Table II. Comparison of sunscreens with and without tanning and bronzing advertised in compliance with AAD recommendations

Category		Sunscreens with tanning or bronzing on primary display, (%)	Sunscreens without tanning or bronzing on primary display, (%)	*P* value
Walmart	Products with SPF ≥30	20	96.4	<.01*
	Products with broad-spectrum coverage	80	98.5	.062
	Products with water resistance (40-80 min)	90	97.1	.471
	Products meeting all 3 AAD recommendations	20	93.8	<.01*
	P value (sunscreens meeting all 3 AAD recommendations in 2020 compared with 2017)	.818	.003*	
Walgreens	Products with SPF ≥30	28.6	93.8	<.01*
	Products with broad-spectrum coverage	100	100	1
	Products with water resistance (40-80 min)	100	99.3	.943
	Products meeting all 3 AAD recommendations	57.1	93.8	<.01*
	P value (sunscreens meeting all 3 AAD recommendations in 2020 compared with 2017)	<.01*	.033*	

AAD, American Academy of Dermatology; *SPF*, sun protection factor.
*Signifies statistically significant increase in sunscreens available in 2020 compared with 2017. Statistical significance determined as $P < .05$ with the χ^2 test.

adherence for bronzing and tanning products, which showed no consistent improvement in adherence since 2017 (Table II). This is because of significantly less product labeling of SPF compared with non-bronzing products ($P < .01$ and $P < .01$). Patients should be advised that sunscreens with tanning or bronzing features are significantly less likely to meet AAD recommendations and therefore may not provide adequate photoprotection.

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Adverse effects of low-dose oral minoxidil for androgenetic alopecia in 435 patients

To the Editor: There is a growing interest in using low-dose oral minoxidil (LDOM) for the treatment of androgenetic alopecia (AGA). Nevertheless, tolerability and adverse effects (AEs) are still a concern.[1,2] We evaluated the AEs of LDOM (≤5 mg/d) in AGA treatment and correlated them to the dose, weight, sex, and skin color.

We reviewed all patients who were prescribed LDOM for AGA from January 2017 to May 2020 at 3 hair clinics in Brazil. Of 669 patients who were invited to participate, 435 (65%) completed a telephone interview regarding possible AEs (Supplemental Methods, available via Mendeley at https://data.mendeley.com/datasets/zhd6nxr92m/1).

The main treatment-related data are reported in Table I. Hypertrichosis was the most common AE, reported by 55.4% of patients (Table II). In men, it was associated with younger age (odds ratio for age, 0.97; $P = .022$), and with the dose/weight (odds ratio for dose, 1.03; $P < .001$) (Supplemental Tables I and II). Among those who reported hypertrichosis, 68.9% mentioned it in up to 2 body areas, and just 3 men (1.4%) perceived it as generalized. Topographic patterns of hypertrichosis are displayed in Supplemental Fig 1. There was co-occurrence of lower limbs-pubis, forehead-eyelashes, and back-chest.

Hair shedding at treatment onset occurred in 32% of patients; it was not associated with immediately previous use of 5% topical minoxidil ($P = .620$). In men, it was associated with younger age (odds ratio for age, 0.95; $P = .002$), but not in women ($P = .227$). Five patients (1.1%) reported generalized edema, including the face: 3 were women using 1 mg, and the men were using 2.5 and 5 mg. AEs were not associated with the length of medication use or skin color ($P > .05$). Treatment was stopped in 35 patients (8.0%; 95% confidence interval, 5.5%-10.6%) due to lack of efficacy (n = 13), hypertrichosis (n = 7), edema (n = 6), fear of interaction with other drugs (n = 3), desire to get pregnant (n = 3), and hair shedding (n = 3).

Our cohort had higher rates of hypertrichosis (55% vs 24%) and edema (6% vs 2%) than previous studies.[3] Other symptoms, such as headaches (9%), insomnia (7%), and nightmares (2%), were also reported. This could be explained due to the active questioning of possible AEs instead of a passive recording of spontaneous complaints. Moreover, most of the previous studies with LDOM aimed to evaluate its efficacy, so only patients who completed at least 6 months of treatment were assessed. The absence of an evaluation of patients who prematurely stopped

Table I. Main demographic and treatment-related data of the sample (N = 435)

Variables	Female	Male	Total	*P* value*
Sample, No. (%)	215 (49)	220 (51)	435 (100)	…
Age mean (SD), y	43.7 (13.0)	38.0 (11.3)	40.8 (12.5)	**<.001**
Skin color, No. (%)				
White	185 (86)	189 (86)	374 (86)	.967
Non-White	30 (14)	31 (14)	61 (14)	
Body weight, mean (SD), kg	66.4 (11.5)	82.8 (12.9)	74.7 (14.7)	**<.001**
Body mass index, mean (SD), kg/m^2	24.9 (4.3)	26.6 (3.5)	25.7 (4.0)	**<.001**
Comorbidities, No. (%)				
Heart disease	1 (1)	0 (0)	1 (1)	.494
Hypertension	21 (10)	13 (6)	34 (8)	.155
Renal disease	0 (0)	0 (0)	0 (0)	…
Diabetes	13 (6)	5 (2)	18 (4)	.056
Postmenopausal FPHL, No. (%)†	48 (22)	…	48 (22)	…
Length of use, mean (SD), mo	7.5 (6.8)	5.9 (3.8)	6.7 (5.5)	**.003**
Time of intake, No. (%)				
Morning	70 (32)	57 (26)	127 (29)	.190
Afternoon	10 (5)	7 (3)	17 (3)	
Night	135 (63)	156 (71)	291 (70)	
Minoxidil dosage (mg/d), No. (%)				
≤0.5	4 (2)	0 (0)	4 (1)	**<.001**
0.6-1.0	195 (91)	22 (10)	217 (50)	
1.1-1.5	5 (2)	1 (1)	6 (1)	
1.6-2.5	11 (5)	106 (48)	117 (27)	
2.6-5.0	0 (-)	91 (41)	91 (21)	
Dosage per weight, mean (SD), mg/kg/d	0.016 (0.005)	0.041 (0.019)	0.029 (0.019)	**<.001**
Topical minoxidil 5% previously, No.(%)	86 (40)	130 (59)	216 (50)	**<.001**
Reported hypertrichosis, No. (%)‡	56 (65)	64 (49)	120 (56)	**.021**
LDOM discontinuation, No. (%)	27 (13)	8 (4)	35 (8)	**<.001**
Time since LDOM discontinuing, mean (SD), mo§	4 (3)	5 (3)	4 (3)	.106

FPHL, Female-pattern hair loss; *LDOM*, low-dose oral minoxidil; *No.*, number; *SD*, standard deviation.
*Bivariate analysis. Bold *P* values are statistically significant ($P < .05$).
†Among women (n = 215).
‡Hypertrichosis in those who used topical minoxidil (n = 216).
§Among those who discontinued LDOM (n = 35).

Table II. Adverse effects according to sex (N = 435)

Variables	Female	Male	Total	95% CI*	*P* value†
Hypertrichosis, No. (%)					
Any	117 (54)	124 (56)	241 (55)	51-60	.683
Beard/mustache	72 (34)	80 (36)	152 (35)	31-39	.529
Sideburns	66 (31)	52 (24)	118 (27)	23-31	.097
Eyebrows	48 (22)	45 (21)	93 (21)	18-24	.634
Upper limbs	45 (21)	49 (22)	94 (22)	18-25	.734
Lower limbs	41 (19)	35 (16)	76 (18)	14-21	.385
Forehead	42 (20)	26 (12)	68 (16)	13-18%	**.026**
Back	9 (4)	47 (21)	56 (13)	10-16%	**<.001**
Chest	1 (1)	49 (22)	50 (12)	9-14%	**<.001**
Pubis	30 (14)	15 (7)	45 (10)	8-13%	**.014**
Eyelashes	18 (8)	20 (9)	38 (9)	7-11%	.791
Headache, No. (%)	22 (10)	17 (8)	39 (9)	7-12	.360
Insomnia, No. (%)	14 (7)	15 (7)	29 (7)	5-9	.898
Edema (lower limbs), No. (%)	19 (9)	6 (3)	25 (6)	4-8	**.005**
Dizziness, No. (%)	15 (7)	7 (3)	22 (5)	3-7	.068
Palpitation, No. (%)	8 (4)	8 (4)	16 (4)	2-5	.963
Nightmares, No. (%)	5 (2)	4 (2)	9 (2)	1-3	.710
Increased appetite, No. (%)	5 (2)	3 (1)	8 (2)	1-3	.453
Facial edema, No. (%)	2 (1)	3 (1)	5 (1)	0-2	.670
Indigestion, No. (%)	2 (1)	1 (1)	3 (1)	0-1	.545
Syncope, No. (%)	0 (-)	1 (1)	1 (-)	0-1	.243
Dry mouth, No. (%)	0 (-)	1 (1)	1 (-)	0-1	.243
Hair shedding, No. (%)	95 (44)	45 (21)	140 (32)	28-36	**<.001**
Duration of shedding, mean (SD), mo‡	1.6 (1.0)	1.4 (0.8)	1.5 (1.0)	1.4-1.7	.234

CI, Confidence interval; *No.*, number; *SD*, standard deviation.
*95% CI calculated by bootstrap (10,000 resamples) using bias-corrected and accelerated.
†Bold *P* values are statistically significant ($P < .05$).
‡Among those who reported hair shedding (n = 140).

the medication due to adverse effects could also explain these differences.

Temporary hair shedding at the beginning of the treatment occurred in up to 17.5% of patients using topical minoxidil.[4] In this series, the frequency of hair shedding was higher (32%).

The only AEs associated with dose/weight were hypertrichosis in men and headache in women (Supplemental Tables I and II). The understanding of differences in dose/weight could optimize treatment in nonstandard patients (obese/very thin) as well as in children/adolescents.[5]

This study's main limitations are its retrospective design, selection bias, and the lack of blood pressure, electrocardiogram, and heart rate assessment.

In summary, LDOM is a relatively well-tolerated option for AGA, but patients should be advised of the risk of hypertrichosis, headache, insomnia, edema, dizziness, and other AEs.

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Association of private equity ownership with increased employment of advanced practice professionals in outpatient dermatology offices

To the Editor: The recent trend of private equity investment in dermatology groups has been met with controversy.[1-3] One concern is that private equity–backed groups may hire more advanced practice professionals (nurse practitioners and physician assistants) per office because of lesser compensation than physicians. However, although advanced practice professionals often have broad scopes of practice,[4] they receive various training levels, with evidence suggesting lower accuracy in diagnosing skin cancer compared with physicians.[5]

We aimed to evaluate whether ownership by private equity–backed groups had association with advanced practice professional employment by these practices compared with independently owned practices.

This study was institutional review board exempt. We queried databases (Capital IQ, CB Insights, Zephyr, ThomsonONE, PitchBook, and Factiva) and press releases to identify dermatology practices acquired by private equity–backed groups from May 2012 to November 2018 (private equity ownership for >1 year); 100 of these 229 practices were selected for comparison using a Microsoft Excel (Redmond, WA, USA) random-number generator (RANDBETWEEN).

We identified independent private practices for comparison by using the Medicare Physician and Other Supplier National Provider Identifier Aggregate Report, a database listing providers submitting Medicare Part B noninstitutional claims from 2012-2017. A random sample of 100 dermatology providers was selected, and Google search (provider name + "dermatologist") identified private practice employers of providers.

The number of providers employed was determined via practice website or, when not available, by calling the practice directly. The 2017 American Community Survey 5-Year Estimates were used to identify zip code sociodemographic data for offices. Offices were grouped into geographic regions based on official US Census Bureau categorization.

Sociodemographic data and provider counts were compared with Wilcoxon rank sum tests. $P < .05$ was considered significant. Analysis was performed with Stata/IC (version 15.0).

Private equity–owned and independent practices were located in zip codes with similar mean household income (mean $102,452 [standard deviation {SD} $46,629] for private equity–owned practices vs $101,091 [SD $45,522] for independent practices; z score = −0.32; $P = .75$) and population (mean 33,071 [SD 13,866] vs 33,458 [SD 17,283]; $z = -0.08$; $P = .93$) (Table I). Private equity–owned practices employed more total providers (4.23 [SD 2.49] vs 3.12 [SD 2.06]; $z = -3.57$; $P < .001$), physicians (2.54 [SD 1.49] vs 2.17 [SD 1.49]; $z = -2.24$; $P = .03$), advanced practice professionals (1.69 [SD 1.75] vs 0.95 [SD 1.13]; $z = -3.56$; $P = .01$), and advanced practice professionals per physician (0.83 [SD 0.86] vs 0.56 [SD 0.79]; $z = -2.77$; $P = .01$) per clinic compared with independent practices.

Our results demonstrate that, compared with a group of independent practices with similar underlying sociodemographic features, private equity–backed dermatology practices employ both a greater number of advanced practice professionals and a higher ratio of advanced practice professionals to physicians (though still less than 1).

Limitations include sample size, overrepresentation of private equity–backed groups with greater acquisition transparency, and geographic representation differences. In addition, our study does not capture qualitative practice supervision differences; state models of advanced practice professional oversight vary. Finally, although we demonstrate private equity–owned practices' association with greater advanced practice professional employment, this shows only correlation, not causation. We limited study to private equity–backed practices with