promoting businesses, organizations, journals, and especially private practices and personal brands. A recent *JAAD* article examined the ethics of self-promotion on Instagram.[3]

The @globaldermie account, started in 2016 and now with more than 12,000 followers, uses Instagram exclusively for dermatology education. The account features unusual or advanced presentations of dermatologic diseases from multiple countries. The format of @globaldermie consists of a post with a clinical photo and brief history for a patient case, followed-up 1 day later with a reveal of the diagnosis, more photos, and discussion. Followers have approximately 24 hours to comment on the first post with their suspected diagnoses or differential diagnosis, or both.

This survey study sought to understand the acceptability and use of @globaldermie as a model Instagram platform for dermatologic education. The anonymous online survey was advertised in the @globaldermie Instagram bio and posts and made available July 18-24, 2019; the site was closed after 1 week. We asked questions regarding demographics, location of the followers, and opinions on the @globaldermie account. During analysis, 2 authors (J.Y.C. and S.C.C.) independently looked for common themes under the free-text response, asking for a personal opinion on the way @globaldermie conducts educational posts.

Of the 543 people who responded to the survey (Table I), 83% were women and 0.9% identified as other/transgender. The average age was 32.7 (standard deviation, 8.2) years, and 57.9% identified as white or Caucasian, 14.3% as Hispanic or Latino, and 13.9% as Asian. Respondents hailed from every continent except Antarctica, with more than 65 countries represented, and 55.6% had or were pursuing a postgraduate degree. The most represented profession that followed @globaldermie was dermatology at 30.5%, with 13.6% of them physicians and 16.9% trainees.

The 2 main themes found in the free-text response were "informative way of communication" and "unique cases/rare diseases." The respondents were of 2 main opinions regarding the format of the account: most enjoyed the current format, whereas others wished for the reveal to be immediately posted in the caption.

One limitation of the study is the use of an open survey, which does not allow for insight into the demographics of the larger follower population.

Our study suggests that dermatology Instagram accounts are a viable way of educating a large audience around the globe, particularly on unusual presentations. The data also suggest that other accounts should mimic @globaldermie by revealing the diagnosis the day after the post. Although an overwhelming number of respondents indicated that @globaldermie was an informative tool, we were particularly struck by one respondent's answer: "it helped me maintain my motivation and solidify my decision to pursue a residency in dermatology."

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REFERENCES

1. Gardner JM, McKee PH. Social media use for pathologists of all ages. *Arch Pathol Lab Med*. 2019;143(3):282-286.
2. Jackson D. *Instagram vs Facebook: which is best for your brand's strategy?* Sprout Social.. Available at: https://sproutsocial.com/insights/instagram-vs-facebook/. Accessed December 21, 2019.
3. Zhou J, Bercovitch L. Instagram and the dermatologist: an ethical analysis. *J Am Acad Dermatol*. 2018;78(6):1226-1228.

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Efficacy and safety of microneedling and oral tranexamic acid in the treatment of facial melasma in women: An open, evaluator-blinded, randomized clinical trial

To the Editor: The standard treatment for melasma comprises the combination of broad-spectrum sunscreen and topical bleaching agents.[1] Nevertheless, melasma can be recalcitrant to therapy, and relapses are common.

Oral tranexamic acid (TA) and microneedling have been demonstrated to be effective for

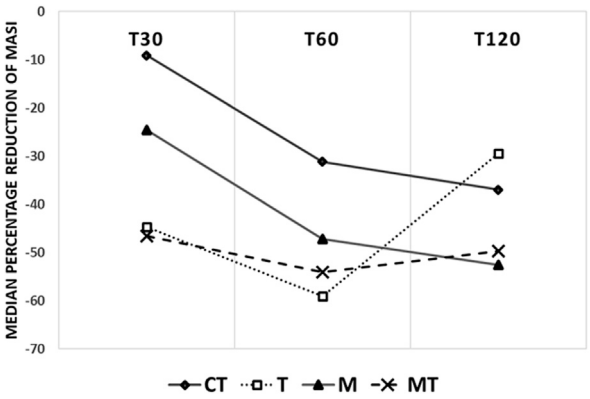

Fig 1. Median percentage reduction of modified Melasma Area Severity Index (*MASI*) score for the control (*CT*), tranexamic acid (*T*), microneedling (*M*), and microneedling + tranexamic acid (*MT*) groups within the intervention at 30 (*T30*) and 60 (*T60*) days and at the maintenance assessment at 120 days (*T120*).

melasma.[2,3] To date, there is no comparison on the efficacy of TA and microneedling as adjuvants to the standard treatment.

We performed a randomized comparative study of TA and microneedling for the treatment of melasma at two dermatologic centers between February and September 2018 (Registro Brasileiro de Ensaios Clínicos, ensaiosclinicos.gov.br; Identifier: RBR-23snwx). The study protocol randomly assigned 64 women (aged >18 years) with facial melasma, without treatment for 1 month, to 4 groups. The M group underwent 2 sessions (at inclusion and after 30 days) of gentle microneedling (1.5 mm) under topical anesthesia and took placebo orally, twice daily, for 60 days.[4] The T group received oral TA, 250 mg capsules, twice daily for 60 days. The MT group received both oral TA and 2 sessions of microneedling. The CT group received no microneedling and took a placebo for 60 days.

All participants were required to use broad-spectrum sunscreen (sun protection factor 50) during the day and triple-combination cream (Tri-Luma; Galderma Laboratories, LP, Ft Worth, TX) at night, in combination with the interventions for 60 days (T60), followed by maintenance though day 120 (T120). They were assessed for the risk of thrombosis before enrollment.

The primary end point was the Modified Melasma Area Severity Index (mMASI) score at 30 days (T30), T60, and T120, assessed by a blinded evaluator. Quality of life (Melasma Quality of Life Scale) and the difference between colorimetric luminosity (*L) from perilesional skin to the melasma (DifL) were also evaluated.

An intention-to-treat analysis was performed. Sample size was calculated to detect a >20% mMASI difference among the groups.

The groups did not differ regarding baseline demographics, mMASI, Melasma Quality of Life Scale, and *L ($P > .1$). There was 1 dropout (CT group at T120) unrelated to treatment adverse effects.

All groups showed a reduction in the mMASI at T30 and T60 (Fig 1 and Table I). Notwithstanding, the MT and T groups showed early (T30) improvement superior to the CT group ($P < .03$). At T60, the M, T, and MT groups performed better than the CT group ($P < .05$). There was no superiority in the MT group compared with the M and T groups ($P > .1$). At the maintenance follow-up (T120), the T group performed worse than the CT group ($P = .04$). In addition, there was no difference between the M and MT groups ($P = .47$).

All groups showed improvements in quality of life scores, but the M and MT groups presented early (T30) results (Table I). The DifL analysis revealed an early decrease in the MT group but revealed the superiority of the T, M, and MT groups over the CT group at T60.

The adverse effects among those who took oral TA were nausea, abdominal pain, hair loss, and blurred vision. One patient had to stop oral TA due to persistent headache. One episode of herpes simplex occurred in 3 patients after microneedling, and they were treated with acyclovir.

Microneedling and TA both improved the performance of the triple-combination cream, with a safe profile and well-tolerated adverse effects. The interventions that used microneedling seemed to promote a lower relapse.

TA and microneedling act in different pathways that lead to improvements in melasma. Both contribute to an early clinical response, while microneedling provides sustained remission over the standard therapy.[3,5] Different regimens of microneedling and TA should be explored to maximize their benefits.

We acknowledge Vichy for providing the sunscreens, Galderma for Tri-Luma, MTO for importing Dr Roller's devices to Brazil, Ache for the anesthetic Dermomax, and Galena for the tranexamic acid and placebo capsules.

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Table I. Median (interquartile range) of the main outcomes of the study (n = 64)

Outcome	CT	T	M	MT
mMASI				
T0	3.6 (4.2)	5.0 (5.3)	6.5 (4.2)	5.4 (8.1)
T30	4.0 (4.7)	3.1 (2.1)*	4.4 (3.0)	2.2 (3.1)*
T60	3.2 (4.0)	1.8 (2.0)*	3.5 (2.6)	2.6 (2.5)*
T120	2.9 (3.5)	2.9 (2.7)*	3.4 (2.9)	2.7 (3.6)
MELASQoL				
T0	60.0 (21.0)	56.0 (11.5)	49.0 (24.5)	52.5 (26.5)
T30	46.0 (19.0)	43.5 (17.5)*,†	34.5 (26.5)*	28.0 (39.0)*
T60	41.0 (32.5)	32.5 (20.5)*	20.0 (20.0)	10.0 (8.5)
T120	40.0 (45.5)	30.5 (16.0)†	19.0 (13.0)	13.0 (16.5)
DifL				
T0	18.0 (18.1)	16.8 (13.9)	15.4 (20.1)	15.7 (13.0)
T30	16.2 (18.8)	13.7 (12.0)	15.7 (22.6)	12.9 (14.6)*
T60	13.7 (15.4)	13.0 (13.6)*,†	14.3 (23.1)*	12.1 (14.6)*
T120	13.0 (3.2)	14.6 (4.4)	12.6 (2.7)	12.3 (2.6)

CT, Control; *DifL*, difference between colorimetric luminosity (*L) from perilesional skin to melasma; *M*, microneedling; *MELASQoL*, Melasma Quality of Life Scale; *mMASI*, modified Melasma Area Severity Index; *MT*, microneedling + tranexamic acid; *T*, tranexamic acid; *T0*, baseline; *T30*, 30 days; *T60*, 60 days; *T120*, 120 days.
*$P \leq .05$ compared with CT by analysis of covariance.
†$P \leq .05$ compared with MT by analysis of covariance.

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REFERENCES

1. Sheth VM, Pandya AG. Melasma: a comprehensive update: part II. *J Am Acad Dermatol*. 2011;65:699-714.
2. Del Rosario E, Florez-Pollack S, Zapata L Jr, et al. Randomized, placebo-controlled, double-blind study of oral tranexamic acid in the treatment of moderate-to-severe melasma. *J Am Acad Dermatol*. 2018;78:363-369.
3. Lima EVA, Lima M, Paixao MP, Miot HA. Assessment of the effects of skin microneedling as adjuvant therapy for facial melasma: a pilot study. *BMC Dermatol*. 2017;17:14.
4. Lima Ede A. Microneedling in facial recalcitrant melasma: report of a series of 22 cases. *An Bras Dermatol*. 2015;90:919-921.
5. Esposito ACC, Brianezi G, de Souza NP, Miot LDB, Marques MEA, Miot HA. Exploring pathways for sustained melanogenesis in facial melasma: an immunofluorescence study. *Int J Cosmet Sci*. 2018;40:420-424.

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Dermatologist burnout: Contribution of gender and impact of children

To the Editor: Physicians are twice as likely to experience burnout compared with the general working population, and dermatologists have the fastest growing rate of burnout.[1] Women physicians experience more burnout than men, with burnout in women triggered by emotional exhaustion, while depersonalization affects men.[2]

We distributed an anonymous electronic survey to dermatologists using a combination of the Association of Professors of Dermatology email list manager and personal contacts within academic institutions from June 11, 2019, to July 25, 2019. The survey included the Maslach Burnout Inventory Human Services Survey for Medical Professionals (MBI-HSS MP), a validated