

## A Cross-Sectional Analysis of Online Search Interest for Keratosis Pilaris

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### Abstract

Keratosis pilaris (KP) is a benign dermatologic condition characterized by keratotic, follicular papules often occurring on the upper arms, thighs, and buttocks [1]. As the condition is relatively common, understanding its prevalence and the public's interest in KP is essential for optimizing patient care and educational efforts. Google Trends, a publicly accessible web-based tool, enables users to explore the public's interest in diverse subjects, including medical conditions. While previous studies have examined trends in the relative search volumes for KP, there are currently no studies reporting on the absolute search counts. In this study, we leverage Google Trends to examine both relative and absolute search data for KP, providing better insight into the changing demands within dermatologic care.

**Keywords:** keratosis pilaris; google trends

### Introduction

Keratosis pilaris (KP) is a benign dermatologic condition characterized by keratotic, follicular papules often occurring on the upper arms, thighs, and buttocks [1]. As the condition is relatively common, understanding its prevalence and the public's interest in KP is essential for optimizing patient care and educational efforts. Google Trends, a publicly accessible web-based tool, enables users to explore the public's interest in diverse subjects, including medical conditions. While previous studies have examined trends in the relative search volumes for KP, there are currently no studies reporting on the absolute search counts. In this study, we leverage Google Trends to examine both relative and absolute search data for KP, providing better insight into the changing demands within dermatologic care.

### Methods

We collected global search data using Google Trends to analyze the search volumes of the term "keratosis pilaris" from January 01, 2004, to December 31, 2022. The search volumes provided by Google Trends are reported as a relative search volume (RSV), which is the volume of searches for a specific keyword

compared to all searches within a specific geographic area and time period. For geographic trends, Google Trends identified countries with the highest relative search volumes for the entire 2004-2022 period. For overall trends, absolute search count data were extracted from Google Trends using the Glimpse Google add-on application, which was plotted over time.

### Results

After plotting the absolute search counts for KP from 2004 to 2022, we observed a steady increase in the number of searches over time in both the United States and Worldwide (**Figure 1**). Analysis of seasonal trends from 2004 to 2022 revealed that the highest number of absolute searches occurred in the month of May (11 out of 19 years), followed by June (seven out of 19) and March (four out of 19). Regarding geographic interest, the United States, Australia, Sweden, Canada, and New Zealand ranked in the top 5 countries with the highest RSVs (**Figure 2A**). Within the United States, the states with the highest identified RSVs were North Dakota, Washington, Minnesota, South Dakota, and Maine (**Figure 2B**).

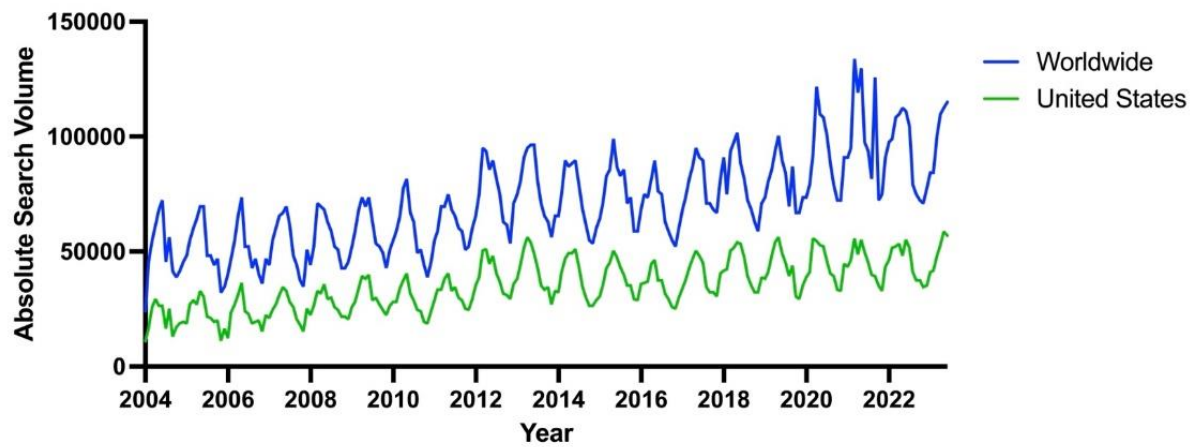


Figure 1: Google Trends absolute search counts for the keyword “keratosis pilaris” between 2004 and 2022.

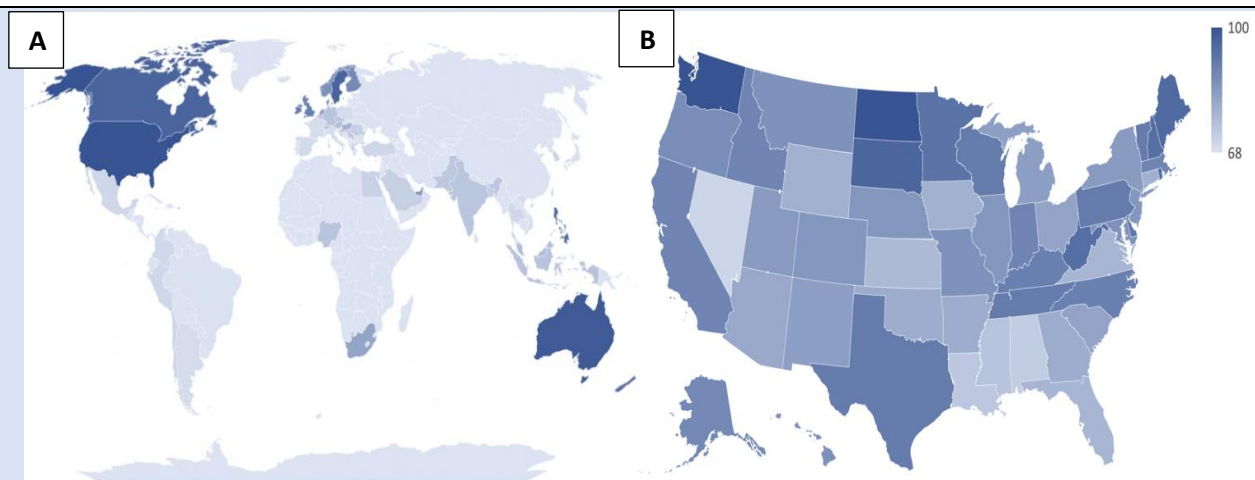


Figure 2: A) Geographic distribution of relative search volumes for countries across the globe and B) states in the US.

## Discussion

The findings of this study shed light on the fluctuations in search interest in KP. Our data demonstrated a steadily increasing interest in KP over the last 19 years, both worldwide and within the United States. As a widely available resource, a growing number of people are turning to Google for diagnostic insight as well as treatment and management guidance for various conditions[2]. In addition, the increase in dermatology-related content on various social media platforms may be contributing to the growing interest over the last two decades [3]. As a result, understanding the regional and seasonal variations can help inform healthcare providers on how and when to optimize preventative healthcare measures and educational initiatives for KP.

The pathophysiology of KP is thought to be due to defective keratinization causing the buildup of keratin near the hair follicle [1]. It is well-known that dry skin and cold environments can worsen KP due to water loss from the skin, lack of natural exfoliation, and

increased accumulation of dead skin [4]. Along these lines, the majority of countries and states with the highest RSVs were found to be located in the northern hemisphere, which experiences harsh winter months and may explain the elevated search interest in these regions. With that being said, the results from our study are rather counterintuitive, as the months with the greatest absolute searches were May, March, and June. However, the cosmetically displeasing aspects of KP may become more apparent during the summer months, as individuals are wearing less clothing and have a greater degree of skin visibility [5]. Thus, individuals may be increasingly motivated during these months to investigate treatment options on the internet for their condition. Overall, this study provides valuable insight into the population’s growing interest in KP as well as reveals seasonal and geographic variations in search volume.

## Declarations

### Funding

None.

### Conflict of Interest

The authors have no conflicts of interest to report.

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