

Is Frontal Fibrosing Alopecia Connected to Sunscreen Usage?

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Frontal fibrosing alopecia (FFA) has become increasingly common since it was first described in 1994.¹ A positive correlation between FFA and the use of sunscreens was reported in an observational study.² The geographic distribution of this association has spanned the United Kingdom (UK), Europe, and Asia, though data from the United States are lacking. Various international studies have demonstrated an association between FFA and sunscreen use, further exemplifying this stark contrast.

In the United Kingdom (UK), Aldoori et al² found that women who used sunscreen at least twice weekly had 2 times the likelihood of developing FFA compared with women who did not use sunscreen regularly. Kidambi et al³ found similar results in UK men with FFA who had higher rates of primary sunscreen use and higher rates of at least twice-weekly use of facial moisturizer with unspecified sunscreen content.

These associations between FFA and sunscreen use are not unique to the UK. A study conducted in Spain identified a statistical association between FFA and use of facial sunscreen in women (odds ratio, 1.6 [95% CI, 1.06-2.41]) and men (odds ratio, 1.84 [95% CI, 1.04-3.23]).⁴ In Thailand, FFA was nearly twice as likely to be present in patients with regular sunscreen use compared to controls who did not apply sunscreen regularly.⁵ Interestingly, a Brazilian study showed no connection between sunscreen use and FFA. Instead, FFA was associated with hair straightening with formalin or use of facial soap or facial moisturizer.⁶ An international systematic review of 1248 patients with FFA and 1459 controls determined

that sunscreen users were 2.21 times more likely to develop FFA than their counterparts who did not use sunscreen regularly.⁷

Quite glaring is the lack of data from the United States, which could be used to compare FFA and sunscreen associations to other nations. It is possible that certain regions of the world such as the United States may not have an increased risk for FFA in sunscreen users due to other environmental factors, differing sunscreen application practices, or differing chemical ingredients. At the same time, many other countries cannot afford or lack access to sunscreens or facial moisturizers, which is an additional variable that may complicate this association. These populations need to be studied to determine whether they are as susceptible to FFA as those who use sunscreen regularly around the world.

Another underlying factor supporting this association is the inherent need for sunscreen use. For instance, research has shown that patients with FFA had higher rates of actinic skin damage, which could explain increased sunscreen use.⁸

To make more clear and distinct claims, further studies are needed in regions that are known to use sunscreen extensively (eg, United States) to compare with their European, Asian, and South American counterparts. Moreover, it also is important to study regions where sunscreen access is limited and whether there is FFA development in these populations.

Given the potential association between sunscreen use and FFA, dermatologists can take a cautious approach

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tailored to the patient by recommending noncomedogenic mineral sunscreens with zinc or titanium oxide, which are less irritating than chemical sunscreens. Avoidance of sunscreen application to the hairline and use of additional sun-protection methods such as broad-brimmed hats also should be emphasized.

REFERENCES

1. Kossard S. Postmenopausal frontal fibrosing alopecia: scarring alopecia in a pattern distribution. *Arch Dermatol*. 1994;130:770-774. doi:10.1001/archderm.1994.01690060100013
2. Aldoori N, Dobson K, Holden CR, et al. Frontal fibrosing alopecia: possible association with leave-on facial skin care products and sunscreens: a questionnaire study. *Br J Dermatol*. 2016;175:762-767.
3. Kidambi AD, Dobson K, Holmes S, et al. Frontal fibrosing alopecia in men: an association with leave-on facial cosmetics and sunscreens. *Br J Dermatol*. 2020;175:61-67.
4. Moreno-Arrones OM, Saceda-Corralo D, Rodrigues-Barata AR, et al. Risk factors associated with frontal fibrosing alopecia: a multicentre case-control study. *Clin Exp Dermatol*. 2019;44:404-410. doi:10.1111/ced.13785
5. Leecharoen W, Thanomkitti K, Thuangtong R, et al. Use of facial care products and frontal fibrosing alopecia: coincidence or true association? *J Dermatol*. 2021;48:1557-1563.
6. Müller Ramos P, Anzai A, Duque-Estrada B, et al. Risk factors for frontal fibrosing alopecia: a case-control study in a multiracial population. *J Am Acad Dermatol*. 2021;84:712-718. doi:10.1016/j.jaad.2020.08.07
7. Kam O, Na S, Guo W, et al. Frontal fibrosing alopecia and personal care product use: a systematic review and meta-analysis. *Arch Dermatol Res*. 2023;315:2313-2331. doi:10.1007/s00403-023-02604-7
8. Porriño-Bustamante ML, Montero-Vílchez T, Pinedo-Moraleda FJ, et al. Frontal fibrosing alopecia and sunscreen use: a cross-sectional study of actinic damage. *Acta Derm Venereol*. Published online August 11, 2022. doi:10.2340/actadv.v102.306