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**The burden of skin diseases among US states, 1990-2017**

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Skin diseases are among the leading causes of worldwide health burden, affecting millions around the globe. Global Burden of Disease (GBD) features both the prevalence of a health conditions and the relative harm it causes, as measured by disability-adjusted life years (DALYs), which represent the sum of years of life lost (YLLs) to a disease and the years spent disabled by the disease (YLDs). One DALY is equivalent to one year of healthy life lost. The objective of our study was to characterize variations in skin and subcutaneous diseases burden in the US from 1990-2017. Data were gathered from GBD 2017, comprising more than 90,000 data sources from systemic reviews, surveys, population-based disease registries, hospital inpatient and outpatient data, cohort studies, and autopsy data. In the United States, age-standardized DALY rate from skin and subcutaneous diseases ranked #12 among all other conditions in 2017, compared with #15 in 1990. There was a marked variation in skin disease burden by state and an overall increase in skin and subcutaneous disease burden across the US when comparing 1990 (821.55, 570.26-1124.92 (CI 95%) versus (884.23, 614.01-1207.89 CI 95%) in 2017. States and districts with the highest age-standardized DALYs rate for skin and subcutaneous diseases in 2017 were New York, District of Columbia, and Connecticut. States with the lowest age-standardized DALYs rate were Wyoming, Utah, and Maine. This knowledge may provide a deeper understanding of epidemiologic and disability data to guide research efforts, allocation of resources, and prevention strategies and treatment.

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**Dermatology's quest for brevity and its effect on research reporting quality: A comparative analysis between dermatology and internal medicine literature**

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Background: Dermatology is a fast-paced clinical specialty whose primary literature has emphasized article brevity and the tailoring of its literature towards busy clinicians with limited time. While concise scientific reporting is important, some studies suggest reporting deficits. The methods section, vital for critical evaluation and study replication, is of particular concern.

Objective: This study aimed to evaluate methods section length and reporting quality. In addition, comparisons between dermatology literature and similar articles in the internal medicine (IM) literature were performed.

Methods: Randomly selected trial or observational articles were collected from five dermatology and five IM journals from 2014-2018. Article and journal information, section lengths, and adapted STROBE/CONSORT scores were collected. All comparisons were made with multivariable linear regression.

Results: Adjusting for overall article length, year of publication, and journal, dermatology methods sections contained an average of 208 fewer words than the IM literature ( $P < .001$ ). Likewise, dermatology quality scores were approximately 30 percentage points lower (percent of total available points) than IM scores ( $P < .001$ ). Ten-word increases in methods section length were associated with 2 percentage point increases in reporting percentage ( $P = .03$ ).

Conclusions: Dermatology methods sections from comparable length studies were significantly shorter than those in IM articles, by approximately 10 sentences or 2 paragraphs. Significant differences in reporting quality between dermatology and IM literature were seen and were related to methods section length. Dermatology needs precise and detailed methods sections. We encourage dermatology editors and authors to not sacrifice quality research reporting for the sake of brevity.

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**A GAPO syndrome case report: Identification of novel biallelic ANTXR1 variants cause GAPO syndrome**

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GAPO syndrome (GS) is a very rare disorder characterized by growth retardation, pseudoanodontia, alopecia and optic atrophy. We report a 20-year-old boy, except optic atrophy combined with a new discovered mutation. The patient was noticed to have abnormal facial features at birth, but no one knew what was exactly abnormality. He was discovered getting this syndrome since 12-year-old. On examination, the patient had short feature, universal alopecia, redundant skin, cafe-au-lait macules on the scalp, osteomalacia, and pseudoanodontia. He also had a typical face for GS including high and bossing forehead, puffy eyelids, depressed nasal bridge, craniofacial dysmorphism, thick everted lower lip, low-set ears, premature aging appearance and prominent dilated scalp veins. Primary and permanent teeth were formed but fail to erupt. The development of his mental and motor functional activities was not discovered abnormalities on examination. Laboratory examination was normal. The histopathologic pattern of the scalp skin described the epidermis had an atrophic malpighian layer, the epidermal ridges did not descend in the dermis and there was a dense proliferation of connective tissue admixed with infiltration of a chronic inflammatory cell. New mutations were discovered including a novel biallelic variants of *ANTXR1*: c.T1149 A (protein Y383X) and c.1143\_1145del (protein Y383del) located both in exon 15 by whole exome sequencing. These variants are inherited from paternal indicated the auto recessive mode of inheritance. To date, only 6 mutations in *ANTXR1* have been reported in GS. This is a first case of GS due to a novel biallelic *ANTXR1* variants.

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16201

**The impact of a skin care and skin cancer prevention lesson on the knowledge and behaviors of high school students**

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Background: In the United States more than 5 million cases of skin cancer are diagnosed annually. Schools can play a major role in protecting students by instituting policies and educational programs.

Objective: Identify the impact of a creative lesson plan aligned with the California Health Education Content Standards through a school-wide study on high school students' knowledge and behaviors towards skin cancer prevention.

Methods: A high school-wide study was conducted to identify the current understanding of skincare and skin cancer prevention, provide an up-to-date instruction lesson and evaluate their change in knowledge and behaviors.

Results: Written surveys were distributed to 2688 high school students with a return rate of 38.1% (n = 1025). Surveys were administered prior to, immediately after, and one month after administering a creative video lesson. Using the paired *t* test for 30 sets of data at the 95% confidence level the results show a statistically significant change in knowledge gain (an increase from Survey 1 to Survey 2), knowledge decay (a decrease from Survey 2 to Survey 3), and knowledge persistence (an increase from Survey 1 to Survey 3). The behavioral changes observed were a) 12.5% decrease in students reporting wearing sunscreen zero days a week, b) >50% students reporting wearing sunscreen 5-7 days a week, and c) increase of 9.8% students examining themselves for changing moles.

Conclusions: The Skin Care and Skin Cancer Lesson given to high school students on skincare and skin cancer prevention practices showed an increase in students' knowledge and behaviors.

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