Received: 22 April 2022 | Accepted: 12 August 2022

DOI: 10.1111/jdv.18666

LETTER TO THE EDITOR

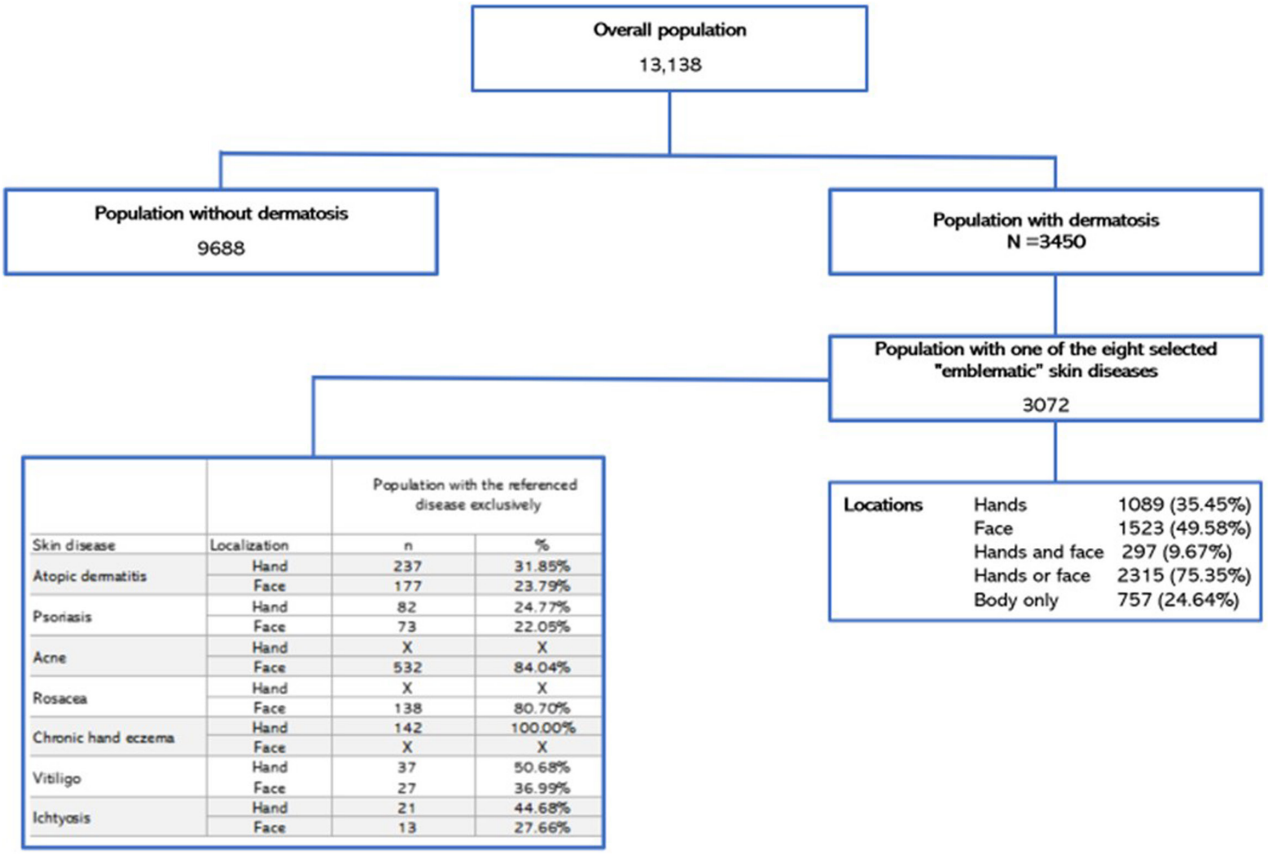
Prevalence of visible skin diseases: An international study of 13,138 people

Dear editor,

Skin diseases, regardless of their differences and particular evolution, have in common that they are often visible. These visible skin diseases result in a more or less profound narcissistic wound.[1] Our hands and face both allow us to express ourselves, to reach out to others and to communicate without having to say a word. We know that visible skin diseases [mainly localized on the hands and face] alter the self-image of patients who suffer from them.

An individual with a visible skin disease may feel worthless, uninteresting, ashamed and self-reproachful. They may even lose self-confidence to the point of questioning their own personality.[2] Despite this, no study has yet assessed the prevalence of these 'apparent skin diseases' or 'visible skin diseases'. In the present study, based on 8 emblematic skin diseases [acne, psoriasis, eczema, vitiligo, ichthyosis, chronic hand eczema, rosacea and hidradenitis suppurativa] representing more than 50% of skin diseases, we tried to quantify the prevalence of apparent skin diseases at minimum.[3]

This study mobilized a representative sample of the general population aged over 18 in each of six countries studied (Canada, China, Italy, Spain, Germany and France) using stratified sampling. The representativeness of the samples was guaranteed by the usual method of quotas stratified by age and gender with strict cross-quotas, regions and income



		Population with the referenced disease exclusively	
Skin disease	Localization	n	%
Atopic dermatitis	Hand	237	31.85%
	Face	177	23.79%
Psoriasis	Hand	82	24.77%
	Face	73	22.05%
Acne	Hand	X	X
	Face	532	84.04%
Rosacea	Hand	X	X
	Face	138	80.70%
Chronic hand eczema	Hand	142	100.00%
	Face	X	X
Vitiligo	Hand	37	50.68%
	Face	27	36.99%
Ichtyosis	Hand	21	44.68%
	Face	13	27.66%

FIGURE 1 Prevalence of dermatoses by location

levels.[4] These quotas were established for each country according to available sociodemographic data.

A total of 13,138 adult participants responded to the questionnaire; 3450 individuals (26.25%) reported having a skin disease, and 3042 (23.15%) of them reported one of the eight emblematic skin diseases (Figure 1).

Amongst responders with one of the eight selected 'emblematic' skin diseases, there were slightly more women than men (1632 (53.12%) vs. 1440 (46.88%)) (Table 1). We observed a significantly higher reported prevalence of hand involvement in men than in women (37.36% vs. 33.76%, *p*-value = 0.038) and an inverse reported prevalence of face involvement in men (45.63% vs. 53.06%, *p*-value < 0.001).

On the hands, the most frequent location was the back of the hand (50.60%), followed by the fingers (39.85%) and palms (29.94%) (Table 1). Moreover, 10.74% claimed nail involvement. Dermatosis on the back of the hand was reported significantly more frequently by women than by men. No

TABLE 1 Sociodemographic characteristics and prevalence of visible dermatoses by location and gender.

Variable	**Women (*N* = 6561)**	**Men (*N* = 6577)**	**Total (*N* = 13138)**	***p*-value**
Age mean ± SD	45.62 ± 16.62	45.02 ± 16.85	45.32 ± 16.74	0.030 (a)
Median (min; max)	46 (15; 91)	45 (15; 99)	46 (15; 99)	
Q1–Q3	[32–59]	[31–58]	[32–59]	
Age (classes), *n* (%)				0.006 (b)
25 years and under	973 (14.83%)	1078 (16.39%)	2051 (15.61%)	
26–59 years old	3948 (60.17%)	3983 (60.56%)	7931 (60.37%)	
60 years and over	1640 (25.00%)	1516 (23.05%)	3156 (24.02%)	
Country, *n* (%)				0.439 (b)
France	1027 (15.65%)	973 (14.79%)	2000 (15.22%)	
Canada	1003 (15.29%)	1008 (15.33%)	2011 (15.31%)	
Germany	1027 (15.65%)	1010 (15.36%)	2037 (15.50%)	
Spain	1004 (15.30%)	1036 (15.75%)	2040 (15.53%)	
Italy	1016 (15.49%)	984 (14.96%)	2000 (15.22%)	
China	1484 (22.62%)	1566 (23.81%)	3050 (23.22%)	
Emblematic dermatosis, *n* (%)	**Women (*N* = 1632)**	**Men (*N* = 1440)**	**Total (*N* = 3072)**	***p*-value**
Hands, *n* (%)	551 (33.76%)	538 (37.36%)	1089 (35.45%)	0.038 (c)
Face, *n* (%)	866 (53.06%)	657 (45.62%)	1523 (49.58%)	<0.001(c)
Hands and face, *n* (%)	167 (10.23%)	130 (9.03%)	297 (9.67%)	0.271(c)
Other part, *n* (%)	692 (42.40%)	611 (42.43%)	1303 (42.42%)	1.000(c)
Hand location, *n* (%)	**Women (*N* = 551)**	**Men (*N* = 538)**	**Total (*N* = 1089)**	***p*-value**
Back of the hand	303 (54.99%)	248 (46.10%)	551 (50.60%)	0.011(c)
Fingers	228 (41.38%)	206 (38.29%)	434 (39.85%)	0.524(c)
Palm of the hand	173 (31.40%)	153 (28.44%)	326 (29.94%)	0.458(c)
Nails	51 (9.26%)	66 (12.27%)	117 (10.74%)	0.078(c)
Face location, *n* (%)	**Women (*N* = 866)**	**Men (*N* = 657)**	**Total (*N* = 1523)**	***p*-value**
Cheeks	461 (53.23%)	314 (47.79%)	775 (50.89%)	0.085(c)
Forehead	385 (44.46%)	269 (40.94%)	654 (42.94%)	0.175(c)
Chin	370 (42.73%)	166 (25.27%)	536 (35.19%)	<0.001(c)
Nose	272 (31.41%)	227 (34.55%)	499 (32.76%)	0.205(c)
Edge of the scalp	185 (21.36%)	115 (17.50%)	300 (19.70%)	0.068(c)
Scalp	141 (16.28%)	134 (20.40%)	275 (18.06%)	0.044(c)
Temples	142 (16.40%)	107 (16.29%)	249 (16.35%)	1.000(c)
Ear	94 (10.85%)	108 (16.44%)	202 (13.26%)	0.001(c)
Eyelashes. Eyebrows	102 (11.78%)	90 (13.70%)	192 (12.61%)	0.276(c)
Eyelids or around eyes	102 (11.78%)	83 (12.63%)	185 (12.15%)	0.635(c)
Lips	77 (8.89%)	75 (11.42%)	152 (9.98%)	0.120(c)

Note: Statistical tests performed were (a) Wilcoxon test, (b) Chi-square test and (c) Fisher test.

significant gender difference was observed for the other locations.

Regarding the face, the most frequent locations overall were the cheeks (51%), followed by the forehead (43%) and the chin (35.2%) (Table 1). The least frequently reported locations were the lips (10%) and the ears (13.3%). Almost one in five (18.1%) individuals reported scalp involvement. Dermatosis on the chin was reported significantly more frequently by women than by men, whereas locations on the ear and the scalp were significantly more common in men. No significant gender difference was observed for the other locations.

Our study is the first to assess the prevalence of dermatoses located in a visible area of the body in representative populations and representing eight emblematic diseases. Regardless of the country, these visible locations are frequent and concern more than one individual in six (17.6%). Overall, in the general population, the prevalence rate of a location on the hands of one of the eight emblematic dermatoses is 8.9%. Beyond the as yet unpublished prevalence figures, our study sheds light on dermatoses located in a visible area, which generate stigmatization and withdrawal.

The higher prevalence of skin diseases of the hands in men and conversely the higher prevalence of skin diseases of the face in women could be explained by certain factors [even if things are changing] such as a more manual and physical work in men or the use, still more frequent compared to men, of facial cosmetics in women.

To the best of our knowledge, this report describes the prevalence of visible or apparent dermatoses in a large sample for the first time. Three out of 4 patients suffering from a skin disease reported involvement of the face and/or hands. These data are important to consider when dealing with the quality of life or burden of chronic skin diseases.

ACKNOWLEDGEMENTS

The authors acknowledge Helene Passerini, who supported and largely participated in this work, the participation of the 13138 subjects in this study.

FUNDING INFORMATION

This study was granted by the Patient Centricity Department of Pierre Fabre.

CONFLICT OF INTEREST

Marketa Saint Aroman and Catherine Baissac are employed by Pierre Fabre. The other co-authors have no disclosures.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Bernard Cribier[1]
Marketa Saint Aroman[2]
Stéphanie Merhand[3]
Roberte Aubert[4]
Anne Audouze[5]
Clemence Legrand[6]
Martine Carre[7]
Helene Raynal[8]
Catherine Baissac[9]
Charles Taieb[10]
Marie Aleth Richard[11]

[1]*Clinique Dermatologique, University Hospital, Strasbourg, France*
[2]*Head of Corporate Medical Direction Pharma, Dermocosmetics Care & Personal Care, Fabre, Pierre, USA*
[3]*Association Française de l'Eczéma, Redon, France*
[4]*France Psoriasis, Paris, France*
[5]*Association Ichtyose France, Bellerive-Sur-Allier, France*
[6]*France Acné Adolescents Adultes, Vincennes, France*
[7]*Association Française du Vitiligo, Paris, France*
[8]*Solidarité Verneuil, Villeurbanne, France*
[9]*Head of Patient Centricity, Dermocosmetics Care & Personal Care, Fabre, Pierre, USA*
[10]*European Market Maintenance Assessment, Patients Priority Department, Fontenay-sous-Bois, France*
[11]*CEReSS-EA 3279, Research Centre in Health Services and Quality of LifeAix Marseille University, Dermatology Department, University Hospital Timone, Assistance Publique Hôpitaux de Marseille, APHM, Marseille, France*

Correspondence
Charles Taieb, Patient Priority Department, European Market Maintenance Assessment, Fontenay-sous-Bois, France.
Email: charles.taieb@emma.clinic

ORCID

Marketa Saint Aroman https://orcid.org/0000-0001-6124-5122
Charles Taieb https://orcid.org/0000-0002-5142-2479

REFERENCES

1. Rauchfleisch U, Schuppli R, Haenel T. Zur Persönlichkeit von Patienten mit dermatologischen Artefakten [Personality of patients with dermatologic artefacts]. Z Psychosom Med Psychoanal. 1983;29(1):76–84.
2. Misery L, Taieb C, Schollhammer M, Bertolus S, Coulibaly E, Feton-Danou N, et al. Psychological consequences of the Most common dermatoses: data from the Objectifs Peau study. Acta Derm Venereol. 2020;100:adv00175.
3. Richard MA, Corgibet F, Beylot-Barry M, Barbaud A, Bodemer C, Chaussade V, et al. Sex- and age-adjusted prevalence estimates of five chronic inflammatory skin diseases in France: results of the « OBJECTIFS PEAU » study. J Eur Acad Dermatol Venereol. 2018;32(11):1967–71.
4. Richard MA, Paul C, Nijsten T, Gisondi P, Salavastru C, Taieb C, et al. EADV burden of skin diseases project team. Prevalence of most common skin diseases in Europe: a population-based study. J Eur Acad Dermatol Venereol. 2022;36:1088–96.