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Quality of Life in Alopecia Areata: A Study of 60 Cases

Journal of Investigative Dermatology (2010) **130,** 2830–2833; doi:10.1038/jid.2010.232; published online 19 August 2010

TO THE EDITOR

Alopecia areata (AA) is a chronically relapsing skin disorder characterized by a sudden loss of hair. Because the perception of patients may differ significantly from those of their health-care providers, quality of life (Qol) appears to be a more relevant criterion to assess the severity of this disease than clinical evaluation such as AA extension. To our knowledge, only one Turkish study investigated the impact of AA on Qol using short form 36 (SF36), indicating lower Qol levels compared with sex-matched individuals (Gulec *et al.*, 2004). In this study, Qol was assessed using a generic instrument. Because only three dimensions were affected and results may be linked to the specific culture, a confirmation was needed. We used an approach combining generic and specific measures to assess the impact of AA on French patients' Qol, to compare Qol levels with those observed in the general population and in other dermatological conditions, and finally to determine the impact of clinical characteristics and sociodemographic factors on Qol.

Subjects were aged over 16 years, presenting with a minimum of 8 weeks AA history, having given informed consent to participate, and having the French language as their native language. Sociodemographic data and characteristics of the disease (duration and course, treatments in the recent period, affected surfaces on the scalp and other areas involved) were recorded. The severity of each AA was reported using visual analogical scales (0–10) by reference to (i) all the AA cases seen in daily practice; (ii) all cases of all skin disorders. Three self-administered questionnaires were used to assess Qol: the generic and worldwide-used SF36 (Leplege *et al.*, 1998, 2001; Coste, 2001), and two ''chronic skin disorders''-specific Qol instruments with French validated available versions, the VQ-Dermato (Grob *et al.*, 1999, 2009) and the Skindex (Chren *et al.*, 1996, 1997; Leplege *et al.*, 2003). To better figure out the level of QoL in AA, we compared AA scores with those available in literature related to the French population: (1) rare dermatological diseases including hidradenitis suppurativa (Wolkenstein *et al.*, 2007) and neurofibromatosis type 1 (Wolkenstein *et al.*, 2001); (2) chronic/frequent dermatological diseases including psoriasis, chronic idiopathic urticaria, and atopic dermatitis (Grob *et al.*, 2005); (3) general population: French age- and sex-matched controls (Leplege *et al.*, 2001). This study was conducted in adherence to the Helsinki guidelines. Institutional approval was not required for experiments. After having given their inform consent, 60 patients were included (39 women and 21 men); their mean age was 40.1 years (SD 15.2) and median AA duration was 6 years (2 months to 60 years). Course of the disease was stable in 25 subjects and unstable in 35. The median of the scalp surface involved was 77%. The median of severity score was 6.5 (range 4.0–9.0) by reference to the AA patients and 3.5 (range 2.0–6.0) by reference to the patients presenting any skin disorder.

Mental health and vitality were the most altered SF36 dimensions, whereas physical functioning, role physical and body pain were the least ones. Regarding VQ-Dermato, daily life, leisure activity, and physical discomfort were the least altered dimensions. For Skindex, emotions dimension was the most affected and symptoms the least one. Compared with the general population and with patients suffering from other dermatological conditions (Table 1), AA patients presented significantly altered Qol for almost all the SF36 dimensions. For VQ-Dermato, AA patients reported (i) significantly better (mood state, leisure activity, daily life, and physical discomfort) or worse scores (self-perception) than psoriasis, chronic idiopathic urticaria, and atopic dermatitis patients; (ii) being less bothered to treatment-induced restrictions than psoriasis, but more than chronic idio-

Abbreviations: AA, alopecia areata; Qol, quality of life; SF36, short form 36

Table 1. Quality-of-life indicative comparisons between AA patients and other dermatological conditions, and French age- and sex-matched controls[1]

	AA, *N*=60	HS, *N*=61	*P*	NF1, *N*=128	*P*	PSO, *N*=408	*P*	CU, *N*=367	*P*	AD, *N*=386	*P*	Controls	*P*
SF36[2]													
Physical functioning	88.2 ± 22.5	71.3 ± 27.4	**<0.001**	76.8 ± 26.4	**0.004**							90.3 ± 7.0	0.506
Role—physical	73.3 ± 35.0	43.6 ± 39.0	**<0.001**	72.8 ± 39.1	0.932							87.0 ± 6.7	**0.006**
Bodily pain	77.2 ± 20.7	44.5 ± 24.4	**<0.001**	65.3 ± 29.6	**0.005**							77.9 ± 6.3	0.865
General health	64.3 ± 22.7	43.3 ± 22.4	**<0.001**	58.4 ± 23.0	0.101							72.2 ± 5.3	**0.011**
Vitality	54.5 ± 20.4	40.4 ± 20.4	**<0.001**	49.7 ± 21.3	0.146							62.4 ± 3.2	**0.005**
Social functioning	58.9 ± 29.5	52.5 ± 25.8	0.206	70.4 ± 25.7	**0.007**							84.1 ± 3.5	**<0.001**
Role—emotional	64.1 ± 39.1	42.9 ± 42.0	**0.004**	69.4 ± 39.4	0.390							86.3 ± 5.1	**<0.001**
Mental health	49.3 ± 20.4	43.0 ± 18.4	0.077	56.4 ± 22.0	**0.036**							69.7 ± 2.7	**<0.001**
VQ-Dermato[3]													
Self-perception	51,4 ± 26.2	52.2 ± 26.7	0.868			37.4 ± 24.7	**<0.001**	23.8 ± 21.8	**<0.001**	34.2 ± 24.6	**<0.001**		
Daily life	13.9 ± 17.7	46.9 ± 28.7	**<0.001**			19.3 ± 19.4	0.145	36.2 ± 20.4	**<0.001**	35.5 ± 21.3	**<0.001**		
Mood state	34.2 ± 24.1	37.9 ± 26.4	0.422			49.3 ± 25.2	**<0.001**	50.3 ± 25.5	**<0.001**	50.1 ± 25.5	**<0.001**		
Social functioning	31.8 ± 25.1	47.6 ± 29.7	**0.002**			31.3 ± 23.7	0.880	27.5 ± 22.9	0.184	34.1 ± 23.5	0.485		
Leisure activity	23.9 ± 28.4	52.1 ± 31.3	**<0.001**			47.2 ± 29.3	**<0.001**	36.7 ± 28.1	**<0.001**	46.7 ± 27.9	**<0.001**		
Treatment restrictions	30.3 ± 30.2	35.8 ± 34.0	0.349			38.6 ± 26.0	**0.024**	17.0 ± 20.7	**<0.001**	32.5 ± 26.4	0.556		
Physical discomfort	25.0 ± 26.9	66.1 ± 26.5	**<0.001**			44.4 ± 28.2	**<0.001**	61.4 ± 23.7	**<0.001**	69.8 ± 21.3	**<0.001**		
Skindex[4]													
Emotions	48.9 ± 27.8	59.2 ± 23.4	**0.029**	31.6 ± 26.7	**<0.001**								
Symptoms	18.3 ± 19.7	52.2 ± 22.3	**<0.001**	21.4 ± 19.7	0.315								
Functioning	28.0 ± 24.6	48.8 ± 25.5	**<0.001**	22.3 ± 23.3	0.126								

Abbreviations: AA, alopecia areata; AD, atopic dermatitis; CU, chronic urticaria; HS, hidradenitis suppurativa; NF1, neurofibromatosis type 1; PSO, psoriasis; SF36, short form 36.
[1]From Leplege *et al.*, (2001), Wolkenstein *et al.*, (2001), Grob *et al.*, (2005), and Wolkenstein *et al.*, (2007).
[2]SF36, 36 items, eight dimensions (range (0–100), 0 lowest and 100 highest level of Qol; Leplege *et al.*, 1998; Coste, 2001; Leplege *et al.*, 2001).
[3]VQ-Dermato, 28 items, seven domains and one overall score (range (0–100), 0 highest and 100 lowest level of Qol; Grob *et al.*, 1999, 2009).
[4]Skindex, 29 items, three domains (range (0–100), 0 highest and 100 lowest level of Qol; Chren *et al.*, 1996, 1997; Leplege *et al.*, 2003).
Bold values $P<0.05$.

Table 2. Associations between VQ-Dermato dimension scores and global score, and sociodemographic/clinical characteristics in 60 alopecia areata (AA) patients

	Self-perception	Daily life	Mood state	Social functioning	Leisure activity	Treatment restrictions	Physical discomfort	Global score
Gender[1]								
Men	42.28 ± 21.54	10.24 ± 15.04	32.74 ± 21.28	27.40 ± 18.00	13.10 ± 17.98	30.47 ± 26.99	19.05 ± 25.19	25.88 ± 15.04
Women	53.66 ± 28.47	16.05 ± 18.94	35.02 ± 25.78	34.29 ± 28.23	30.07 ± 31.51	30.15 ± 32.00	28.38 ± 27.58	32.30 ± 21.83
P	0.196	0.341	0.839	0.499	**0.042**	0.694	0.161	0.406
Educational level[1]								
<12 Years	48.58 ± 28.48	13.75 ± 18.57	27.08 ± 23.99	26.09 ± 25.18	21.21 ± 29.06	26.14 ± 29.61	24.46 ± 27.30	27.02 ± 21.57
⩾12 Years	53.18 ± 24.89	14.02 ± 17.36	38.54 ± 23.41	35.51 ± 24.74	25.58 ± 28.31	33.48 ± 30.82	25.36 ± 27.03	32.40 ± 18.69
P	0.409	0.670	0.059	0.103	0.429	0.380	0.934	0.149

Table 2 continued on the following page

Table 2. Continued

	Self-perception	Daily life	Mood state	Social functioning	Leisure activity	Treatment restrictions	Physical discomfort	Global score
Marital status[1]								
Single	59.16 ± 22.61	14.87 ± 17.88	36.61 ± 25.72	38.65 ± 28.62	30.95 ± 32.07	35.16 ± 38.52	26.25 ± 30.05	34.71 ± 24.22
Couple	47.09 ± 27.33	13.43 ± 17.82	32.83 ± 23.36	28.07 ± 22.49	19.93 ± 25.74	27.94 ± 25.76	24.34 ± 25.49	27.88 ± 17.33
P	0.109	0.583	0.614	0.141	0.210	0.815	0.952	0.457
Occupational status[1]								
Not working	43.63 ± 26.97	8.51 ± 12.41	28.08 ± 23.79	29.62 ± 25.49	23.02 ± 28.25	27.63 ± 31.62	21.59 ± 27.87	27.43 ± 21.63
Working	56.00 ± 24.97	17.06 ± 19.63	37.67 ± 23.87	33.15 ± 25.16	24.44 ± 28.90	31.85 ± 29.73	27.08 ± 26.47	31.66 ± 19.09
P	0.075	0.119	0.159	0.603	0.973	0.554	0.403	0.371
Disease course[1,3]								
Stable	51.37 ± 30.26	15.95 ± 20.00	38.28 ± 26.41	35.27 ± 27.75	29.34 ± 29.88	40.48 ± 35.33	27.60 ± 31.27	34.88 ± 23.31
Unstable	51.40 ± 23.26	12.42 ± 15.96	31.31 ± 22.25	29.31 ± 23.11	20.10 ± 27.15	22.84 ± 23.87	23.16 ± 23.66	27.07 ± 17.04
P	0.701	0.630	0.340	0.474	0.138	0.093	0.792	0.174
Scalp surface involved[1]								
<80%	47.35 ± 24.20	11.96 ± 14.59	29.22 ± 22.37	29.91 ± 23.69	15.48 ± 22.88	20.97 ± 22.22	25.35 ± 27.14	25.34 ± 16.81
⩾80%	57.70 ± 28.47	17.01 ± 21.76	42.33 ± 25.07	34.86 ± 27.49	36.78 ± 31.60	45.39 ± 35.65	24.43 ± 27.13	38.20 ± 22.43
P	0.065	0.693	0.064	0.512	**0.006**	**0.016**	0.887	**0.023**
Extrascalp involvement[1]								
No	48.82 ± 24.25	11.68 ± 14.84	30.34 ± 21.39	29.53 ± 22.80	17.32 ± 24.46	23.11 ± 24.43	24.68 ± 26.98	26.08 ± 16.15
Yes	56.40 ± 29.67	18.38 ± 22.13	42.11 ± 27.78	36.33 ± 29.24	36.46 ± 31.73	44.12 ± 35.94	25.66 ± 27.47	38.32 ± 24.39
P	0.178	0.405	0.113	0.484	**0.016**	**0.043**	0.890	**0.049**
Alopecia universalis[1]								
No	50.55 ± 25.30	14.86 ± 17.46	32.82 ± 22.97	31.16 ± 24.16	21.85 ± 27.48	29.38 ± 30.16	26.63 ± 27.21	30.30 ± 19.16
Yes	54.35 ± 30.10	10.35 ± 18.89	38.94 ± 28.08	34.23 ± 29.22	31.09 ± 31.58	33.75 ± 31.76	18.75 ± 25.84	29.65 ± 23.64
P	0.458	0.260	0.487	0.840	0.309	0.656	0.327	0.970
Age[2]	−0.099	−0.134	−0.236	−0.149	−0.173	−0.120	−0.059	−0.294
P	0.456	0.322	0.075	0.260	0.195	0.406	0.661	**0.042**
Disease duration[2]	−0.118	−0.090	0.073	−0.157	0.084	−0.095	−0.145	−0.039
P	0.376	0.511	0.589	0.239	0.536	0.518	0.281	0.793
Severity 1[2,4]	0.247	0.027	0.319	0.180	0.359	0.396	−0.057	0.348
P	0.059	0.844	**0.015**	0.173	**0.006**	**0.004**	0.673	**0.015**
Severity 2[2,5]	0.216	0.056	0.334	0.187	0.383	0.377	0.038	0.390
P	0.101	0.679	**0.010**	0.156	**0.003**	**0.007**	0.777	**0.006**

[1]Mean ± SD, *P*: *P*-value Mann–Whitney test.
[2]Spearman's correlation coefficient, *P*: *P*-value Spearman's test.
[3]Course of the disease was defined as ''unstable'' if there was alternation of worsening and improvement phases in the last 2 years, and ''stable'' otherwise.
[4]Severity 1: visual analog scale by reference to the cases of AA seen in daily practice; 0 ''patient among the least affected'' and 100 ''patient among the most affected''.
[5]Severity 2: visual analog scale by reference to the cases of all skin disorders seen in daily practice; 0 ''patient among the least affected'' and 100 ''patient among the most affected''.
Bold values: $P<0.05$.

pathic urticaria patients. AA patients reported significantly better Qol than did hidradenitis suppurativa patients, except for social functioning and mental health dimensions of SF36 and self-perception, mood state, and treatment restriction dimensions of VQ-Dermato.

Skindex and SF36 were not statistically linked to sociodemographic and clinical parameters (data not shown). Only the VQ-Dermato global score indicated a significantly better Qol in older subjects (Table 2). Disease severity, extrascalp involvement, and scalp surface involved were related with altered VQ-dermato dimensions (Table 2).

Our results show that (1) Qol is impaired in AA, the most influenced domains being self-perception, such as in the Gulec *et al* (2004) study, and also mental health and social life. It may be because of the special importance of hair in appearance (Cash, 1999; Firooz *et al*., 2005); (2) social life is impaired in AA at the same level as in psoriasis, atopic dermatitis, and chronic idiopathic urticaria. On the dimensions dealing with mental health and social life, AA also compares very well with hidradenitis suppurativa, one of the rare skin disorders with the highest impact on most dimensions of Qol (Wolkenstein *et al*., 2007). Similarly, social life and mental comfort of patients seem to be more affected in AA than in neurofibromatosis type 1; (3) sociodemographic parameters did not impact Qol, except for leisure activities, with women appearing to be more affected; (4) clinical severity of AA appears to be poorly linked to Qol, even when assessed with a sensitive dermatology-specific Qol tool (VQ-Dermato). Furthermore, the dimension of self-perception, which seems to be particularly involved in AA, is not significantly linked to the clinical severity of the disorder.

Some limitations must be mentioned. The sample size did not allow a multivariate approach, and moderate associations were possibly missed owing to low power. We were unable to confirm the impact of anxiety or depression on Qol (Gulec *et al*., 2004) because these parameters were not collected. One must be cautious while generalizing the study findings to minor cases seen in everyday care because our hospital-based series of AA was probably not representative of community cases. Although we did not systematically search for other health disorders in our patients, none of them declared to have one.

Although AA is a perfectly benign disorder, this work confirms the initial hypothesis that AA seriously impairs Qol, mainly by altering self-perception and self-esteem, both of which interfere with social life. From a practical point of view, these results can (i) help doctors to realize that they probably strongly underestimate the severity of AA and encourage them to give patients the treatments and the psychological help they require; (ii) help patients by showing that their suffering is understood by others; (iii) help health-care decision-makers to promote therapeutic trials in this orphan disorder.

CONFLICT OF INTEREST

The authors state no conflict of interest.

ACKNOWLEDGMENTS

This work was supported by institutional grants from the PHRC 2005 (Program Hospitalier Recherche Clinique National).

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