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29 SEPT — 2 OCT 2021



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- A VIRTUAL EXPERIENCE -



The burden of pruritus in dermatology

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The burden of pruritus in dermatology

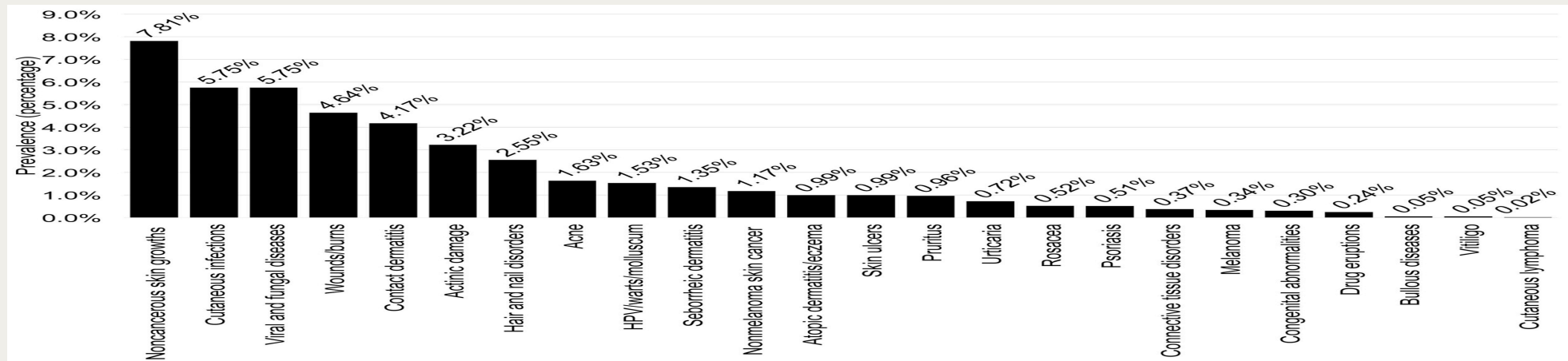
I declare no conflicts of interest

Joanna Wallengren



The burden of skin disease

Claims-based prevalence of skin disease in US 2013



- Prevalence of any skin disease 27%, affected population 84 millions. More skin disease claims than claims for cardiovascular disease or diabetes

Lim HW et al. The burden of skin disease in the United States. JAAD 2017;76:958

- In 3,530 consecutive dermatological patients, prevalence of pruritus was 70-90%. The highest mean intensity of itch was found in unclassified pruritus (VAS=7), prurigo (VAS= 6) and in atopic dermatitis, hand eczema and urticaria (VAS=5).

Schut C et al. Occurrence, Chronicity and Intensity of Itch in a Clinical Consecutive Sample of Patients with Skin Diseases: A Multi-centre Study in 13 European Countries. Acta D-V 2019;99:146

The burden of disease and of pruritus.

Evaluation and measurement

• *What will be the upshot of the statistics? While medical science has perfected an instrument for recording the heartbeat, statistical science toys with inane numbers. Does it know the frequency, strength, or intensity of the heartache suffered?... Can it count the sleepless nights...?... The hoarse words (numbers) scratch at my heart like a dull knife.*

IL Peretz. Insured from Impressions of a Journey 1891

General itch questionnaire	American or German Itch Questionnaire, PRURITOOLS
Itch intensity	Numerical rating scale (NRS) Visual analogue scale (VAS) Verbal rating scale (VRS)
Scratching and skin condition	Photographic documentation Actigraphy (eg. app for smartwatches) Prurigo Activity Score (prurigo)
Sleep impairment	Regensburg Insomnia Scale Pittsburgh Sleep Quality Index
Quality of life	ItchyQol Dermatological Life Quality Index
Psychological Scales	Hospital Anxiety and Depression Scale Beck Depression Inventory Hamilton Rating Scale for Depression Geriatric Depression Scale Itching Cognitions Questionnaire

The burden of pruritus in atopic dermatitis



- In 380 patients with moderate-to-severe atopic dermatitis, itch was reported as a problem by 85%, 42% reported reported itching ≥ 18 h/d and severity (6.5 of 10 on NRS). AD-related sleep disturbances 5 d/wk or more were reported by 55%.

Simpson EL et al. Patient burden of moderate to severe atopic dermatitis (AD): insights from a phase 2b clinical trial of dupilumab in adults. *JAAD* 2016;74:491

- In 1568 patients with atopic dermatitis: itch intensity, ability to fall asleep, reduction in nightly awakening and in returning to sleep were investigated using Atopic Dermatitis Sleep Scale (ADSS) .

Buhl T et al. Itch and Sleep Improvements with Baricitinib in Patients with Atopic Dermatitis: A Post Hoc Analysis of 3 Phase 3 Studies. *Dermatol Ther* 2021; 11:971

The burden of pruritus in atopic dermatitis



• *To its sufferers, eczema is not principally a disease of appearance. It is a disease of itch...Like almost every other disease, eczema is an interactional condition as well as an intrinsic one. When my parents fought, which they did a great deal, I would itch and scratch more. My scratching and itching probably exacerbated their bad moods and sense of helplessness as well...*

Launer J. The itch. QJ Med 97:383, 2004

- Dermatitis and pruritus influence child behavior (dependent and fearful), mood (depression and anxiety), and sleep (up to 1–3 hours of sleep loss each night)
- Caregivers reported sleep loss (“shift sleeping” and co-sleeping) and tiredness, but could also feel depressed, anxious and helpless
- Impaired finances (direct costs and work loss)
- Most pediatric patients stop scratching once their eczema is treated
- Early intervention and psychotherapy may be helpful sometimes

Yang EJ et al. The impact of pediatric atopic dermatitis on families: A review. Pediatric Derm 2019;36:66

The burden of pruritus in psoriasis



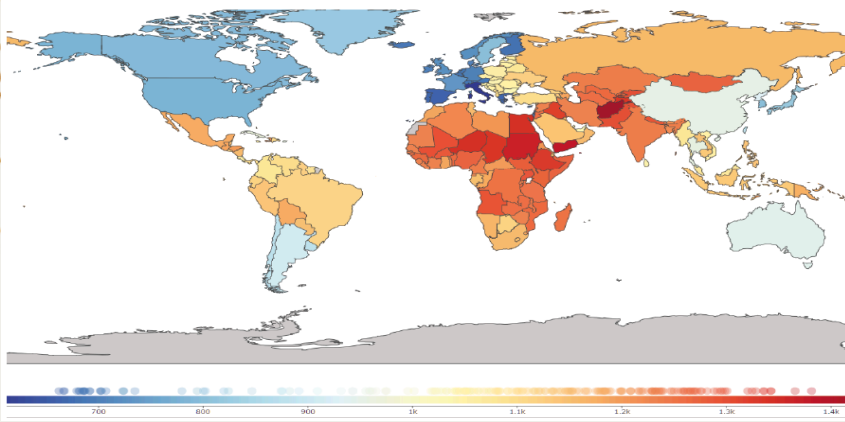
- *Up to 90 percent of people with psoriasis say they itch. For many people with psoriasis, itching is the most annoying symptom of the condition. It can be severe enough to disrupt your sleep, destroy your concentration, and interfere with your sex life.*

*Psoriasis Foundation (NPF), www.proriasis.org
Global report on psoriasis. (World Health
Organization document) 2016*

- *Study on 107 German psoriasis patients (mean age 46 y). The patient needs were to be healed of all skin defects (89%), and to be free of itching (87%). Younger age, disease severity and frequency of scratching were associated with stigmatization, sleeping problems and with sexual dysfunction.*

Sommer R et al. Significance of chronic pruritus for intrapersonal burden and interpersonal experiences of stigmatization and sexuality in patients with psoriasis. JEADV 2021;35:553

The burden of pruritus in urticaria



- Urticaria is more common and has higher burden of disease in females, children (1-4y) and in low-income regions.
- 70% of children with urticaria have co-morbid psychiatric disorders.

Peck GM al. Global Epidemiology of Urticaria: Increasing Burden among Children, Females and Low-income Regions. *Acta D-V* 2021; 101: adv00433.

Most important therapeutic goals in 103 patients (71% female) using Patient Needs Questionnaire (PNQ) and DLQI

- Absence of visible skin lesions (92% important/very important)
- To be free of itching (91%)
- The desire to be healed of all skin defects (89%).

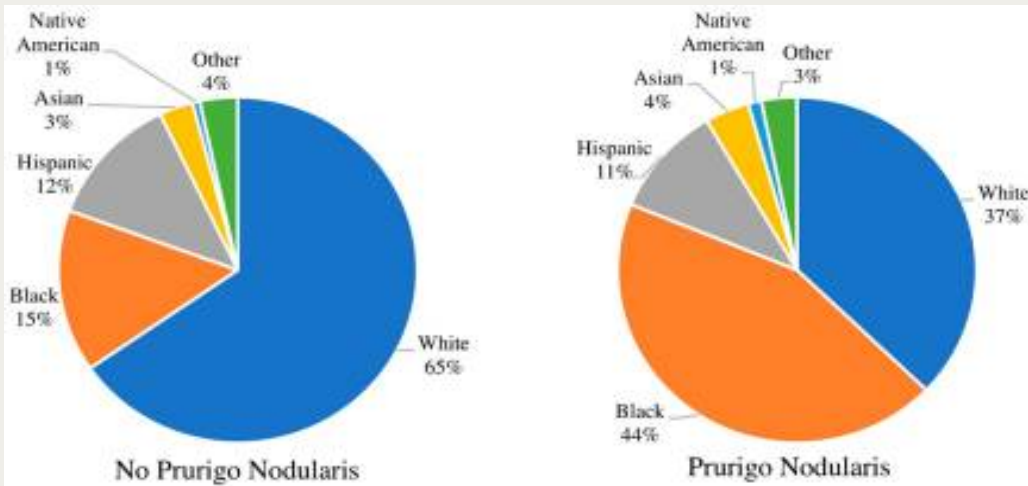
Sommer R et al. Characteristics and determinants of patient burden and needs in the treatment of chronic spontaneous urticaria. *EJD* 2020 ;30:259

The burden of pruritus in chronic prurigo

- *Know this disease for what it is: a terrible, tormenting, relentless itch.*

Shelley WB. Consultations in Dermatology II with Walter B. Shelley. 1974

- Higher prevalence of prurigo in black patients in US



Whang KA et al. Inpatient Burden of Prurigo Nodularis in the United States. Medicines 2019,6,88



- A total of 509 European patients with chronic prurigo (289 females, median age - 64 y). Patients experienced itch often or always (71%) and reported negative impact on everyday (53%). Itch was the most burdensome aspect of the disease (49%), thereafter visibility of skin lesions (21%) and bleeding of lesions (21%). Psychiatric diseases were most common comorbidities (19%).

Pereira MP et al. Chronic nodular prurigo: clinical profile and burden. A European cross-sectional study. JEADV 2020;34:2373

The burden of pruritus in bullous and rare heritable diseases



- 81% of patients with bullous pemphigoid (77) and 81% of patients with pemphigus (58) experienced pruritus



- Itch occurred in 93% of all patients with ichthyosis (94) and was a major concern with significant impact on daily life

- 146 patients with epidermolysis bullosa (11 children) rated itchiness as the most bothersome complication.

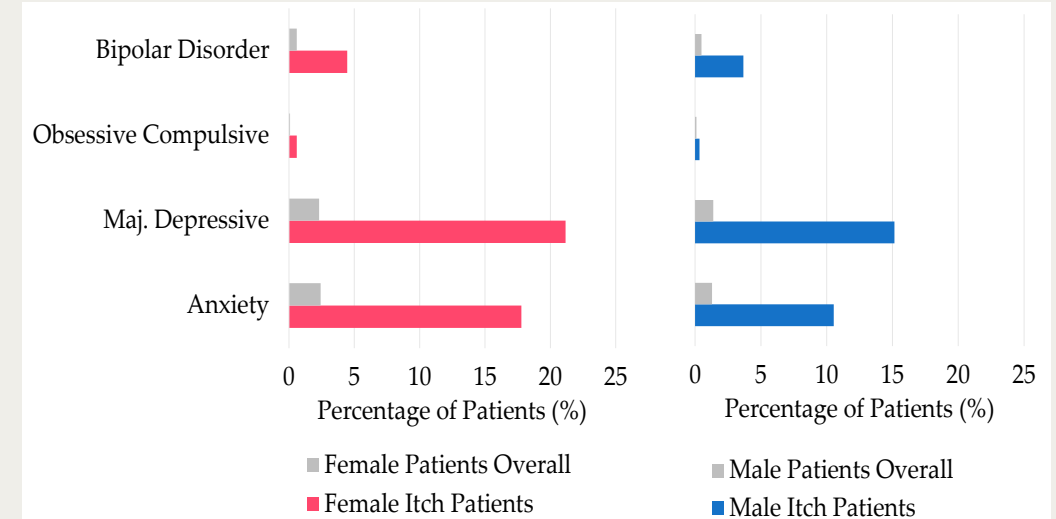
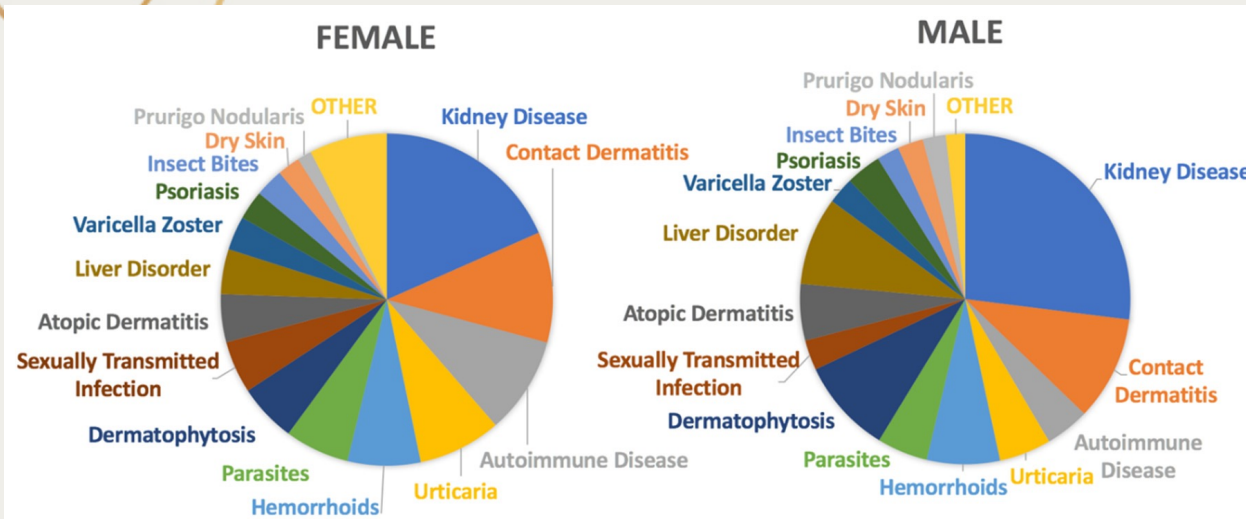
Rolader R et al. Prevalence and predictors of pruritus in pemphigus compared with bullous pemphigoid: A cross-sectional study. *JAAD* 2020;83:251

De Palma AM et al. Burden of itch in ichthyosis: a multicenter study in 94 patients. *JEADV* 2019;33:2095

Daniel C et al. Prevalence and characterization of pruritus in epidermolysis bullosa. *Pediatr Dermatol* 2015;32:53

The burden of pruritus

Gender and age differences



- Women report higher itch intensity and higher impact on quality of life
- Women are more likely to be diagnosed with autoimmune conditions and urticaria
- Women are more likely than men to have comorbid psychiatric conditions

Whang KA et al Racial and Gender Differences in the Presentation of Pruritus. *Medicines* 2019; 6:98

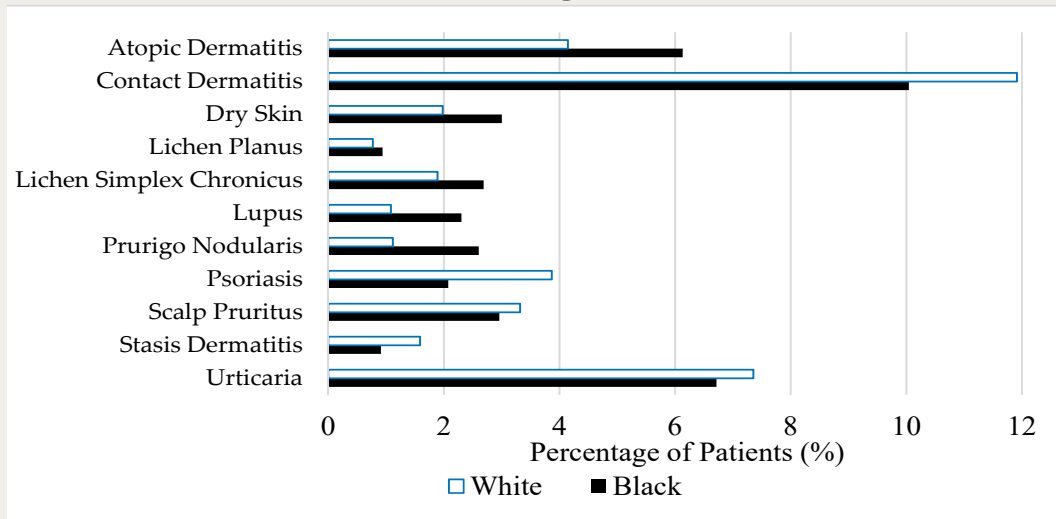
- Pruritus in elderly is more often reported in men (mostly pruritus of unknown origin) and represents high burden of disease

Clerc CJ & Misery L. A Literature Review of Senile Pruritus: From Diagnosis to Treatment. *Acta D-V* 2017;97:433

The burden of pruritus

Racial differences

- A greater proportion of black patients are affected by pruritus (prurigo, lichen planus and atopic dermatitis)
- Black patients with itch are less likely to visit a dermatologist



- Prurigo strophulus secondary to arthropods bites in 112 children of Cameroon (mean age 2 y)
- Hot climate and poor socio-economic conditions predispose, prevalence 5.5%
- Impaired quality of life of patients and their families

Whang KA et al Racial and Gender Differences in the Presentation of Pruritus. *Medicines* 2019 6: 98

Kouotou EA et al. Prurigo strophulus: Epidemiological, clinical aspects and environmental factors among children in Yaoundé, Cameroon (Sub-Saharan Africa). SHD May 2021

The economic burden of pruritus and willingness to pay

- Patients with pruritus face \$4,843.68 (adjusted for inflation) more in annual health care costs than patients without pruritus

Tripathi R et al. The cost of an itch: A nationally representative retrospective cohort study of pruritus-associated health care expenditure in the US. *JAAD* 2019;80:810

- Direct medical costs (health services and medications)
- Indirect costs (patient and caregiver away from work-lost productivity)

Societal burden of \$88.8 billion/year

- Intangible costs due to impact on QoL (willingness to pay for relief of pruritus) translated to an individual lifetime economic burden of \$274,921

Whang KA et al. Health-Related QOL and Economic Burden of Chronic Pruritus. *JID* 2021 ;141:754-760



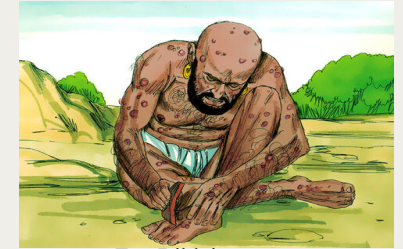
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- *I thought that having already withstood so many hardships, I could survive another. But this skin disease made me doubt.*

Job, The Book of Job

The burden of pruritus in dermatology

Summary



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- Prevalence of pruritus in many skin diseases scores 70-90%
- Pruritus rates as the most or second bothersome symptom of skin disease
- Quality of life of affected patients is impaired (stigmatization, sleeping problems or sexual dysfunction)
- Depression and anxiety are common co-morbidities
- Burden is higher in affected children, women and black patients
- Pruritus impacts quality of life of families of affected patients (partners, caregivers, siblings)
- Financial burden of pruritus on families and on society is high
- In conclusion: Effective, available and affordable anti-pruritic therapies are strongly needed

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35TH CONGRESS

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THANK YOU FOR YOUR ATTENTION