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Optimizing Narrowband UVB Therapy for Psoriasis in Skin of Color

Announcer:
You're listening to *On the Frontlines of Psoriasis* on ReachMD. And now, here's your host, Ryan Quigley.

Ryan Quigley:
This is *On the Frontlines of Psoriasis* on ReachMD, and I'm Ryan Quigley. Today, I'm joined by Dr. Megan Hauptman to discuss her recent systematic review and meta-analysis, which examined narrowband ultraviolet B phototherapy in psoriasis patients with skin of color. Dr. Hauptman is a Clinical Research Fellow in the Program for Clinical Research in Dermatology at the University of Michigan Medical School in Ann Arbor.

Dr. Hauptman, thank you so much for doing this today.

Dr. Hauptman:
Thank you for inviting me.

Ryan Quigley:
So, to set the stage for us, Dr. Hauptman, can you give us some background on how your analysis was designed and what clinical gaps you were aiming to address?

Dr. Hauptman:
Yeah. So, we conducted a systematic review and meta-analysis on studies assessing the effectiveness of narrowband UVB phototherapy for psoriasis patients with skin of color. We searched publications available up until November 15, 2024, specifically looking at studies of narrowband UVB treatment in patients with Fitzpatrick skin types III to VI, and we searched by countries with the majority population having these skin types.

The key clinical gap we were aiming to address was the lack of systematic data on narrowband UVB efficacy in skin of color patients despite its regular use in people of various skin tones. Representation in non-White individuals in dermatology research has historically been low, and we believe evidence-based guidance is essential.

Ryan Quigley:
So, with that context in mind, I want to jump into the findings. What did the analysis reveal about narrowband UVB effectiveness in this population?

Dr. Hauptman:
So, we initially identified about a little over 1,200 articles, and we included 54 in our formal review. Of these articles, we included 1,322 patients with chronic plaque psoriasis and 12 with palmoplantar psoriasis.

We found that narrowband UVB is effective in treating psoriasis in skin of color patients. We found that 70.5 percent of patients achieved a PASI 75, and that's a 75 percent improvement in Psoriasis Area and Severity Index. Compared to before treatment, all studies included showed statistically significant PASI improvements after treatment, and narrowband UVB showed higher complete clearance rates versus broadband UVB.

Interestingly, we found that there was no statistically significant difference in PASI 75 achievement compared to PUVA, although narrowband UVB required fewer treatment days and lower cumulative doses. PUVA is another type of phototherapy where patients take a photosensitizing medication called psoralen and then expose their skin to UVA. This, like broadband UVB, is no longer widely used.

Ryan Quigley:
And for those just tuning in, you are listening to *On the Frontlines of Psoriasis* on ReachMD. I'm Ryan Quigley, and I'm speaking with Dr. Megan Hauptman about the use of narrowband UVB phototherapy for psoriasis in patients with skin of color.

So, Dr. Hauptman, if we continue our discussion here on the results, how does narrowband UVB perform when used in combination with other therapies such as methotrexate or topical agents?

Dr. Hauptman:
So, in our analysis, we found a number of effective combinations. One was narrowband UVB with methotrexate. And in the studies we assessed, we found that the majority of patients achieved a PASI 75 after two to three times a week for 12 weeks, and this was effective for both plaque and palmoplantar psoriasis. Also, with the combination of narrowband UVB with tacalcitol, which is a topical vitamin D, we found that 93.3 percent achieved target plaque clearance by 12 weeks with reduced treatment sessions and cumulative dose. With its combination with tazarotene, which is a topical vitamin A, we found 98 percent improvement in plaque characteristics and 100 percent treatment success in an average of 32 days. Also, in combination with the mineral oil, we found significant PASI improvement when compared to narrowband UVB alone.

We did see a couple of combinations with mixed results, one being its combination with acitretin, which is an oral vitamin A derivative that's used to treat psoriasis, and we found no statistically significant PASI improvement versus narrowband UVB alone. But it did result in reduced treatment sessions and lower cumulative UV dose.

And then lastly, the combination of narrowband UVB with simvastatin, tar, or petrolatum, we found no statistically significant differences versus narrowband UVB alone.

Ryan Quigley:
Now, I understand there's some key considerations surrounding phototherapy for patients with skin of color. Could you dive in a little bit and talk about dosing, duration, or any other factors to consider?

Dr. Hauptman:
So, there are a number of special considerations when using phototherapy for patients with skin of color. The American Academy of Dermatology and National Psoriasis Foundation guidelines specify higher starting doses and dose increments for phototherapy and skin types V and VI compared to types I through IV. But starting dose should ultimately be individualized on the basis of patients' minimal erythema dose, or MED, when applicable. MED testing is not recommended for patients with skin types V and VI because of difficulty detecting erythema, and the guidelines state that these patients should just begin treatment at a set 800 millijoules per centimeter squared with gradual increases as tolerated. And at follow-up visits, treatment response should be assessed on the basis of the presence and duration of erythema or redness as well as subjective symptoms like burning, stinging, itching, and pain. Asking about symptoms is extremely important because erythema is sometimes difficult to detect in darker skin tones.

Normally, at each subsequent visit, we like to increase the dose by 20 percent from prior, but the clinician should assess patient-reported adverse effects first, especially hyperpigmentation or burns. And in skin of color patients, higher cumulative doses may be used due to the lower burning and erythema risk. And patients with darker skin tones are more likely to experience skin darkening from phototherapy, which may not be desirable to some patients.

Ryan Quigley:
Before we wrap up our discussion, Dr. Hauptman, what would you say are the most important takeaways from your research, either for clinical practice or in the research setting?

Dr. Hauptman:
So, narrowband UVB should be considered as a first-line treatment for skin of color, especially in individuals who wish to avoid systemic or biologic therapies. Narrowband UVB is an effective, affordable, accessible, and safe therapy for psoriasis in skin of color patients. It does offer a very safe profile and is generally well tolerated. It has fewer systemic side effects than oral or biologic agents, and it is also less expensive than new drugs for psoriasis, like biologics and oral immunomodulatory agents, making it a valuable option in resource-limited settings and for uninsured patients.

Also, combination therapies can offer advantages, but narrowband UVB treatment alone is also sufficient. We saw when we combined narrowband UVB with topicals like mineral oil, tacrolimus, or tazarotene or systemic agents like methotrexate, it may improve efficacy and reduce required narrowband UVB doses and sessions. And importantly, while combination treatments lead to faster and more pronounced PASI improvement, some combinations did not statistically beat narrowband UVB monotherapy for long-term PASI outcomes.

Future studies should focus on unique dosing protocols based on a patient's skin tone, longer-term safety and efficacy in types V and VI skin, and improved representation of skin of color in dermatology research. We did see there remains high variability in treatment protocols in prior studies, like sessions per week, dosage, and length of follow-up, which might affect response rates and data interpretations. Studies should be individualized, and treatment protocols should consider skin type, expected erythema response, and potential risks of hyperpigmentation, especially in patients with skin of color.

And there does remain an underrepresentation of Fitzpatrick skin types V and VI in most studies. Most studies included types III and IV, and so we feel that future research should include more diverse populations and longer-term outcomes for skin of color.

Ryan Quigley:
That's a great comment for us to think on as we come to the end of today's program. And I want to thank my guest, Dr. Megan Hauptman, for joining me to discuss the impacts of narrowband ultraviolet B phototherapy for psoriasis patients with skin of color.

Dr. Hauptman, thank you so much for doing this today.

Dr. Hauptman:
Yes. Thank you for having me.

Announcer:
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