

Improving Pediatric Acne Management and “Filling in Practice Gaps”: a Prospective Multicenter Study of Case-based Guideline Education

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Study supported by an American Acne and Rosacea Society Clinical Research Grant



Background: Practice Gaps in Pediatric Acne

The first evidence-based recommendations for pediatric acne management were published by the American Acne and Rosacea Society (AARS) and the American Academy of Pediatrics (AAP) in *Pediatrics*, in 2013 (1). Yet, practice gaps — the gap between what physicians are doing in clinical practice compared with what should be done based on the best available evidence — are still significant. Studies have shown that non-dermatologists tend to overprescribe oral and topical antibiotics and under prescribe retinoids (2).

Objectives

To assess practice gaps in pediatric acne management and the impact of case-based learning on knowledge and treatment of acne in accordance with published recommendations.

Methods and Case-Based Questions

Participants were recruited at 4 national pediatric conferences. A baseline questionnaire assessed knowledge of and confidence in prescribing according to the AARS/AAP recommendations. Five patient cases with varying age and acne severity were presented, with providers choosing acne treatments before, immediately after, and 3 months after 40-minute case-based educational presentation. Responses with selections consistent with published recommendations were scored as correct, and all responses evaluated for patterns of medication selection.

- 1) 16-year-old girl with 25 facial closed comedones a few inflammatory lesions (mild acne).
- 2) A 10-year-old girl with 20 closed comedones on the forehead (mild acne).
- 3) A 14-year-old girl with 35 open and closed comedones 25 inflammatory papules and 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-teenager



Moderate acne in a teenager



Severe acne in a teenager

Results

Demographics

150 providers participated. **Specialty:** Pediatricians 80% (119); Pediatric Residents 9% (14); Nurse Practitioners 5% (7); Physician Assistants 3% (5); Family Practitioners 2% (3); Other 1% (2)

Gender: Female 65% (98); Male 35% (52)

Location: Suburban 58% (87); Urban 35% (53); Rural 7% (10)

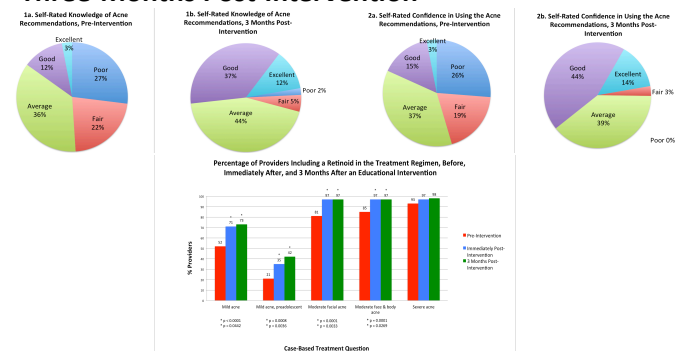
Practice Setting: Pediatric Group Practice 42% (63); Academic Center 19% (29); Pediatric Solo Practice 15% (23); Multi-Specialty Group 12% (18); Hospital 5% (7); Other 7% (10)

Years in Practice: 0-5 years 18% (27); 5-9 years 13% (19); 10-19 years 22% (34); >20 years 47% (70)

Pre- and Immediately Post-Intervention

At baseline, providers self-rated knowledge and confidence in prescribing according to the AARS recommendations was generally low (Figures 1&2), with baseline test scores of 70%. There were no differences in baseline test scores based on practice location, setting, or years in practice. After the intervention, self-rated provider knowledge and confidence significantly increased ($p < 0.05$). Post-intervention provider test scores increased to 88% immediately and 86% at 3 months. (< 0.0001). The most significant improvements were demonstrated in provider ability to choose regimens for moderate facial and truncal acne consistent with published recommendations, and in recommendation-consistent usage of retinoids ($p < 0.01$) and benzoyl peroxide ($p < 0.05$). Persisting practice gaps included a reluctance to use topical retinoids in pre-adolescents, and lack of initiating oral combination therapies in patients with severe acne.

Three-Months Post-Intervention



Conclusion

The 2013 AARS/AAP recommendations have been disseminated with mixed impact. A case-based educational intervention significantly increased providers choosing acne treatments in accordance with evidence-based recommendations.

References: 1. Eichenfield LF, Krakowski AC et al. Evidence-based recommendations for the diagnosis and treatment of pediatric acne. *Pediatrics* 2013;131:S163
2. Hoover WD, Davis SA, Fleischer AB, Feldman SR. Topical antibiotic monotherapy prescribing practices in acne vulgaris. *J Dermatolog Treat.* 2014;25(2):97-9.