

Introduction

Inflammatory skin diseases are among the most prevalent non-communicable conditions globally and are increasingly recognized for their disability burden, as they require chronic management. These disorders, such as psoriasis, acne vulgaris, pruritus, and dermatitis, affect quality of life and impose long-term socioeconomic and healthcare burdens due to their chronic nature and variable access to care. Disability-Adjusted Life Years (DALYs) provide a standardized measure to assess the combined impact of premature mortality and years lived with disability, enabling global comparison. This study aims to quantify and compare the DALY burden of select inflammatory dermatoses across socio-demographic index (SDI) regions using data from the Global Burden of Disease 2021 database. By identifying disparities in disease burden, we hope to highlight opportunities for targeted resource allocation and policy reform, especially in low- and middle-SDI settings.

Results

- Psoriasis and acne vulgaris represented the highest DALY burden, with mean DALY rates of 46.8 and 65.0 per 100,000 individuals, respectively. Psoriasis demonstrated the greatest global disparity, with a 4.6-fold higher burden in high compared to low SDI regions. In contrast, acne vulgaris exhibited a more evenly distributed burden. Urticaria and pruritus had moderate disability impacts, with DALY rates ranging from 43.3 to 58.9 and 8.13 to 12.9, respectively.
- Prevalence rates of psoriasis (469.5 per 100,000 in 2000, 544.7 in 2021) and pruritus (876.8, 1022) steadily increased from 2000 to 2021 while dermatitis (3134.8, 3052.5), urticaria (875.6, 842.5), and acne vulgaris (3182.4, 3037.1) showed a steady decrease.
- Incidence rates of psoriasis (57.6 in 2000, 64.6 in 2021), pruritus (684.9, 792.4), and dermatitis (4765.9, 5132.5) had a gradual increase throughout 2000 to 2021, while only urticaria (1546, 1482.8) and acne vulgaris (1644.5, 1574.7) had decreased rates.

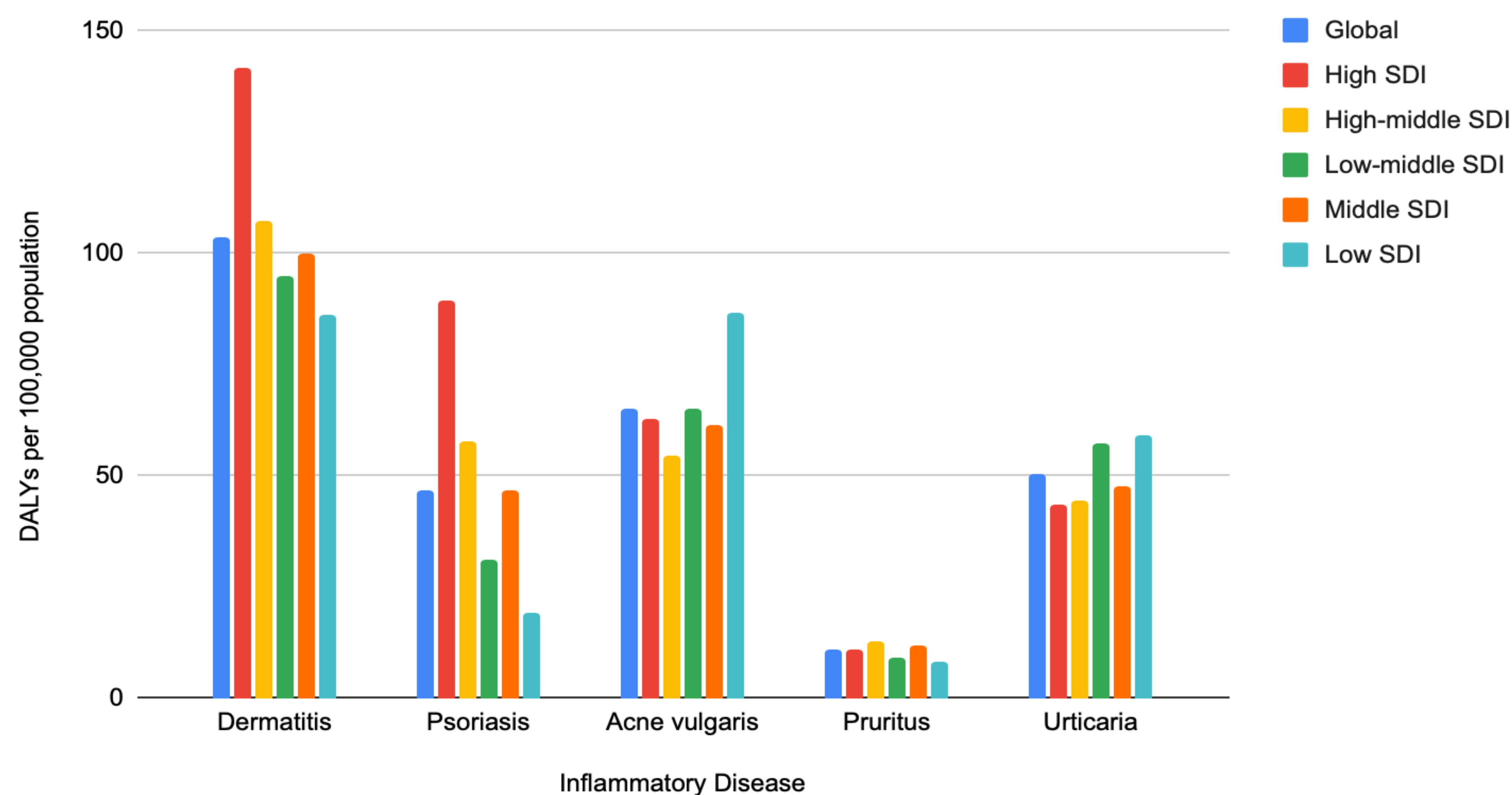


Figure 1. 2021 Global Distribution of DALY Burden in Psoriasis, Acne, Urticaria, Pruritus, and Dermatitis Across SDI Regions

Condition	Global	High SDI	High-middle SDI	Low-middle SDI	Middle SDI	Low SDI
Dermatitis	103.62	141.68	107.18	94.66	99.76	86.06
Psoriasis	46.76	89.15	57.55	31.23	46.73	19.40
Acne vulgaris	64.95	62.76	54.65	64.99	61.49	86.68
Pruritus	10.79	10.85	12.90	9.21	11.99	8.33
Urticaria	50.44	43.34	44.55	57.29	47.52	58.94

Table 1. Mean DALY Rates for Select Inflammatory Skin Diseases by Socio-Demographic Index (SDI) Region

Methods

DALYs, incidence, and prevalence rates were extracted for psoriasis, dermatitis, urticaria, pruritus, and acne vulgaris from the Global Burden of Disease 2021 database. DALYs were compared across socio-demographic index (SDI) regions. Conditions were analyzed based on average burden, disparity across SDI regions, and relative impact on disability.

Discussion

- Inflammatory skin diseases impose a substantial and unevenly distributed disability burden.
- Psoriasis and acne vulgaris emerged as the most burdensome conditions. The global disparity in psoriasis may reflect differences in healthcare access, diagnostic capabilities, environmental exposures, or genetic predispositions. The more even distribution of the burden of acne vulgaris may suggest its risk factors and management are less influenced by socioeconomic status.
- The rise of prevalence rates for psoriasis and pruritus, and the increased incidence rates of psoriasis pruritus and dermatitis may reflect either a true rise in disease occurrence or heightened awareness, recognition or reporting.
- Decreased prevalence rates for dermatitis, urticaria, and acne vulgaris may indicate improved disease management, shorter disease duration, or shifting population demographics.
- Declining urticaria and acne vulgaris incidence rates may be attributed to better prevention, lifestyle modifications or environmental exposures.

Conclusion

- The disproportionate DALY rates underscore the need for region-specific strategies and investment in affordable care to address treatment gaps in resource-limited regions.
- These trends highlight the need for targeted public health strategies, especially in high-burden and high-disparity regions, and emphasize the importance of continued surveillance, early intervention, and equitable access to dermatological care.