

# Understanding the Female African American Facial Aesthetic Patient

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## ABSTRACT

**Background:** The patient populations seeking facial aesthetic treatments is expanding in terms of racial, ethnic, and cultural diversity. While treatment of facial aging patterns among white women is well-documented, far less information describes the aesthetic needs of the African American patient.

**Objective:** An online study was conducted to survey facial aesthetic concerns and treatment priorities among US-based population of African American women.

**Materials and Methods:** A total of 401 female African American participants ages 30 to 65 years reported their attitudes toward facial aging, current facial conditions, most bothersome facial areas and areas most/least likely to be treated first, awareness of treatment options and their consideration rates, and motives and barriers factoring into consideration of injectable treatments.

**Results:** Uneven skin tone/color (57%) and dark circles under the eyes (48%) were the most frequently-reported facial concerns. Other common bothersome facial areas affected by signs of aging were the submental area, periorbital area, forehead lines, and chin. Similarly, areas given greater priority with respect to future treatment included the periorbital area, submental area, and forehead lines. With advancing age, priorities heightened for the mid and lower facial areas, which included the nasolabial folds, chin, and oral commissures. Although the majority of participants would consider injectables, cost, and safety/side effects were cited as frequent concerns.

**Conclusion:** For African American women, concerns about facial aging may be less about fine lines and wrinkles caused by increasing skin laxity, and more about pigmentary concerns and shifts in underlying soft tissue volume.

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## INTRODUCTION

As the range of minimally invasive medical aesthetic treatments for facial rejuvenation has broadened over the past decade, so has their safety and applicability across a wider spectrum of skin types. Concurrently, demographic shifts in the U.S. and internationally have increased the racial and ethnic diversity of patient populations seeking aesthetic treatments. Over the past decade, the number of African American/Black patients receiving cosmetic procedures in the US increased by 76%, and in 2017 represented the second-greatest proportion of non-white cosmetic patients (9%) after Hispanic/Latinos (11%).<sup>1,2</sup> Among aesthetic treatment options, there is an increasing trend toward minimally-invasive modalities (including injectable modalities) which has now grown to represent over 90% of all cosmetic procedures performed in the US.<sup>2</sup> In addition, there is a much stronger emphasis on maintaining naturalness and preservation of ethnic characteristics with procedural outcomes. Racial and ethnic differences in skin type and facial structure impact the rate of photoaging and patterns of facial aging and contribute to different aesthetic concerns.<sup>3-5,7</sup> Given that many published

treatment algorithms are focused predominantly on facial aging patterns seen in populations of European ancestry, there remains a need to explore the aesthetic concerns and needs of African American/Black patients which are influenced by their skin biology, skin care needs and common anatomical features.<sup>3-5</sup>

The demographic terms "African American or Black" used by the U.S. Census Bureau encompasses multiple ethnicities, and in addition to African and Afro-Caribbean origins, this demographic may also be represented by a mixture of African, European, and Native American ancestry.<sup>6</sup> Importantly, cultural influences also shape an individual's perceptions of beauty, attitudes toward preserving aesthetic appearance, and the readiness to seek out interventional treatments.<sup>7</sup> An understanding of not only the structural and cutaneous signs of aging but also treatment preferences and motivations reported by African Americans may help physicians in their selection of treatment plans focused on the goals and expectations of this patient population.

The current study was designed to survey the facial aesthetic concerns and treatment priorities among a population of African American women who were aesthetically-oriented but who have not undergone previous facial injectable treatments. The survey topics included: 1) attitudes toward signs of facial aging and current facial conditions; 2) facial areas that are most bothersome; 3) areas most/least likely considered a priority in a future aesthetic treatment plan; 4) awareness of available aesthetic treatments and their consideration rates; and 5) motives and barriers that impact consideration of injectable treatments. These results are a subset of a larger study consisting of 1205 women and included Hispanic/Latino American and Asian American participants.<sup>8</sup>

## METHODS

### Participants and Study Design

Participants were recruited through online river sampling (banner ads, pop-up ads, instant capture promotions) by the Lieberman Research Worldwide (LRW) agency between March and April 2016. Inclusion criteria were defined as 1) females aged 30 to 65 years of age living in the US; 2) aesthetically-oriented, assessed by level of agreement on an aesthetic orientation questionnaire; 3) household annual income >\$50,000 with some discretionary spending flexibility; 4) naïve to facial injectable treatment use; 5) aware of BOTOX® Cosmetic; and 6) considering a facial aesthetic treatment within the next 2 years.

Participant's Fitzpatrick Skin Phototype (FSP) were categorized as I through VI using a questionnaire adapted from the Skin Cancer Foundation website in combination with their selection of a color that most represented their natural skin tone from a range of 11 skin codes (colors).<sup>9-11</sup>

The study design and questionnaire format have been previously described.<sup>12</sup> Briefly, most bothersome facial areas and treatment priorities were assessed using a 15-point facial diagram (Figure 1) and a Maximum Difference (MaxDiff) ranking methodology was used to identify a "relative importance value" for each area.<sup>13</sup> An average value across all areas was established, and areas ranking above average indicated greater importance and were considered a higher treatment priority relative to those areas ranking below the average. A questionnaire format was used to capture attitudes toward improving facial aesthetics and existing concerns, awareness of aesthetic procedures and future treatment considerations, and motives and barriers impacting the consideration rate of injectable treatments.

### Data Analysis

Max Diff analyses and correlation analysis of bothersome areas and treatment priorities were conducted by the LRW agency and presented descriptively by percent or by average score.

## RESULTS

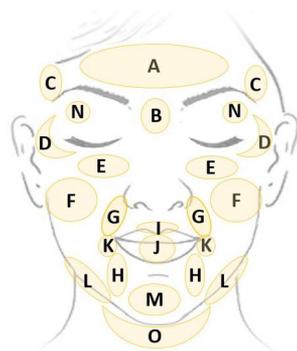
### Participants

A total of 401 African American participants were recruited for the online study. The majority were 45 to 65 years old (58%), FSP III or IV (78%), US-born (95%), married (63%), had a household income > \$75,000 (53%), typically spent < \$250/month on products or services for facial aesthetics (87%), and had not spent > \$250 on a single medical facial treatment (56%) (Table 1).

### Attitudes Toward Improving Facial Aesthetics and Existing Facial Concerns

Most participants agreed with wanting their face to look good for their age (92%), cared about improving their facial appearance

**FIGURE 1.** Diagram used to select most bothersome facial areas and treatment priorities.



- A. Forehead horizontal lines<sup>a</sup>
- B. Vertical brow lines<sup>b</sup>
- C. Temples
- D. Crow's feet (lines around the eyes)
- E. Under-eye/tear trough area
- F. Cheeks
- G. Nasolabial folds (lines between the nose and mouth)
- H. Marionette lines (lines between the lip and chin)
- I. Fine lip lines<sup>c</sup>
- J. Lips
- K. Lines at the corner of the mouth<sup>d</sup>
- L. Jawline
- M. Chin
- N. Short, thinning lashes
- O. Sagging underneath the chin/double chin

Note: <sup>a</sup>Forehead lines; <sup>b</sup>Glabellar lines; <sup>c</sup>Perioral lines; <sup>d</sup>Oral commissures.

Survey question: "Please indicate how bothered you are by the lines, wrinkles, and folds at each area on your face using a scale of 1 (not bothered at all) to 6 (very bothered)."

TABLE 1.

Participant Demographics	
Characteristic, Statistic	% Total Respondents (N = 401)
Age	
30 - 44	42
45 - 65	58
Fitzpatrick Skin Phototype	
I - II	4
III - IV	78
V - VI	18
US Region of Current Residence	
Northeast	15
South	53
Midwest	19
West	14
Born in the US	95
Marital Status	
Married	63
Single (Never Married)	18
Separated/Divorced/Widowed	19
Education	
Highschool or Less	4
Some College or College Graduate	64
Post Graduate	32
Annual Household Income	
Less than \$ 75,000	47
\$ 75,000 - \$ 150,000	44
\$ 150,000 or More	9
Monthly Spend on Products and Services for Facial Aesthetics*	
Less than \$ 250	87
\$ 250 or More	11
Maximum Spend on a Single Medical Facial Treatment	
Less than \$ 250	56
\$ 250 or More	44

\*2% preferred not to answer

(82%), and followed a daily skincare regimen (63%) (Figure 2). Most were interested in treatments that could address hyper/hypo-pigmentation (64%), treatments that would make them look less tired (63%), and treatments that addressed facial wrinkles and lines (50%). Uneven skin tone/color (57%) and dark circles under the eyes (48%) were the most frequently-reported facial concerns. Interestingly, only 33% reported being bothered by facial lines, wrinkles, and signs of aging (Figure 3).

### Most Bothersome Facial Areas

The most bothersome areas included sagging underneath the

chin/double chin (35%), under-eye/tear trough area (28%), crow's feet lines (CFLs) (21%), forehead lines (FHLs) (21%), and their chin (21%) (Figure 4). Following in descending order were, oral commissures (OCs) (20%), nasolabial folds (NLFs) (19%), glabellar lines (GLs) (18%), and marionette lines (MLs) (15%). Temples (13%), jawline (12%), perioral lines (11%), cheeks (11%), and lips (8%) were the least bothersome.

### Treatment Priorities

Relative importance scores across the facial areas ranged from 19 to 77 and tended to correlate with bothersome areas with the exception of short, thinning lashes ( $R^2 = .70$ , data not shown). For the younger group (ages 30 to 44), areas of the upper face were assigned the highest priorities and included the under-eye/tear trough (77) and CFLs (70) (Figure 5a). Other areas of high importance were sagging underneath the chin/double chin (66), FHLs (61), GLs (55), OCs (54), and NLFs (53). Mid-to-lower facial areas such as MLs (45), chin (44), jawline (38), and cheeks (36) were lower priorities. Perioral lines (29), temples (29), and lips (23) were the least likely to be prioritized for treatment. Among the older group (ages 45 to 65), sagging underneath the chin/double chin (75) and under-eye/tear trough (71) were the highest priorities (Figure 5b). Additional areas of high importance were CFLs (64) and FHLs (57), NLFs (54), chin (52), OCs (51), and GLs (50). Mid-to-lower facial areas such as jawline (48), MLs (44), and cheeks (40) were lower priorities. Temples (28), perioral lines (24), and lips (19) were the lowest priorities.

### Awareness of Treatment Options and Future Treatment

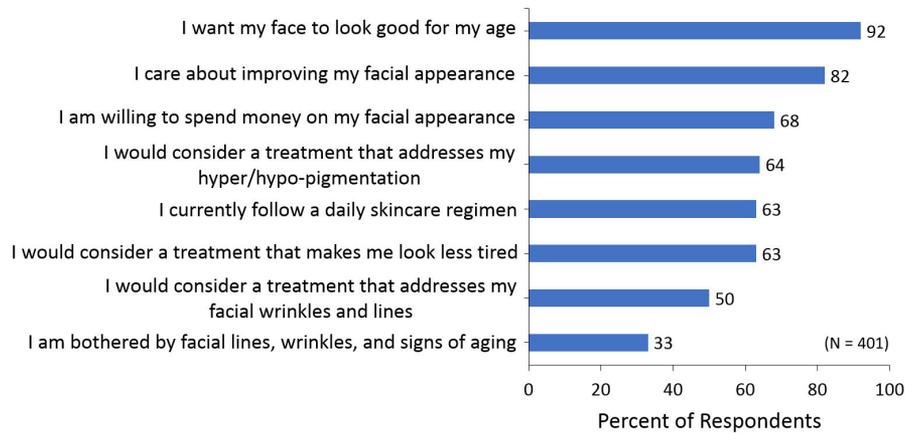
#### Consideration Rates

There was a high level of awareness of facial plastic surgery (95%) and liposuction (93%) as well as many minimally-invasive treatments or procedures used to enhance skin quality such as microdermabrasion (89%), chemical peels (88%), laser skin resurfacing (87%), and skin tightening procedures (85%) (Figure 6a). However, comparatively, the consideration rates for minimally-invasive treatments within the next 2 years were much higher (42 to 65%) than the surgical options (11 to 26%) (Figure 6b). All or most were aware of neuromodulators (100%), under chin fat reduction (78%) and dermal fillers (67%) which corresponded with 31%, 31%, and 17% consideration rates, respectively.

#### Motives and Barriers for Consideration of Injectable Treatments

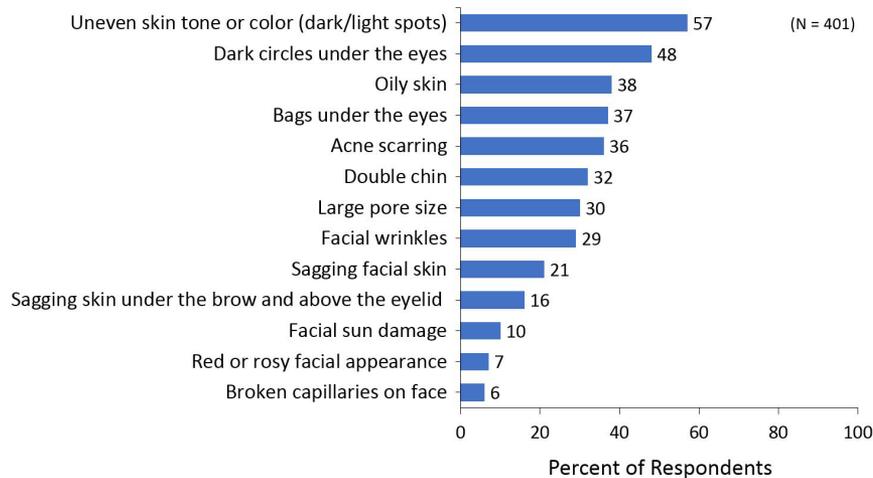
For those who would consider injectables (64%, 257/401), frequently cited motives were wanting their face to look good for their age (67%) and wanting to look more youthful (51%) (Figure 7). Twenty-seven percent would consider injectables because they agreed that there is more information available, and 24% agreed they had seen, read, or heard positives things about them. Less frequent motives were wanting to improve dating prospects or relationships (13%) and maintaining a competitive edge in the workforce (11%).

**FIGURE 2.** Attitudes toward improving facial aesthetics.



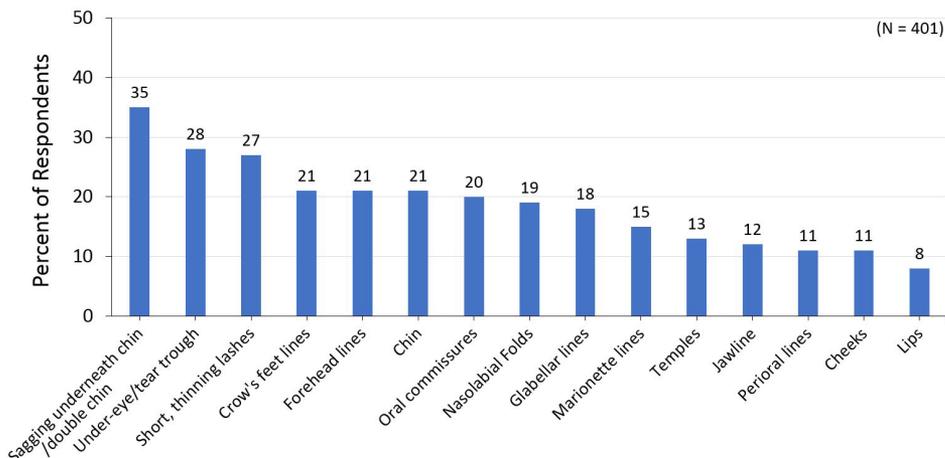
Note: Rating of 4, 5, or 6 defined as “agreement”. Rating of 4, 5, or 6 on any statement was considered “aesthetically-oriented”. Survey question: “How strongly do you agree with each statement on a scale of 1 (completely disagree) to 6 (completely agree)?”

**FIGURE 3.** Existing facial concerns.



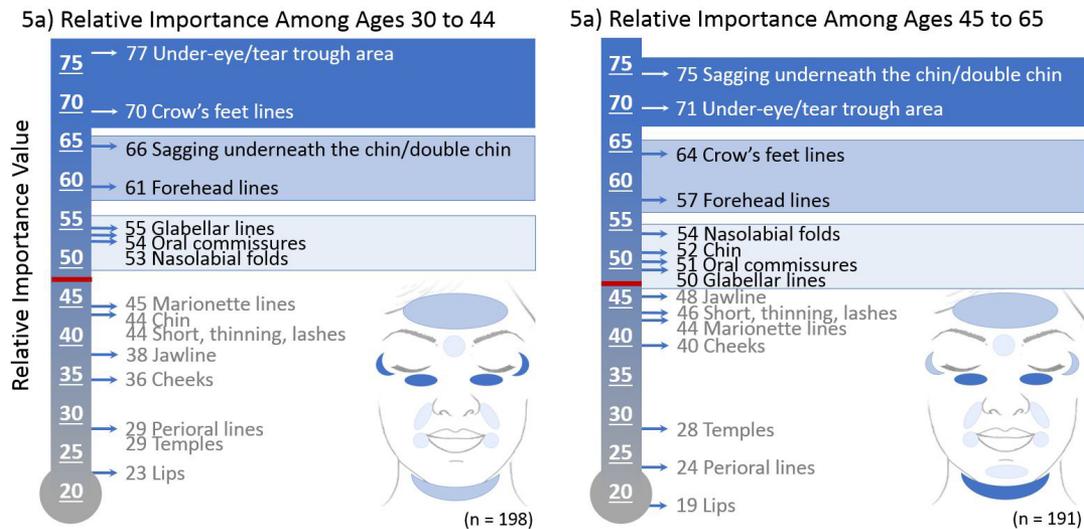
Survey question: “Would you consider talking to a physician about a treatment for any of the following within the next 2 years?”

**FIGURE 4.** Most bothersome facial areas.



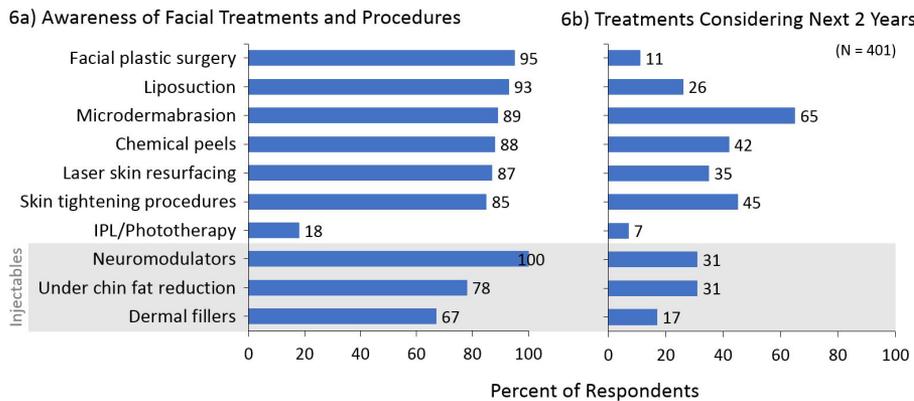
Survey question: “Please indicate how bothered you are, if at all, by the lines, wrinkles, and folds at each area on your face using a scale of 1 (not bothered at all) to 6 (very bothered)?”

**FIGURE 5.** Treatment priorities based on the relative importance of each facial area.



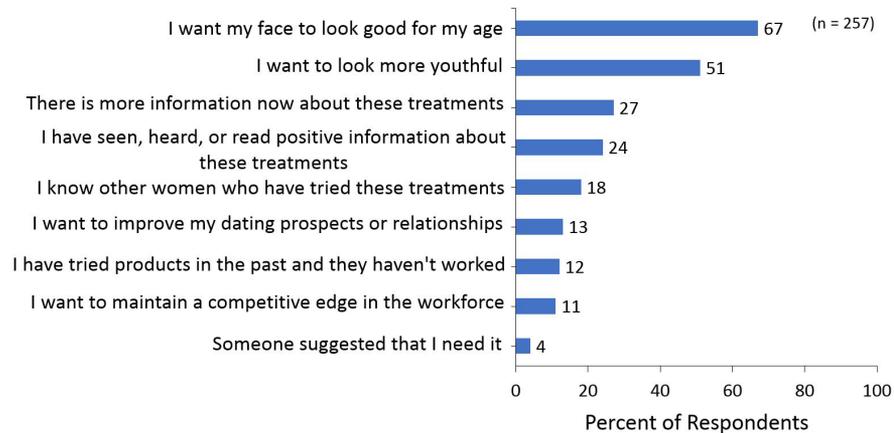
Note: Red bar indicates average performance value. Areas ranking higher than the average were designated as having greater relative importance. Survey question: "Please indicate which of the following facial features you would most and least like to have treated first."

**FIGURE 6.** Awareness of treatments and treatments considered within the next two years.

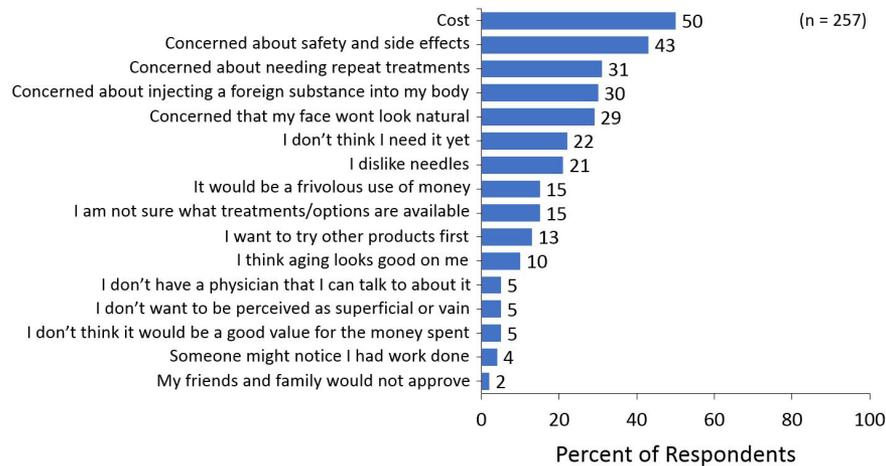


Abbrev: IPL, intense pulsed light laser. Note: Neuromodulators included Onabotulinumtoxin A (BOTOX®), Abobotulinumtoxin A (Dysport®), and Incobotulinumtoxin A (Xeomin®). Survey question 6a) "Which treatments that are administered in a physician's office have you ever heard of?" Survey question 6b) "Which facial treatments that are administered in a physician's office would you consider within the next 2 years?"

**FIGURE 7.** Motives for treatment among those who would consider facial injectables.



Survey question: "Which of the following describes why you would consider a facial injectable treatment for facial lines, wrinkles, and folds in the next 2 years?"

**FIGURE 8.** Barriers to treatment among those who would consider facial injectables.

Survey question: "Which of the following are the top 3 reasons why you would consider a facial injectable treatment for facial lines, wrinkles, and folds but have never tried it before?"

**FIGURE 9.** Facial rejuvenation using injectable treatment with a patient representative of a 45 to 65-year-old age range. Left, pre-treatment. Center, treatment diagram showing the placement of hyaluronic acid filler (yellow) (0.5 mL total) for the nasal bridge, (1.1 mL total) for tear troughs and lateral periorbital area, (3.0 mL total) for cheek and midface area, and (1.0 mL total) for mentum. Right, approximately 6 weeks post-treatment. Patient photos courtesy of Dr. C Boyd.



The top 3 barriers for not having tried injectable treatments yet were cost (50%), concerns about safety and side effects (43%), and concerns about starting a treatment that they would need to continually repeat (31%) (Figure 8). Among the 36% who would not consider injectables, the top 3 reasons were concerns about safety and side effects (59%), concerns about injecting a foreign substance into their body (53%), and 35% agreed that they did not think they needed it yet (data not shown).

## DISCUSSION

Facial aging is influenced by both extrinsic and intrinsic factors, but the rate and severity of their impacts can vary based on skin type, race, culture, and ethnicity.<sup>3-5,14</sup> The degree to which an individual is bothered by the signs of facial aging is also influenced by their social and cultural ideals of beauty, and measures taken to improve facial aesthetics may also depend on awareness/perception of available treatment options. In this survey of 401 African American women aged 30 to 65, common aesthetic concerns, treatment priorities, and treatment awareness/perception were evaluated.

### Attitudes Toward Improving Facial Aesthetics

Participants' attitudes about facial aesthetics trended with their current skin conditions. Notably, a high proportion considered treatments that would address hyper/hypo-pigmentation (64%), and treatments that could make them look less tired (63%); correspondingly, a majority also reported having uneven skin tone/color (57%) and dark circles (48%) and bags under the eyes (37%). This data was somewhat expected and agreed with other studies citing dyschromia and hyperpigmentation as a predominant reason for seeking dermatologic care among African Americans.<sup>15,16</sup> While the greater melanin production of more darkly pigmented skin does afford greater protection from UVR-induced fine lines and wrinkles it also increases an individual's risk of developing pigmentary disorders such as mottled pigmentation, melasma, and PIH.<sup>15-18</sup>

### Most Bothersome Facial Areas and Treatment Priorities

In general, there was a trend toward more bothersome facial areas correlating with higher relative importance. However, short, thinning lashes, which were bothersome yet judged less

important, was interpreted as an area easily enhanced with cosmetics versus areas that are more structural in nature and may not have cosmetic solutions. Among all participants, the 2 primary structural areas that were most bothersome were sagging underneath the chin/double chin and the under-eye/tear trough, followed by other areas of the upper face (CFLs, FHLs, GLs) and areas of the mid and lower face (chin, OCs, and NLFs) to a lesser degree.

For the younger group (ages 30 to 44), the under-eye/tear trough and CFLs were the top 2 priorities. The periocular area has been suggested as a common concern among African American women, primarily due to age-related changes in the position of the lateral canthal angle complex which contributes to rounding of the lateral canthi, increased laxity of the lower eyelid, increased scleral show, and infraorbital shadowing.<sup>19,20</sup> While under-eye/tear trough was a top treatment priority for both 30 to 44 and 45 to 65 age groups, sagging underneath the chin /double chin took precedence over other areas among the older age cohort. In addition, NLFs and the chin were elevated in priority for this group. An elevation in priorities for the lower midface is somewhat expected as it reflects the increasing structural changes and midface ptosis that accompanies aging. In agreement with observations previously reported among African American women, the primary signs of facial aging tend to be more associated with gravity-induced soft tissue redistribution of the midface and submental area opposed to fine lines and wrinkles of the upper face that women with lighter skin phototypes report first.<sup>5,14,20</sup>

Midface ptosis and volume loss play a pivotal role in the effects of facial aging, and because its structural integrity supports numerous adjoining tissues. The lower eyelid complex is the "roof" of the midface and therefore the results of aging that affect midface concomitantly affect the under-eye area.<sup>21</sup>

For both groups (ages 30 to 44 and 45 to 65), the under-eye/tear trough was selected a higher priority than CFLs. This also agrees with previously reported aesthetic concerns common among African American women, who only report moderate-to-severe CFLs 1 to 2 decades later than age-matched white women.<sup>5</sup> While these observations highlight the under-eye area as a key treatment area for this patient population, it's important to note that participants were not given the option to differentiate between "under-eye" and "tear trough". In the absence of a tear trough, under-eye issues may be due to dark circles which involve a vascular or pigmentary etiology.<sup>22</sup>

An underlying anatomical theme for the midface in this patient population may also include a negative corneal vector attributable to a hypoplastic malar eminence.<sup>14,20</sup> With age-related gravitational descent of a prominent malar fat pad paired with a tendency for orbital fat pad pseudo-herniation,

the tear trough is exposed, surface shadowing becomes more obvious, and deepening of the NLF occurs.<sup>14,20,21</sup> Amplifying these structural changes, is the contribution of a thicker skin (likely from less photoaging related atrophy in black skin) as it becomes more redundant with aging.<sup>14,20,23</sup>

The increase in priority for the submental area also agrees with previously observed aging patterns reported among African American patients, of which, signs of aging in the lower face were less pronounced (less jowling) except for the submental area.<sup>14</sup> As laxity of the platysma increases and subplatysmal fat descends, the added consequence of a thicker, heavier skin overlying this area exacerbates the effect of blunting of the cervicomental angle.<sup>20</sup> This is opposed to the lower facial aging of white women, in which the soft tissue descent is accompanied by more skin laxity and more distinct jowling.<sup>20,23</sup> In addition, the softening of the cervicomental angle may be worsened by age-related resorption of the mandible.<sup>24</sup>

Here again, it is important to note that participants were not given the option to select between "sagging underneath the chin" or "double chin." A higher body mass index (BMI), which was not assessed here, plays more of a role in excess submental fat (double chin) as opposed to submental skin laxity or sagging. And may be the basis for the results observed here since "double chin" was reported as an existing condition by 32% while "sagging facial skin" was only reported by 21% of participants.

The mid-to-lower facial areas (MLs, jawline, and cheeks) that were lower priorities but did increase in importance for the older group may reflect that these areas benefit from a thicker skin type with greater integrity which may mask the effect of the structural changes occurring. Areas ranked relatively low in bothersomeness and priority by both groups were the perioral lines and lips. This result was not surprising as baseline lip volume may be full and volume loss or perioral lip lines may be less pronounced due to slower photoaging. In addition, perioral lines and lip volume loss has been observed to occur much later in life for African American versus white women.<sup>5</sup> Characteristics common among white women include development of rhytides above and below the vermilion border with volume loss. For African American women, rhytides develop more commonly in the body of the upper lip (below the vermilion border); due to volume loss in the upper lip while the lower lip usually maintains its volume.<sup>25</sup>

#### **Consideration Rates for Future Treatments Including Injectables**

The majority of participants were aware of a wide range of minimally-invasive treatments used to enhance skin tightness and quality, which were matched by higher consideration rates. Consideration of treatments involving lasers and light-based procedures were much lower, which was anticipated given the

greater risk of pigmentary alterations and scarring observed in higher FSPs IV to VI.<sup>26,27</sup> Awareness of and consideration rates for neuromodulators were higher than for other injectables. Given that sagging underneath the chin/double chin was the most bothersome facial feature and an escalating treatment priority across age groups, it was surprising that there was only a 31% consideration rate for this treatment, and may also reflect a lower awareness of safe and effective treatment options for patients of color.

The strengths of this study are represented by its large participant population, cross-sectional design, and use of the MaxDiff methodology to minimize scale bias. The data presented here characterize the priorities, treatment awareness, and opportunities to educate African Americans women naïve to facial injectables. Two case examples of African American patients treated by the authors are presented in Fig. 9. A limitation was a low (18%) representation of individuals with FSPs V and VI.

## CONCLUSIONS

African Americans are a growing patient population for aesthetic practitioners, and their greater consideration rates for minimally-invasive treatments (vs. surgical) is following the overall increasing trend in medical aesthetic treatments. Compared to other racial/ethnic groups, the signs of facial aging among African American women may be less about fine lines and wrinkles caused by UV damage, and more about pigmentary concerns and shifts in underlying soft tissue volume. The key areas of aesthetic concern revealed here include the under-eye/tear trough, CFLs, and excess submental fat, and with advancing age, priorities heighten for the mid and lower facial areas.

Among those who would consider injectables, a higher proportion reported a desire to “look good for their age” versus wanting to look more youthful. This suggests an overarching level of self-confidence with aging, and that pursuit of aesthetic intervention may be mostly about supporting the projection of that self-confidence. A lower than expected consideration rate for under chin fat reduction treatment may represent an opportunity to counsel patients on a less familiar option to address their primary concerns.

Educating and counseling patients on these barriers may increase patient acceptability of a broader range of treatment options. Many women remain “considerers” for many years before trying treatments they are unfamiliar with, therefore, educating and counseling patients with these “barriers” in mind may help patients become open to a broader range of safe and effective treatment options, including minimally invasive injectable procedures. This study hopes to contribute to a first step in providing physicians with a more patient-centric and culturally-competent approach to the treatment of their African

American facial aesthetic patients.

## DISCLOSURES

A Alexis serves as an investigator and has served on advisory boards for Allergan plc. C Boyd serves on an advisory board and speakers’ bureau for Allergan plc. V Callender serves as a consultant and investigator for Allergan plc. J Downie has received research support from Allergan plc. S Sangha is an employee of Allergan plc and may own stock/options in the company.

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