

Location of lesions versus intensity of psychopathological symptoms in patients with skin diseases

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Summary

Aim. The location of skin lesions may be a significant psychological factor in dermatological disease. The study assesses the correlation between the location of skin lesions and the intensity of psychopathological symptoms. The analysis considers various effects including the tendency for deliberate concealment of lesions and subjective feelings of being stigmatized.

Method. The study included 150 patients ($M = 46.14$; $SD = 17.28$) treated for various skin complaints. Patients were divided into 3 equal groups according to the location of skin lesions: all over body, on covered or exposed body parts. The intensity of psychopathological symptoms was measured with the SCL-90. Demographic data and disease-related characteristics were collected by means of a questionnaire developed for the present study.

Results. The relationship between the location of skin lesions and the severity of some psychopathological symptoms was observed, especially among patients treated only for skin diseases. Patients' mental condition can be indirectly influenced by their inclination to deliberately hide lesions, as well as by their subjective experience of hostility from their environment.

Conclusions. The most severe psychopathological symptoms were observed in the patients with skin lesions all over their bodies. The patients with lesions on visible body parts are characterized by a higher intensity of "interpersonal sensitivity" when compared to those with lesions on the covered body parts. The opposite trend was observed for the remaining SCL-90 variables. The obtained results can prompt further direction of research which takes into consideration the share of psychosocial factors in the functioning of dermatological patients.

Key words: skin diseases, psychopathology, stigmatization

Introduction

Numerous dermatological conditions, their course, symptomatology and methods of treatment, are viewed as considerably lowering the quality of life for patients [1–4]. It also appears that the location of skin lesions and their extent are not without relevance for the psychosocial functioning of patients. Such diseases as psoriasis, atopic dermatitis, atopic eczema or acne, particularly if lesions occur on uncovered skin, cause distortion of body appearance and contribute to a negative self-image, which can result in depression, anxiety and social phobia [5–8]. The prevalence of psychopathological symptoms in patients with skin diseases is estimated between 30% and 60% [9, 10].

Another factor which can be related to the psychosocial functioning of dermatological patients is the experience of stigmatization. The impact of stigmatization on the quality of life and mental health of dermatological patients has been the subject of many research studies [see, e.g., 11, 12], and became the basis for one of the hypotheses raised in this study. Subjectively experienced aversion from the environment by dermatological patients is frequently associated with the willingness to camouflage skin lesions. It can provoke negative emotional reactions (e.g., anxiety, depression, anger) and behavioral responses (e.g., avoidance, concealment) in patients, which, in turn, lead to rejection, exclusion or other forms of discrimination [13, 14]. Thompson and Kent [15] indicate that the distress associated with body disfigurement may not be due to the disease itself but rather to the tension associated with attempts to hide lesions or to avoid social situations.

The correct identification of the co-occurrence of psychiatric disorders can prevent suicide attempts, the risk of which is considerably higher in the group of patients than in the general population [6, 10, 16].

Aim

Therefore, with the assumption that psychological factors may accompany skin diseases, the main aim of the study was to determine the intensity of psychopathological symptoms in patients with skin lesions in various locations. The analyses included identifying the presence/absence of the tendency to deliberately conceal lesions by patients, as well as their subjective feelings of being stigmatized by their environments.

Material and method

The study included 150 people (100 women and 50 men) aged 18 to 80 ($M = 46.14$, $SD = 17.28$) treated in the Department of Dermatology and Venereology, Medical University of Lodz and the Department of Dermatology, Pediatric Dermatology and Dermatological Oncology, Medical University of Lodz for various dermatological diseases in different locations. Psoriasis was diagnosed in the majority of patients (38% of patients, $N = 57$). The following conditions were also diagnosed: seborrhoeic

dermatitis, atopic dermatitis, acne vulgaris, alopecia and chronic urticaria. The average duration of skin disease in the study group was 9.7 years ($SD = 11.06$). Almost 60% of the studied patients ($N = 88$) were recruited in the hospital wards, with the remaining being outpatient clinic patients ($N = 62$). All subjects were of legal age and had signed a form giving their consent to take part in the study. The criteria for exclusion from the study were as follows: age below 18, duration of skin disease shorter than one month, assistance by a psychiatrist or psychologist for an issue not related to the skin disease.

The consent of the Bioethics Committee at the at the Medical University of Lodz was obtained for conducting the study (consent no.: RNN/299/10/KB).

The recruited patients were divided into three subgroups based on the location of the skin lesions (see Table 1): group 1 – skin lesions both on uncovered and covered parts of the body (mostly all over the body); group 2 – skin lesions located on the parts of the body which could be concealed under clothes, e.g., the back, abdomen or thighs etc. (no persons with lesions on the genitals were included in the group); group 3 – skin lesions on uncovered body parts, i.e., the head, face, neck or palms.

Table 1. Sociodemographic characteristics of the study group

		Group 1 N = 50	Group 2 N = 50	Group 3 N = 50	Entire group N = 150
SEX	Women	27	35	38	100
	Men	23	15	12	50
AGE	Mean	46.96	52.22	39.24	46.14
	SD	15.43	16.89	17.25	17.28
	Min./Max.	18–75	19–80	18–78	18–80
EDUCATION					
	Elementary	3	1	0	4
	Vocational	8	8	3	19
	Secondary	29	25	25	79
	Higher	10	16	22	48
PLACE OF RESIDENCE					
	Village	9	5	6	20
	Town	14	13	5	32
	City	5	2	6	13
	Metropolis	22	30	33	85
MARITAL STATUS					
	Single	9	8	20	37
	Married	29	29	19	77
	Widower/widow	4	6	3	13
	Divorced/separated	5	7	3	15
	De facto union	3	0	5	8

Town: <100,000 inhabitants; City: 100,000–500,000 inhabitants, Metropolis: >500,000 inhabitants.

Assessment of mental state of the studied persons was performed on the basis of the Symptom Checklist-90 (SCL-90) by L.R. Derogatis, R.S. Lipman and L. Covi [17], adapted to Polish by K. Jankowski [18]. The instrument consists of 90 items including nine principal psychopathological symptoms – 9 scales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Table 2). Each item is rated on a five-point scale ranging from 0 to 4 (0 = not at all, 4 = extremely), with a high rate being indicative of a high intensity of psychopathological symptoms.

Table 2. Description of subscales of the the Symptom Checklist-90 SCL-90 [17]

Scale	What does the scale measure?
Somatization (SOM)	discomfort caused by somatic ailments characteristic for neurosis (questions about, e.g., symptoms involving the myocardium, respiratory system, stomach, myalgia);
Obsessive-compulsive (OBS)	the presence of obsessive-compulsive thoughts and compulsive activities; this scale also comprises more general cognitive impairments (e.g., mind going blank, recollection of problems);
Interpersonal sensitivity (INT)	the feeling of interpersonal inadequateness, inferiority, tendency for self-depreciation, discomfort in social situations (hypersensitivity, negative expectations about interpersonal communication);
Depression (DEP)	bad mood, dysphoria, anhedonia, loss of interest, loss of energy and motivation, the feeling of helplessness and hopelessness, suicidal ideation; this scale also comprises cognitive and somatic symptoms of depression;
Anxiety (ANX)	anxiety, irritability, tension, also somatic symptoms of anxiety, such as palpitation, agitation, questions about acute and general anxiety;
Hostility (HOS)	irritability, annoyance, predisposition to impulsive destruction of objects and frequent uncontrollable outbursts of anger;
Phobic anxiety (PHOB)	episodes of acute anxiety states and agoraphobia (fear of travelling, open spaces, crowds, public places);
Paranoid ideation (PAR)	suspicion, hostility, mistrust towards others, projective thinking;
Psychoticism (PSY)	auditory hallucinations, transmission and insertion of thoughts, controlling thoughts from the outside and indicators of the schizoid lifestyle (sense of loneliness, social isolation);

Reliability of the SCL-90 is high (Cronbach's alfa coefficient for the subscales ranged from 0.77 to 0.90) and the convergent validity is good [19]. In the present study, Cronbach's alpha coefficient ranged from 0.77 (psychoticism) to 0.89 (anxiety).

The questionnaire developed for the present study covered such socio-demographic data as sex, age, education, place of residence and marital status. Furthermore, it included questions about the diagnosis of skin diseases ("What skin disease do you suffer from?"), their duration and localization of skin lesions ("On what parts of your body the skin lesions appear?" – on this basis patients were then classified into one of three

subgroups described above). The collected data were subsequently confirmed by the attending physician. The questionnaire also enabled the assessment of the tendency to hide skin lesions by means of the question: “Do you try to hide pathological skin changes (e.g., under clothes or cover them with make-up)?”. Subjective feelings of stigmatization by environment were assessed by the question: “Have you ever been treated differently because of your skin disease (reluctance, avoidance of contact)?”. Answers to the above mentioned questions were determined on the dichotomous scale (yes/no). Additional questions were asked about non-dermatological complaints.

The statistical analysis was carried out using IBM SPSS 20 and Open Source R 2.15.3 software. Depending on the type of data and number of groups, comparisons between the groups were made by means of the Student’s *t*-test, Mann-Whitney *U*-test, Kruskal-Wallis test or by analysis of variance (ANOVA). In order to accurately examine the differences between the groups, a *post hoc* analysis was carried out. In the performed analysis, $p < 0.05$ was regarded as the level of significance.

Results

The three groups of patients with different localizations of skin lesions were compared with regard to the intensity of psychopathological symptoms. The following trends were observed in 8 out of 9 scales of the SCL-90 – the highest results were obtained in patients in group 1, followed by group 2, with the lowest in group 3. However, for the “interpersonal sensitivity” scale, the highest values were found for patients from group 1 but the lowest for patients from group 2. The only statistically significant differences between the groups were observed for “psychoticism” (Table 3).

Table 3. Intensity of psychopathological symptoms in the examined patients with skin lesions of different sites

	Group 1 (N = 50)		Group 2 (N = 50)		Group 3 (N = 50)		F	df	p
	M	SD	M	SD	M	SD			
SOM	15.70	7.24	14.12	7.75	12.74	9.59	1.61	2	0.204
OBS	12.88	6.54	11.96	6.65	11.14	7.00	0.84	2	0.436
INT	11.80	6.14	9.48	6.64	10.52	7.65	1.44	2	0.239
DEP	16.60	9.11	15.14	8.69	14.26	9.08	0.87	2	0.421
ANX	11.74	6.48	10.16	6.70	8.94	7.77	2.01	2	0.138
HOS	7.30	4.00	5.90	4.10	5.90	4.45	1.86	2	0.159
PHOB	5.18	3.66	4.32	4.97	3.70	5.18	1.28	2	0.282
PAR	8.46	3.85	7.18	4.20	6.66	4.61	2.40	2	0.095
PSY	7.96*	5.27	5.96	4.64	5.10*	4.81	4.45	2	0.013

*statistically significant difference between groups 1 and 3 (the *post hoc* Bonferroni test, $p = 0.013$)

SOM – somatization; OBS – obsessive-compulsive; INT – interpersonal sensitivity; DEP – depression; ANX – anxiety; HOS – hostility; PHOB – phobic anxiety; PAR – paranoid ideation; PSY – psychoticism; group 1 – lesions on both uncovered and covered body parts; 2 – lesions on covered body parts; 3 – lesions on uncovered body parts

The analyses also took into consideration the fact that the examined group included patients who had been treated only for skin diseases ($N = 83$) and patients diagnosed with other somatic ailments ($N = 67$). Thus, three groups of patients with different locations of skin lesions, who suffered exclusively from dermatological diseases were compared (Table 4).

Table 4. Intensity of psychopathological symptoms in patients with different skin lesion sites but who are treated only for skin diseases

	Group 1 (N = 21)	Group 2 (N = 28)	Group 3 (N = 34)			
	Mean rank	Mean rank	Mean rank	Kruskal-Wallis test	df	p
SOM	53.43*	42.09	34.85*	7.75	2	0.021
OBS	48.33	40.04	39.71	1.95	2	0.377
INT	53.12[^]	35.48[^]	40.50	6.67	2	0.036
DEP	51.29	39.27	38.51	4.20	2	0.122
ANX	55.81*	40.45	34.75*	10.12	2	0.006
HOS	55.12*[^]	37.77[^]	37.38*	8.41	2	0.015
PHOB	54.52*	39.75	36.12*	8.11	2	0.017
PAR	54.64*	39.29	36.43*	8.02	2	0.018
PSY	54.76*	40.38	35.46*	8.58	2	0.014

* statistically significant difference between groups 1 and 3, at $p \leq 0.05$ (the *post hoc* analysis)

[^] statistically significant difference between groups 1 and 2, at $p \leq 0.05$ (the *post hoc* analysis)

SOM – somatization; OBS – obsessive-compulsive; INT – interpersonal sensitivity; DEP – depression; ANX – anxiety; HOS – hostility; PHOB – phobic anxiety; PAR – paranoid ideation; PSY – psychoticism; group 1 – lesions on both uncovered and covered body parts; 2 – lesions on covered body parts; 3 – lesions on uncovered body parts

Exclusively dermatological patients showed differences in the intensity of psychopathological symptoms depending on the sites of skin lesions. The correlation was found to be statistically significant for intensified “somatization”, “interpersonal sensitivity”, “anxiety”, “hostility”, “phobic anxiety”, “paranoid ideation” and “psychoticism”. Again, the highest results in the SCL-90 scales were obtained in patients in group 1 and the lowest in patients in group 3 (see Table 3). “Interpersonal sensitivity” was the only category in which the highest results related to group 1 and the lowest to group 2.

The site of skin lesions is also related to the presence or absence of the patients’ tendencies to deliberately hide their conditions. These attitudes and their influence on the mental conditions of the patients were also analyzed (Table 5).

Table 5. The tendency to conceal skin lesions versus intensity of psychopathological symptoms in dermatological patients

	CONCEALING SKIN LESIONS				t	p
	YES (N = 90)		NO (N = 60)			
	M	SD	M	SD		
SOM	14.99	7.81	12.98	8.90	1.46	0.147
OBS	12.86	6.63	10.70	6.72	1.94	0.054
INT	11.94	7.18	8.58	5.84	3.02	0.003
DEP	16.48	8.84	13.62	8.91	1.93	0.055
ANX	11.27	6.78	8.80	7.26	2.12	0.035
HOS	7.06	4.09	5.33	4.22	2.49	0.014
PHOB	4.60	4.31	4.10	5.17	0.64	0.522
PAR	7.93	4.53	6.68	4.06	1.77	0.079
PSY	7.03	5.12	5.30	4.74	2.09	0.038

SOM – somatization; OBS – obsessive-compulsive; INT – interpersonal sensitivity; DEP – depression; ANX – anxiety; HOS – hostility; PHOB – phobic anxiety; PAR – paranoid ideation; PSY – psychoticism

In the patients who deliberately hide their skin lesions, the intensity of “interpersonal sensitivity”, “anxiety”, “hostility” and “psychoticism” is significantly higher than in those who do not cover such changes. No statistically significant differences were found between the groups with regard to the remaining variables.

Participants assessed whether they had ever been treated differently on account of their skin disease. Almost 35% of patients ($N = 52$) declared that they had experienced such attitudes from their environment as reluctance or avoidance of contact. Over 65% of the examined patients ($N = 98$) did not report experiencing such reactions from other people.

All studied psychopathological symptoms were found to be significantly more intense in the patients who confirm stigmatization experiences (Table 6).

Table 6. Intensity of psychopathological symptoms versus stigmatization experience in dermatological patients

	STIGMATIZATION				t	p
	YES (N = 52)		NO (N = 98)			
	M	SD	M	SD		
SOM	17.10	8.31	12.64	7.89	3.23	0.002
OBS	14.42	6.93	10.70	6.28	3.33	0.001
INT	14.06	7.37	8.77	5.82	4.49	0.000
DEP	18.85	9.87	13.47	7.86	3.40	0.001

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ANX	12.87	7.98	8.91	6.12	3.38	0.001
HOS	7.50	4.42	5.77	3.99	2.44	0.016
PHOB	6.13	5.30	3.48	4.02	3.44	0.001
PAR	8.88	4.53	6.66	3.94	3.12	0.002
PSY	8.77	5.49	5.05	4.26	4.59	0.000

SOM – somatization; OBS – obsessive-compulsive; INT – interpersonal sensitivity; DEP – depression; ANX – anxiety; HOS – hostility; PHOB – phobic anxiety; PAR – paranoid ideation; PSY – psychoticism

Discussion

The results of the study suggest that the psychosocial functioning of dermatological patients may be related to the site of their skin lesions and any corresponding tendency for deliberate concealment of symptoms. They also indicate that if patients deliberately choose to conceal skin lesions from their environment using clothes or make up, they also experience higher intensities of some psychopathological symptoms. Patients with this tendency, compared with those who are not concerned about concealing skin lesions, tend to be more sensitive in social contacts, experience more discomfort, and be more anxious, tense or impetuous. They are also more likely to react angrily, and their behaviors may include a more schizoid life-style. This result suggests that although the location of skin lesions have a significant effect on patients' mental condition, it is also important whether the patients believe in the need to conceal those lesions. Since the patients who do not deliberately conceal dermatoses tend to be in better mental condition, it is worth considering the role of beliefs and approaches to disease disclosure when developing psychological assistance programs for dermatological patients. Presumably, some degree of preoccupation with concealing lesions is essential for a patient, as some studies report that emotional benefits are associated with the use of professional make up for camouflaging lesions [20–22].

Almost two-thirds of the psoriasis patients [23] admitted that their disease considerably influenced the way they dressed and the clothes they wore. The patients who wanted to camouflage their skin lesions with clothing were found to have poorer life quality indices and more frequently manifested depressive symptoms. Another study [24] showed that 84% of patients with psoriasis changed their dressing style because of their skin disease and 90% of persons included in the study admitted that their health condition forced frequent changes of clothes. Thus, the selection of clothes in dermatological disease proves to be a significant factor which influences the daily functioning of dermatological patients.

The present study, based on a group of dermatological patients who did not have any additional somatic complaints, found that the location of skin lesions influenced

the intensification of some psychopathological symptoms. As far as “interpersonal sensitivity” is concerned, a very interesting regularity was observed, with the highest results being seen in the group with lesions on visible and not visible body parts, and the lowest in the group with covered lesions. This contrasts with the results observed for the other characteristics, where patients with lesions all over the body were generally found to have the highest results and those with lesions on uncovered body parts the lowest. The result can be interpreted as follows: if lesions cover these areas of body which are visible for others, the intensity of “interpersonal sensitivity” rises. This group of patients can be oversensitive in social contacts, have negative expectations as regards the effectiveness of those contacts, experience a sense of inferiority and interpersonal inadequacy. Our observations correspond with other reports which confirm that facial skin diseases can negatively influence social status, romantic relationships and the self-confidence of the patients [14]. Schmid-Ott et al. [25] indicate that the visibility of symptoms (head, face, neck, arms or hands) in vitiligo patients is associated with social withdrawal, lower self-esteem, anxious-depressive mood, helplessness and social anxiety. A study by Gupta and Gupta [6], based on a group of healthy people, found suicidal ideations to have negative correlation with the satisfactory image of one’s own body, and a positive correlation with sensitivity in interpersonal contacts. The authors emphasize that if such a relationship is found in a group of healthy people, professionals should be more vigilant in assessing suicide risk in patients with dermatological diseases that change the appearance of the skin, even to a minimum degree.

A question raised by the results of the present study is why the intensification of “interpersonal sensitivity” has a different path, compared to that observed for other symptoms (“somatization”, “anxiety”, “hostility”, “phobic anxiety”, “paranoid ideation”, “psychoticism”), with reference to the location of skin lesions. It may be associated with other variables not included in the study – e.g., presence of pain/burning/itching, the extent of skin affected by lesions or the applied treatment. Moreover, other, non-dermatological explanations cannot be excluded. Lack of a definite answer to the above question is an inspiration for further studies on patients with skin diseases with lesions in various locations.

Janowski [26] reports a correlation between the assessment of the situation of one’s illness and skin lesion location. Patients with changes on uncovered parts of the body had significantly higher results in the Threat and Obstacle/Loss subscales than those who were able to cover their lesions with clothes.

The respondents in the study by Jankowiak et al. [24] claimed that the greatest problems in contacts with other people are caused by lesions located on the face and hands (62.4%), the scalp (57%), upper limbs (49.7%), fingernails and toenails (30.9%) and the elbows (22.1%). An analysis of the co-occurrence of psychic disorders in patients with skin diseases by Picardi et al. [27] showed that gender (women), location of skin lesions (uncovered body parts) and severity of the disease have an influence on

the occurrence of mental disorders. Whereas Richards et al. [28] indicate no statistically significant correlation between the intensity of psoriasis, location of skin lesions and experiencing stress or disturbances in psychological functioning. The determining factor turned out to be the perception of being stigmatized.

The experience of stigma is often a subject of scientific research in the field of psychodermatology [see, e.g., 29–33]. Gupta et al. [34] reported that for patients with psoriasis, stigmatization was not associated with intensification of the disease. Patients who report experiencing a situation when people intentionally and consciously avoided touching them during the previous month did not have more severe psoriasis than a similar group who did not mention any stigmatization experiences. Patients confirming episodes of avoiding contact also demonstrated more severe depression, which is in accordance with the results of the present study.

In this case, a self-enhancing mechanism can be observed: stigmatizing reactions from the environment may result in higher sensitivity of the patient in this aspect and consequently lead to anticipate rejection in future. Hawro et al. [35] reported that the feeling of being rejected grows with age in patients with psoriasis. This is manifested by avoiding social situations and longer duration of illness is associated with greater anticipation of rejection. The studies also showed that any improvement of the somatic condition of the patients did not result in the modification of their feelings as to the social rejection and being stigmatized. This result is important when considering the implementation of psychological treatment for patients with skin diseases.

Therefore, it can be inferred that the mental condition and quality of life of dermatological patients may be influenced by groups of factors (e.g., gender, location of lesions, their scope and severity, sense of stigmatization, the co-occurrence of other health problems etc.) and not by individual, isolated variables.

Our results, together with those of other authors, seem to be valuable material which broaden our knowledge on psychosocial functioning of dermatological patients. Taking these results into account in planning of psychological intervention for this group of patients may have positive results for the quality of life and mental condition of patients.

Conclusions

1. The diagnosis of skin disease and the need to adapt to the restrictions associated with it have an impact on psychosocial functioning of patients.
2. There is a relationship between the location of skin lesions and the intensity of some of psychopathological symptoms, especially among patients treated only for skin diseases.
3. There is a relationship between the presence of a tendency to deliberately conceal skin lesions and stigmatization experience versus intensity of psychopathological symptoms in patients with skin diseases.

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