The Role of the Nurse Educator in Managing Atopic Dermatitis

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KEYWORDS

• Nurse educator • Patient education • Atopic dermatitis
• Atopic eczema

Atopic dermatitis (AD), also known as atopic eczema, is the most common chronic, relapsing skin disorder seen in infants and children, although it can affect patients of any age. The prevalence of AD has increased globally, with more than half of these patients developing asthma and allergies.[1,2] A significant economic burden on the patient, family, and society is experienced because of AD.[3,4] Successful conventional strategies for managing AD require an accurate diagnosis, identification, and elimination of exacerbating factors including irritants and allergens, adequate hydration of the skin, control of pruritus and infections, and appropriate use of topical anti-inflammatory and other medications.[5,6] Appropriate and effective AD management requires that health care professionals become increasingly aware of the social context of the disease and the effect on the lives of those affected.[7] Successful strategies, particularly in those patients with moderate-to-severe disease, have been influenced by the commitment and expertise of the multidisciplinary approach led by physicians and nurses in the past 2 decades.[8,9] Educational interventions have long been recommended and used as a critical adjunct at all levels of therapy for patients with AD to enhance therapy effectiveness. By using education to enhance the effectiveness of treatment, health care professionals can affect quality of life in a significant manner.[10]

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GOALS OF EDUCATION

Experts from the European Academy of Allergy and Clinical Immunology and the American Academy of Allergy, Asthma and Immunology developed consensus guidelines for AD in the Practical Allergy (PRACTALL) initiative.[11] They stated that the goal of patient education should be living with AD by means of an empowered patient or, in the case of infants and young children, a caregiver who can work as a partner with the doctor, or health care team, in self-managing their own or their children's disease. A critical objective is to enable patients to be as effective as possible in helping themselves and engaging in effective self-management.[12] Other educational goals or outcomes include reduction of doctor shopping, facilitating a more effective partnership between the health care provider and patient-parent, and decreasing the long-term costs of chronic disease treatment.

Structured patient education should enable both the patient and the parent to have realistic short-term goals, enter a process of problem solving, accept living with disease, ensure the appropriate use of available social support, and enhance the motivation for therapy. These interventions may be directed toward adult patients, parents, or children with eczema, with parents often the primary focus of such educational approaches.

Education may need to extend to other family members, caregivers, school staff, and to the work environment to ensure its effectiveness. The educational content must include teaching about the chronic or relapsing nature of AD, exacerbating factors, and therapeutic options that are important to both patients and caregivers.[13] Important educational goals are becoming increasingly difficult to accomplish in the current health care environment and seem equally difficult to measure; these issues are highlighted in this article. The current lack of adequate trial evidence of the effectiveness of educational interventions in the care of AD are also addressed. This review focuses on the most common educational interventions being used today internationally in the care of patients with AD.

EDUCATION STRATEGIES

Educational strategies are focused on the process of gaining new knowledge and/or skills through teaching and learning activities. The approach involves information giving and formal teaching to help recipients become more accurately informed about their condition and more knowledgeable and skilful in managing their illness. This information should better equip them to understand the need for medical treatments and disease prevention. Educational interventions may include various learning tools including lectures, audiotapes, books, booklets, leaflets, handouts, films, videotapes, computer-assisted instruction, home care plans, or action plans. The content of these educational interventions may include information on the disease, treatment instructions, prevention, and management strategies. They may be delivered through one-on-one communication, direct demonstration with reinforcement, role playing, group discussions with question-and-answer sessions, classroom teaching in the hospital or clinic setting, or in the community via an outreach program mediated through the home or school.

THE EDUCATION TEAM

Almost universally, eczema education is increasingly difficult to accomplish in the typical AD clinic visit. Adequate time is needed to discuss this chronic illness, potential triggers, and diagnostic and treatment options, irrespective of degree of disease

severity.[14,15] The time that patients and families spend at an initial visit and follow-up visits varies greatly across specialties and across the world. Regardless of the severity of the disease, a new patient visit can be as short as 5 minutes or as long as 90 to 120 minutes. The follow-up visits are usually considerably less. These resource-related time pressures have implications for the effectiveness of educational opportunities. Which, or how many, different health care professionals deliver the components of care and education varies almost as much as the length of time spent with the patient and family. The range of professional delivery is diverse, including a single physician, physician and registered or specialist nurse team, a nurse-led clinic, or a large multidisciplinary team. One recent review using a multidisciplinary approach involved a team composed of pediatric allergist-immunologists with extensive experience in basic and clinical research in AD, a nurse practitioner/dermatology clinical specialist, pediatric psychiatrist, psychosocial clinicians, allergy-immunology fellows-in-training, physician assistants, nurse educators, child life specialists, dieticians, and rehabilitation therapists.[8]

MODELS OF DELIVERY

Nurse-led approaches have been the subject of a comprehensive Cochrane review.[16] This systematic review of educational interventions for managing AD in children, revealed 2 key models of delivery in Europe. Such interventions have been used as an adjunct to conventional therapy to enhance the effectiveness of topical therapy. One model was nurse-led practice in which nurses delivered education systematically to the parent and child, reflecting common practice in the United Kingdom and other parts of Europe. Other areas have used a multidisciplinary approach, but one that is different to that described earlier. An additional key model is the eczema school, also used primarily in Europe, involving a more extensive and prolonged educational program delivered by a multiprofessional health team.

Although AD patients of all severities benefit from a comprehensive management approach that incorporates education, only a subset of patients receive in-depth education, in accordance with the organization of service delivery. These patients tend to include those who are failing conventional therapy, those with concerns about medication side effects, those whose disease is causing a significant effect on their and their family's quality of life, and those with recurrent skin infections or on frequent courses of antibiotics. These groups are all candidates for a comprehensive approach to management that highlights education.

The patient and family with chronic AD have often seen multiple health care providers who may have given them confusing or conflicting information. This experience may set up a cycle of frustration and search for a straightforward solution to their problem. Practitioners of unproven therapies may take advantage of these patients, even promising a cure.[17] Thus, it becomes imperative to convey the message that, at present, treatment is directed at levels of control, not a cure. However, in the patient with severe, difficult-to-control disease, education is an especially critical part of illness management. This issue also highlights the crucial need for a consistent educational message to avoid confusion and, as such, there is significant value when 1 member of the team provides this education, but does so within a team context with case liaison. In a related way, the eczema school model would need to operate toward a curriculum that provides for the continuity and coherence of the approach required from the team.

Another teaching strategy includes group instruction, including the eczema school model, highlighted earlier. Smaller-scale hospital programs have been established in

some centers.[18] In the United States, Nicol and Boguniewicz[5] described a hospital-based program including a weekly 1-hour class addressing various aspects of AD. This class is taught by dedicated registered nurses to supplement teaching that occurs in the clinic, day program, or inpatient settings. Content of the slide lecture reflects input from the multidisciplinary team and is routinely reviewed and updated. The long-term success of this intervention has not been systematically evaluated but is likely to be related to the competency and consistency of the staff providing these lectures or group activities.

A Cochrane review of educational interventions for atopic eczema[16] studied the contrasting nurse-led versus eczema school models of educational delivery. A small number of studies met the methodological quality threshold for inclusion within the review. Four studies related to educational intervention met the inclusion criteria.[19–22] Two[19,20] studies describe the eczema school model and 2[21,22] studies evaluated nurse-led education. The 4 studies focused on intervention that was directed toward the parents, although the outcome measures included largely child-related outcomes.

Data synthesis was not possible because of the heterogeneity of the data, and especially the various outcome measures adopted. However, some individual rigorous educational studies identified significant improvements in disease severity between intervention groups. These studies included the large German trial by Staab and colleagues[20] of 820 children, which evaluated long-term outcomes and found significant improvements in both disease severity at 3 months to 7 years, ($P = .0002$), 8 to 12 years, ($P = .003$), 13 to 18 years, ($P = .0001$), and parental quality of life at 3 months to 7 years, ($P = .0001$), 8 to 12 years, ($P = .002$), for children with atopic eczema. However, this intervention seems to be resource intensive compared with the nurse-led models. Niebel and colleagues[21] found video-based education more effective in improving severity than direct education and the control ($P<.001$), highlighting the need to consider technologically supported learning approaches. Nurse-led education and support-focused clinics have also been established for adults in dermatology, and a few have been evaluated,[23] although additional evidence of their effect on eczema populations is required. These nurse-led approaches provide considerable scope for nursing staff to approach the assessment and management of educational and support needs in a systematic way and thereby enable more evaluations of their relative effectiveness.

In principle, the nurse-led consultation model provides an opportunity to target educational needs to ensure that treatment failure caused by poor adherence is less likely; this also permits the physician more time to focus on diagnostic and related treatment issues. Treatment adherence remains a key issue for managing AD.[18] Nurses can play a key role in improving adherence within the dermatology field by providing systematic education to patients to achieve the necessary degree of behavioral change needed to manage chronic interventions.[24] The effect of these areas requires further research evaluation. To use time effectively for both the patient and family and clinical staff, such clinics may need to be organized in sequence with overlap between the patient seeing the physician and the nurse to aid effective communication and continuity.

Examining the European nurse-led model within the United States context, the time that nurses spend educating AD patients in the United States is largely viewed as a free and nonreimbursable activity that is unlike the European model, which embraces the nurse-led management and education role. The fee-for-service billing system related to AD care in the United States has never promoted, nor been able to reimburse, the nurse education models as they have for some other chronic diseases, such as diabetes. The differences between the United States and European

models have been a barrier to studying and promoting a common benchmark of optimal-practice nursing education.

A considerable number of issues remain, including the development of optimal timing of therapeutically effective and resource—efficient consultations, the frequency and duration of support, and whether learning is more effective when undertaken in a single session with follow-up telephone consultation.

AD SELF-MANAGEMENT PLANS AND WRITTEN INSTRUCTIONS

There are many ways to customize care plans to meet the needs of patient's and families. Development of a skin care regimen that is agreed on by the clinician, patient, or caregivers requires open communication. Patients and caregivers may forget or confuse skin care recommendations given to them without a written plan. The significant sleep deprivation and disturbances that accompany chronic AD make this confusion more likely. Such approaches help the nurse target the specific skills or knowledge that enable more effective self-management. This plan may specify learning objectives and allow for review and modification as required at follow-up visits.

A multidisciplinary care approach used for the past 2 decades at one tertiary care center includes education using a stepwise approach, allowing the patient to decrease or increase treatment for AD, as warranted by AD severity.[8] The program has been providing participants and families with a detailed, written home step-care plan for more than 20 years. Historically, these individualized care plans were extremely labor intensive and included a personalized booklet with annotated photographs reflecting stages of disease specific to that patient and remission with appropriate skin care.[5] The current home care plans continue to be individualized but follow a more standardized format and address treatment in a step-care manner (**Box 1**).

The approach confirms the importance of teaching patients skills to self-monitor and manage diseases and to use a written home care plan, referred to as the AD action plan. The action plan used for AD has similarities with the more recent asthma action plan, and many patients have both conditions. The 2007 National Asthma Education and Prevention Program: Expert Panel Report 3 (EPR-3) confirms the importance of teaching patients skills to self-monitor and manage asthma and to use a written asthma action plan that should include instructions for daily treatment and ways to recognize and handle worsening disease.[25] The EPR-3 emphasizes the use of a stepwise approach in dealing with chronic inflammatory disease. This treatment model requires that all members of the multidisciplinary team teach the same key concepts and reinforce the messages being delivered to the patients and caregivers regardless of which educational strategy is incorporated. A recent small study of pediatricians and pediatric dermatologists in the United States showed that pediatricians are open to using AD action plans.[26]

AD EDUCATION TOPICS

The importance of education as a basis for improving adherence to treatment is highlighted in the United Kingdom's National Institute for Health and Clinical Excellence[27] evidence-based guidance on atopic eczema in children. It highlights the importance of educating both child and parent or caregiver with reinforcement at every consultation, both in written and verbal forms, with practical demonstrations covering how much treatment to use, how often to apply treatments, when and how to increase or decrease treatments, and how to treat infected AD.

Box 1
National Jewish Atopic Dermatitis Program step-care AD action plan

Take action with daily soak-and-seal skin care

MAINTENANCE OR DAILY CARE
Take at least one bath or shower per day; use warm water, for 10-15 minutes.
Use a gentle cleansing bar or wash in the sensitive skin formulation as needed such as Dove® or Oil of Olay®.
Pat away excess water and immediately (within 3 minutes) apply moisturizer, sealer, or maintenance medication if directed. Fragrance-free moisturizers available in one pound jars include Aquaphor® Ointment, Eucerin® Crème, Vanicream®, CeraVe® Cream or Cetaphil® Cream. Vaseline® is a good occlusive preparation to seal in the water; however, it contains no water so it only works effectively after a bathing. Use moisturizers liberally throughout the day. Moisturizers and sealers should not be applied over any topical medication.
Avoid skin irritants and proven allergens.

NOTES :
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MILD TO MODERATE ATOPIC DERMATITIS
Bathe as above for 10-15 minutes, once (and possibly twice) daily.
Use cleansers as above.
Use moisturizers as above to healed and unaffected skin, twice daily especially after baths and at mid-day total body.
Apply to affected areas of face, groin and underarms twice daily especially after baths _____(low potency topical corticosteroid), or_____ (topical calcineurin inhibitors), or other topical preparation as directed _____ (topical barrier repair cream, eg. Atopiclair® three times daily).
Apply to other affected areas of the body twice daily especially after baths _____(low to mid- potency topical corticosteroid), or _____(topical calcineurin inhibitors), or other topical preparation as directed _____.

NOTES :
_____
_____

MODERATE TO SEVERE ATOPIC DERMATITIS
Bathe as above for 10-15 minutes, two times a day, once before bedtime.
Use cleansers as above or consider an antibacterial cleanser (eg. Lever 2000®)
Use moisturizers as above to healed and unaffected skin, twice daily especially after baths and at mid-day total body.
Apply to affected areas of face, groin and underarms twice daily especially after baths _____(low potency topical corticosteroid), or_____ (topical calcineurin inhibitors), or other topical preparation as directed _____ (topical barrier repair cream, eg. Atopiclair® three times daily).
Apply to other affected areas of the body twice daily especially after baths _____(mid- to high- potency topical corticosteroid), or _____ topical calcineurin inhibitors), or other topical preparation as directed.
Use wet wraps to involved areas selectively as directed.
Add other medications as directed: _____(eg. oral sedating antihistamines, topical or oral antimicrobial therapy)
Pay close attention to things that seem to irritate the skin or make condition worse.
Contact your health care provider for additional evaluation or therapies. Oral steroids are not usually recommended.
Step down to moderate plan above as the skin heals.

NOTES :
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Reduce Skin Irritation
Wash all new clothes before wearing them. This removes formaldehyde and other irritating chemicals.
Add a second rinse cycle to ensure removal of detergent. Residual laundry detergent, particularly perfume or dye, may be irritating when it remains in the clothing. Changing to a liquid and fragrance-free, dye-free detergent may be helpful.
Wear garments that allow air to pass freely to your skin. Open weave, loose-fitting, cotton-blend clothing may be most comfortable.
Work and sleep in comfortable surroundings with a fairly constant temperature and humidity level.
Keep fingernails very short and smooth to help prevent damage due to scratching.
Carry a small tube of moisturizer/sunscreen at all times. Day-care/school/work should have a separate supply of moisturizer.
Shower or bathe after swimming in chlorinated pool or using hot tub using a gentle cleanser to remove chemicals, then apply moisturizer.

Developed by Noreen Nicol, RN, MS, FNP, Mark Boguniewicz, MD, Donald Leung, MD, PhD; Atopic Dermatitis Program, National Jewish Health, Denver, Colorado. Updated 2008. This may be modified and used for patient care citing National Jewish Health Atopic Dermatitis Program as source.

Such interventions may be illustrated with appropriate hands-on demonstrations. The suitability of such interventions depends on the age and developmental stage of the child.

The teaching about topical medications encompasses all the important dimensions of how, what, where, when, and why. The ''how'' is the need to ensure appropriate use.

Direct demonstration of effective skin care includes topical application of agents and techniques such as wet-wrap therapy.[5,6,28,29] Although modeling of the technique allows for vicarious experience to be gained, this should be followed up with observed practice by the practitioner, to enable confidence and performance accomplishment to be achieved. Such strategies help to build self-efficacy; that is, a person's or care giver's belief in their capacity to engage in specific health behavior such as eczema care, and is more likely to result in successful outcomes.[30] Watching the patient's or caregiver's current technique often reveals fundamental errors that may give providers valuable insights into why a patient may not be showing the expected therapeutic response. A typical example is that of the patient who was observed to apply a minute quantity of medication from a small tube over a large area. On examination of the dispensed medication, the tube, which should have lasted for only 2 weeks, still remained partially full after 3 months. This educational interaction provides a teaching opportunity to discuss risks or benefits of specific treatments, appropriate amounts to dispense and use, and other practical points.

Appropriate quantities of topical medications to apply are often most usefully communicated by helping patients and caregivers to understand the proportions of a tub or tube of medication to be used either per application or per day, or related practical measures such as a tablespoonful. These concepts are often easier to understand than measures such as fingertip units (FTU), where 1 FTU is approximately 500 mg. This amount of medication is expressed from a tube with a standard 5-mm diameter nozzle, applied from the distal crease to the tip of the index finger.[31] Such measures can be useful conceptually for health professionals, but the quantities involved can be impractical when considering the amount of emollient needed for therapeutic effectiveness. If the discussion is complicated by using a medication on affected areas and a moisturizer on nonaffected areas, one needs to be certain that the patient or caregiver understands the difference and which medication goes where.

Demonstrations can also be useful for group education, because they ensure that time is used effectively, as long as individual needs are addressed. If the educational group involves patients or parental caregivers with experience and skill in using eczema care techniques, such social learning can help to reinforce key messages, skills, and effectiveness. These approaches are also consistent with Bandura's social learning theory, and may help to develop self-efficacy in undertaking self-management or caregiver-supported treatment tasks.[30] Feedback from patients/caregiver at one of the author's AD programs[8] strongly indicates that interaction with other patients and caregivers is a valuable and practical experience.

The patient or caregiver needs to show an appropriate level of understanding of when treatment is changed to help ensure good outcomes, such as what action to take if AD becomes infected. An example of a common patient misunderstanding involves the potency and risks versus benefits of topical medications such as topical corticosteroids[32] or topical calcineurin inhibitors.[33–35] It is disappointing that, although we have recognized patient and caregiver phobias and the need for education with respect to underuse of important topical medications, underuse of these agents continues to be one of the key reasons for poor treatment adherence and, in turn, poor therapeutic response. Patients do not understand the pharmaceutical industry's naming and labeling of products. The patient's or caregiver's perception may be that the potency of a corticosteroid or calcineurin inhibitor is based solely on the assigned percent value (ie, 0.05% vs 2.5%), rather than on the specific corticosteroid preparation (ie, beclomethasone dipropionate vs hydrocortisone). This misunderstanding may result in the application of a high-potency corticosteroid (eg, beclomethasone dipropionate 0.05%) to an area of the body such as the face or axillae, and the use of a lower-potency corticosteroid (eg, hydrocortisone 2.5%) to the trunk or extremities, This can be avoided through careful prescription-writing education, including written instructions as to what, where, and when, and review on follow-up.

Another key component of effective educational intervention is the nature and quality of the educational support material aids that are provided, so due regard needs to be given to the quality of evidence-based resources, such as educational booklets or posters (**Fig. 1**, highlighting the different categories of steroid potency as a clinic educational tool) and the use of multimedia resources, such as DVDs or, as highlighted earlier, other technologies such as video.[36]

Work has begun in examining the effectiveness of nurse-led evidence-based education in groups on a large scale to parents of children with AD within the Eczema Educational Program led by Jackson's nursing team at the St John's Institute of Dermatology in London and being evaluated by Ersser's group at Bournemouth University in the United Kingdom.[37] Related work has also been piloted and evaluated in providing systematic and evidence-based, nurse-led support for self-management among adult psoriasis patients, based on an assessment of their support needs. This work has involved the development and use of a self-management learning workbook for use at home, group-learning activity, a DVD reinforcing key points and including a guided relaxation approach to reduce undue stress, development of self-management plans, and a follow-up telephone consultation with the nurse to evaluate learning. Self-management planning is addressed in more detail in **Box 2**, which outlines key education and communication points to be considered in AD management.

AD PATIENTS AND FAMILIES NEED MORE EDUCATION

A study conducted by Cork and colleagues[14] has provided further support for the importance of patient education in improving treatment outcomes in patients with

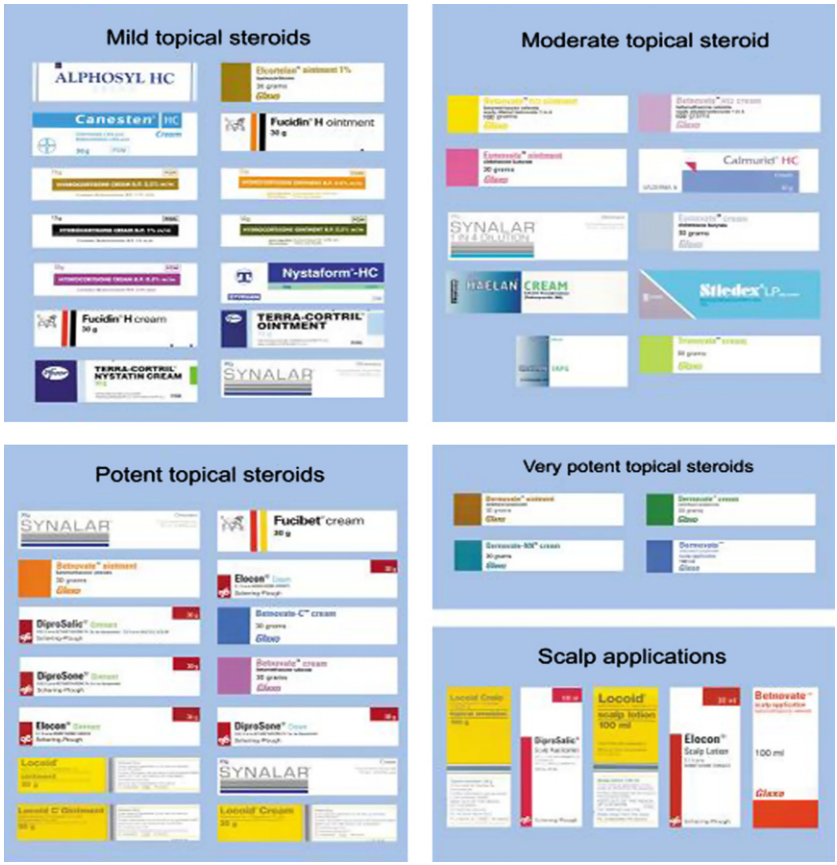

Fig. 1. Topical steroid potencies in the clinic.

AD. Participants included 51 new patients with eczema, ranging in age from 2 weeks to 14 years (mean 4.4 years), who were referred to a dermatologist at a pediatric hospital in Sheffield, England, during a period of approximately 1 year. At baseline, 86% of the patients' parents did not recall ever receiving an explanation of the causes of AD, and 96% had not received any demonstration of how to apply topical treatments. The mean use of emollient cream or ointment at the initial visit was only 54.3 g per week, and 24% of patients were not using any moisturizers. Most (78%) of the patients were using topical corticosteroids, 25% of whom were inappropriately using potent or very potent agents. By the final visit, the patient's mean AD severity score had declined from 42.9 to 4.6. A similar pattern emerged regarding the parents' assessment of eczema severity: the mean score for itching decreased from 7.1 to 1.1, irritability decreased from 5.3 to 0.3, and sleep disturbance decreased from 5.6 to 0.4. The mean weekly use of an emollient cream or ointment increased from 54.3 g to 426 g, whereas the total amount of emollient used increased from 150 g per week to 581 g per week. The increased dose of emollients significantly ($P<.0001$) correlated with the reduction in the AD severity score. During the course of the study, there was increased use of mild corticosteroids and a parallel decline in the use of more potent agents. However, the percentage of patients whose eczema was controlled with emollients alone rose from 0% at visit 1 to 45% at visit 4.

Box 2
Education and communication in AD management

Spend time listening to the patient and/or the parent

Individualize treatment

Explain the nature of the disease and clarify that the goal is control, not cure

Explain the role and the correct use of each therapy, including risks and benefits

Demonstrate the technique and how much of various topical agents to apply (eg, emollients, sealers, medications)

Reinforce the need to use emollients frequently and liberally

Explain the factors that need to be taken into account to decide whether to prescribe topical corticosteroids, topical calcineurin inhibitors, and other systemic therapies:

- Patient's age
- Site to be treated
- Previous response to other therapies
- Extent/severity of disease

Explain how skin infection (bacterial or viral) can cause deterioration in condition, and teach the signs and symptoms of skin infection

Provide written recommendations with step care moving up and down regarding all therapies including bathing and/or showering

Include written instructions for prescription as well as over-the-counter products

Distribute patient-education brochures

Recommend individualized environmental measures to avoid skin irritants and proven allergens

Recommend psychosocial support as appropriate*Adapted from* Nicol NH. Use of moisturizers in dermatologic disease: the role of healthcare providers in optimizing treatment outcomes. Cutis 2005;76(S):30; with permission.

This study and other reviews[15] highlight how patients and caregivers continue to fail to receive adequate information about AD and are not taught properly how to apply topicals, even though instruction and practical demonstrations may be associated with a considerable improvement in treatment outcomes. **Box 2** highlights lessons learned from education and communication in AD management.

AD PATIENT SUPPORT AND RESOURCES

In addition to each provider's AD education tools, it is imperative to offer patients good-quality education resources, otherwise they will find their own, potentially less-reliable resources. Patients with chronic AD may benefit from contacting national patient support organizations. Educational brochures and videos can be obtained from the National Eczema Association in the United States (www.nationaleczema.org) and the National Eczema Society in the United Kingdom (www.eczema.org) (**Box 3**).

Even if the educational information seems to come from reliable sources, it is important to stress to patients and caregivers that they should review advice or tips from outside sources with their treating clinicians. Surridge[38] studied the complex pattern

Box 3
International eczema associations: patient support

National Eczema Association (United States)

4460 Redwood Highway, Suite 16D, San Rafael, CA 94903-1953

Telephone 415 499 3474 or 800 818 7546

Web site: www.nationaleczema.org

E-mail: info@nationaleczema.org

National Eczema Society (United Kingdom)

Hill House, Highgate Hill, Freepost WC4049, London N19 5NA

Telephone 020 7281 3553

Web site: www.eczema.org

E-mail: info@eczema.org

of knowledge sources that parents need to reconcile and the challenges they face when making decisions about their child's eczema management. Even small changes to a treatment regimen can be detrimental or of little benefit, and can add to the cost. An open and ongoing dialog between patients, caregivers, and their clinician improves the likelihood of adherence with the treatment plan and leads to improved outcomes.

ROLE OF NURSES COLLABORATING INTERNATIONALLY TO MOVE AD EDUCATION FORWARD

There is now an urgent need for international collaboration to establish the most effective methods for promoting AD education. Nurses have taken a key role in this area and, as discussed earlier, nurses have made systematic attempts to reveal the evidence gaps in this area and have developed systematic interventions to build effective approaches and the evidence base within this neglected research area. Further efforts should involve international collaboration by nurses and other health professionals, including physicians and clinical psychologists. A key opportunity for nursing collaboration has arisen through the work of the International Skin Care Nursing Group (ISNG; www.isng.org). This article is one example; as co-authors, we are both on the ISNG Advisory Board.

ISNG has sought to develop collaboration among nurses worldwide during the last decade to promote dermatology/skin care nursing, improve educational opportunities for nursing, and encourage development and evaluation. It is affiliated with the International Council of Nurses and is recognized by most of the major international dermatology organizations. ISNG is providing a vehicle for collaboration to achieve a more systematic and evidence-based approach to eczema education and support for using nursing resources. One goal is to highlight the practice development and evaluate the research agenda in this area and the potential for nursing to make a greater contribution in this important field. The international systematic review work, models of good practice such as that for emollient therapy,[28] and appraisal of the existing evidence-based work draws on initiatives and research work by nursing staff; however, there remain many opportunities for multidisciplinary development. In the future, more attention needs to be paid to the cultural relevance of some of these delivery models for application in different regions of the world and to discern which models are congruent with the organization and resources of different health delivery systems.

SUPPORT OF PSYCHOLOGICAL AND EDUCATIONAL INTERVENTIONS

AD affects both adults and children and can be disabling for whole families. Although psychological support and education of the parent/caregiver remain crucial components of disease management, there is inadequate rigorous trial evidence of the effectiveness of educational and psychological interventions when used as an adjunct to topical therapy for childhood AD.[16]

A systematic review of treatments for AD[39] found only limited evidence to support psychological treatments or educational interventions, although a more recent focused review revealed evidence of the value of some planned educational approaches.[16] The latter review examined the effectiveness of educational and psychological interventions in changing outcomes for children with AD. That review was published at the time of NICE[27] guidelines for AD in children[27] and so was not included within it, but it provides a more extensive account of the evidence available, information on the typical service delivery models in use, and an extensive critique of the evidence available (see also the article by Kelsay and colleagues elsewhere in this issue for further exploration of this topic).

The review also examined psychological interventions but found only 1 study that was rigorous enough to meet the inclusion criteria because of the inadequacy of the study designs. Psychological interventions remain virtually unevaluated by studies with robust designs. The only study that was included examined the effect of relaxation techniques, specifically hypnotherapy and biofeedback, on severity.[40] This study found that relaxation techniques improved clinical severity compared with the control at 20 weeks, but this was of borderline significance ($P = .042$).[40]

Psychological interventions are being incorporated into management strategies to reduce scratching behaviors that exacerbate eczema.[41,42] Some of these approaches are behaviorally based, such as behavioral modification. This includes the use of habit reversal in which scratching, an adverse response to the stimulus of pruritus, is replaced by a more adaptive response, such as patting or rubbing the skin. This is preceded by a period of awareness training in which the patient/caregiver keeps a record or diary of the patient's scratching behavior and factors likely to trigger this response.[42–44] For the child with eczema, this may be incorporated into a pattern of play. Nurses are well placed to teach and support patients and caregivers simple behavioral modification techniques and provide psychological support.

In children, the caregiver's ability to manage a child's eczema is an important outcome, and consequently educational or psychological support for parents is required. It could be argued that the general case for psychosocial intervention to improve clinical outcomes in chronic diseases such as AD is well established.[45] However, the evidence in this field of eczema management remains suboptimal, despite some good examples in adult patient support.[46]

In reviewing evidence provided for both psychological and educational support of childhood eczema,[16] one needs to remember that Cochrane systematic reviews by the Cochrane Skin Group only allow the inclusion of findings from randomized controlled trials (RCTs) as the methodology. As such, this may exclude some useful studies, although the evidence base remains limited. All conventional therapies are likely to include a difficult-to-measure level of education that occurs subtly through the care of multiple care providers in addition to any prescribed medications. Most studies were of conventional treatment versus conventional plus psychological/educational, and would be unlikely to find trials examining psychological/educational approaches versus intervention. Furthermore, some interventions that are psychologically or educationally based focus on the parent, the child, or both, and depend on the developmental stage

of the child, whereas the outcomes measured often focus on the child and parent. Although some RCTs of therapies have an educational or psychological component, the Cochrane review only included studies in which the educational or psychological intervention was the primary intervention to which the experimental group was exposed.

SUMMARY

Nursing is making a key contribution to the development and evaluation of AD education. Educational interventions have long been recommended and used as a critical adjunct at all levels of therapy for patients with AD to enhance therapy effectiveness. These interventions may be directed toward adult patients or the parent/caregiver or child with eczema, with parents often the primary focus of the educational approaches. Education should be individualized and include teaching about the chronic or relapsing nature of AD, exacerbating factors, and therapeutic options, with benefits, risks, and realistic expectations. This important educational facet of care is becoming increasingly difficult to accomplish and seems to be equally difficult to measure and evaluate. A limited number of studies to date suggest the effectiveness of educational approaches to improve the management of AD, although there are indications of the therapeutic potential of some models of service delivery involving eczema schools and nurse-led approaches on disease severity and quality of life. We recommend that an international priority be given to assessing the effect of patient and parental education by nurses and other care providers in AD management using research studies designed to address the common weaknesses of existing randomized studies. International collaboration will help to establish greater clarity regarding the need for more effective evidence-based models of delivering AD education and support within the health care team.

REFERENCES

1. Kapoor R, Menon C, Hoffstad O, et al. The prevalence of atopic triad in children with physician-confirmed atopic dermatitis. J Am Acad Dermatol 2008;58:68–73.
2. Asher MI, Montefort S, Bjorksten B, et al. Worldwide time trends in the prevalence of symptoms of asthma, allergic rhinoconjunctivitis, and eczema in childhood: ISAAC phase one and three repeat multicountry cross-sectional surveys. Lancet 2006;368:733–43.
3. Boguniewicz M, Abramovits W, Paller A, et al. A multiple-domain framework of clinical, economic, and patient-reported outcomes for evaluating benefits of intervention in atopic dermatitis. J Drugs Dermatol 2007;6:416–23.
4. Herd RM. The morbidity and cost of atopic dermatitis. In: Williams HC, editor. Atopic dermatitis. Cambridge (UK): Cambridge University Press; 2003. p. 85–95.
5. Nicol N, Boguniewicz M. Successful strategies in atopic dermatitis management. Dermatol Nurs 2008;(Suppl):1–19.
6. Boguniewicz M, Nicol N. Conventional therapy for atopic dermatitis. In: Boguniewicz M, editor. Atopic dermatitis. Immunol Allergy Clin North Am 2002;22:107–24
7. Fennessy M, Coupland S, Popay J, et al. The epidemiology and experience of atopic eczema during childhood: a discussion paper on the implications of current knowledge for health care, public health policy and research. J Epidemiol Community Health 2000;54(8):581–9.
8. Boguniewicz M, Nicol N, Kelsay K, et al. A multidisciplinary approach to evaluation and treatment of atopic dermatitis. Semin Cutan Med Surg 2008;27:115–27.
9. Nicol NH. Atopic dermatitis: the (wet) wrap-up. Am J Nurs 1987;87:1560–4.

10. Ben-Gashir MA, Seed PT, Hay RJ, et al. Quality of life and disease severity are correlated in children with atopic dermatitis. Br J Dermatol 2004;150(2): 284–90.
11. Akdis CA, Akdis M, Bieber T, et al. Diagnosis and treatment of atopic dermatitis in children and adults: European Academy of Allergology and Clinical Immunology/ American Academy of Allergy, Asthma and Immunology/PRACTALL consensus report. J Allergy Clin Immunol 2006;118(1):152–69.
12. Bridgett C. Psychodermatology and atopic skin disease in London 1989–1999 – helping patients to help themselves. Dermatol Psychosom 2000;1(4):183–6.
13. Nicol NH, Boguniewicz M. Understanding and treating atopic dermatitis. Nurse Pract Forum 1999;10:48–55.
14. Cork MJ, Britton J, Butler L, et al. Comparison of parent knowledge, therapy utilization and severity of atopic eczema before and after explanation and demonstration of topical therapies by a specialist dermatology nurse. Br J Dermatol 2003;149(3):582–9.
15. Nicol NH. Use of moisturizers in dermatologic disease: the role of healthcare providers in optimizing treatment outcomes. Cutis 2005;76(S):26–31.
16. Ersser SJ, Latter S, Sibley A, et al. Psychological and educational interventions for atopic eczema in children. Cochrane Database Syst Rev 2007;3:CD004054. DOI:10.1002/14651858.CD004054.pub2.
17. Graham-Brown RA, Bourke JF, Bumphrey G. Chinese herbal remedies may contain steroids. BMJ 1994;308(6926):473.
18. Agner T. Compliance among patients with atopic eczema. Acta Derm Venereol Suppl (Stockh) 2005;215:33–5.
19. Staab D, von Rueden U, Kehrt R, et al. Evaluation of a parental training program for the management of childhood atopic dermatitis. Pediatr Allergy Immunol 2002;13(2):84–90.
20. Staab D, Diepgen TL, Fartasch M, et al. Age related, structured educational programmes for the management of atopic dermatitis in children and adolescents: multicentre, randomised controlled trial. BMJ 2006;332(7547):933–8.
21. Niebel G, Kallweit C, Lange I, et al. Direkte versus videovermittelte Elternschulung bei atopischem Ekzem im Kindesalter als Erganzung facharztlicher Behandlung. [Direct versus video-based parental education in the treatment of atopic eczema in children. A controlled pilot study]. Eine Kontrollierte Pilotstudie Hautarzt 2000;51(6):401–11 [in German].
22. Chinn DJ, Poyner T, Sibley G. Randomized controlled trial of a single dermatology nurse consultation in primary care on the quality of life of children with atopic eczema. Br J Dermatol 2002;146(3):432–9.
23. Gradwell C, Thomas KS, English JS, et al. A randomized controlled trial of nurse follow-up clinics: do they help patients and do they free up consultants' time? Br J Dermatol 2002;147:513–7.
24. Brooks J, Ersser SJ, Lloyd A, et al. Nurse-led education sets out to improve patient concordance and prevent recurrence of leg ulcers. J Wound Care 2004;13(3):111–6.
25. National Asthma Education and Prevention Program. Expert panel report 3 (EPR-3): guidelines for the diagnosis and management of asthma-summary report. J Allergy Clin Immunol 2007;120(Suppl 5):S94–138.
26. Ntuen E, Taylor SL, Kinney M, et al. Physicians' perceptions of an eczema action plan for atopic dermatitis. J Dermatolog Treat 2010;21(1):28–33.
27. National Institute for Health and Clinical Excellence. Atopic eczema in children: management of atopic eczema in children from birth up to the age of 12 years.

Available at: http://www.ncc-wch.org.uk/index.asp?PageID=359. 2007. Accessed July 7, 2010.
28. Ersser S, Maguire S, Nicol N, et al. Best practice in emollient therapy: a statement for healthcare professionals, Wounds UK, Ltd. Dermatolog Nurs (Suppl) 2009; 8(3):1–22.
29. Boguniewicz M, Nicol N. General management of patients with atopic dermatitis. In: Reitamo S, Luger TA, Steinhoff M, editors. Textbook of atopic dermatitis. Andover (UK): Informa; 2008. p. 147–64.
30. Bandura A. Self-efficacy: the exercise of control. New York: Freeman; 1997.
31. Long CC, Finlay AY. The finger-tip unit - a new practical measure. Clin Exp Dermatol 1991;16(6):444–7.
32. Nicol NH, Baumeister L. Topical corticosteroid therapy: considerations for prescribing and use. Lippincotts Prim Care Pract 1997;1:62–9.
33. Nicol NH, Boguniewicz M, Hanifin JM, et al. Evolution in the treatment of atopic dermatitis: new approaches to managing a chronic skin disease. Dermatol Nurs 2003;15S(4):3–19.
34. Hultsch T, Kapp A, Spergel J. Immunomodulation and safety of topical calcineurin inhibitors for the treatment of atopic dermatitis. Dermatology 2005;211:174–87.
35. National Institute for Health and Clinical Excellence. Tacrolimus and primecrolimus for atopic eczema. London: National Institute for Clinical Excellence (NICE); 2004.
36. Nicol NH. Managing atopic dermatitis in children and adults. Nurse Pract 2000; 25:58–79.
37. Farasat H, Ersser SJ, Jackson K, et al. Evaluating an eczema education programme in a London borough. Poster presentation at the Inaugural meeting of the Dermatology Nursing Institute. Washington, DC, September 25, 2009.
38. Surridge HR. Exploring parental needs and knowledge when caring for a child with eczema. Exchange (Patient Magazine of the National Eczema Society) no 119;2005. p. 32–3.
39. Hoare C, Li Wan Po A, Williams H. Systematic review of treatments for atopic eczema. Health Technol Assess 2000;4(37):1–191.
40. Sokel B, Christie D. A comparison of hypnotherapy and biofeedback in the treatment of childhood atopic eczema. Contemp Hypn 1993;10(3):145–54.
41. Horne DJ, White AE, Vagos GA. A preliminary study of psychological therapy in the management of atopic eczema. Br J Med Psychol 1989;62(Pt 3):241–8.
42. Giannini AV. Habit reversal technique and eczema. J Allergy Clin Immunol 1997; 100(4):580.
43. Noren P. Habit reversal – a turning point in the treatment of atopic dermatitis. Clin Exp Dermatol 1995;20(1):2–5.
44. Bridgett CP, Noren P. Atopic skin disease: a manual for practitioners. Petersfield (UK): Wrightson Biomedical; 1996.
45. Guevara JP, Wolf FM, Grum CM, et al. Effects of interventions for self management of asthma in children and adolescents: systematic review and meta analysis. BMJ 2003;326(7402):1308–9.
46. Ehlers A, Stangier U, Gieler U. Treatment of atopic dermatitis: a comparison of psychological and dermatological approaches to relapse prevention. J Consult Clin Psychol 1995;63(4):624–35.