

LETTER TO THE EDITOR

Large-scale international study on scalp seborrheic dermatitis: Prevalence, demographics, healthcare trends and quality of life

Dear Editor,

Seborrheic dermatitis (SD) can affect the scalp, face and trunk. Studies on prevalence and quality of life (QoL) of SD patients were mostly limited to one country and included all SD localization (aSDI). We conducted an international study based on a self-reported structured questionnaire on scalp seborrheic dermatitis (SSD) to assess its prevalence, demographics, healthcare trends and impact on QoL.

The survey¹⁻³ involved individuals ≥ 16 y. o in 20 countries.

Quota sampling was used based on the distribution of the population according to age, sex, environment and income. Participants were asked to complete a structured questionnaire. They were considered to have SSD if they confirmed to have all five of the following: (1) dandruff (2) that is permanent or intermittent (3) thick, greasy, yellowish stuck to the scalp, (4) associated with red patches (5) that are sometimes or always pruritic.

Results are in [Tables 1 and 2](#).

The age prevalence was 3.4% between [16 and 39], 3.2% between [40 and 64] and 2.9% ≥ 65 y.o ($p < 10^{-3}$). The prevalence in urban areas was 3.8%, 2.1% in semi-urban and 1.8% in rural areas ($p < 10^{-3}$).

Our study demonstrated an overall prevalence of SSD of 3.3%. In studies on aSDI, the prevalence of aSDI ranged between 1% and 5%.⁴⁻⁶ The prevalence was lowest in North America and highest in East Asia. As in studies on aSDI, our study showed that SSD was significantly highest in middle-aged adults. The prevalence decreased between the ages [40 and 64] and was lowest after 65. However, unlike some studies on aSDI⁴ which mostly supported an overall male preponderance (with some even showing a slight female preponderance), our study showed no significant difference in the overall worldwide prevalence of SSD in men vs women. SSD was significantly higher in urban compared to rural areas. We believe that this results from urban areas having higher pollution rates, which increases the abundance of *Malassezia* spp.⁷ North America was the least region in the world where individuals visited a healthcare professional for their SSD. Moreover, among those who visited a doctor, the proportion visiting a dermatologist was also lowest

in North America compared to other regions in the world. This might be attributed to higher healthcare costs in the US and Canada. While there was no difference in the degree of embarrassment in personal life between genders, men had significantly more embarrassment in their professional life. Shorter hair and/or hair loss, making SSD more visible, along with female styling tricks to hide scalp disorders, might explain this difference. Moreover, SSD in men and 16–40 y. o individuals has a significantly higher impact on skipping work or studies, giving up on vacations and leisure activities, skipping up beauty treatments, checking appearance every time they cross a mirror, and feeling people avoid them and look at them with disgust. This is in contrast with other smaller studies on aSDI that show a higher impact on QoL in females.⁸ Limits: some countries as Senegal, South Africa, India have low frequency of internet users, which might cause a selection bias.

In conclusion, this first worldwide study on SSD showed that North America had among the lowest prevalence of SSD and the lowest proportions of SSD individuals visiting a dermatologist, while the highest prevalence was in East Asia. There was no gender difference in prevalence, but a higher impact on QoL was found in men. This should prompt physicians to assess the QoL in patients with SSD, especially men, in order to offer them optimal medical and psychological management. Finally, it would be interesting to evaluate in a later stage, the predictive clinical factors of SSD which are associated with an alteration of the QoL of patients.

FUNDING INFORMATION

This study was granted by the Patient Centricity, Pierre Fabre [All project].

CONFLICT OF INTEREST STATEMENT

Nuria Perez Cullell, C Baissac, V Ménégaud and M Saint Aroman are employed by the Pierre Fabre Laboratory. Jerry Shapiro, Ramon Grimalt, Charbel Skayem, Yaron Ben Hayoun, C Taieb, M and B Halioua have no conflict of interest in this study.

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TABLE 1 Prevalence, visited healthcare professional and impact of quality of life according to geographic regions.

	North America	East Asia	Latin America	Europe	Australia	Africa	Middle East	p-value	Total Worldwide
Total sample	7500	10,500	6501	20,501	2000	2550	1750		50,552
SSD in each region N	85	360	208	367	32	21	52	<10⁻³	1125
Total SSD Prevalence ^a	1.2	3.8	3.2	1.8	1.6	1.6	3.5	<10⁻³	3.3
SSD prevalence male ^a	1.2	3.8	3.1	1.9	1.7	1.2	3.2	<10⁻³	3.3
SSD prevalence female ^a	1.2	3.8	3.4	1.6	1.5	1	3.6	<10⁻³	<i>p</i> = 0.13 3.2
Visited HCP, n (%)	27 (31.8)	229 (63.6)	85 (40.9)	143 (39)	11 (34.4)	12 (57.1)	36 (69.2)	<10⁻³	543 (48.2)
Doctor	21 (24.7)	181 (50.3)	70 (33.7)	115 (31.3)	8 (25)	6 (28.6)	27 (51.9)	<10⁻³	428 (38)
Pharmacist	9 (10.6)	78 (21.7)	19 (9.1)	40 (10.9)	4 (12.5)	5 (23.8)	17 (32.7)	<10⁻³	172 (15.2)
Nurse	1 (1.2)	22 (6.1)	4 (1.9)	8 (2.2)	2 (6.3)	2 (9.5)	4 (7.7)	<10⁻³	43 (3.8)
No cs	58 (68.2)	131 (36.4)	123 (59.1)	224 (61)	21 (65.6)	9 (42.9)	16 (30.8)	<10⁻³	582 (51.7)
If visited HCP is a doctor: n (%)	21 (77.7)	181 (79)	70 (82.3)	115 (80.5)	8 (72.7)	6 (50)	27 (75)	<10⁻³	543 (48.2)
Dermatologist	8 (38.1)	147 (81.2)	60 (85.7)	90 (78.3)	4 (50)	3 (50)	15 (55.6)	<10⁻³	327 (60.2)
GP	14 (66.7)	59 (32.6)	10 (14.3)	40 (34.8)	6 (75)	3 (50)	13 (48.1)	<10⁻³	145 (26.7)
Other	2 (9.5)	16 (8.8)	3 (4.3)	4 (3.5)	0 (0)	0 (0)	3 (11.1)	0.41	28 (5.1)

Note: The bold value indicates significant difference ($p \leq 0.05$).

Abbreviations: GP, general physician; SSD, Scalp seborrheic dermatitis.

^aTotal prevalence is weighted according to the countries' population. North America: United States, Canada, Europe: France, Germany, Denmark, Portugal, Poland, Italy, Spain, Middle East: Israel, Arab Emirates, Latin America: Mexico, Brazil, Africa: Kenya, South Africa, East Asia: India, South Korea, China.

TABLE 2 Impact of scalp seborrheic dermatitis (SSD) on quality of life according to gender and age.

	Total SSD, N= 1125	Men, n (%)	Women, n (%)	p-value	Age 16–36, n (%)	Age 39–64, n (%)	Age ≥ 65, n (%)	p-value
Personal life embarrassment degree: (responded to these questions)	717	351	366		419	260	38	
Very embarrassing	217	110 (28.7)	107 (28.4)	0.2	143 (30.2)	64 (25.7)	10 (30.3)	0.36
Quite embarrassing	281	142 (37.1)	139 (36.9)		168 (35.4)	98 (39.4)	11 (33.3)	
Not very embarrassing	174	78 (22.2)	96 (26.2)		88 (21)	75 (28.8)	11 (28.9)	
Not embarrassing at all	45	21 (5.5)	24 (6.4)		20 (4.2)	23 (9.2)	2 (6.1)	
Professional life embarrassment degree: (responded to these questions)	709	348	361		413	260	NA	
Very embarrassing	180	92 (35.9)	88 (32.2)	0.01	116 (38.3)	55 (32.2)	(The number of people working over the age of 65 is very low)	NA
Quite embarrassing	260	140 (54.7)	120 (44)		159 (52.5)	88 (51.5)		
Not very embarrassing	212	90 (35.2)	122 (44.7)		110 (38.3)	89 (32.2)		
Not embarrassing at all	57	26 (10.2)	31 (11.4)		28 (9.2)	28 (16.4)		
Specific impact (responded to these questions)	717	351	366		419	260	38	
I took time off work or study	465 (64.9)	241 (68.7)	224 (61.2)	0.04	264 (70.2)	149 (57.3)	22 (57.9)	0.02
I feel shy about buying a treatment product	574 (80.1)	284 (80.9)	290 (79.2)	0.6	351 (83.8)	191 (73.5)	32 (84.2)	0.003
I give up on family or professional events	517 (72.1)	257 (73.2)	260 (71)	0.5	310 (74)	179 (68.8)	28 (73.7)	0.3
I experienced difficulties in relations	492 (68.6)	248 (70.7)	244 (66.7)	0.24	298 (71.1)	167 (64.2)	27 (71.1)	0.1
I feel my sex life has been affected	615 (85.8)	301 (71.5)	314 (85.8)	0.98	375 (89.5)	208 (80)	32 (84.2)	0.002
I give up on vacations or leisure activities	474 (66.1)	251 (71.5)	223 (60.9)	0.002	297 (70.9)	152 (58.5)	25 (65.8)	0.004
I lack time for self-care	464 (63.7)	243 (69.2)	221 (60.4)	0.01	299 (71.4)	144 (55.4)	21 (55.3)	<10 ⁻³
I take this into account when buying clothes	450 (62.8)	236 (67.2)	214 (58.5)	0.02	286 (68.3)	140 (53.8)	24 (63.2)	<10 ⁻³
I gave up beauty treatments (hairdressing)	413 (57.6)	223 (63.5)	190 (51.9)	0.002	257 (61.3)	134 (51.5)	22 (57.9)	0.04
I tend to check my appearance every time I cross a mirror	457 (63.7)	241 (68.7)	216 (59.0)	0.007	284 (67.8)	150 (57.7)	23 (60.5)	0.03
I feel left out or rejected by others	444 (61.9)	229 (65.2)	215 (58.7)	0.07	275 (65.6)	146 (56.2)	23 (60.5)	0.04
I feel that people look at me with disgust	456 (63.6)	238 (67.8)	218 (59.6)	0.02	282 (67.3)	150 (57.7)	24 (63.2)	0.04
I feel people avoid approaching me	431 (60.1)	230 (65.5)	201 (54.1)	0.004	259 (61.8)	146 (56.2)	26 (68.4)	0.2
My skin condition prevented me from taking selfies	107 (14.9)	56 (16)	51 (13.9)	0.4	65 (15.5)	38 (14.6)	4 (10.5)	0.7

Note: The bold value indicates significant difference ($p \leq 0.05$).

Abbreviation: NA, non-applicable.

DATA AVAILABILITY STATEMENT

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

ETHICS STATEMENT

All individuals gave their consent with the understanding that their information may be publicly available. Data collection were done in respect of ethical codes of the European Society for Opinion and Marketing Research (ESOMAR) in compliance with the GDPR rules. ID RCB: 2022-A01859-34.

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