

Mandom reveals the mechanism for the unique manifestation of “Glary skin” in men

~“Glary skin,” which reduces favorability among women, is an early sign of aging!~

Mandom Corporation (headquarters: Osaka City, President & CEO: Motonobu Nishimura; hereinafter referred to as “Mandom”), for the first time, has elucidated the mechanism by which “Glare”, a reflective light unique to the faces of men and is an unfavorable appearance, manifests. The results of this research were presented at the 63rd Research Forum of the SCCJ (The Tokyo Chamber of Commerce and Industry) held on November 26, (Heisei 20). A lecture including the contents discussed at the 34th Conference of the Japanese Cosmetic Science Society “Symposium II “Thoughts on a man’s strengths”” held on June 12, (Heisei 21) was also given.

[Outline]

1. A woman’s eyes keenly recognizes “Oil” when present on a man’s face
2. “Glare” on a man’s face reduces his favorability
3. Sebum is not the only cause of “Glare (= undesirable reflective light on the face)”
4. Important points of “Glare” are “Skin color” and “skin texture”
5. “Glare” is an early sign of aging
6. “Degree of glare” can be quantified using skin color values and the reflective area of the skin surface
7. “Glare” can improve with skincare

1. A woman’s eye keenly recognizes “Oil” on a man’s face

In search of the ideal facial skin for men, we recruited 824 men and women between the age groups of 20+ and 50+ (103 individuals per sex and age group). To determine “What the necessary tools to achieve ideal facial skin in men are,” men were asked about their facial skin while women were asked for their opinion on the facial skin of their male partner.

Among men (Figure 1), perhaps owing to self-evaluation, more than half responded that all items were “important”. The probability of selecting “important” in women was lower than in men for almost every item; women appeared to have evaluated men’s facial skin in a lenient manner. However, the same level or a slightly higher response was achieved from women than from men for items related to sebum (oiliness of the skin); these include “Not oily to the touch” and “No glare”. Therefore, women strictly focus on factors related to the presence of sebum on a man’s face.

Contact

mandom corp.
Public Relations Div.
mail: press@mandom.co.jp
Please contact us in Japanese or English.

URL: <https://www.mandom.co.jp/en/>



Although issues related to sebum such as oiliness, shininess, and glare are known as top issues related to men’s facial skin, results of the above investigation suggest that a woman’s impression of a man’s face is greatly affected by sebum and the resulting appearance (reflection of light from the skin).

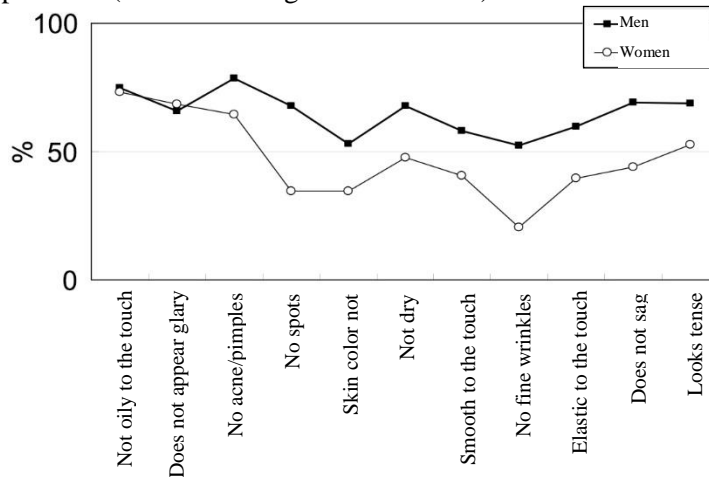


Figure 1. Necessary tools required by men to achieve ideal facial skin appearance from the viewpoint of men and women (% of selected people)

2. “Glare” on a man’s face reduces his favorability

Reflection of light caused by sebum on facial skin is a phenomenon that bothers men. It is also directly connected to the impression of a man’s facial skin by women; therefore, achieving an improvement would serve as a very useful accomplishment for men. We have opted to define this unique reflective light present on the facial skin of men as “Glare,” and the state as the “Glare phenomenon.”

* Normally, glare signifies “brightness” that causes discomfort or difficulty when staring at an object. An example of glare in everyday life is the reflection from a display (reflection of another light source), headlights of a car, and floodlights in a stadium. Such cases of brightness are undesirable and unnecessary.

“Gloss,” “Shiny” and “Glare” are words used to describe light that is reflecting from a surface. We have observed differences when an evaluation is performed between these expressions. From the results of the evaluation performed by women who gave their impression of the images of multiple men, all women provided roughly the same evaluation with respect to “Shiny” and “Glare” for the image of each man. “Gloss”, however, varied greatly and was dependent on the person performing the image evaluation; the evaluation of “Gloss” is not uniform with respect to other levels. When comparing the relationship between these expressions and “favorability,” the expressions “Shiny” and “Glossy” conflicted with high level of favorability (i.e., favorability was low for the images appearing “Shiny” and “Glossy”). Further comparisons showed that “Shiny” correlated, to a greater extent, with the notion of “Unfavorable = Uncomfortable” than “Glare.” While “Shiny” is associated with a woman’s makeup deterioration, “Glare” is almost exclusively used to describe a man’s appearance. The “Glare phenomenon” that we have proposed is therefore the closest to this expression of “Glare.”

To date, Mandom’s studies of men’s facial skin have shown that the level of sebum secretion on men’s faces gradually decreases after reaching a peak in their 20s. However, although young people have oilier skin, a lower impression of glare is observed compared to older men, which is an apparent, undesirable skin glare. We surmised that this might be related to skin itself; therefore, we investigated the relationship between degree of glare and other skin measurements.

3. Sebum is not the only cause of “Glare (=undesirable reflective light on the face)”

We took photographs of the foreheads of 20 male subjects before (with sebum) and after (with sebum washed away) they had washed their faces. Concurrently, we measured sebum levels and evaluated skin color and skin texture. Images were taken using a method which uses a polarization filter, and images were analyzed by separating skin color and light reflecting from the skin’s surface (Figure 2). The degree of glare was scored using the image of “Reflection from skin surface + skin color.”

When face images were compared before and after washing, glare had lessened in most subjects after face-wash as washing removed sebum. However, upon checking the relationship with the level of sebum, we noticed that in some situations, there were differences in the degree of glare even if levels of sebum on the face were the same (Figure 3). This shows that the cause of the glare phenomenon, where glare is evident, does not depend solely on the level of sebum.



Figure 2. Images taken using a polarization filter (forehead)

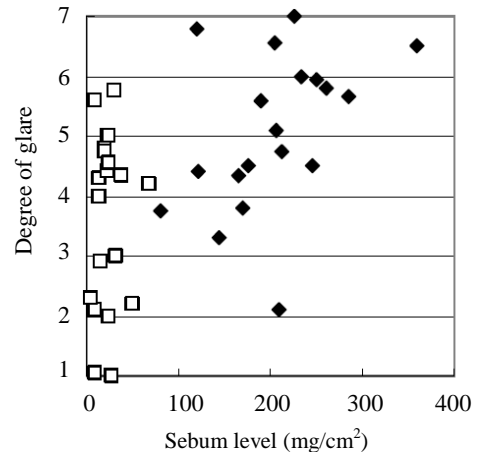


Figure 3. Relationship between degree of glare and sebum level

◆ Before wash □ After wash

4. Important points of “Glare” are “Skin color” and “skin texture”

We decided to examine the relationship between degree of glare and results of skin measurements other than sebum level. With respect to skin texture, the coarser the skin became, the greater the degree of glare. Unevenness in skin texture tends to finely scatter light at the skin surface; however, without these fine scatters, skin acts as a mirror, emphasizing the extent of reflection. Furthermore, with respect to skin color, the lower the brightness (darker color) or more intense the redness, the greater is the degree of glare. As the contrast between light from the reflective area of the skin surface and from surrounding areas intensifies, glare became more apparent, which may justify the results attained.

Furthermore, we attempted to statistically analyze the influence of sebum level, skin texture, and skin color on the degree of glare using degree of glare scores and each skin measurement taken. The results showed that while skin parameters influenced the degree of glare in the order- sebum level, degree of detail in skin texture, brightness of skin color, and redness of skin color; sebum level had the strongest influence. Skin texture and skin color proved to significantly influence the degree of glare; therefore, they are also important factors related to the glare phenomenon.

5. “Glare” is an early sign of aging

We now understand that the rise in the glare phenomenon depends not only on “high levels of sebum,” but also on “dark color,” “redness,” and “rough texture (disappearance).” Results of male dermatological research to date have identified “Darkening of skin color,” “Increased redness in skin color,” and “coarser texture of the skin” as changes that occur in the facial skin of men with age; aging skin is more vulnerable to the glare phenomenon even if the level of sebum is the same.

Glare phenomenon is an early danger sign indicating the start of skin aging.

6. Quantifying the “Degree of glare” using skin color values and the reflective area on skin surface

Understanding the characteristics that appear with the glare phenomenon may allow a numerical representation of the “degree of glare” in images taken, to be calculated; this is done by performing a numerical analysis of the image. Such analysis was performed by examining the actual degree of the glare score.

Using the white areas (Figure 4) obtained by binarizing the skin color value in the image of “Skin color only” in Figure 2, and the image of “Reflection at the skin surface only” in Figure 2, we quantified the glare phenomenon. Degree of glare can be shown as presented below.

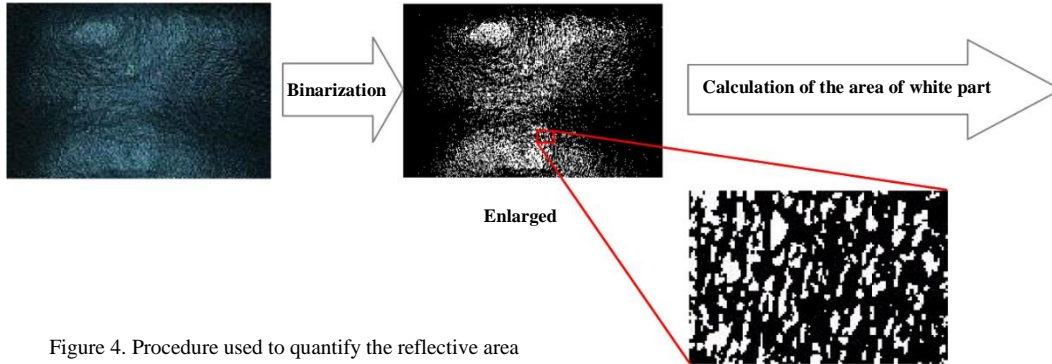


Figure 4. Procedure used to quantify the reflective area

Degree of glare = A x (skin color value) + B x (area of the white region) (A, B: weighing coefficient for each)

We also understand that the white area in Figure 4 increases with increased sebum level and coarseness of skin texture.

Figure 5 shows an example of the degree of glare evaluated visually, and an example of the degree of glare determined using the above formula.



Figure 5. Degree of glare – Comparison between actual evaluation and image analysis evaluation

Left: Degree of glare – 6.0, Degree of glare from image analysis – 6.2

Right: Degree of glare – 2.3, Degree of glare from image analysis – 2.5

7. “Glare” can improve with skincare

While removing sebum is certainly the most useful way to improve the glare phenomenon, sebum secretion is extremely active in male skin and removal of sebum is sometimes impossible to achieve. We believe that appropriate skincare can help to achieve “skin where glare phenomenon rarely occurs.”

We will present a practical example where skin condition was improved following the use of LC pharmaceutical facial lotion for two consecutive months.

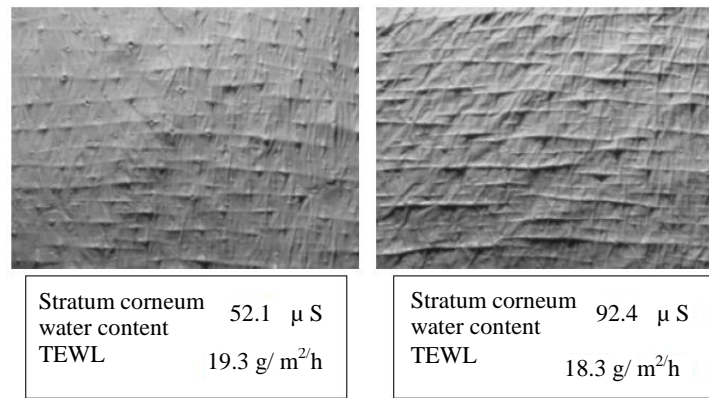


Figure 6. Changes in skin texture, stratum corneum water content and transepidermal water loss levels after using LC pharmaceutical facial lotion for two consecutive months (40-year-old male).

Left: Before using LC pharmaceutical facial lotion **Right:** After using LC pharmaceutical lotion for two consecutive months

The increase in stratum corneum water content and decrease in transepidermal water loss level indicate the improvement in moisture condition of the skin, resulting in a rejuvenated skin texture (Figure 6).

Such rejuvenation and refining of skin texture, despite the presence of the same level of sebum, visibly led to an improvement in the glare phenomenon. **Increased brightness, and a decrease in the degree of glare based on image analysis were observed (Figure 7).**

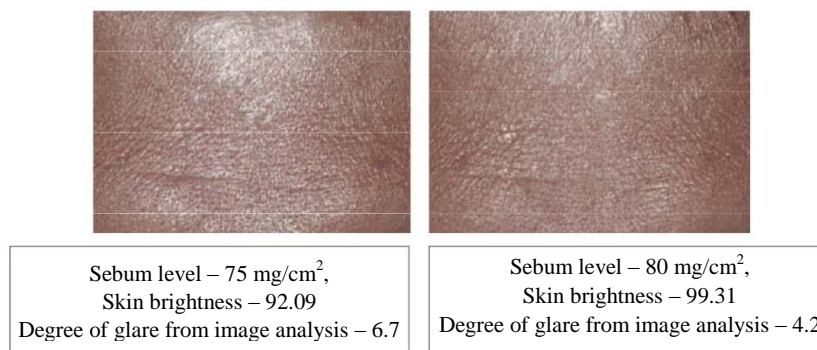


Figure 7. Changes in glare phenomenon after using LC pharmaceutical facial lotion for two consecutive months (40-year-old male).

Left: Before using LC pharmaceutical facial lotion **Right:** After using LC pharmaceutical lotion for two consecutive months

Men perform a greater level of outdoor activity than women, and habitually, are not well-protected against UV rays. This can result in the formation of a coarser skin texture, and darker skin. We believe these features are the main causes of the unique glare phenomenon observed in men.

As discussed herein, for the first time, Mandom has succeeded in the dermatological elucidation of the unique undesirable reflective light (glare) observed in the facial skin of men. Going forward, we will focus our efforts on building the skincare theory and developing substances to ameliorate the “Glare phenomenon” to solve issues related to the facial skin of men.

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