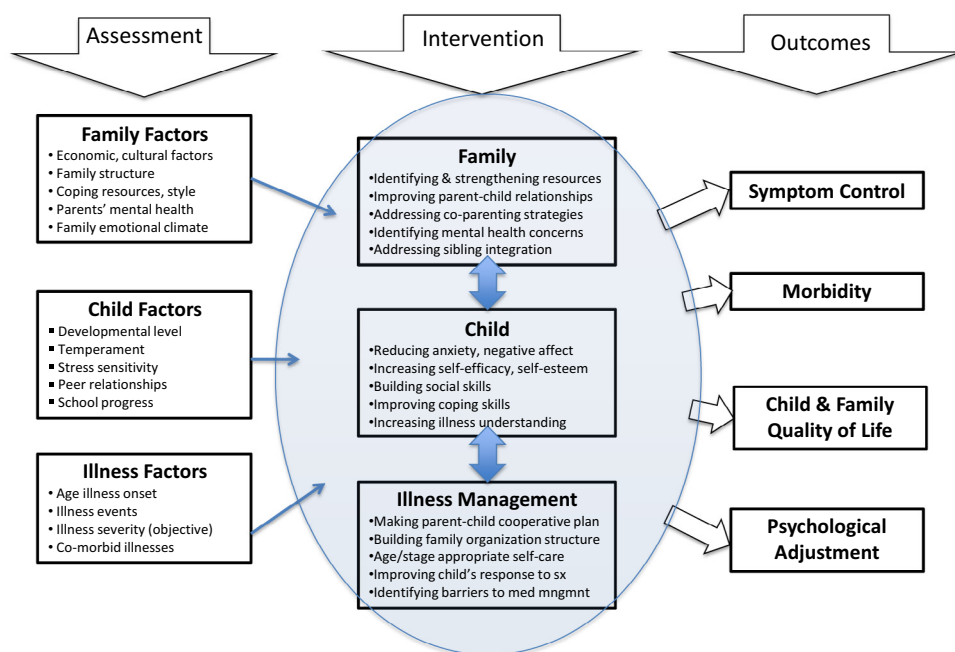


Figure 2. Model of behavioral health treatment approach for pediatric atopic dermatitis and allergic comorbidities.

Beyond the immediate family system, child and family interactions occur within the larger community, including schools, churches, activity centers, and daycare providers. For pediatric patients with AD, treatment efforts can be hindered by inadequate support in the school system, with educators and staff lacking knowledge or willingness to accommodate or support the child's needs in school. Daycare providers are often daunted by children's skin care requirements, and coaches can be unwilling to make required exceptions or accommodations for children with AD. A well-planned health care strategy that understands and considers how the family system interacts with social and community systems is likely to achieve greater success in managing the illness.³³

Second, the assessment and intervention must take into account the child's developmental level. AD affects children from the first years of life, often persisting throughout childhood and into adolescence. The challenges encountered by children with AD reflect their current developmental level, as does the manner in which children respond to and cope with those challenges. The ease with which the affected child moves through these developmentally determined psychological challenges is strongly related to that child's progress with AD self-management competence.

In the earliest years, the parent bears the burden of care and is responsible for implementing treatment strategies initiated by the medical provider. Young children's persistent and unchecked scratching and resistance to skin care procedures leave parents emotionally distressed and physically exhausted, increasing the children's risk for behavioral and emotional problems. Therefore, assessment and intervention for young children focus on the parent–child dyad and strategies for accomplishing skin care tasks in the context of competent and emotionally positive parenting.²⁵ Positive parent–child interactions with skin care bode well for young children with AD for developing a positive sense of self and self-efficacy in relation to their skin problems.

As children enter school, confidence and self-efficacy translate into a sense of ownership of their AD and willingness to rely on and cooperate with nonparent caregivers in daytime skin care management, particularly their itching and scratching. This attitude in turn will aid them in establishing and maintaining positive and supportive peer relationships and will equip them to remain calm and elicit help from caregivers when they experience peer teasing or bullying. Nevertheless, psychologically vulnerable children might resist sharing responsibility for skin care, and overwhelming anxiety, complicated by bullying experiences, can exacerbate skin problems and lead to avoidance behavior.

Although adolescents' established patterns of AD self-care and self-efficacy build on their earlier adaptation, emerging physical, emotional, and social developments can be seriously disruptive for them. Hormonal changes, emotional sensitivity, and peer conflicts often escalate dramatically in healthy teenagers, putting them at risk for debilitating anxiety, depression, and sleep disturbances, and AD concerns further complicate age-typical struggles with parents and friends. Expectations for increased responsibility for skin care are met with ambivalence and might be neglected even as caregivers' help is rejected. Stress-induced itching and inflammation can lead to worsened AD, which becomes an additional stressor at an age when physical appearance is of paramount importance.

Therefore, assessment of children's adaptation must be done within the context of the child's developmental stage and include how children manage their own distress and how they participate in developmentally appropriate self-care. Reviewing parents' understanding of their children's developmental needs, capacities, and coping skills must be a core aspect of any program, and guiding parents toward age-appropriate parenting strategies and self-care expectations is key for developing positive and balanced illness management systems.

Third, assessment and intervention focus on stress and coping. An effective behavioral health program focuses on helping families cope with the stressors generated by chronic illness. In contrast to traditional psychiatric approaches based on the diagnosis and treatment of psychopathology,³⁵ a stress and coping approach recognizes the extraordinary demands placed on the child and the family. As children and parents attempt to manage or adapt to various demands, they can become overwhelmed and experience feelings of helplessness, anxiety, stress, and depression.³⁶

Coping involves attempts to solve problems and achieve personal control in a manner that is consistent with life goals and values. Coping responses vary widely, and children and parents can use positive or maladaptive coping strategies. Behavioral health clinicians help families to identify their typical coping styles, consider their adaptive value, and explore and learn new coping skills that best meet their needs. Families learn that active coping involves efforts to change the source of stress or one's response to it by focusing on positive strategies.

Taking control of itch management is an active coping strategy. For example, a workbook tool such as *My Itchy Skin* teaches children about the itch–scratch cycle, describes 3 steps to manage itching (awareness, immediate relief, and self-distraction), and guides them in choosing personalized strategies for each step (Fig 3 and supplement available online). Although *My Itchy Skin* is aimed at school-age children, the brief contents of the workbook encompass several basic principles relevant to guiding individuals of all ages toward positive coping with the itch–scratch dilemma.

In addition to efforts to change the source of stress, positive coping can mean learning skills for managing the thoughts and emotions the situation has elicited. Behavioral health clinicians often help parents and children examine the thoughts and assumptions that underlie their feelings of hopelessness, anxiety, and depression. Once unhelpful thoughts and beliefs are identified, the individual can choose realistic and adaptive ways of thinking about the situation. For example, teenagers can learn to identify and change catastrophic thoughts about itching (eg, "I'm itching so badly I can't stand it!") becomes "I know how to handle this.").²⁶ Negative coping strategies such as denial (not thinking about it) or avoidance (not dealing with the stressor) are most often unhelpful or maladaptive, whereas positive coping strategies are associated with increased self-efficacy, improved behavioral and emotional adjustment, and better illness management.³⁷

Integrated Medical and Behavioral Health Care

The integration of medical and behavioral health care entails the coordination of care by multiple professionals, most often a physician or nurse and a behavioral health clinician, who share the same goals for treatment and apply different areas of clinical expertise. With pediatric AD, medical and behavioral health clinicians should be aware of the behavioral requisites for achieving control of the disease and improving QoL.

Several specialty programs currently provide treatment for children with severe or refractory AD by an in-residence multidisciplinary team. In the Atopic Dermatitis Center at Boston Children's Hospital (Boston, Massachusetts), the allergist or allergy nurse practitioner completes the medical assessment, provides AD education, and addresses strategies to increase adherence. The psychologist provides education about distraction techniques to minimize scratching and strategies to control pruritus, coping techniques including fostering a team approach between parents and children and relaxation strategies for older children, and behavioral strategies to increase adherence.³⁸

The Day Treatment Program at National Jewish Health (Denver, Colorado) also provides integrated medical and behavioral health care for patients with recalcitrant AD, but in a more intensive

MY ITCHY SKIN

HOW TO HELP YOUR ITCHY SKIN WITHOUT SCRATCHING!



1. BECOME AWARE OF SCRATCHING

- My atopic dermatitis (eczema) makes my skin itch. Scratching feels good, but I know that it will just make it itchier and worse later on.
- I sometimes need to be reminded that I am scratching. Grown-ups can use kind signals to remind me, like touching my hand, giving me a secret signal, or _____.



2. QUICK RELIEF

- I need to do something to make my skin feel better right away.
- I can choose things to do that help me to feel better right away, like put cream on, pat the itchy spot, or _____.



3. DISTRACT MYSELF

- After I feel a little better, I should get interested in something else. I can choose things to do to take my mind off of my skin, like playing with friends, reading, or _____.
- It is also good to find something for my fingers to do, like squeezing a ball, painting my nails, coloring, or _____.

Figure 3. Three steps of itch–scratch management addressed in the atopic dermatitis workbook for school-age children titled *My Itchy Skin* (Supplement, available online).

setting.^{39,40} The program provides the benefits of hospitalization, discussed in guidelines as sometimes indicated for severe or complex cases of AD.³⁰ The 1- to 2-week stay and the structure of the National Jewish Health day program incorporate medical treatment and planning and hands-on education by nursing staff,⁹ and behavioral health clinicians address straightforward AD management issues (eg, itch–scratch coping, age-appropriate self-management). They also assess and initiate treatment for complex family difficulties and severe emotional and behavior problems that are impeding effective AD management; however, families typically continue treatment for these complex issues with behavioral health professionals in their local community.

Unlike the specialty clinics described, the vast majority of medical treatment for patients with AD occurs in ambulatory clinics in community settings. Nevertheless, the same behavioral complexities and management challenges play a role for every patient presenting with AD. Regardless of whether the multidisciplinary treatment team members work in the same physical setting, behavioral health principles and treatment tools can be integrated into the medical management of AD. Many behavioral health strategies used in other settings, such as itch–scratch management, fostering a parent–child team approach, and behavioral strategies to promote adherence, can be implemented in a community clinic, particularly with consultations from and referrals to local behavioral health clinicians.

Itch–Scratch Management

Patients and caregivers must understand the perniciousness of the itch–scratch cycle and learn to manage it. The 3 steps explained in *My Itchy Skin* present several basic principles relevant for individuals of all ages. Parents of toddlers, teens, and adults can adapt the principles as needed. The steps to be mastered by the patient and coping partner (eg, parent, caregiver, teacher, or friend) are (1) awareness of itching and scratching; (2) quick relief strategies for responding when itching and scratching are noticed; and

(3) distraction or refocusing attention away from itchy skin. These steps rely on established principles of behavior change.

Step 1, becoming aware of (monitoring or tracking) undesirable behaviors, is a required first step to volitionally make behavior changes. This means increasing the child or parent's awareness that scratching is occurring. Parents of young patients must manage the itching and scratching for the child and learn when, where, and how often the child scratches. For parents who are unaware of their child's scratching, it can be helpful to keep a diary for 1 to 2 weeks and record daytime and nighttime scratching. Preschoolers and school-age children must learn to notice their own scratching, but they must want to become aware and be willing to accept the (kind) help of adults who can be "coping partners." The workbook *My Itchy Skin* serves as a tool for initiating this conversation between parents and their children (guided by nurses or counselors, if desired). Although adolescents might find the workbook silly, the concepts apply and the specifics can be adapted.

Step 2, quick relief, puts the child in an active coping mode, with an emphasis on actions to take and things to do, rather than on the far more difficult task of inhibiting behavior that is intrinsically gratifying in the short term. The value of substituting desirable behaviors, such as patting the skin rather than scratching, derives from the principle that establishing alternative behavioral habits is easier and faster than attempting to inhibit unwanted (scratching) behavior. For the affected individual, deciding which coping behaviors are best and generating novel strategies emphasize the importance of individual preferences, reinforce personal ownership of the behavioral plan, and increase the chances of engaging in the chosen behaviors.

The nature of a parent's response to seeing her young child scratching is extremely important. Shouting "Don't scratch!" at a toddler or preschooler is ineffective coping because the child is developmentally unprepared to comply with an inhibitory command and because a caregiver's negative tone of voice directed toward a child creates stress, often eliciting further scratching and the potential for a power struggle. For young children whose scratching

is mild, immediate distraction by the caregiver is often helpful. However, if the scratching is persistent or vigorous, it is best to physically approach the child, verbalize that she must be itchy, and verbalize what we are going to do to make it better. Noticing scratching also alerts the caregiver to begin comforting activities, such as bathing, creaming, massaging, clothes changes, and so on.

Step 3, self-distraction, also is an empowering skill for children to practice, although for this, too, they benefit a great deal from positive coaching by their coping partner. At this stage, many adolescents and adults benefit from relaxation or mindfulness practices, because their awareness of itching and scratching can precipitate anxiety or negative cognitions that are helped by these stress management strategies.

Promoting Positive Coping

A primary component of positive coping is obtaining accurate and clear information about the problem at hand. Therefore, providing education about AD and positive coping strategies is key for allergists caring for patients with AD, regardless of age. Patients and caregivers must understand that the skin must heal, and although the initial treatment phase is demanding, requirements will decrease and future care will involve treatment for flares and preventive strategies. As the skin heals, behavioral issues such as sleep disturbances often resolve. This basic information creates a foundation for subsequent questions and answers such as medication effects and side effects, application of medications, and interrupting the itch-scratch cycle. Hands-on demonstrations and behavioral practices are the most effective way to insure understanding and competence. It is helpful to have parents demonstrate their methods for applying ointments, bathing, or applying wet wraps. Young children's resistance to skin care procedures is the primary reason given for nonadherence with skin care recommendations, and observing parents in vivo provides an opportunity for correcting mistakes or teaching basic parenting strategies such as giving choices or providing positive reinforcement in an effective manner.

Families' attention and emotional responses to educational interventions such as these demonstrate whether they grasp the new skill and how to implement it. When they are consistently

uninterested or unable to correctly use information or support, the behavioral issues could be straining patient and families' coping capabilities and impeding treatment efforts. Excessive negative emotionality such as frustration, hopelessness, and anxiety on the part of patients or parents should be explored and information should be provided about the intertwined relation between AD severity and children and families' emotional functioning. Patients who are open to counseling should be referred to behavioral health specialists who are trained and experienced with a range of therapeutic tools (Table 1).^{21,25,35,41–50} Pediatric psychologists or behavioral health specialists can be identified in most communities, especially in those with major health care centers. Success in establishing integrated medical and behavioral health care in a community clinic depends on developing a working relationship with a local behavioral health clinician that includes mutual consultation about medical treatment and behavioral approaches for patients with AD and a joint commitment to shared treatment goals.

Conclusion

Atopic dermatitis affects many aspects of QoL for affected individuals and their families, often contributing to behavioral problems and resulting in emotional distress, which in turn complicate medical and allergy disease management. Comprehensive treatment of this complex condition can be accomplished with integrated medical and behavioral health care.

Medical and behavioral health clinicians can work together in different health care settings to assist children and families in coping with physical and psychological stressors and implementing effective skin care management strategies. Behavioral health principles including family systems theory, developmentally based treatment, and a stress and coping approach are well suited for the comprehensive care required for successful AD management. Further, many specific behavioral health intervention strategies can be implemented in community clinics. Incorporating behavioral health specialists into the AD treatment team by establishing consulting and referral relationships ensures optimal treatment for pediatric patients and their families, with the desired physical and behavioral health outcomes.

Table 1
Therapeutic Tools and Approaches Used by Behavioral Health Professionals

Cognitive-behavior therapy ⁴¹	Cognitive-behavior therapy involves identifying the relation among thoughts, feelings, and actions, with a goal of decreasing or changing unhelpful thought patterns and fostering more adaptive cognitive responses to stressful situations. Behavioral techniques, such as progressive muscle relaxation or guided imagery, are used to develop active coping skills.
Acceptance and commitment therapy ⁴²	Acceptance and commitment therapy uses acceptance and mindfulness strategies to clarify values and goals. Creating a thinking strategy based on mindfulness can increase the patient's ability to cope with symptoms of disease and self-management demands, thus decreasing perceived stress and increasing self-efficacy for children and families coping with chronic illness. ^{43–45}
Parenting and behavior management training ²⁵	Behavior management plans involve clarifying behavioral expectations and providing appropriate consequences in a consistent manner. In practice, a plan could include the use of short-term reinforcement for adherence to medical regimens (eg, sticker charts) and/or consistent strategies to manage age-appropriate tantrums (eg, adaptation of "time-out" procedure for AD). Such plans can be particularly helpful for parents of young children who have avoided using common limit-setting strategies for fear of precipitating emotionally triggered scratching.
Biofeedback and breathing training ⁴⁶	For pediatric patients with high levels of stress and anxiety, biofeedback allows them to see changes to their bodily functions while learning and practicing relaxation, breathing, and mindfulness techniques. The use of heart rate and respiration rate sensors that are connected to specialized computer programs allows children and adolescents to visually observe the mind-body connection while teaching skills that complement the objectives of medical treatment. ⁴⁷
Sleep consultation	Sleep problems, including difficulty falling asleep and staying asleep, are pervasive in children with AD. ²¹ A sleep consultation helps families identify potential physiologic and/or behavioral factors that are contributing to a child's sleep disturbance. Goals of treatment typically focus on helping a child learn to sleep independently or addressing insomnia with cognitive-behavioral therapy ⁴⁸ or melatonin supplementation. ⁴⁹
Child art group therapy ⁵⁰	In a nonthreatening hands-on setting, children and adolescents spend time with peers who face similar health problems. Overall treatment goals are to enhance social skills and lessen feelings of isolation, support the development of coping skills for living with chronic illness, and encourage children and adolescents to become active rather than passive members in managing their illness.
Psychiatry	When indicated by a patient's symptoms or a family's request, an evaluation by a psychiatrist can be valuable and reassuring for families. Families appreciate that the psychiatrist assesses their child within the context of the child's AD, in which emphasis is placed on improved functioning and well-being, rather than psychopathology. ³⁵ When needed, medications can be prescribed to improve sleep, decrease nocturnal pruritus, enhance stress tolerance, or ease comorbid anxiety or depression.

Abbreviation: AD, atopic dermatitis.

Acknowledgments

We are grateful to Larissa Dixon for her patient help with endnote referencing and to Beth Woods for her excellent photography of young patients dealing with atopic dermatitis. We also thank those patients and the many other pediatric patients and their families whom we have seen over the years and who have taught us about the experience of having itchy skin and what it takes to manage it.

Supplementary Data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.anai.2017.10.023>.

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Supplementary Data

MY ITCHY SKIN

Name: _____

Date: _____

HERE ARE SOME WAYS TO HELP YOUR ITCHY SKIN WITHOUT SCRATCHING IT.

- 1) BE AWARE**
- 2) QUICK RELIEF**
- 3) DISTRACTION**

ON THE NEXT PAGES YOU CAN DISCOVER SOME WAYS TO HELP YOUR ITCHY SKIN.

ITCHING AND SCRATCHING

My atopic dermatitis (eczema) makes my skin itch. Scratching feels good, but I know that scratching will just make it itchier and more sore later on.

HELP ME TO NOT SCRATCH BY HELPING ME WITH~

1) AWARENESS-

My skin itches, and lots of times I don't know I am scratching.

I sometimes need to be reminded that I am scratching. Grown-ups can use kind signals to remind me that I am scratching (for example, touching my hand).

I WOULD LIKE GROWN-UPS TO REMIND ME THAT I'M SCRATCHING

Circle the ways that grown-ups can help you be aware that you are scratching. Cross out the ones that you don't want them to do.

Touch my hand	Yell at me	Say my name
Punish me	Make a secret signal	Get my attention
Put me in time out	Touch my head	Make me feel bad

On the lines, write some more things that grown-ups can do to help you.

- _____

- _____

- _____

- _____

2) QUICK RELIEF

I need to do something to make my skin feel better right away.

Circle the things you can do to feel better right away. Put a star by the ones that are best for you. Cross out the ones that would make your skin worse.

Pat the itchy spot	Put a cold washcloth on it	Drink cold water
Scratch it hard	Put cream on it	Change out of scratchy clothes
Take a bath	Go to a private place and scratch	Scratch it gently
Ask for a backrub	Wait until bedtime to scratch	Go to a cooler room

On the lines, write some more things that you can do to feel better right away.

- _____

- _____

- _____

- _____

3) DISTRACTION

After I feel a little better, I should get interested in something else.

Circle the things you can do to that will take your mind off of your skin. Put a star by the ones that are best for you. Cross out the ones that would make your skin worse.

Watch a movie	Read	Think about how itchy my skin is
Play with toys	Eat	Do artwork
Tell everyone how itchy I am	Do schoolwork	Go to dance class

- _____

- _____

- _____

It is also good to find something for my fingers to do.

Circle the things you can do to keep your fingers busy. Put a star by the ones that are best for you. Cross out the ones that would make your fingers scratch.

Eat popcorn	Squeeze a ball	Hold someone's hand	Play with Legos
Hide hands under the desk and scratch	String beads	Play with clay	
Put hands in pockets	Paint my nails	Play video games	

- _____

- _____

- _____

For Teachers: Helping a student with persistent atopic dermatitis

Itching and scratching. The hallmark of atopic dermatitis is its extreme itchiness. The itching is so bad that it feels better to scratch, often breaking the skin, than to tolerate the continued itching. This is what your student is experiencing, and why he/she wants to scratch. However, scratching the skin makes the eczema worse. So in order to improve the eczema, the student should not scratch the skin.

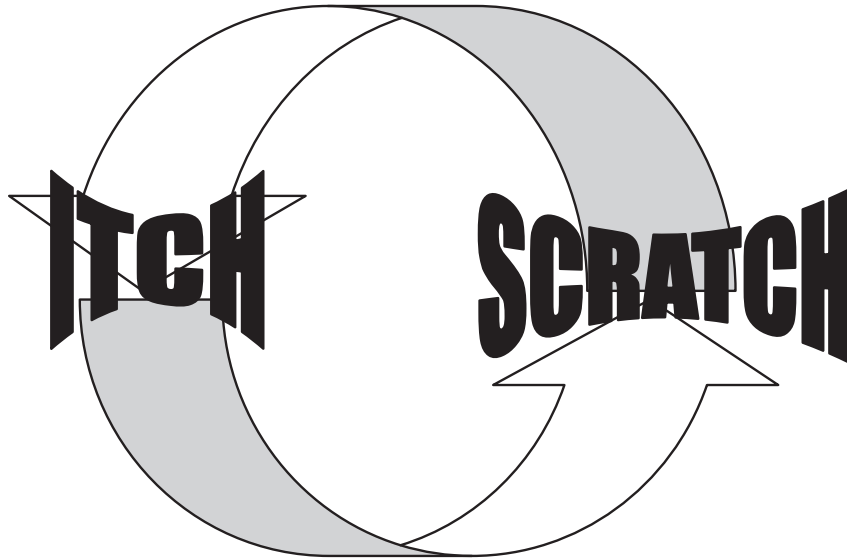
Not scratching requires a great deal of self-control, which young children are developing in many areas, but usually have not mastered completely. Further, much of the scratching is unconscious; the child does it without being aware of doing it. When anxious or stressed, the itching and scratching will increase. If you watch, you will notice increased scratching when a student is faced with academic or interpersonal challenges.

A teacher's help in the classroom can make a tremendous difference. Have a private talk with the student, so that he or she knows that you are going to work together to control scratching. You might decide to have a signal that you can use to alert him or her to the scratching. You might decide that it is best to have hands on top of the desk, so the hands don't involuntarily scratch under the desk. Your student may need to keep a squeeze ball or a worry stone handy to keep hands occupied. He/she may wish to have cream available to apply to affected skin. These are positive ways of coping with the itching and should be supported.

It is critical that there be a collaborative effort between you and the child. The minute that the scratching, or the student's attempts to cope, becomes the focus of a power struggle (i.e. the child feels you are against her, rather than with her), the scratching will increase. If this happens, back off and figure out how to get back on the same side as the child. Your supportive help will mean a great deal to her.

Self-esteem. Having atopic dermatitis can have negative effects on a child's self-esteem, in part because the affected skin is so visible. School children with atopic dermatitis may be very sensitive to the perceptions of others. Sometimes they are bullied or subjected to rude questioning. Teachers can be very helpful for children with eczema who are dealing with these issues. With such a medical condition, it is often helpful if classmates are provided an opportunity to learn about it. This decreases curiosity, and usually increases empathy with and acceptance of the child with the condition. Whether this is done and how it is handled depends first and foremost on the sensitivities of the child with the condition. It could be completely impersonal, as an example in a health unit (e.g., when learning about germs, atopic dermatitis is an example of a condition that is not contagious). Some children choose to do a presentation about their condition, or to have their parents do one. Of course, requiring that the children treat each other with respect enhances the self-esteem of all.

The Itch-Scratch Cycle



"My Itchy Skin" is a workbook that grew out of working with an 11-year-old female with atopic dermatitis. She loved it; she seemed to find it empowering. After the two of us worked through it together, she made several additional worksheet pages - in her handwriting, with more boxes and fill-in-the-blank sentences - that she hoped would help other kids. I subsequently used the workbook with children of various ages with AD, most often together with their parent. Many parents asked for copies to take home to show family members and teachers.

In writing a paper addressing behavioral aspects of AD, I wished to include "My Itchy Skin" not only as a tool for children, families, counselors, medical providers, etc., but also as an illustration of several important points to keep in mind when helping children to cope with AD.

- The critical role of providing education about the itch-scratch cycle to affected children as well as to all members of their family, social and healthcare networks.
- The importance of talking with children of all ages about their experience, including
 - acknowledging and empathizing with them about how terrible the itching feels. Children often feel that no one really understands what they are experiencing;
 - appreciating and understanding the need to scratch – that in the moment, scratching to the point of pain and drawing blood is preferable to itching, and scratching can be a compelling choice for them;
 - yet sometimes, they are unaware that they are scratching – they might be unconscious of it, perhaps it is a habit, but we understand that they are not doing it on purpose (or to "manipulate" others);
 - understanding how exceedingly frustrating it is when adults repeatedly remind them to not scratch, particularly when those adults are critical or angry with them and seem to have no understanding of their experience;
 - nevertheless, there is a need to accept help from adults in order to refrain from scratching and learn positive coping skills;
 - the need for a positive working relationship with those adults;
 - and lastly, the value of choosing their own real-life behavioral strategies for dealing with itching, including conscious self-distraction.

"My Itchy Skin" is available to anyone who wishes to use it to establish a dialogue with children with AD. My hope is that by using the workbook to begin conversations between children with AD and their helping adults, these children will feel understood, less stressed, and empowered to learn to cope and manage their AD.

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