Acne Counseling to Improve Adherence

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Acne causes substantial social, emotional, and psychological effects in both adolescents and adults. Although current therapies can effectively treat the disease and its related effects, adherence to these treatment regimens often is poor. Misconceptions about the cause of acne, unrealistic treatment expectations, the chronic and partially asymptomatic nature of the disease, difficulty incorporating treatment into daily activities, and the need for long-term therapy contribute to overall adherence. To improve adherence, physicians must counter these factors with skilled counseling; consideration of the patient's perspective; effective means of educating the patient; and simple, effective, tolerable regimens that are compatible with the patient's lifestyle.

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Although many adults in their 30s and 40s have acne, it is a disease that primarily affects teenaged individuals and adults in their 20s.[1] Acne generally is not considered a serious medical condition; however, studies have shown that individuals with this disease experience social, emotional, and psychological effects comparable with the effects of psoriasis, chronic disabling asthma, epilepsy, diabetes, back pain, or arthritis.[2-4] In a study of adults with acne, 44% (15/34) reported clinically relevant levels of anxiety, while 18% (6/34) reported clinically relevant depression.[5] Women are, overall, substantially more embarrassed about their skin condition than men,[5] which may make women especially vulnerable to the negative emotional consequences of acne. Acne also may have economic implications for adults. In one report, unemployment levels of patients with acne were significantly higher in men and women than in randomly selected controls ($P<.001$ for both)(Figure 1).[6]

The clinical assessment of acne severity does not reflect the degree of distress experienced by patients with acne. Studies have demonstrated that the impact of acne on the quality of life (QOL) of patients is related to the patient's self-assessment of the disease severity and not the physician's objective clinical assessment.[2,7]

Because acne most commonly affects the face, it has an especially damaging impact on patients' social relationships and sense of attractiveness. In a study of 39 teenaged individuals with acne, 23 patients (58%) reported dissatisfaction with their facial appearance, which correlated, in turn, with feelings of embarrassment and social inhibition.[8]

As a multifactorial disease, acne most effectively is treated with a combination of currently available medications. Studies have demonstrated that treatment not only successfully manages the disease but also results in substantial improvements across a wide variety of psychological functions.[5,9,10] In one report, patients with acne experienced a greater improvement in health-related QOL after treatment than patients treated for obstructive sleep apnea or benign prostatic hypertrophy, or patients receiving various forms of cosmetic surgery.[11] The emotional and psychological benefits of acne therapy in adolescents are particularly impressive. In one post-treatment study, 42% of teenaged patients believed that their facial appearance was more acceptable to peers, 50% were less embarrassed, and 58% were less socially inhibited.[8]

The term *adherence* has largely come to replace the term *compliance* in common use, though both terms

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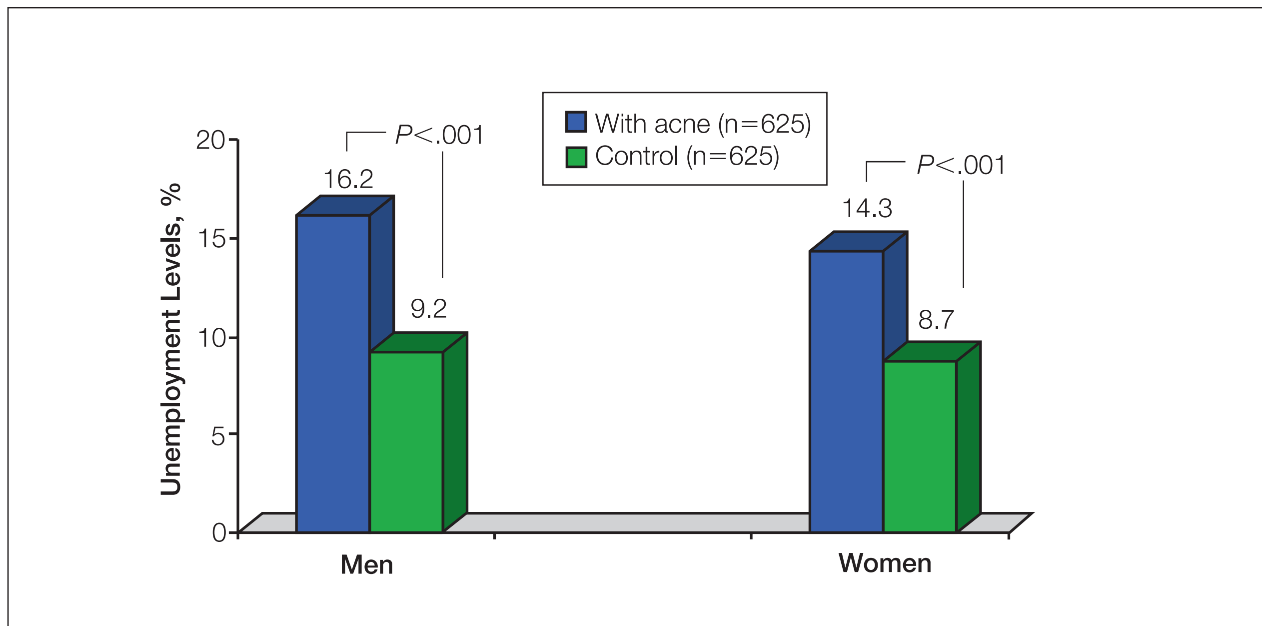

Figure 1. Acne and unemployment levels in men and women with acne and controls. Data from Cunliffe.[6]

still are frequently used interchangeably. Compliance with a treatment regimen implies a somewhat paternalistic relationship, with the patient following the physician's instructions to take medication regardless of the patient's own wishes. Adherence to a treatment regimen implies a more equal relationship, referring to the patient's willingness to follow a healthcare plan that was formulated and agreed on by the patient in conjunction with the physician.[12] Despite the emotional effects associated with acne and the availability of effective treatment, adherence to acne treatment regimens is poor. Nearly 20% of patients with acne do not return for follow-up,[13] according to a study of 144 patients, and by 3 months, overall medication adherence drops to less than 50% (N=42).[14] It has been suggested that approximately 30% to 65% of all patients, irrespective of disease prognosis and setting, do not adhere to a treatment regimen and 50% of patients prescribed long-term medication do not receive the full benefits of treatment because of inadequate adherence.[15]

In the absence of controlled trials, measurement of adherence to treatment of acne is difficult, with self-report or small studies typically being the only sources of information. It is known that adherence is greatest with treatment regimens that are simple, effective, tolerable, and easily incorporated into the patient's daily routine,[16,17] which should be the goal in choosing therapeutic agents. However, no regimen will be effective unless patients understand why they are taking the prescribed medications and how to use and apply them. Adherence also has been shown to relate to the patient-physician relationship,[18-20] with the attitude of the physician being relevant in terms of eliciting and respecting patient concerns, providing appropriate interaction, and having the ability to empathize and avoid being dogmatic and judgmental. Therefore, in achieving patient adherence, effective physician counseling is as important as the choice of therapy.

Counseling the Patient

Causes of Acne—Misconceptions regarding acne and its causes are common.[21-24] In addition to being inaccurate, these myths often lead to behaviors that exacerbate the disease. Most myths attribute acne to patients' actions, making them responsible for their disease and further increasing damage to their self-esteem. The belief that acne is related to poor hygiene is a good example; acne is viewed by patients as evidence that, to others, they are unclean.[22,25] To counter this perception, they may wash the skin so aggressively that they aggravate acne inflammation.[22]

Even misconceptions that do not place blame on the patient can lead to considerable frustration. For example, the myth that only teenagers get acne and will subsequently outgrow it conveys the message that acne is a minor temporary problem that will resolve on its own. Not only will a considerable number of patients continue to have acne into their 20s and beyond,[24] but to teenaged patients, the suggestion that they should resign to having disfiguring lesions throughout their high school years is disheartening.

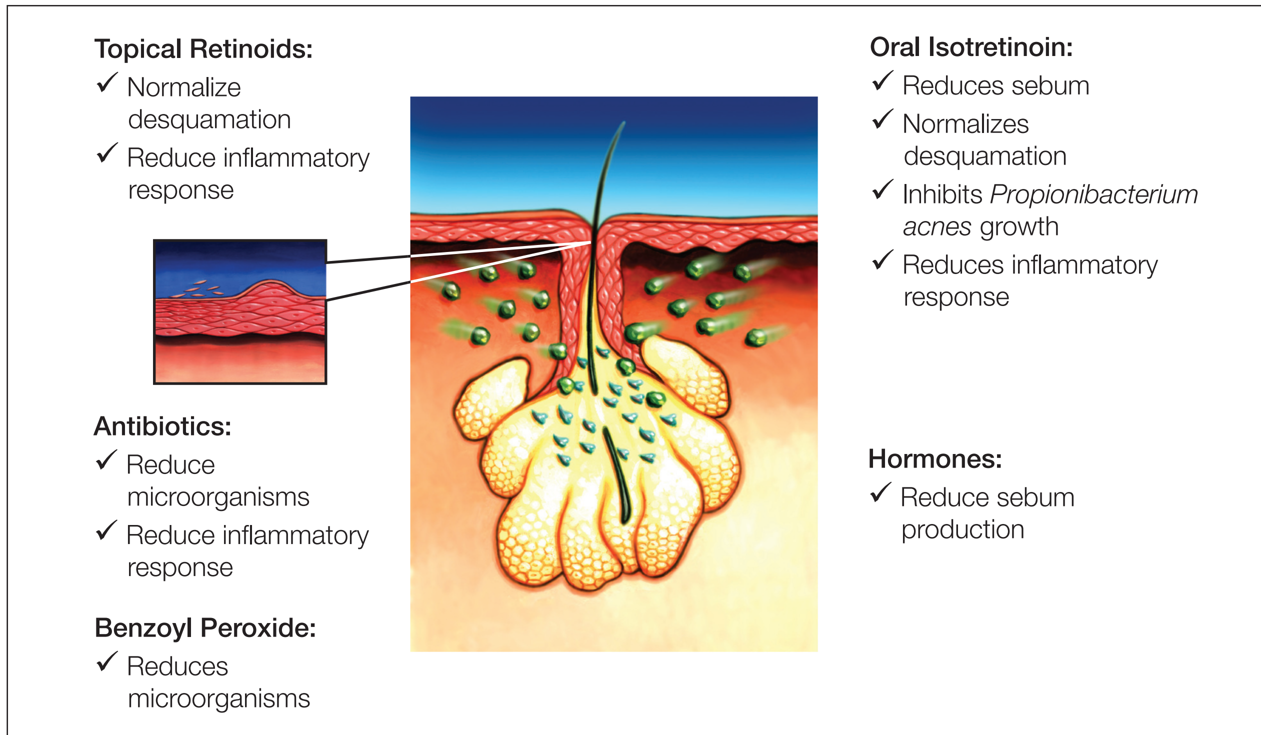

Figure 2. Actions of antiacne therapies. Reprinted with permission from Gollnick et al,[22] © The American Academy of Dermatology, Inc (2003).

One of the first steps in counseling patients is to dispel these myths and others that give credence to the idea that acne is the result of the patient's dietary choices, hygiene habits, use of cosmetics, or sexual activity.[23] It should be conveyed to teenaged patients in a reassuring manner that while their disease may improve as they get older, they do not have to passively wait for clearance to occur. Furthermore, the earlier treatment is started, the lower the potential for permanent scarring.[23]

In addition to dispelling the myths surrounding acne, physicians should discuss the pathogenesis of acne in simple, easy-to-understand language,[23] relating acne to the subclinical microcomedone—the initial precursor for all acne lesions. The explanation given need not be extensive. However, a basic knowledge of the cause of acne is necessary if patients are to understand the rationale behind the agents used to treat the disease; the particular administration of these medications; and the need for maintenance therapy, which includes the realization that acne is a chronic disease and maintenance therapy may have to continue indefinitely for relapse to be avoided.[23]

Treatment—Most patients have tried one or more over-the-counter (OTC) medications by the time they present to a dermatologist for treatment. A brief discussion of the differences between OTC and prescription medications and an acknowledgment that most topical OTC acne remedies are generally less effective than prescription medications[24] are useful in putting prior failures in perspective.

The physician should discuss the medications he/she is prescribing and the specific lesions these medications are intended to treat,[21] explaining that different agents work on different aspects of acne therapy (Figure 2).[22] Whenever possible, the physician also should link the need for each medication to the patient's presentation. Instructions on how to take and apply these medications should be provided in simple, easy-to-understand language, accompanied by written instructions that the patient can take home for later reference.[21,23] It should be emphasized that topical medications need to be applied over the entire affected area rather than just the obvious spots to treat both visible acne lesions and microcomedones.[23]

In addition to knowing how to use the medications, patients need to be prepared for possible side effects and instructed on what to do if a problem arises. The most common side effect of topical acne medications is drying or irritation of the skin, which can be minimized by use of moisturizers, proper cleansing, and, in some cases, reduced frequency of application (eg, every other day vs every day).

If patients are not educated on the time required for improvement, they can become discouraged and nonadherent. Improvement generally becomes noticeable after several weeks of therapy; most patients see at least 30% to 40% improvement in 2 months, 60% improvement in 3 to 4 months, and 80% or more improvement in 6 months.[23,26] Faster results are achieved when medications are used in combination; controlled clinical studies have consistently demonstrated more rapid and greater clearing when topical retinoids are combined with oral and/or topical antimicrobial agents than when either treatment is used as monotherapy.[22]

Therapy that is difficult for patients to incorporate into their daily activities is often abandoned; therefore, it is important to choose agents that are as compatible as possible with a patient's lifestyle. Cosmetic use is common among adolescent girls as well as adults. In addition to advising patients to use only cosmetics that are labeled noncomedogenic, physicians also should provide guidance about the compatibility of different topical acne treatments and different cosmetics. Lotion, cream, and solution formulations are more easily combined with cosmetics than gels containing polymers[21] and thus may be better choices for women concerned about this issue. Conversely, some cosmetics previously used, such as lip glosses and cream rouge, may need to be replaced with matte-finish lipsticks and powdered blush if dryness or irritation is a problem.[21]

Patients often must make major changes in their skin care practices and products for acne treatment to be successful. Adolescents in particular often attempt to treat the disease with a variety of strong soaps, abrasive scrubs, astringents, and exfoliating washes, all applied vigorously and frequently in an effort to remove excess oil. Patients must understand that these practices are counterproductive and they should be taught how to perform gentle cleaning. They should be advised to wash acne skin areas no more than twice daily using a cleanser with a pH between 5 and 7,[21,22] applied with warm water and their fingers. Many patients will need to use a noncomedogenic moisturizer to counteract the drying effect of acne medications.[21]

Treating Teenaged Patients—Discussing an emotionally debilitating issue such as acne with an unfamiliar adult, much less presenting their lesions to be scrutinized, can make teenaged patients feel exposed and self-conscious. In addition, adolescents often have had little previous contact with the medical profession and anxiety about what to expect can heighten their discomfort.

Fortunately, there are some simple things a physician can do to help teenaged patients feel more comfortable. Asking about the patient's daily activities helps break the ice and gives the patient a chance to be more than just an acne case. Like most people, adolescents respond best to an active listener—someone who is attentive, makes eye contact, does not interrupt, and does not appear rushed.[21] Inquiring specifically about the impact of acne on the patient's life conveys the message that the physician takes the patient's concerns about the disease seriously as well as the effect the disease has on his/her life.

Initially, it is a good idea to interview a teenaged patient with one or both parents/guardians present. Dispelling acne myths and setting expectations is as important for the parents/guardians as it is for the patient. At some point in the session, however, patients should have the opportunity to raise questions with the physician privately because they may have concerns that they are reluctant to discuss in front of a parent/guardian.

Adolescents are capable of taking charge of their own treatment and should be given this responsibility. Practically speaking, therapy for acne is highly unlikely to succeed if patients do not take responsibility for their care. In addition, placing responsibility in the hands of the patients has psychological benefits by giving them a sense of control of their acne.

Improving Adherence

Adherence to prescribed treatment is a multidimensional issue, comprising patient sociodemographic and lifestyle factors, and, therefore, is difficult to assess. Factors relating to the patient may be important. Notably, however, demographic variables have not been shown to be good indicators of adherence, though in one study,[27] younger patients and males showed lower adherence to acne therapies than the other groups studied. Environmental factors also may play a role in inhibiting adherence, such as living alone, lack of family support, and lack of social support.[15,28] Zaghloul et al[27] found that married males adhered to acne treatment better than single males, and alcohol and smoking have been shown to have a negative influence on medication adherence in patients with acne,[27,28] as have low income and unemployment.[15,27]

Psychological factors also influence adherence. Renzi et al[29] found a strong negative correlation between adherence and psychiatric morbidity in one study of 1389 dermatology patients (11% with acne). Additionally, poor QOL on emotional scales correlates to medical adherence, as does patient-perceived satisfaction with care.[30] A strong negative correlation between high

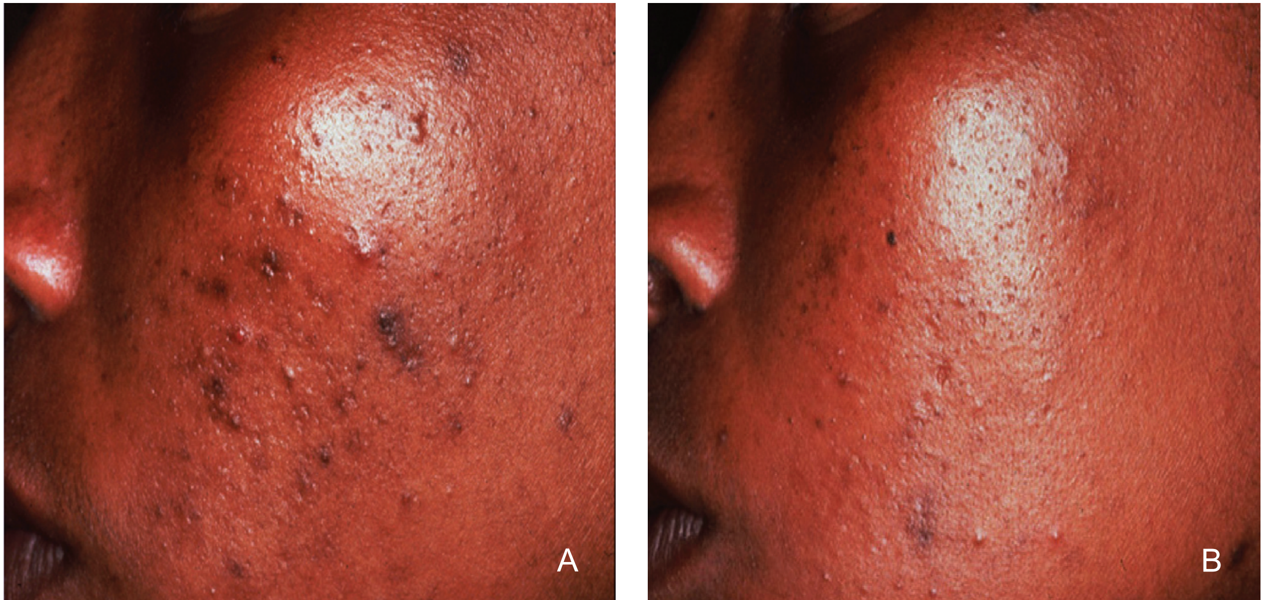

Figure 3. Patient with acne vulgaris at baseline (A) and after 12 weeks of treatment with adapalene gel 0.1% once daily at bedtime (B). Reprinted with permission from *Cutis.* 2001;68(suppl 4):48-54. ©2001, Quadrant HealthCom Inc.[32]

Dermatology Life Quality Index and adherence also has been observed.[27]

Patient motivation is a strong factor in treatment adherence. Patients with a higher level of concern about their acne are likely to be more motivated to continue long-term therapy than patients who are less troubled by their disease.[22] Some studies suggest that adherence to acne therapy improves with the degree of disability associated with the disease but not with the clinical rating of disease severity.[28,31] In this regard, it is important to remember that self-perception of the severity of acne lesions but not the physician's objective assessment determine the patient's disability or dissatisfaction associated with their acne.[8] Thus, patients with seemingly worse disease may be less motivated to adhere to therapy than the physician—or the patient's parents/guardians—might expect.[8,10]

Careful counseling can improve adherence, as can the choice of an acne treatment regimen that is simple, effective, tolerable, and easily incorporated into the patient's lifestyle.[22] Topical retinoids are highly effective topical agents because they affect both comedones and inflammatory lesions, as well as microcomedones, and have an integral role in acne therapy (acute and maintenance phases). These agents can be associated with skin irritation; the newer formulations tend to have less irritation potential. In addition, short-contact therapeutic regimens or less-than-daily application can be used to minimize the potential for retinoid dermatitis. Topical antibiotics generally are well-tolerated. Benzoyl peroxide can be irritating, particularly in higher concentrations; lower concentrations, or benzoyl peroxide washes, can reduce irritation in patients with sensitive skin.[22]

Rewards and incentives also may help to improve patient adherence. From the patient's perspective, the most potent reward is noticeable improvement in acne as a result of adhering to treatment. Improved QOL, including greater self-esteem and better relationships with peers, following the resolution of lesions has been reported. However, these results take time, and patients may need physician support to continue with therapy until their skin clears, particularly if they have had disappointing outcomes with prior therapies.[22] Topical retinoids have dermatologic effects that may reward continued adherence. Patients with dark skin may find the reduction of acne-related hyperpigmentation to be an incentive to adhere to their therapeutic regimen consisting of topical retinoids (Figure 3), while other patients may be encouraged by skin-repairing properties to continue treatment in the absence of visible lesions.[32]

Conclusion

Despite therapies that can effectively treat acne and relieve associated social, emotional, and psychological effects, patient adherence to treatment is poor. To improve adherence, physicians must develop the skills to counsel both adolescents and adults. Appreciating the patient's perspective is one of the most important factors influencing adherence to treatment and is substantially influenced by the

patient-physician relationship. If patients are to adhere to treatment, they must be educated about the causes of acne, the purpose of the medications prescribed and how to use them, the time frame necessary for treatment to take effect, and the need for long-term maintenance therapy. Physicians, in turn, must select therapies that are compatible with the patient's lifestyle and financial circumstances, and physicians must guide patients in incorporating treatment regimens into their daily activities.

REFERENCES

1. Leyden JJ. A review of the use of combination therapies for the treatment of acne vulgaris. *J Am Acad Dermatol.* 2003;49(suppl 3):S200-S210.
2. Mallon E, Newton JN, Klassen A, et al. The quality of life in acne: a comparison with general medical conditions using generic questionnaires. *Br J Dermatol.* 1999;140:672-676.
3. Aktan S, Ozmen E, Sanli B. Anxiety, depression, and nature of acne vulgaris in adolescents. *Int J Dermatol.* 2000;39:354-357.
4. Lasek RJ, Chren MM. Acne vulgaris and the quality of life of adult dermatology patients. *Arch Dermatol.* 1998;134:454-458.
5. Kellett SC, Gawkrodger DJ. The psychological and emotional impact of acne and the effect of treatment with isotretinoin. *Br J Dermatol.* 1999;140:273-282.
6. Cunliffe WJ. Acne and unemployment [letter]. *Br J Dermatol.* 1986;115:386.
7. Niemeier V, Kupfer J, Demmelbauer-Ebner M, et al. Coping with acne vulgaris. evaluation of the chronic skin disorder questionnaire in patients with acne. *Dermatology.* 1998;196:108-115.
8. Krowchuk DP, Stancin T, Keskinen R, et al. The psychosocial effects of acne on adolescents. *Pediatr Dermatol.* 1991;8:332-338.
9. Newton JN, Mallon E, Klassen A, et al. The effectiveness of acne treatment: an assessment by patients of the outcome of therapy. *Br J Dermatol.* 1997;137:563-567.
10. Oakley AM. The Acne Disability Index: usefulness confirmed. *Australas J Dermatol.* 1996;37:37-39.
11. Klassen AF, Newton JN, Mallon E. Measuring quality of life in people referred for specialist care of acne: comparing generic and disease-specific measures. *J Am Acad Dermatol.* 2000;43(2, pt 1):229-233.
12. Weil A, Ganato E. Dealing with treatment adherence issues in acute conditions. *Resident Staff Physician.* 2005;8:32. http://www.residentandstaff.com/article.cfm?ID=436. Accessed March 14, 2006.
13. McEvoy B, Nydegger R, Williams G. Factors related to patient compliance in the treatment of acne vulgaris. *Int J Dermatol.* 2003;42:274-280.
14. Flanders PA, McNamara JR. Enhancing acne medication compliance: a comparison of strategies. *Behav Res Ther.* 1985;23:225-227.
15. Rogers PG, Bullman WR. Prescription medicine compliance: a review of the baseline of knowledge. a report of the National Council on Patient Information and Education. *J Pharmacoepidemiol.* 1995;3:3-36.
16. Koo J. How do you foster medication adherence for better acne vulgaris management? *SKINmed.* 2003;2:229-233.
17. Kellett N, West F, Finlay AY. Conjoint analysis: a novel, rigorous tool for determining patient preferences for topical antibiotic treatment for acne. a randomised controlled trial. *Br J Dermatol.* 2006;154:524-532.
18. Special report: interventions to improve patient adherence with medications for chronic cardiovascular disorders. *TEC Bull (online)*. 2003;20:30-32. http://wikipdf.com/article/15052993. Accessed December 11, 2007.
19. Parchman ML, Burge SK. The patient-physician relationship, primary care attributes, and preventive services. *Fam Med.* 2004;36:22-27.
20. Ferguson WJ, Candib LM. Culture, language, and the doctor-patient relationship. *Fam Med.* 2002;34:353-361.
21. Draelos ZK. Patient compliance: enhancing clinician abilities and strategies. *J Am Acad Dermatol.* 1995;32(5, pt 3):S42-S48.
22. Gollnick H, Cunliffe W, Berson D, et al. Management of acne: a report from a Global Alliance to Improve Outcomes in Acne. *J Am Acad Dermatol.* 2003;49(suppl 1):S1-S37.
23. Katsambas AD. Why and when the treatment of acne fails. what to do. *Dermatology.* 1998;196:158-161.
24. Landow K. Dispelling myths about acne. *Postgrad Med.* 1997;102:94-99, 103-104, 110-112.
25. Koo J. The psychosocial impact of acne: patients' perceptions. *J Am Acad Dermatol.* 1995;32(5, pt 3):S26-S30.
26. Shalita A, Weiss JS, Chalker DK, et al. A comparison of the efficacy and safety of adapalene gel 0.1% and tretinoin gel 0.025% in the treatment of acne vulgaris: a multicenter trial. *J Am Acad Dermatol.* 1996;34:482-485.
27. Zaghloul SS, Cunliffe WJ, Goodfield MJ. Objective assessment of compliance with treatments in acne. *Br J Dermatol.* 2005;152:1015-1021.
28. Mufleh L, Gonzalez M, Judodihardjo H, et al. Compliance is high in patients taking oral isotretinoin for acne [abstract]. *Br J Dermatol.* 1999;141(suppl 55):87.
29. Renzi C, Picardi A, Abeni D, et al. Association of dissatisfaction with care and psychiatric morbidity with poor treatment compliance. *Arch Dermatol.* 2002;138:337-342.
30. Rapp DA, Brenes GA, Feldman SR, et al. Anger and acne: implications for quality of life, patient satisfaction and clinical care. *Br J Dermatol.* 2004;151:183-189.
31. Renzi C, Abeni D, Picardi A, et al. Factors associated with patient satisfaction with care among dermatological outpatients. *Br J Dermatol.* 2001;145:617-623.
32. Jacyk WK, Mpofu P. Adapalene gel 0.1% for topical treatment of acne vulgaris in African patients. *Cutis.* 2001;68(suppl 4):48-54.