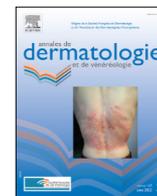




Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en



Original article

Burden of visible [face and hands] skin diseases: Results from a large international survey



M.-A. Richard^{a,b}, M. Saint Aroman^c, C. Baissac^d, S. Merhand^e, R. Aubert^f, A. Audouze^g, C. Legrand^h, C. Beausillon^h, M. Carreⁱ, H. Raynal^j, C. Bergqvist^k, C. Taieb^{l,*}, B. Cribier^m

^a Department of Dermatology, Aix-Marseille University, La Timone University Hospital, Marseille, France

^b CEReSS-EA 3279, Health Services and Quality of Life Research Centre, Aix Marseille University, Dermatology Department, La Timone University Hospital APHM, 13385 Marseille, France

^c Head of Corporate Medical Direction Pharma, Dermocosmetics Care & Personal Care, Pierre Fabre, France

^d Head of Patient Centricity, Dermocosmetics Care & Personal Care, Pierre Fabre, France

^e Association Française de l'Eczéma, Redon, France

^f France Psoriasis, Paris, France

^g Association Ichtyose France, Bellerive-Sur-Allier, France

^h France Acné Adolescents Adultes, Vincennes, France

ⁱ Association Française du Vitiligo, Paris, France

^j Solidarité Verneuil, Villeurbanne, France

^k Department of Dermatology, CHU Henri Mondor, Créteil, France

^l European Market Maintenance Assessment, Patients Priority Dpt, Fontenay sous Bois, France

^m Clinique Dermatologique, University Hospital, Strasbourg, France

ARTICLE INFO

Article history:

Received 6 March 2022

Accepted 8 November 2022

Available online 16 January 2023

Keywords:

Visible skin disease

Burden

Stigma

Health-related quality of life

ABSTRACT

Background: While numerous surveys over the last decade have evaluated the burden of skin diseases, none have focused on the specific impact of disease-location on the hands and face.

Aim: The purpose of our study was to evaluate the burden of 8 skin diseases on the multidimensional aspects of subjects' daily lives in respect to their location on visible body areas (face or hands) versus non-visible areas.

Methods: This was a population-based study in a representative sample of the Canadian, Chinese, Italian, Spanish, German and French populations, aged over 18 years using the proportional quota sampling method. All participants were asked (i) to complete a specific questionnaire including socio-demographic characteristics, (ii) to declare if they had a skin disease. All respondents with a skin disease were asked (iii) to specify the respective disease locations (hands, face, body) and (iv) to complete the DLQI questionnaire. Respondents with 8 selected skin diseases were asked (v) to complete a questionnaire evaluating the impact of the skin disease on their daily life, including their professional activity, social relations, emotional and intimate life, leisure, sports activities and perceived stigma.

Results: A total of 13,138 adult participants responded to the questionnaire, of whom 26.2% (n = 3,450) had skin diseases, and 23.4% (n = 3,072) reported having one of the 8 selected skin diseases. Fifty-three percent were women and the mean age was 39.6 ± 15.5 years. The QoL was mostly impaired when the visible localization was solely on the hands as compared with the face (38% had a DLQI > 10 versus 22% respectively). More subjects with a visible localization on the hands reported felt-stigma, having difficulty falling asleep and felt that their sex life had been affected.

Conclusion: Special attention should be given to patients with skin disease on the hands and face as they are at higher risk of social exclusion and lower quality of life.

© 2022 The Author(s). Published by Elsevier Masson SAS. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

* Corresponding author at: Patient Priority Department, European Market Maintenance Assessment, France.

E-mail address: charles.taieb@emma.clinic (C. Taieb).

<https://doi.org/10.1016/j.annder.2022.11.008>

0151-9638/© 2022 The Author(s). Published by Elsevier Masson SAS.

This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Since most skin diseases are rarely life-threatening, they are often dismissed medically and regarded primarily as cosmetic issues. However, the long-term impact of skin diseases on quality

of life and psychosocial health is profound and well-documented [1]. The burden of skin disease involves physical, psychological and social consequences [2]. Indeed, skin diseases pose a significant threat to patients' well-being, mental health, social interaction and ability to function [3]. Skin disorders cause higher 'years lost due to disability' than other diseases such as diabetes mellitus. Furthermore, psychological distress and impairments in quality of life are much higher in patients with skin diseases than in those without skin conditions [1]. Furthermore, the skin is the most visible organ of the human body and has an important bearing in interpersonal communication. Some skin diseases share several attributes: they are often visible, chronic and relapsing, and constitute lifelong disorders that impair quality of life (QoL) and ability to cope. The hand and face are undoubtedly the most frequently exposed parts of the body and are permanently visible to others. The term "visible skin diseases" (VSD) is widely used to designate certain of these skin conditions. However, since skin diseases can sometimes be strikingly visible and eye-catching, the term "conspicuous skin diseases" is clearly more suitable. Other possible terms include "apparent skin diseases", "noticeable skin diseases". Interestingly, clinical severity is not uniformly associated with decreased QoL since various other factors seem to affect QoL [4–6]. The presence of a skin disease on a small, yet visible, area might possibly be expected to have a higher negative impact on social interactions and QoL compared with the involvement of a larger area on the rest of the body. While numerous surveys have evaluated the burden of skin diseases in the last decade, very few have focused on the impact of disease location specifically on the hands and face. The purpose of our study was thus to evaluate the burden of 8 skin diseases on the multidimensional aspects of subjects' daily lives with regard to disease location on visible body areas (face or hands) versus non-visible areas.

2. Methods

2.1. Study design

This was an observational, cross-sectional study. Because it used completely anonymized data and did not involve patient contact, institutional review board approval was not required.

2.2. Study population

The survey was conducted by a polling institute (HC Conseil Paris, France) between September and December 2020. In each of the 6 countries in which it was conducted (Canada, China, Italy, Spain, Germany and France), the study recruited a representative sample of the general population aged over 18 years, according to the proportional quota sampling method (age, sex, geographic location and income level), as previously described [7].

Data were collected via the Internet for a random selection of 16,427 Canadian, Chinese, Italian, Spanish, German, and French subjects from the 900,000 Internet users aged over 18 years willing to participate in surveys. Each selected participant was contacted by e-mail. If contact was not made, another potential participant with the same characteristics was randomly selected instead.

2.3. Study procedures

Participants were invited to complete a structured and consolidated digital questionnaire that included various items specifically related to socio-demographics (sex, age, occupation, marital status, area of residency, and total income, among others). Subjects confirming the presence of a skin disease, as verified by a health professional, were asked to specify the respective locations thereof

(hands, face, body). Respondents were also asked about the presence of 8 skin diseases, including the 5 most common in Europe [7]: atopic dermatitis, psoriasis, alopecia areata, vitiligo, hidradenitis suppurativa (HS) [although for HS, localizations on the hands or face were not reported], acne, chronic hand eczema and ichthyosis. Although ichthyosis is rare, we chose to include it because it is a highly stigmatized disease with a high burden and significant negative impact on the QoL of affected individuals [8,9]. Respondents who reported having one of these 8 diseases were asked to complete a non-validated questionnaire evaluating the impact of the skin disease on their daily life including their professional activity, social relations, emotional and intimate life, leisure, sports activities, and notion of personal stigma. This latter questionnaire was specifically developed for this study by a panel of experts that included dermatologists, public health specialists and patient association representatives. Questions on the impact of skin diseases on patients' daily lives were the result of focused interviews with patient associations acquainted with patients' daily life struggles. The questionnaire is the result of a collaborative work, in line with the notion of patient centrality, and was constructed in such a way as to capture the experiences of patients (Table S1, supplementary material available on line). Quality of life was assessed for all responders reporting a skin disease using the Dermatology Life Quality Index (DLQI), which is a simple, validated and practical questionnaire designed to assess the impact of a given skin disease and its treatment on the quality of life of people presenting that particular disease [10,11]. The score is rated out of 30 (a score of less than 5 or less indicates low impact of the disease on the patient's life, while a score of between 6 and 10 indicates a moderate effect, and a score of 11 or more indicates a significant effect, or even an extremely significant effect if greater than 20) [12]. We assessed the DLQI for each of the identified populations by first considering the mean score and then assessing the prevalence of significant impact [i.e., DLQI > 10].

2.4. Statistical methods

Categorical values were described as numbers and percentages, and continuous variables as means. Patients were compared in respect to the location of the skin disease on visible (hand or face) areas versus non-exposed body areas. Patients with a visible localization of the skin disease were further classified into three categories: those reporting a visible localization solely on the hands, those reporting a visible localization solely on the face, and those reporting a visible localization reported on both the face and hands. Thus, any burden or negative impact on QoL described is more likely to be attributed to the specific visible area indicated. While this might lead to loss of power by reducing the sample size in each category, it unquestionably adds robustness to the results.

3. Results

3.1. Participant characteristics

A total of 13,138 adult participants responded to the questionnaire (2,011 Canadians, 3,050 Chinese, 2,000 French, 2,000 Italians, 2,040 Spanish, and 2,037 Germans). Of these participants, 26.2% (n = 3,450) had skin diseases, and 23.4% (n = 3,072) reported having one of the 8 selected skin diseases as described above. Fifty-three percent were women; the mean age was 39.6 ± 15.5 years. A total of 905 (29%) of the 3,072 participants reported having two or more of the 8 diseases (Table 1).

Seventy-five percent (n = 2,315) reported a disease location on a visible area of their body (Fig. 1, Table 1). A total of 35.5% (n = 1,089) reported a visible localization on the hands, 45.6%

Table 1
Description of the population with one of the 8 selected skin diseases by localization. Skin diseases affecting fewer than 30 individuals are not described.

Skin disease	Localization	Population with at least one of the 8 diseases including the referenced disease		Population with the referenced disease exclusively	
		n	%	n	%
Atopic dermatitis	Hand	530	41.41	237	31.85
	Face	489	38.20	177	23.79
Psoriasis	Hand	226	38.24	82	24.77
	Face	208	35.19	73	22.05
Acne	Hand	236	21.53	X	X
	Face	865	78.92	532	84.04
Rosacea	Hand	139	31.59	X	X
	Face	341	77.50	138	80.70
Chronic hand eczema	Hand	422	100.00	142	100.00
	Face	139	32.94	X	X
Vitiligo	Hand	104	60.12	37	50.68
	Face	89	51.45	27	36.99
Ichthyosis	Hand	90	63.83	21	44.68
	Face	68	48.23	13	27.66

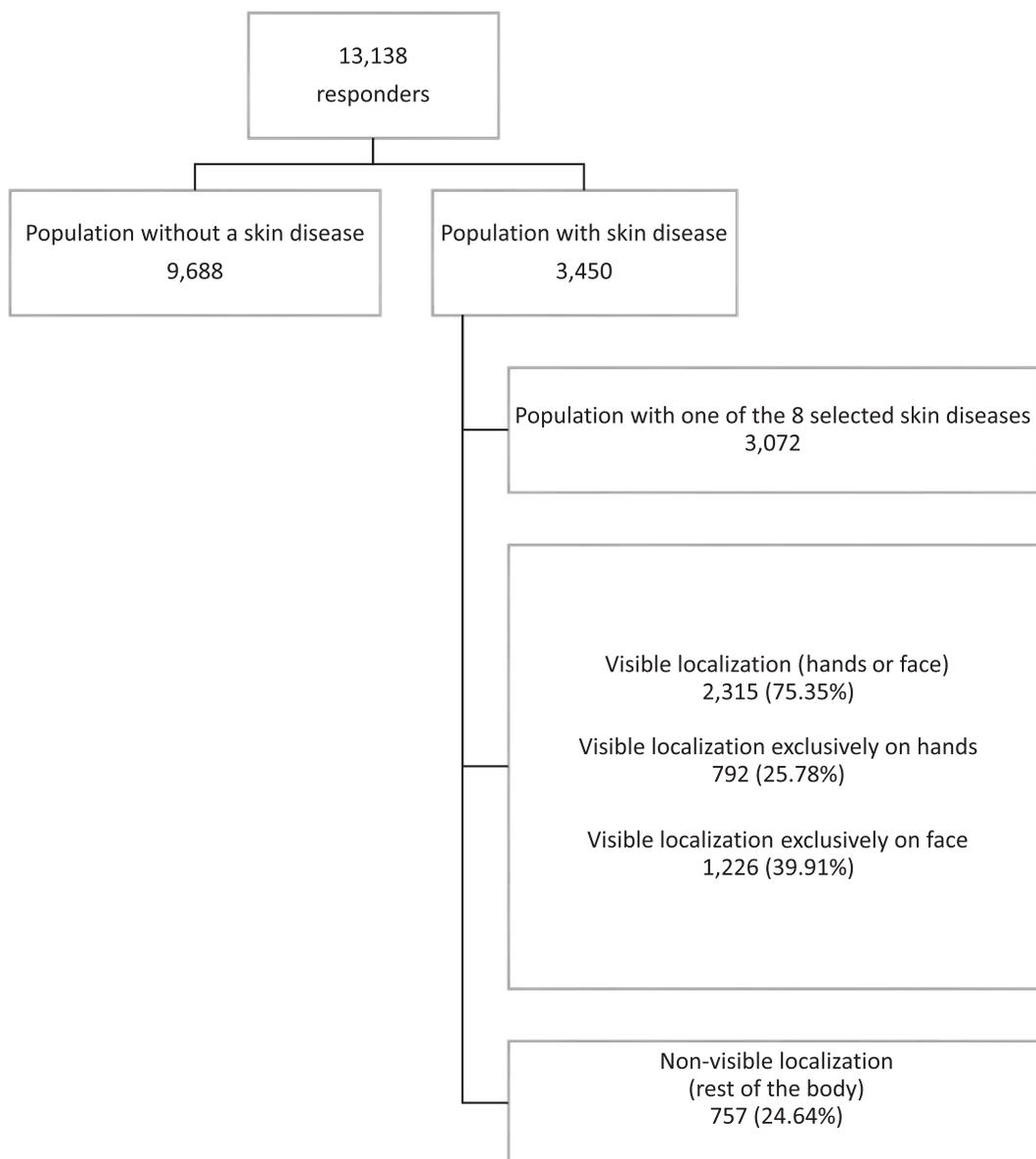


Fig. 1. Population of responders by presence of a skin disease.

(n = 1,523) on the face, and 24.6 % (n = 757) solely on the rest of the body (Table 2). Whereas 25.8 % (n = 792) and 39.9 % (n = 1,226) reported visible involvement solely on the hands and face respectively, only 9.7 % (n = 297) reported visible localization on both the face and hands.

Overall, 43.7 % (n = 1,343) of the population considered their skin disease a hindrance to their personal life, with no difference according to gender. Similarly, 59.6 % (n = 1,830) of the population considered their skin disease a hindrance to their professional life with consequences for their work, with no difference according to gender.

3.2. Impact of visible skin diseases on daily life

According to the DLQI, 27.2 % (n = 837) of the overall population with a skin disease had a score indicating significant impact of the disease on QoL [DLQI > 10]. There was a striking difference between subjects with and without a visible localization (Table 3). Indeed, 32 % of subjects with a visible localization had a DLQI > 10 compared with 14 % of subjects without a visible localization. QoL was impaired primarily where the visible area was localized on both the hands and the face (55 %), followed by localization solely on the hands (38 %), and on the face (22 %).

Among responders with one of the 8 selected diseases, 23.1 % of subjects with a visible localization felt that their sex life was affected, 39.7 % reported having difficulty sleeping, and 42 % reported feeling tired (Table 4). Regarding stigma, 25.2 % felt rejected, 26.5 % felt they were looked at with disgust, 42 % expressed feelings of discouragement, and 26.4 % felt that they were avoided. These different experiences differed according to whether the disease was localized solely on the face or hands or simultaneously on the hands and face (Table 4).

3.3. Impact of skin disease localized on the hands

Among subjects with one of the 8 selected skin diseases localized on the hands (n = 1,089), 30.8 % considered their hand dermatosis a handicap in their professional activity, 31.4 % in their social relations, 29.7 % in their emotional and intimate life, 27 % in their leisure activities, and 26.4 % in their sports activities. Similarly, 34.5 %, 34.8 % and 30.8 % respectively considered that their personal life would have been different, their professional life richer, and their career development more promising without their hand dermatosis. Of these responders, 26.3 % admitted having difficulty using a smartphone or a computer keyboard because of skin damage to their hands, while 32.2 % reported being hampered in their daily activities (holding a pen, cooking, tying their shoelaces, turning a key) because of damage to skin on their hands.

3.4. Impact of skin disease localized on the face

Among subjects with one of the 8 selected skin diseases localized on the face (n = 1,523), 23.1 % considered their facial dermatosis a handicap in their professional activity, 28.8 % in their social relations, 28 % in their emotional and intimate life, 23 % in their leisure activities, and 19.2 % in their sports activities. Similarly, 30 %,

23.9 % and 21.7 % respectively considered that their personal life would have been different, their professional life richer, and their career development more promising without their facial impairment.

4. Discussion

This study demonstrates the high burden of visible skin diseases on the multidimensional aspects of subjects' daily lives. Indeed, the presence of a skin disease on a visible area is twice as detrimental to the QoL of subjects as presence on non-visible areas.

The most interesting finding of our study is that localization of a skin disease on the hands has a higher negative impact on multiple aspects of subjects' daily lives compared with localization on the face. A higher proportion of subjects with a visible localization on the hands considered their dermatosis a handicap not only in their professional activity, in leisure activities and in sports activities, but surprisingly also in their social relations and in their emotional and intimate life, as compared with subjects with a visible localization on the face. Indeed, impairment of QoL was chiefly seen where the visible localization was solely on the hands as compared with the face (38 % had a DLQI > 10 versus 22 % respectively). More subjects with a visible localization on the hands reported perceived stigma and difficulty falling asleep, and they felt that their sex life had suffered. Lastly, visible localization on both the face and hands greatly increases deterioration in quality of life.

As mentioned above, the literature regarding evaluation of the impact of specific disease-location on patients' daily lives is scarce. While several studies have demonstrated a higher burden of diseases located on "visible parts", none have looked at the hand and face separately (which were always clumped together) [6,13–15]. We found one study reporting that localization of psoriatic lesions on the back of hands was related to higher stigmatization levels, but not involvement of the face, nails, palms, or genital area, nor overall disease severity [16]. These results are in line with our findings and further corroborate the importance of evaluating the location of a given skin disease as a specific factor affecting patients' lives.

As the most exposed parts of the body, the hand and face both provide important non-verbal information through facial expression and hand gestures. Perception of faces and visual attention directed towards faces and hands are crucial in human social communication, and thus visible skin disorders, which have a significant impact on physical appearance, influence other people's attitudes and behaviors [17–19]. In addition to being a communication tool, the hand performs multiple functional tasks of daily life. It thus unsurprising that more subjects with a visible localization on the hands reported functional handicap in their professional and sports activities, compared to subjects with a visible localization on the face. Furthermore, the hand mediates touch, and allows us to reach out to others. Subjects with a visible localization on the hands reported experiencing greater feelings of stigma than others. Indeed, visible lesions on the hands can elicit disgust or fear of contagion in an outside observer, making them afraid of direct or indirect contact with the affected hands.

Table 2
Description of the population with one of the 8 selected skin diseases by localization.

	Overall		Male		Female		Pearson's Chi-squared test
	n	%	n	%	n	%	
Visible localization on both the face and hands	297	9.67 %	130	9.03 %	167	10.23 %	NS
Visible localization solely on the hands	792	25.78 %	408	28.33 %	384	23.53 %	0.002
Visible localization solely on the face	1,226	39.91 %	527	36.60 %	699	42.83 %	0.0004

Table 3
Assessment of quality of life by disease localization among all respondents with a skin disease.

DLQI	n	Mean	SD	Important impact		Low impact	
Non-visible localization	757	4.73	4.96	105	13.87 %	519	68.56 %
Visible localization solely on the hands	792	9.03	7.62	303	38.26 %	346	43.69 %
Visible localization solely on the face	1,226	5.84	5.95	265	21.62 %	755	61.58 %
Visible localization on both the face and hands	297	12.24	7.99	164	55.22 %	77	25.93 %
Pearson's Chi-squared test	Non-visible localization		VL solely on the hands	VL solely on the face		VL on both the face and hands	
Non-visible localization			p-value<0.0001	p-value<0.0001		p-value<0.0001	
VL solely on the hands	p-value<0.0001			p-value<0.0001		p-value<0.0001	
VL solely on the face	p-value<0.0001			p-value<0.0001		p-value<0.0001	
VL on both the face and hands	p-value<0.0001			p-value<0.0001		p-value<0.0001	

DLQI: Dermatology Life Quality Index; SD: Standard deviation.
Impact was considered high where DLQI > 10.
Impact was considered low where DLQI < 6.

Table 4
Self-stigma, psychosocial health, sleep and sex life by gender and localization of skin disease among respondents with one of the 8 selected skin diseases.

	Overall		Visible localization solely on the hands		Visible localization solely on the face		Visible localization on both the face and hands		Pearson's Chi-squared test
	n	%	n	%	n	%	n	%	
Feels left out or rejected by others	773	25.16 %	237	29.92 %	297	24.23 %	140	47.14 %	<0.0001
Feels other are looking at him/her with disgust	815	26.53 %	234	29.55 %	328	26.75 %	146	49.16 %	<0.0001
Has the impression that others avoid touching him/her	812	26.43 %	269	33.96 %	286	23.33 %	147	49.49 %	<0.0001
Has the impression that others avoid approaching him/her	753	24.51 %	238	30.05 %	287	23.41 %	143	48.15 %	<0.0001
Feels a sense of discouragement	1291	42.02 %	358	45.20 %	513	41.84 %	186	62.63 %	<0.0001
Feels tired	1366	42.02 %	359	45.20 %	537	41.84 %	201	67.68 %	<0.0001
Has difficulty falling asleep	1221	39.75 %	339	42.80 %	443	36.13 %	176	59.26 %	<0.0001
Feels his/her sex life has been affected	631	23.13 %	195	27.78 %	206	18.90 %	132	48.18 %	<0.0001
MALE	Global		Visible localization solely on the hands		Visible localization solely on the face		Visible localization on both the face and hands		
	n	%	n	%	n	%	n	%	
Feels left out or rejected by others	406	28.19 %	141	34.56 %	146	27.70 %	73	56.15 %	<0.0001
Feels like others are looking at him with disgust	401	27.85 %	141	34.56 %	144	27.32 %	67	51.54 %	<0.0001
Has the impression that others avoid touching him	431	29.93 %	158	38.73 %	147	27.89 %	71	54.62 %	<0.0001
Has the impression that others avoid approaching him	404	28.06 %	147	36.03 %	143	27.13 %	74	56.92 %	<0.0001
Feels a sense of discouragement	542	37.64 %	184	45.10 %	195	37.00 %	81	62.31 %	<0.0001
Feels tired	583	37.64 %	183	45.10 %	216	37.00 %	82	63.08 %	<0.0001
Has difficulty falling asleep	555	38.54 %	177	43.38 %	189	35.86 %	80	61.54 %	<0.0001
Feels his sex life has been affected	323	24.94 %	121	33.89 %	101	20.91 %	60	49.18 %	<0.0001
FEMALE	Global		Visible localization solely on the hands		Visible localization solely on the face		Visible localization on both the face and hands		
	n	%	n	%	n	%	n	%	
Feels left out or rejected by others	367	22.49 %	96	25.00 %	151	21.60 %	67	40.12 %	<0.0001
Feels like others are looking at her with disgust	414	25.37 %	93	24.22 %	184	26.32 %	79	47.31 %	<0.0001
Has the impression that others avoid touching her	381	23.35 %	111	28.91 %	139	19.89 %	76	45.51 %	<0.0001
Has the impression that others avoid approaching her	349	21.38 %	91	23.70 %	144	20.60 %	69	41.32 %	<0.0001
Feels a sense of discouragement	749	45.89 %	174	45.31 %	318	45.49 %	105	62.87 %	<0.0001
Feels tired	783	45.89 %	176	45.31 %	321	45.49 %	119	71.26 %	<0.0001
Has difficulty falling asleep	666	40.81 %	162	42.19 %	254	36.34 %	96	57.49 %	<0.0001
Feels her sex life has been affected	308	21.49 %	74	21.45 %	105	17.30 %	72	47.37 %	<0.0001

The main strength of this study was the large international population-based sample as well as inclusion of the most common skin diseases. The main limitation of the current study is the self-reported diagnoses, as the skin disease was not necessarily confirmed by a dermatologist. However, our methodology allowed the inclusion of a very large number of subjects representative of the real-life population, thereby avoiding healthcare-based recruitment bias, especially since 46 % of the included participants reported not having consulted a healthcare professional in the pre-

vious 12 months. Moreover, this study was limited to only 8 skin diseases, and the results perhaps cannot be generalized to other dermatoses; however, these 8 skin diseases represented 89 % of all skin diseases reported by respondents.

In conclusion, this study confirms the high burden of visible skin diseases with regard to multiple aspects of patients' lives. Localization on the hand appears more debilitating than localization on the face and the rest of the body. Special attention should be given to patients with localization of their skin disease on both

the hands and the face since they are at higher risk of social exclusion and lower quality of life.

Conflicts of interest

Marketa Saint Aroman and Catherine Baissac are employed by Pierre Fabre. The other authors declare that they have no conflicts of interest.

Funding

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

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

The authors would like to thank Helene Passerini for her great support and participation in this study, the 13138 subjects in this study for taking part, and Michael Fijnvandraat for his help in writing up the report.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.annder.2022.11.008>.

References

- [1] Misery L, Taieb C, Schollhammer M, et al. Psychological consequences of the most common dermatoses: data from the Objectifs Peau Study. *Acta Derm Venereol* 2020;100:adv00175.
- [2] Basra MK, Shahrukh M. Burden of skin diseases. *Expert Rev Pharmacoecon Outcomes Res* 2009;9:271–83.
- [3] Brown MM, Chamlin SL, Smidt AC. Quality of life in pediatric dermatology. *Dermatol Clin* 2013;31:211–21.
- [4] Mosam A, Vawda NB, Gordhan AH, et al. Quality of life issues for South Africans with acne vulgaris. *Clin Exp Dermatol* 2005;30:6–9.
- [5] He Z, Marrone G, Ou A, et al. Factors affecting health-related quality of life in patients with skin disease: cross-sectional results from 8,789 patients with 16 skin diseases. *Health Qual Life Outcomes* 2020;18:298.
- [6] Heydendael VM, de Borgie CA, Spuls PI, et al. The burden of psoriasis is not determined by disease severity only. *J Investig Dermatol Symp Proc* 2018;32:1967–71.
- [7] Richard MA, Corgibet F, Beylot-Barry M, 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;32:1967–71.
- [8] Dreyfus I, Pauwels C, Bourrat E, et al. Burden of inherited ichthyosis: a French national survey. *Acta Derm Venereol* 2015;95:326–38.
- [9] Ahogo Kouadio C, Enoh J, Gbery Ildevert P, et al. Lamellar Ichthyosis in Sub-Saharan Africa: social stigmatization and therapeutic difficulties. *JAMA Dermatol* 2017;153:476–547.
- [10] Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI)—a simple practical measure for routine clinical use. *Clin Exp Dermatol* 1994;19:210–6.
- [11] Lewis V, Finlay AY. 10 years experience of the Dermatology Life Quality Index (DLQI). *J Investig Dermatol Symp Proc* 2004;9:169–80.
- [12] Finlay AY. Quality of life measurement in dermatology: a practical guide. *Br J Dermatol* 1997;136:305–14.
- [13] Schmid-Ott G, Kunsebeck HW, Jecht E, et al. Stigmatization experience, coping and sense of coherence in vitiligo patients. *J Eur Acad Dermatol Venereol* 2007;21:456–61.
- [14] Picardi A, Abeni D, Renzi C, et al. Increased psychiatric morbidity in female outpatients with skin lesions on visible parts of the body. *Acta Derm Venereol* 2001;81:410–4.
- [15] Kostyla M, Stecz P, Wrzesinska M. Location of lesions versus intensity of psychopathological symptoms in patients with skin diseases. *Psychiatr Pol* 2018;52:1101–2.
- [16] Hawro M, Maurer M, Weller K, et al. Lesions on the back of hands and female gender predispose to stigmatization in patients with psoriasis. *J Am Acad Dermatol* 2017;76:648–54.
- [17] Jack RE, Schyns PG. The human face as a dynamic tool for social communication. *Curr Biol* 2015;25:R621–34.
- [18] Creadore A, Manjaly P, Li SJ, et al. Evaluation of stigma toward individuals with alopecia. *JAMA Dermatol* 2021;157:392–8.
- [19] Pearl RL, Wan MT, Takeshita J, et al. Stigmatizing attitudes toward persons with psoriasis among laypersons and medical students. *J Am Acad Dermatol* 2019;80:1556–63.