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Chapter 14

A Large-Scale European Observational Study to Describe the Management of Acne in Clinical Practice

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Abstract

Background: Acne is one of the major reasons that patients consult a dermatologist. Current recommendations for the treatment of juvenile facial acne suggest treating mild acne with topical treatments and moderate acne with a combination of topical treatments with systemic antibiotics. The aim of this investigational survey was to evaluate how European dermatologists in private practice currently manage acne.

Method: Dermatologists practicing in 12 European countries were asked how they manage patients with acne (except those undergoing isotretinoin treatment). Each dermatologist completed a written questionnaire, about patient characteristics, acne severity and the therapy they prescribed at baseline and after 2 months of treatment.

Results: In total, 5809 acneic patients were questioned. In 40% of cases (independent of severity), dermatologists prescribed up to 3 local treatments combined with up to 2 systemic therapies, and a cosmetic product. In 44% of cases, dermatologists prescribed only a dermocosmetic product for very mild acne; in 44% of cases of mild acne they prescribed one treatment, mostly topical one and in 48 and 58% of cases two treatments (mainly a combination of local and systemic therapy) to patients with moderate or severe acne respectively.

Conclusion: This observational study illustrates that dermatologists employ complex treatment regimens to manage acne. Seeing as complex regimens are harder for patients to comply with, this notably raises the question of adherence, which is a key factor in successful treatment.

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Background

Acne is one of the most frequent reasons patients consult in dermatology (20% of consultations) and affects approximately 80% of adolescents. Acne interferes with quality of life, and requires both therapeutic and psychological support [1, 2]. Therapeutic management must balance efficacy and tolerance, otherwise defined as benefit/risk. The treatment period can be long as acne is a chronic inflammatory disease and the majority of treatments have a latent effect. Patient compliance/adherence is imperative to obtain a therapeutic success [3, 4]. Published guidelines and recommendations, review scientific and medical advances and guide practitioners on the appropriate use of different pharmaceutical products. The recommendations of the Global Alliance in 2003, updated in 2009 [5, 6] led to an algorithm for the management of acne [7] and more recently the French group published recommendations for juvenile acne [8]. These algorithms were based upon the published literature, National Health Authority recommendations, expert experience in the field, and also regulatory changes concerning the different treatments. They provide therapeutic markers for the daily use of anti-acne medication. These guidelines therefore evolve regularly over time [9, 10] to keep in line with current research. These recommendations have led to changes in prescribing habits that reflect scientific research in areas such as bacterial resistance or side effects [11]. Additionally, although not included in the treatment algorithms, dermocosmetic products are often prescribed as part of acne treatment regimens [12].

Questions Addressed

In this context, it seemed interesting to perform a survey to assess the implementation of these algorithms in daily practice of European dermatologists for patients with acne. For each level of acne severity, we set out to evaluate the number and type of medical treatments prescribed in addition to a dermocosmetic product.

Experimental Design

This observational study was conducted with dermatologists in private practice in 12 European countries including France, Spain and Portugal (Western countries), Poland, Slovakia, Hungary, Romania and Croatia (Eastern countries) and Germany, Switzerland, Italy and Slovenia. Patients, with acne, of both sexes, aged seven years or older were invited to participate. Patients undergoing isotretinoin treatment were excluded. At baseline, dermatologists were asked to complete a questionnaire to obtain information concerning the patient profile (age, sex, skin type, age of acne), and clinical severity, using the Global Evaluation Acne scale (GEA) [13]. Lastly, the prescribed treatment regimen was noted, and dermatologists were asked to prescribe the dermocosmetic (Effaclar Duo® (La Roche-

Posay)). During the second visit, planned 2 months later, dermatologists re-evaluated the acne severity, and the overall tolerance and efficacy of treatment prescribed. During these 2 visits, seborrhea was evaluated with a 10 cm visual analogic scale (VAS).

Data analysis was performed on all patients included for whom both inclusion and final questionnaires were completed by dermatologists. Some analysis was also done for GEA grade sub-groups. Variables were expressed by number of subjects (N), percentage (%), quantitative data by mean ± SD (min - max) and median.

Results

The baseline characteristics of the 5809 patients, with grade 1 to grade 4 acne, questioned during this survey are shown in Table 1. Most of the patients were female (66%) and 34% were male, with a mean age of 21 ± 7 years (7-97 years), the average length of time since their acne was diagnosed was 25 ± 31 months (0.5 to 384 months) and 82% had skin type II or III. The presence of lesions on the trunk was noted in 30% of the total population.

Table 1. Patient characteristics and degree of acne severity (GEA scale) [14]

GEA grade (n=5763)	**Gender**		**Age**		**lesions on the trunk**	
	F	**M**	**<20**	**≥20**	**Yes**	**No**
Grade 1 (n=663/11.5%)	71%	29%	56%	44%	6%	94%
Grade 2 (n=2494/43.3%)	71%	29%	56%	44%	19%	81%
Grade 3 (n=2332/40.5%)	61%	39%	59%	41%	43%	57%
Grade 4 (n=274/4.8%)	50%	50%	65%	35%	66%	34%

Prescription Therapy

Dermatologists prescribed the dermocosmetic product alone, without supplementary medical treatments for 15% of the total population. Otherwise, prescribing habits were complex, particularly for young patients (sometimes up to 6 different treatments prescribed). No correlation was noticed between the number of treatments prescribed and patient age.

In 35% of cases, dermatologists prescribed up to 3 topical treatments. In 9% of cases, up to 2 systemic treatments and in 40% of cases, they prescribed up to 3 local treatments associated with one or 2 systemic therapies.

Prescriptions made in western countries differed from those in Eastern countries (Table 2).

Table 2. Percentage of patients according to the different treatment regimens

Prescription (n=5809)	%	n	Western countries (n=3609)	Eastern countries (n=1779)
Systemic only	9%	513	9%	7%
Local only	35%	2036	**27%**	**52%**
Local + systemic	41%	2364	**52%**	**23%**
No treatment (dermocosmetic only)	15%	896	12%	18%

Eastern dermatologists prescribed twice the amount of local therapies alone than western dermatologists. Conversely, western dermatologists preferred combining topical and systemic treatments.

Therapeutic regimens prescribed in accordance with the GEA grade are presented in figures 1 to 4.

For patients with virtually no lesions or grade 1 acne, according to the GEA scale (Figure 1), 44% of prescriptions contained only the dermocosmetic product, with no additional medical treatment. If they prescribed a drug treatment, a topical one was preferred (42%). The top 3 topical treatments prescribed were: a topical antibiotic, a topical retinoid or benzoyl peroxide (BPO).

For patients with mild or grade 2 acne (Figure 2), the dermocosmetic product alone was prescribed for 18% of prescriptions. However, in most cases (44%), dermatologists prescribed one drug treatment, either a local antibiotic, a topical retinoid, or BPO. In 31% of cases, they prescribed two treatments; mostly a combination of a topical with a systemic treatment, most frequently a retinoid with a cycline. However combination therapy was mix of various products (a cycline associated with BPO or with BPO plus a retinoid). And for 6% an association of three treatments was prescribed, essentially the association of two topical with one systemic treatment.

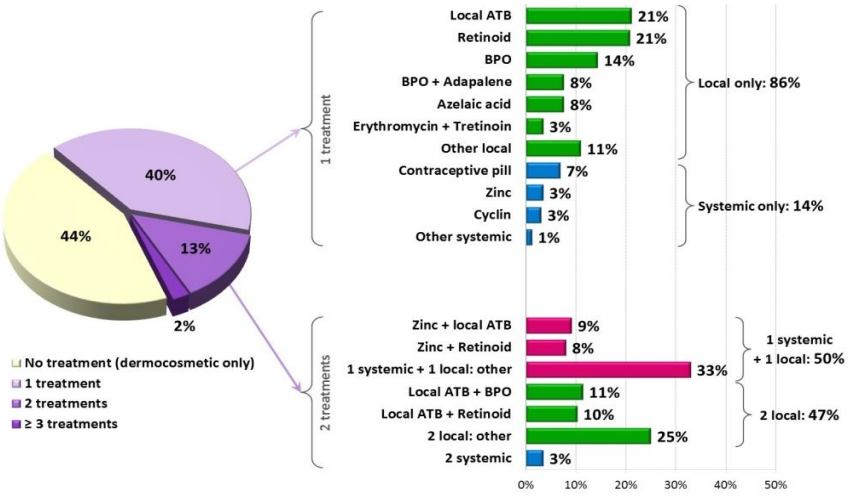

Figure 1. Regimen prescribed for Grade 1 patients (n=658).

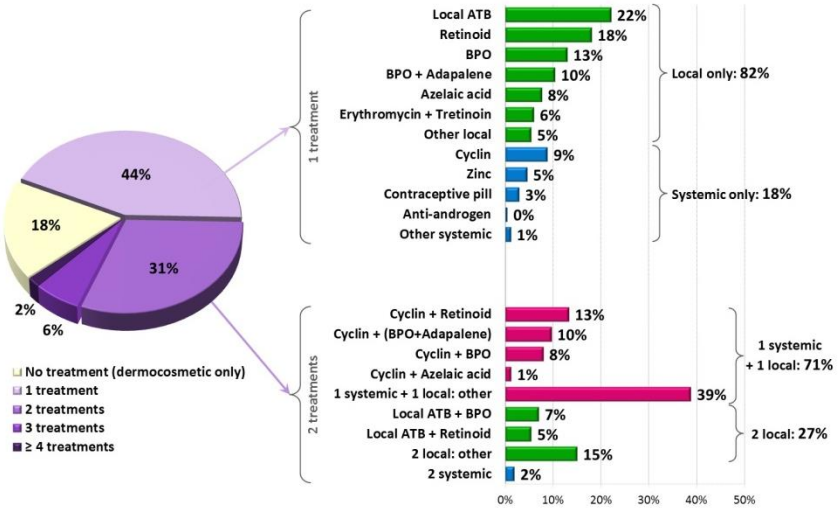

Figure 2. Regimen prescribed for Grade 2 patients (n=2486).

For patients with moderate or grade 3 acne (Figure 3), 6% of dermatologists prescribed the dermocosmetic product alone. Two-thirds (68%) of the patients were treated with combined therapy (2 to 6 associated treatments). Cyclines with retinoids or BPO were the preferred two associated prescriptions for these patients. A quarter of grade 3 patients received only one treatment, which was often a topical antibiotic (17%) or a cycline (27%).

For patients with severe or grade 4 acne (Figure 4), only 2% of prescriptions contained a dermocosmetic prescription alone. More than half of the patients were treated with combination therapy, most often consisting of a topical and a systemic drug treatment. As for grade 3, cyclines were associated with either retinoid or BPO alone or associated with Adapalene.

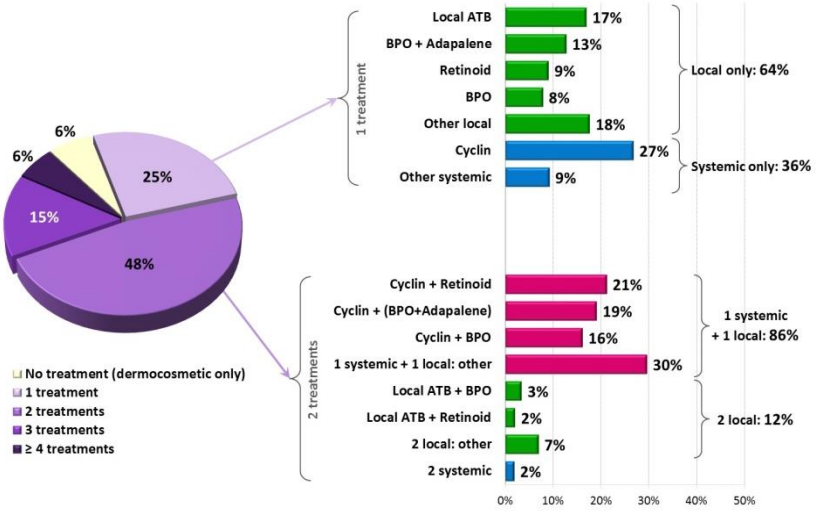

Figure 3. Regimen prescribed for Grade 3 patients (n=2324).

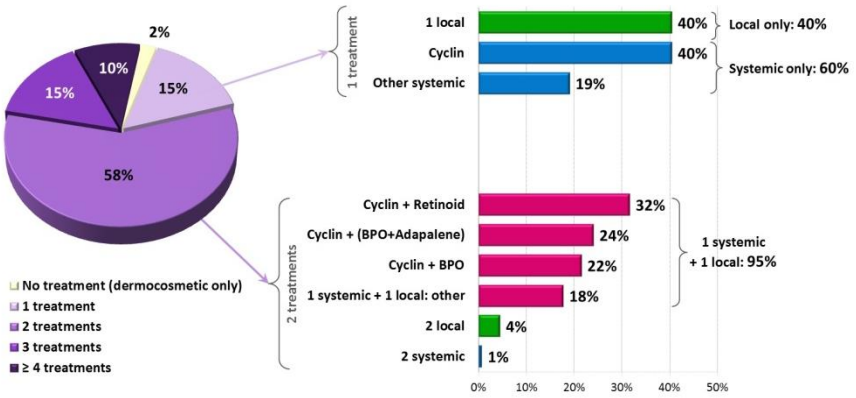

Figure 4. Regimen prescribed for Grade 4 patients (n=273).

Second Visit (58 ± 17 Days after)

All therapeutic regimens prescribed were efficacious as acne improved for 77% of patients at the second visit (reduction of one grade or more) ($p<0.0001$) (Table 4). We also noticed a decrease in the level of seborrhoea in 89% of cases ($p<0.0001$) (Table 3). For 94% of patients, dermatologists found it worthwhile to combine a drug treatment with a cosmetic product to improve patient comfort and tolerance while maintaining and/or enhancing its effectiveness. Moreover, 86% of patients were satisfied with the efficacy of the cosmetic product prescribed. Dermatologists noted the tolerance of treatments as "good" or "excellent" for 93% of patients and for 90% of patients by auto-evaluation.

Table 3. Clinical progress (GEA Grade) and seborrhoea score between baseline and Visit 2

No improvement (same grade)	22%
Improvement of 1 grade (reduction of 1 grade)	56%
Improvement of 2 grades	20%
Improvement of 3 grades	1%
Deterioration of 1 grade	1%

	Baseline Mean ± SD	2nd visit Mean ± SD
Seborrhea score (VAS 0-10)	4.6 ± 1.8	2.6 ± 1.5

Discussion and Conclusion

This survey evaluated the current management of 5809 European patients with acne by dermatologists in private practice. The results provide a better understanding of patient characteristics related to their acne severity and confirms the value, and ease of use of the

GEA scale ("Global Evaluation Acne Scale") [13]. For example, the presence of acne lesions on the trunk was more frequent for severer grades (66% versus 6%)(Table 1). For severer grades, males consulted more often than females and in contrary, for milder grades, females consulted more often than males (Table 1). This was perhaps either due to consultations for aesthetic reasons, or because the adult female population included some patients with premenstrual acne syndrome. This is supported by the fact that grades 2 and 3 acne are diagnosed for more than twice as many women, aged 30 years or more, than men.

This study indicated that European dermatologists do not usually prescribe medical treatments to treat grade 1 acne (in 44% of cases, they prescribe only application of the dermocosmetic product to patients with very mild acne); one drug treatment, usually a topical one to treat grade 2 acne (in 44% of cases, one treatment was prescribed to patients with mild acne) and two treatments (a combination of topical and systemic therapy) to those with grades 3 or 4 acne (in 48 and 58% of cases two treatments were prescribed to patients with moderate or severe acne respectively) (Figures 1-4). We also noticed that in 40% of cases, dermatologists prescribed several topical treatments (up to 3) associated with one or several systemic therapies (up to 2), as well as at least one cosmetic product (Table 2). The complexity of prescribing habits, particularly for young patients raises the question of adherence, which is a key factor for a successful treatment. Interestingly, data of the evolution of the clinical condition between the 2 visits (Table 4) seems to indicate that increasing the number of treatments in mild to moderate acne doesn't add any extra benefit.

Table 4. Clinical Progress for Grade 2 and 3 patients (n= 2441 / 2266)

Therapy / Grade 2	% of patients	GEA (Tf-Ti)*
No treatment	18%	-0.96 ± 0.64
1 treatment	44%	-0.85 ± 0.62
2 treatments	31%	-0.79± 0.64
3 treatments	6%	-0.84 ± 0.68

Therapy / Grade 3	% of patients	GEA (Tf-Ti)*
No treatment	6%	-1.36 ± 0.78
1 treatment	25%	-1.32 ± 0.71
2 treatments	48%	-1.23 ± 0.66
3 treatments	15%	-1.08 ± 0.68
4 treatments	5%	-1.07 ± 0.61

This study also demonstrated that the therapeutic regimens prescribed were efficacious (acne improved for 77% of patients (reduction of one grade or more at the second visit) (Table 3) and generally well tolerated, although these regimens are somewhat complex and differ from country to country (Table 2). Differences seen between eastern and western dermatologist's prescriptions were perhaps due to educational reasons, GDP level or problem of reimbursement.

These data highlight certain points that contradict the published recommendations [5, 6], indicating that dermatologists should not use antibiotics alone and that it is necessary to favour topical treatments with a single application a day to ensure patients use the treatment

regularly. The development of bacteriological resistance and ensuing recommendations from health authorities limited the use of local and systematic antibiotics, favouring their use within the framework of combined therapy regimens [7, 11], Nevertheless, we noted in 12% of cases (687 prescriptions) only one local or systematic antibiotic was prescribed.

Finally, this study confirms that dermatologists prescribe dermocosmetic skincare as an integral part of acne management. A dermocosmetic product was prescribed alone for 44% of the patients with very mild acne, 18% of the patients with mild acne and 6% of patients with moderate acne. In 94% of cases, the dermatologists preferred to associate a dermocosmetic with their drug treatment to improve the tolerance of treatments, for patient comfort whilst maintaining and/or strengthening the overall efficacy of the regimen.

In conclusion, this study shows that European dermatologists frequently prescribe several treatments for acne, which is unfavourable for observance particularly for young patients with acne. Furthermore, in spite of published recommendations, local or systematic antibiotics are still often prescribed alone. Finally, a dermocosmetic product can be associated with prescription treatment, and may even provide good results in managing mild acne.

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