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Vitiligo outpatient management in the United States: findings from the 2012–2019 National Ambulatory Medical care Survey (NAMCS)

Introduction

To the editor,

Vitiligo is an autoimmune disorder associated with high psychosocial burden due to the disease's cosmetic disfigurement. Vitiligo affects about 0.16% of people in the United States (US) including nearly 1.52% of children, and disproportionately affects patients with skin of color (1,2). Treatment options are aimed at restoring skin pigmentation and include topical calcineurin inhibitors and corticosteroids and systemic therapies such as oral corticosteroids, minocycline, and cyclosporine (3,4). Despite the availability of treatment options, approximately 50% of patients do not receive any treatment for vitiligo (5). This study aims to characterize outpatient management of vitiligo in the US utilizing data from the National Ambulatory Medical Care Survey (NAMCS).

Methods

Data from the NAMCS, an annual survey of a representative sample of US ambulatory care visits, were used to identify outpatient visits for vitiligo patients in 2012-2016, 2018, and 2019. The number of visits, age, sex, race, ethnicity, age, insurance status, specialty of the provider, and prescribed treatments (based on NAMCS drug codes) were assessed. The drug code for triamcinolone did not specify the route of administration and was assumed to be topical. Descriptive statistics were conducted using SAS version 9.04.01M7P080620. As per NAMCS policy, only one IRB is required to review the project, and the NCHS Ethics Review Board (ERB) has permitted access to the deidentified data for public use (6).

Results

A total of 49 out of 190,922 outpatient visits representing an estimated 7 visits per year were conducted for vitiligo participants (0.03% of visits) with an average age of 23 years (range 1-85). Approximately 61% of participants were female, 51% were White, 39% were Hispanic/Latino, 53% had private insurance, and 39% received care from a dermatologist (Table 1).

The average number of medications per visit was 2.2 (range 0-14), with 22 (45%) patients not receiving any medications for vitiligo treatment. Topical corticosteroids were the most commonly prescribed agents (43%), followed by calcineurin inhibitors (20%) and systemic agents (4%) (Table 2). There were similar trends upon pediatric subgroup analysis: 53% of pediatric vitiligo visits had no medications for vitiligo treatment, 41% had topical corticosteroids, and 24% had calcineurin inhibitors (Figure 1).

Discussion

Vitiligo outpatient visits comprise a small minority of ambulatory care visits in the NAMCS survey, and roughly equal numbers of patient visits were conducted by dermatologists and non-dermatologists. A high proportion of patients (45%) were not actively receiving any medical treatment for vitiligo. Topical corticosteroids comprise the majority of vitiligo treatment agents across both adult and pediatric groups, followed by calcineurin inhibitors, and vitamin derivatives. Systemic medications and procedural modalities comprise a small fraction of outpatient treatments for vitiligo.

Table 1. Characteristics of vitiligo participant visits.

	Number of vitiligo patients, n = 49 (%)
Sex	
Female	30 (61%)
Male	19 (39%)
Race	
White only	25 (51%)
Black/African American only	6 (12%)
Asian only	2 (4%)
Native Hawaiian/other Pacific islander only	0 (0%)
American Indian/Alaskan Native only	2 (4%)
More than one ethnicity	0 (0%)
Unknown*	14 (29%)
Ethnicity	
Hispanic/Latino	9 (18%)
Not Hispanic/Latino	30 (61%)
Unknown*	9 (18%)
Age	
Average age, range	22.7 years (1–85)
Number of pediatric patients (<18 years old), average age, range	17 (34.7%), 9.2 years (range 1–17 years)
Insurance status	
Private insurance	26 (53%)
Medicare	8 (16%)
Medicaid or CHIP	6 (12%)
Self-pay	2 (4%)
Workers' compensation	0 (0%)
No charge/charity	2 (4%)
Other	2 (4%)
Unknown*	4 (4%)
Subspecialty of provider	
Dermatologist	19 (39%)
Non-dermatologist	19 (39%)
Unknown*	11 (22%)

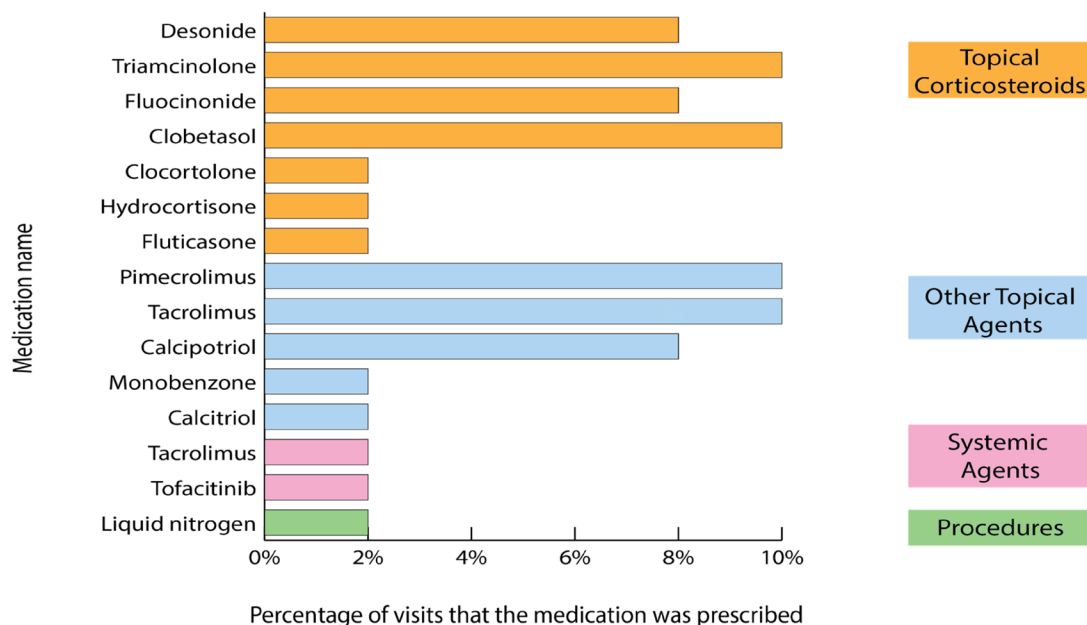
Table Legend: CHIP=children's health insurance program, * = number of responses left blank.

Table 2. Distribution of medications prescribed for vitiligo patient visits.

Medication class, type of medication	Number of visits, <i>n</i> = 49 (%)
Number of medications	
Average, range	2.2 (0–14)
Number of visits with no vitiligo medications	22
Topical corticosteroids	Total: 21 (43%)
Clobetasol	5 (10%)
Triamcinolone	5 (10%)
Desonide	4 (8%)
Fluocinonide	4 (8%)
Clocortolone	1 (2%)
Fluticasone	1 (2%)
Hydrocortisone	1 (2%)
Other topical agents	Total: 14 (29%)
Pimecrolimus	5 (10%)
Tacrolimus	5 (10%)
Calcipotriol	2 (8%)
Calcitriol	1 (2%)
Monobenzone	1 (2%)
Systemic agents	Total: 2 (4%)
Tacrolimus	1 (2%)
Tofacitinib	1 (2%)
Procedures	Total: 1 (2%)
Liquid nitrogen	1 (2%)
Pediatric subgroup analysis	
N, number not receiving any vitiligo medications.	<i>N</i> = 17, 9 (53%)
Topical corticosteroids	Total: 7 (41%)
Desonide	2 (12%)
Clobetasol	1 (6%)
Fluocinonide	1 (6%)
Fluticasone	1 (6%)
Hydrocortisone	1 (6%)
Triamcinolone	1 (6%)
Other topical agents	Total: 5 (29%)
Pimecrolimus	2 (12%)
Tacrolimus	2 (12%)
Calcipotriene	1 (6%)

Vitiligo remains an under-treated medical condition, and we find a large proportion of affected patients do not receive treatment, similar to other national averages. Similar to other studies, we find the most common agents are topical corticosteroids and topical calcineurin inhibitors; however, far fewer patients are managed on oral corticosteroids in our study compared to other national studies (0% vs 23%) (5). Adverse effects associated with corticosteroids and systemic agents, including infections, osteoporosis, and diabetes may contribute to its low use (7). Patterns of treatment in pediatric vitiligo have not been extensively described, and we find approximately 50% of pediatric visits included vitiligo treatment, most commonly by topical corticosteroids with no systemic agent use. A sizable proportion of vitiligo patients still do not receive treatment; barriers to vitiligo treatment include low health literacy regarding treatment options, duration of treatment, cost, and access to care. Additionally, adherence to topical medications is poor, potentially leading to frequent re-treatment and disease recurrence (8).

There are limitations to this study. The information collected by NAMCS is based on a limited sample of visits rather than a number of patients, and duration of therapy was not available. Lack of resources and treatment capabilities in ambulatory care settings may limit the number of visits with procedural modalities including patients receiving phototherapy and cellular/epithelial tissue grafting. Our data were limited to certain years, and recent approvals, such as ruxolitinib, were not captured. However, the representativeness of the database strengthens the generalizability of findings. There is room for improving vitiligo treatment, and hopefully new treatments will help fill the gaps in care.

Frequency of Prescribed Medications for Vitiligo Visits in the NAMCS**Figure 1.** Percentage of visits that the medication was prescribed. Note: NAMCS = National Ambulatory Medical Care Survey.

Data availability

All data sources utilized in this study are publicly available.

Disclosure statement

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