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Sunscreen: A brief walk through history

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Although our knowledge of sun protection and skin cancer has grown dramatically in the past few decades, the need for protection against the sun has existed since antiquity. Pharmacy shelves—devoid of sun protection products a century ago—are now lined with an assortment of sunscreens with a variety of active ingredients and formulations aimed to please everyone from the outdoorsman to the beauty conscience shopper. Our objective is to illustrate a historical timeline of sun protection methods, current sunscreen developments, and the future direction of sun protection. The development of the sunscreens we see today has been paved by sun protection methods used by our ancestors, scientific discovery in the past few centuries, and the trial and error of sunscreen formulations created in the past century. Precedents of beauty—whether fair skin or tanned—have played a large role in the development of sun protection methods. From oils, herbal ingredients and extracts, full-face visards, and red veterinary jelly, to high SPF formulations with broad-spectrum UV protection, the ease of application and agreeable sensorial properties have always contributed to patient compliance for sun protection. More recently, concerns for the environmental damage and health implications of sunscreen ingredients have also been raised, followed by ingredient bans. With these changes, the market for sunscreen products will continue to evolve in pursuit of the ideal sunscreen: one that not only protects against UVA and UVB radiation but is consistently used by the individual.

Commercial disclosure: None identified.

13674

Eligibility criteria related to hormone therapy in acne clinical trials

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Despite multiple guidelines on acne management, there is a paucity of high-quality data on the treatment of acne among patients receiving hormone therapy. In the United States, this potentially impacts the treatment of acne among 9.1 million women using oral contraceptive pills in 2015-2017 and 2.3 million cisgender and transgender men receiving testosterone replacement therapy. We examined exclusion criteria of acne clinical trials to identify potential barriers to the enrollment of patients receiving hormone therapy. We searched clinicaltrials.gov using the term "acne" from 1/1/2009 to 5/16/2019 for exclusion criteria of acne interventions. Of the 115 studies included, 33% had exclusion criteria related to hormone therapy, including recent changes in therapies such as oral contraceptives, estrogens and anti-androgenic medications within specified time ranges (4 weeks to 1 year). Patients with medication-induced acne or a hormone disorder were excluded in 8.7% and 2.6% of trials, respectively. Other exclusion criteria included current use of oral contraceptives (2.6%), androgen blockers (3.5%), hormone-replacement therapy (1.7%), or any medication (5.2%). Findings were limited to the interventions posted on clinicaltrials.gov. Acne is the most common dermatologic condition in the United States, yet robust evidence guiding the optimal treatment of acne in patients receiving hormone therapy remains scarce. These data highlighted limitations in generalizability of many existing acne clinical trials, as well as the need to expand the eligibility criteria to improve real-world effectiveness of acne treatment across large and diverse populations receiving hormone therapies.

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Isotretinoin use in acne is associated with a higher odds of the adverse effect of insomnia: Results from the US FDA Adverse Events Reporting System

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Background: Isotretinoin has been associated with a higher risk for potentially serious neuropsychiatric adverse events (AE), eg, suicide. Insomnia can be the initial presenting symptom of many neuropsychiatric reactions.

Objective: To examine the FAERS database for the AE of insomnia with the use of isotretinoin (ISO) in acne patients, where ISO was considered the 'primary suspect' (PS) for the AE.

Methods: The FAERS database from January 1, 2004, to March 31, 2019, was examined. 'Insomnia' was defined using the following Medical Dictionary for Regulatory Activities (MedDRA) preferred terms (PTs) [MedDRA code]: Insomnia [10022437], Initial insomnia [10022035], Middle insomnia [10027590], and Terminal insomnia [10068932]. Acne was defined using MedDRA PTs [MedDRA code] acne [10000496] and cystic acne [10000503]. All available generic and trade names for ISO were used. Reporting odds ratios (RORs) with 95% CI were calculated to assess baseline risk of 'Insomnia' with the use of ISO for the indication of acne versus all other acne treatments in the FAERS database.

Results: 218,594 ISR (mean ± SD age: 22.66 years ± 9.86 years) where ISO was used for the indication of acne and specified as PS for an AE in FAERS were identified; among these 1095 ISR (mean ± SD age: 20.25 ± 5.94 years) were associated with the AE of 'Insomnia'. The ROR for 'Insomnia' when ISO was used for acne versus all other acne treatments was 2.1902 (95% CI 1.9240-2.4934), $z = 11.854$, $P < .0001$.

Conclusions: ISO use for acne was associated with a significantly higher odds of the AE of insomnia among adolescents and young adults with acne.

Commercial disclosure: None identified.

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Quality and readability of online health information for acral lentiginous melanoma

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Acral lentiginous melanoma (ALM) is a melanoma subtype making up a higher proportion of malignant melanomas in patients of color. ALMs have worse prognoses and higher recurrence rates than other melanomas, particularly among minority patients. Patient education is thus crucial to early detection and treatment of this condition. This study examines the quality and readability of online health information (OHI) on ALM. Two medical and four lay terms were searched on Google, and the first 120 results for each search term (total 720 websites) were evaluated for Health-on-the-Net (HON) accreditation, which designates website reliability and transparency. The first 20 websites from each search term were evaluated for quality by an expanded DISCERN+ schematic addressing website accountability, disease background, treatment options, and information accuracy. Readability was calculated for the first 20 websites for each search term using validated readability metrics. Among the 720 websites evaluated, 117 (16.25%) were HON accredited. With regard to quality, medical websites significantly outscored lay websites in accountability (24.9/40 medical vs 19.6/40 lay), disease background (26.4/45 medical vs 18.3/45 lay), and information accuracy (24.6/50 medical vs 12.6/50 lay), $P < .05$ for all. Despite higher quality, medical websites were also significantly more difficult to read across all readability metrics, with average grade level 13.2 vs 10.3 for lay websites ($P < .05$). These results illustrate a clear lack of high quality, accessible OHI on ALM for the lay audience, revealing a crucial need for culturally and structurally competent education initiatives for vulnerable patient populations facing complex medical diagnoses and health care needs.

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