

Practice gaps between guidelines and clinical practice in the treatment of pediatric patients with acne: results of a single center, prospective study

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Practice Gaps in Pediatric Acne Treatment

Practice gaps are a problem in acne management. Though one of the most common skin conditions in children and adolescents, there is tremendous variation in acne treatment amongst health care professionals.

For example, while topical retinoids are the best initial treatment for mild-to-moderate acne, and are important in maintenance therapy of all types of acne, they are not always prescribed, especially by non-dermatologists. A retrospective review of the National Ambulatory Medical Care Survey (NAMCAS) and the 2004–2007 MarketScan Medicaid Database found that seeing a pediatrician or family doctor was associated with lower odds of getting a topical retinoid prescription than seeing a dermatologist (OR = 0.24) (1). Another study utilizing NAMCAS data from 1993-2009 found that preteens, in particular, are unlikely to be prescribed retinoids by pediatricians. In teenagers, topical retinoids were prescribed at 36.3% of dermatology visits but only at 15.7% of primary care visits. In preteens, topical retinoids were prescribed at 52% of dermatology visits but only 10.5% of primary care visits (2).

In addition, a NAMCAS review reported topical antibiotic monotherapy has been reported in 0.81% of visits (3). This is concerning because the use of topical antibiotics without benzoyl peroxide leads to antimicrobial resistance.

In 2013, the American Acne and Rosacea Society (AARS) published the first-ever evidence-based guidelines for treating pediatric and adolescent acne (4). The purpose of our study was to assess whether pediatric providers were aware of and using these guidelines, and to prospectively probe for practice gaps using a case-based exam.

Methods and Case-Based Questions

Participants were recruited at 3 educational conferences throughout the United States. They rated their knowledge of and confidence in prescribing according to the AARS guidelines on a 5-point scale. They also answered 5 case-based questions choosing the next best step for a variety of patients with acne.

- 1) A 16-year-old girl with 25 closed comedones on her face and a few inflammatory lesions (mild acne).
- 2) A 10-year-old girl with 20 closed comedones on the forehead and no inflammatory lesions (mild acne).
- 3) A 14-year-old girl with 25 inflammatory papules and 35 open and closed comedones on the face (moderate acne).
- 4) A 14-year-old boy with a moderate amount of inflammatory papules and pustules on the forehead, cheek, chin, chest, and back (moderate acne).
- 5) A 15-year-old boy with extensive inflammatory lesions and a small amount of diffuse scarring on his face (severe acne). He has been using OTC salicylic acid wash.



Mild acne in a teenager Mild acne in a pre-teen Moderate acne Severe acne in a teenager

Demographics

134 providers participated. We collected the following data: % (number)

Specialty: Pediatricians 81% (108); Residents 10% (13); Nurse Practitioners 5% (7); Physician Assistants 4% (5); Family Practitioners 1% (1)

Gender: Female 64% (86); Male 36% (48)

Location: Suburban 57% (77); Urban 35% (47); Rural 7% (10)

Practice Setting: Pediatric Group Practice 44% (59%); Academic Center 18% (24); Pediatric Solo Practice 18% (21); Multi-Specialty Group 16% (21); Hospital 5% (7); Other 5% (7)

Years in Practice: 0-5 years 19% (25); 5-10 years 13% (18); 10-20 years 23% (31); >20 years 45% (60)

Survey Results: Guideline Knowledge

Figure 1a. Self-Rated Knowledge of the AARS Guidelines

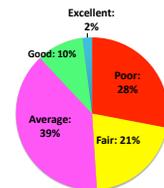
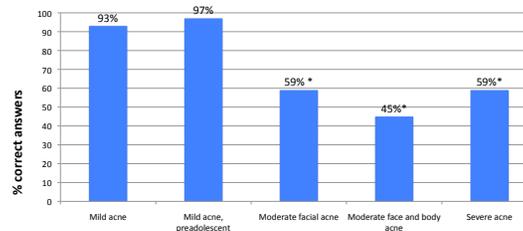


Figure 1b: Self-Rated Confidence in Prescribing According to the AARS Guidelines



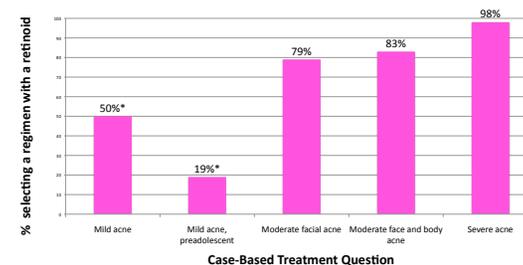
Survey Results: Case-Based Exam

Figure 2. Percentage of Correct Answers to the Case-Based Exam



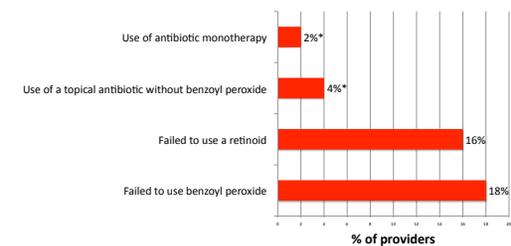
Case-Based Treatment Question

Figure 3. Percentage of Providers Including a Retinoid in the Treatment Regimen



Results, continued

Figure 4. Errors in Management of Moderate Acne



Discussion

The AARS guidelines on pediatric acne management have not been well disseminated; almost 1/3 of providers reported "poor" knowledge of them, and only 2% of providers had "excellent" knowledge of them. Confidence in prescribing according to the guidelines was similarly low. These trends illustrate the importance of targeted interventions to improve provider knowledge of and confidence in using evidence-based guidelines.

Though retinoids are a foundational acne treatment, only 50% of providers used them to treat mild acne in a teenager, and only 19% used them to treat mild acne in a pre-teen. This is an important topic for further education, as pre-adolescents tend to be comedone-predominant and would especially benefit from retinoid use. Further exploration of why pediatric providers are hesitant to use these products in adolescents with mild acne and in pre-teens is needed.

Antibiotic trends were similar to those seen in retrospective studies (4), with antibiotic monotherapy remaining a small, but persistent problem. Four percent of providers chose to use topical antibiotics without benzoyl peroxide, illustrating the need for continued education on appropriate antibiotic use.

Finally, while most providers were able to choose a correct treatment regimen for mild acne, many had difficulty initiating treatment for moderate and severe acne, commonly omitting one or more elements of combination therapy. Only 59% of providers correctly treated moderate facial acne, and only 45% of providers correctly treated face and body acne. More education on this topic for pediatricians could benefit patients who have limited access to specialist care, or for those waiting for a dermatology appointment.

Study limitations include the inability to evaluate the actual prescribing behavior of pediatric providers using a case-based exam.

References

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