

Assessment of Quality of Life in Chronic Dermatoses

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ABSTRACT

Introduction and aim: Chronic skin diseases are associated with significant morbidity in the form of physical discomfort and impairment of patient's quality of life (QOL). This study was aimed to assess the impact of various chronic dermatoses on the QOL.

Materials and methods: This was a hospital-based, cross-sectional study done on 180 consenting outdoor patients between 20 and 60 years of age clinically diagnosed to have a chronic skin disorder, including acne, psoriasis, atopic dermatitis (AD), vitiligo, chronic urticaria (CU), or androgenetic alopecia (AGA) for more than 6 months duration. Quality of life was assessed by using the World Health Organization (WHO) QOL-BREF (Hindi version) which had four domains—physical, psychological, social relationship, and environmental health.

Results: Out of total 180 cases, 100 (55.6%) were males and 80 were females (44.4%). Most cases (43.3%) were in the age group of 20 to 30 years. Urban patients (143, 79.4%) were more than rural patients (37, 20.6%). Chronic urticaria and AGA had significant impact on psychosocial domain.

Conclusion: All the six dermatoses showed impact on the patient's QOL. This raises the need to have an assessment by psychologists and counselors within dermatology services in treating the chronic dermatoses.

Keywords: Chronic skin diseases, Quality of life, World Health Organization quality of life-BREF.

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INTRODUCTION

Skin diseases are among the most common health problems worldwide and are associated with considerable impairment in QOL. Patients with visible skin symptoms are often glared at or even avoided for fear of infection or for disgust. The experience of stigmatization in chronic

skin conditions because of their visible effect may have profound consequences in the life of patients, such as increased anxiety or social avoidance.¹

The WHO defines QOL as "an individual's perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards, and concern".² Health-related QOL is a related term that denotes a state of an individual's QOL pertaining to health and disease and/or its treatment.³

The impact of skin disorders on patient's QOL is well recognized. A multidisciplinary approach is needed to comprehensively evaluate triggers and response to treatment, address confounding factors including sleep disruption, and educate patients to improve QOL of the patient.

The evaluation of QOL due to chronic dermatoses and measures of QOL are routinely included in clinical trials. Nevertheless, very often the influence of chronic skin diseases on QOL might be underestimated in comparison with life-threatening diseases like cancer or heart diseases. Previous studies have concentrated on individual dermatoses when measuring QOL. We therefore, plan to study the effect of six chronic dermatoses (skin conditions lasting for more than 6 months), which included acne, psoriasis, AD, vitiligo, CU, and AGA on QOL.

MATERIALS AND METHODS

This was a hospital-based, cross-sectional study conducted in Department of Dermatology of Mahatma Gandhi Medical College & Hospital (MGMCH), Jaipur, Rajasthan, India. A total of 180 outdoor, consenting patients, clinically diagnosed to have a chronic skin disorder of more than 6 months duration in the age group of 20 to 60 years of both sexes were included in the study. Patients with preexisting psychiatric illness or family history of the same, those suffering or taking medicine for other major systemic illness, and pregnant or lactating females were excluded from the study. Ethical clearance was taken from the Ethics Committee, MGMCH, Jaipur.

The chronic skin dermatoses included were as follows:

- Acne
- Psoriasis
- Atopic dermatitis
- Vitiligo
- Chronic urticaria
- Androgenetic alopecia

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A detailed history pertaining to the parameters like demographic data, presenting illness, personal history, presence of medical/surgical diseases, family and treatment history was elicited. The interview schedule for assessment of QOL was done by WHOQOL-BREF⁴⁻⁶ Hindi version, which consisted of four domains: Physical health, psychological health, social relationship, and environmental domain.

Scoring of the Scale

Domain scales were scaled in positive direction, i.e., higher scores denote higher QOL. The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 in order to make domain score comparable with the scores used in WHOQOL-100. The score of the WHOQOL-BREF questionnaire was processed and converted to raw score, which is then converted to the final score by calculating the average/mean and standard deviation of the evolved data. The score less than mean score was assigned as decreased QOL, and vice versa.

Data Analysis

Descriptive statistics like percentages, mean, and standard deviation were used. One-way analysis of variance (ANOVA) was used to find the F ratio and p-value in QOL scores. Chi-square test was used, or the association between chronic dermatoses, in each domain of the QOL affected patient.

Observations and Results

A total of 180 consenting patients with 30 patients each of acne vulgaris, psoriasis, AD, vitiligo, CU, and AGA attending the Skin outpatient department of MGMCH, Jaipur, India, were included in the study. One of their family members was interviewed. There were 100 (55.6%) males and 80 (44.4%) females and urban patients (143, 79.4%) outnumbered rural patients (37, 20.6%).

The age-wise distribution of the patients is shown in Table 1.

The highest number of patients with acne, vitiligo, CU, and AGA (78, 43.3%) was observed in group I. The highest number of patients with AD was in group II.

Psoriasis was found to be almost similar in groups I (8, 26.67%), II (9, 30%), and III (8, 26.67%) and slightly less in group IV (5, 16.66%).

Atopic dermatitis was found to be highest in group II (11, 36.67%) and least in group III (3, 10%).

Males outnumbered females in acne (19, 63.33%), psoriasis (21, 70%), AD (16, 53.33%), and AGA (24, 80%), whereas females outnumbered males in vitiligo (18, 60%) and CU (13, 43.33%; Table 2).

Urban patients (143, 79.4%) were more than rural patients (37, 20.6%; Table 3).

The largest group of patients were students (51, 28.3%), followed by semiskilled (32, 17.8%), skilled (30, 16.7%), service class (26, 14.4%), unemployed (25, 13.9%), and farmers (12, 6.7%; Table 4).

The income-wise distribution is shown in Table 5. The monthly income of the patients is compiled under

Table 1: Age-wise distribution of the patients (n = 180)

Age groups	Age in years	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	Androgenetic n = 30 (%)	Total n = 180 (%)
I	20–30	21 (70)	8 (26.67)	7 (23.3)	13 (43.33)	12 (40)	17 (56.67)	78 (43.32)
II	31–40	8 (26.67)	9 (30)	11 (36.67)	7 (23.3)	9 (30)	11 (36.67)	55 (30.56)
III	41–50	1 (3.33)	8 (26.67)	3 (10)	8 (26.67)	6 (20)	2 (6.67)	28 (15.56)
IV	51–60	0	5 (16.66)	9 (30)	2 (6.67)	3 (10)	0	19 (10.56)
	Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	180 (100)

Table 2: Sex-wise distribution of the patients (n = 180)

Gender	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)	Total n = 180 (%)
Males	19 (63.33)	21 (70)	16 (53.33)	12 (40)	13 (43.33)	24 (80)	100 (55.6)
Females	11 (36.67)	9 (30)	14 (46.67)	18 (60)	17 (56.67)	6 (20)	80 (44.4)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	180 (100)

Table 3: Rural/urban distribution of the patients (n = 180)

Domicile	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)	Total n = 180 (%)
Rural	7 (23.33)	11 (36.67)	9 (30)	3 (10)	2 (6.67)	5 (16.67)	37 (20.6)
Urban	23 (76.67)	19 (63.33)	21 (70)	27 (90)	28 (93.33)	25 (83.33)	143 (79.4)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	180 (100)

Table 4: Occupation-wise distribution of the patients (n = 180)

Occupation	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)	Total n = 180 (%)
Unemployed	2 (6.67)	6 (20)	6 (20)	4 (13.33)	5 (16.67)	2 (6.67)	25 (13.9)
Semiskilled	3 (10)	4 (13.33)	11 (36.67)	5 (16.67)	2 (6.67)	7 (23.33)	32 (17.8)
Farmers	1 (3.33)	5 (16.67)	5 (16.67)	0 (0)	0 (0)	1 (3.33)	12 (6.7)
Students	17 (56.67)	2 (6.67)	2 (6.67)	12 (40)	15 (50)	5 (16.67)	51 (28.3)
Skilled	4 (13.33)	8 (26.67)	3 (10)	3 (10)	5 (16.67)	7 (23.33)	30 (16.7)
Service	3 (10)	5 (16.67)	3 (10)	4 (13.33)	3 (10)	8 (26.67)	26 (14.4)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	180 (100)

Table 5: Income-wise distribution of the patients

Groups	Income	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)	Total n = 180 (%)
I	Up to 1,000	19 (63.33)	8 (26.67)	4 (13.33)	14 (46.67)	18 (60)	6 (20)	69 (38.3)
II	1,001–10,000	2 (6.67)	7 (23.33)	10 (33.33)	4 (13.33)	3 (10)	5 (16.67)	31 (17.2)
III	10,001–20,000	2 (6.67)	3 (10)	9 (30)	5 (16.67)	4 (13.33)	8 (26.67)	31 (17.2)
IV	20,001–30,000	5 (16.67)	8 (26.67)	5 (16.67)	6 (20)	4 (13.33)	6 (20)	34 (18.9)
V	More than 30,000	2 (6.67)	4 (13.33)	2 (6.67)	1 (3.33)	1 (3.33)	5 (16.67)	15 (8.3)
Total		30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	180 (100)

Table 6: Quality of life among study groups according to different QOL domains

QOL domains	Acne	Psoriasis	AD	Vitiligo	CU	AGA	F ratio	p-value
1. Physical health							1.449	0.209
Mean	15	15	14.57	13.3	15.23	16.5		
SD	± 2.6	± 3.31	± 3.47	± 4.21	± 2.84	± 8.8		
2. Psychological health							0.934	0.460
Mean	15	14	14.8	14	15	15.36		
SD	± 3	± 3.53	± 3.46	± 3.15	± 3.18	± 2.9		
3. Social relationship								
Mean	14	15	14.3	15.07	14.4	14	0.646	0.664
SD	± 3.34	± 2.9	± 3.36	± 3.42	± 2.86	± 3.39		
4. Environmental health							1.902	0.096
Mean	14	13	14.63	14.83	14.63	13.3		
SD	± 3.02	± 1.67	± 3.35	± 2.7	± 3.6	± 3.52		

SD: Standard deviation

Table 7: Chi-square in the physical domain of the QOL (n = 180)

Domain 1 physical	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)
Low QOL	14 (47)	14 (47)	14 (47)	12 (40)	19 (63.33)	17 (56.6)
Average QOL	3 (10)	4 (13)	4 (13)	6 (20)	5 (16.7)	5 (16.8)
High QOL	13 (43)	12 (40)	12 (40)	12 (40)	6 (20)	8 (26.6)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)

 $\chi^2 = 7.12$; df = 10; p = 0.714

five groups. Group I comprises monthly income of up to Rs. 1,000; group II has monthly income of Rs. 1,001 to 10,000; group III comprises monthly income of Rs. 10,001 to 20,000; group IV has monthly income of Rs. 20,001 to 30,000; and group V has monthly income of more than Rs. 30,000.

Quality of life in chronic dermatoses according to different QOL domains as described by WHOQOL-BREF questionnaire was assessed statistically by applying ANOVA scale (Table 6).

The QOL on chronic dermatoses was assessed statistically by applying ANOVA scale.

The physical health domain of QOL is more hampered in patients with AGA (16.5) followed by CU (15.23), acne (15), psoriasis (15), AD (14.57), and vitiligo (13.3). Because F ratio is not significant, physical health dimension of QOL is equally affected in all dermatoses (Table 7).

Table 7 shows that there was no significant difference in the physical domain of the QOL among the different dermatoses as the mean values were almost equal.

Table 8: Chi-square in the psychological domain of the QOL (n = 180)

Domain 2 psychological	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)
Low QOL	14 (47)	11 (37)	12 (40)	15 (50)	22 (73.3)	26 (86.7)
Average QOL	4 (13)	4 (13)	4 (13)	4 (13)	5 (16.7)	3 (10)
High QOL	12 (40)	15 (50)	14 (47)	11 (36.7)	3 (10)	1 (3.33)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)

$\chi^2 = 29.8$; df = 10; p = 0.001 (highly significant)

Table 9: Chi-square in the social relationships domain of the QOL (n = 180)

Domain 3 social	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)
Low QOL	16 (53)	16 (53)	16 (53)	10 (33.33)	20 (66.7)	22 (73.33)
Average QOL	2 (7)	5 (17)	5 (17)	7 (23.33)	3 (10)	3 (10)
High QOL	12 (40)	9 (30)	9 (30)	13 (43.33)	7 (23.33)	5 (16.67)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)

$\chi^2 = 14.1$; df = 10; p = 0.171

Table 10: Chi-square in the environmental domain of the QOL (n = 180)

Domain 4 environmental	Acne n = 30 (%)	Psoriasis n = 30 (%)	AD n = 30 (%)	Vitiligo n = 30 (%)	CU n = 30 (%)	AGA n = 30 (%)
Low QOL	9 (30)	8 (27)	8 (27)	12 (40)	13 (43.4)	9 (30)
Average QOL	6 (20)	3 (10)	3 (10)	4 (13)	7 (23.3)	4 (13.3)
High QOL	15 (50)	19 (63)	19 (63)	14 (47)	10 (33.3)	17 (56.7)
Total	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)	30 (100)

$\chi^2 = 9.11$; df = 10; p = 0.522

The QOL in the psychological health domain is again more hampered in AGA (15.36) followed by CU (15) and acne (15). Then comes AD (14.8) and least mean was showed by psoriasis (14) and vitiligo (14). Because F ratio was not significant, therefore psychological health dimension of QOL was equally affected in all dermatoses (Table 8).

Table 8 indicates that the psychological domain was significantly hampered in all the dermatoses. Although there was no significant difference in the psychological levels within the dermatoses itself, but CU and AGA were the most affected conditions.

Social relationship was found hampered more in vitiligo (15.07) compared with psoriasis (15), followed by CU (14.4), AD (14.3), acne (14), and AGA (14). Because F ratio was not significant, social relationship dimension of QOL was equally affected in all the dermatoses (Table 9).

Table 9 shows that none of the chronic dermatoses had significant effect on patient's social relationship domain of the QOL. But majority of the patients of CU (20, 66.7%) had low QOL in this domain.

The environmental health was found hampered in vitiligo (14.83), followed by AD (14.63), CU (14.63), acne (14), AGA (13.3), and psoriasis (13). Because F ratio was not significant in all four domains, QOL was affected in all the dermatoses (Table 10).

Table 10 shows that the environmental domain of the QOL of the patient was not hampered significantly. Here also majority of the patients of CU had low QOL in context of their environmental domain.

Overall, AGA had greater impact on physical and psychological health of patient, whereas vitiligo had greater impact on the social relationship and environmental health of the patient.

DISCUSSION

The present study aims to assess the effect of chronic dermatoses (skin conditions lasting for more than 6 months) on QOL of the patient. The study group included 180 patients; 30 patients in each of acne, psoriasis, vitiligo, CU, AD, and AGA (CU) were analyzed (total male = 100; 55.6%, female = 80; 44.4%).

Quality of life of the patient was assessed in the following domains:

- Physical health
- Psychological health
- Social relationship
- Environmental domain

(A) Acne: There were 30 patients of acne included in the study and most of the patients were males (19, 63.33%; Table 2). Maximum number of patients were in the age

group of 20 to 30 years (Table 1). The urban patients (23, 76.67%) were more than rural patients (Table 3).

In this study, the incidence of acne was found to be more in urban population probably due to more awareness and consciousness about the looks. However, rural population took acne as granted for the adolescent age-related and self-limiting disorder.

In the present study, it was found that majority of the patients, i.e., 14 (47%), had low QOL in the psychological domain (Table 8) and 14 (47%) patients out of 30 had low QOL in the physical domain too (Table 7).

Majority of the patients (15, 50%) had high QOL in the environmental health domain (Table 10). In all four domains, 7 to 20% of the patients had average QOL (Tables 7 to 10). Similar findings were reported by Koo et al,⁷ who stated that although acne does not cause direct physical impairment, it can produce a significant psychosocial burden on the patient. Our study showed that acne had psychological impacts and had negative emotional reactions in the patients. The impact of acne on QOL is independent of gender and age but shows association with disease severity.

A study by Tan⁸ and Tallab⁹ reported that acne leads to both anxiety and depression, leading to low self-esteem, low self-confidence, low self-assertiveness, embarrassment, social inhibition, shame, altered body image, psychosomatic symptoms (e.g., pain and discomfort), obsessive-compulsiveness, and suicidal ideation. In our study, it was found that majority of the patients (16, 53%) had low QOL in the psychological domain as stated in Table 8. Younger patients are subjected to scorn, teasing, and stigmatization. However, the impact of acne on a particular patient is not always easy to judge. There is very scant literature available on the impact of acne on QOL in Indian patients. Compared with France, where adolescents worry even about getting acne,¹⁰ Indians appear to accept acne more readily and its impact on QOL in our population is of lower magnitude.¹¹

Tasoula et al¹² had conducted study on 1,560 patients of acne and found that these patients experience greater psychosocial and emotional impairment. The present study although containing less number of patients showed similar kind of impairment in the psychological, social relations, and environmental domain of the QOL (Tables 8 to 10).

Behnam et al¹³ had showed, however, that the emotional impact of acne can be difficult to predict because of the presence of many underlying factors, such as patient's age and gender, psychosocial development period, clinical severity of the disease, family and peer support systems, and other underlying psychopathology. Thus,

the impact of acne appearance on psychological status of individuals might be varied in different populations. Our findings are consistent with the study as the psychological domain was significantly affected in 47% of the patients (Table 8). We also found that there is no significant impairment of the other domains of the QOL of the patient, viz., physical health (Table 7), social relationship (Table 9), and environmental health (Table 10).

(B) Psoriasis: In this study, there was dominance of males (21, 70%) compared with the females (9, 30%; Table 2). Maximum number of patients (9, 30%) were in the age group of 31 to 40 years (Table 1). Urban patients (19, 63.33%) were more than rural patients (11, 36.67%; Table 3).

In the present study, 47% of the patients had low QOL in the physical domain (Table 7) and 37% had low QOL in the psychological domain (Table 8) 53% of patients had low QOL in social relationships (Table 9), 63% had high QOL in the environmental domain (Table 10), and 10 to 17% of the patients had scored average QOL (Tables 7 to 10).

In a study by Manjula et al,¹⁴ overall Psoriasis Disability Index (PDI) score showed that the QOL was affected in 75% of patients.

Another study conducted by Rakesh et al,¹⁵ in over 50 patients with psoriasis using Psoriasis Area Severity Index, PDI, and Psoriasis Life Stress Inventory showed that psoriasis had affected the physical and psychological health of the patient, which was similar to the findings of our study.

(C) Atopic dermatitis: In the present study, the maximum number of patients (11, 36.67%) were in the age group of 30 to 40 years (Table 1) and males (16, 53.33%) were more than females (14, 46.67%; Table 2). Maximum patients (21, 70%) belonged to urban areas (Table 3).

Mozaffari et al¹⁶ reported that AD has a major impact on physical well-being. In our study, majority of patients (14, 47%) had low QOL in physical domain (Table 7). Coghi et al¹⁷ showed AD affecting mental status of the patient more than any other domain. In our study, 12 (40%) patients of AD had low QOL in psychological domain.

In social relationship and environmental domain, 16 (53%) and 8 (27%) patients had low QOL respectively.

(D) Vitiligo: Out of 30 patients of vitiligo, 18 (60%) were females (Table 2). Maximum patients were in the age group of 20 to 30 years (13, 43.33%; Table 1). Urban patients (27, 90%) were more than rural patients (3, 10%; Table 3).

In the present study, 40% patients of vitiligo had low QOL comparable to study by Karelson et al¹⁸ and Al-Mubarak et al.¹⁹

In our study, 50% patients of vitiligo had low QOL in psychological domain (Table 8). The study by Karelson et al¹⁸ also showed that vitiligo causes notable psychological impairment. Sampogna et al²⁰ reported that the adverse impact of vitiligo on QOL seems to be centered on psychological domain and the most common problems included worry of vitiligo getting worse (60%), anger (37%), embarrassment (34%), depression (31%), impact on social life (28%), and shame (28%). Ramakrishna and Rajni²¹ showed that vitiligo affects well-being and self-esteem by predisposing subjects to social isolation and depression and hence disturbed QOL. In our study, 10 (33.3%) and 12 (40%) patients had low QOL in social relationship and environmental domain respectively (Tables 9 and 10).

(E) Chronic urticaria: In this study, females (17, 56.7%) were more than males (13, 43.3%; Table 2). Most patients belonged to urban area (28, 93.3%; Table 3). Maximum number of patients (12, 40%) belonged to the age group of 20 to 30 years (Table 1).

Ue et al²² found that most affected domains were "symptoms and feelings" and "daily activities," while the most affected domains in the Short Form 36 (the tool used by them) were "physical role" and "vitality." In the present study, QOL in CU patients was most hampered in the psychological domain (Table 8).

As per the survey done by Ben-Shoshan et al,²³ psychological factors play a role in pathogenesis of CU and that CU can be best understood as a physical reaction to a condensation of biological and psychological elements arising out of the personal history of an individual under the stress of a particular set of life circumstances.

(F) Androgenetic alopecia: Out of 30 patients, 24 (80%) were males (Table 2). Majority (17, 56.67%) belonged to age group between 20 and 30 years (Table 1). Most of them belonged to urban area (25, 83.33%; Table 3).

Psychological domain was affected in maximum 26 (86.7%) patients followed by physical domain in 17 (56.6%) patients. A study on AGA done by Sawant et al²⁴ showed that patients appeared to have more psychological symptoms on almost all scales scoring highly on obsessive-compulsive, interpersonal sensitivity, and depression subscales. In our study, QOL was equally affected in males and females. Cash et al²⁵ reported AGA was more stressful for women than men. Interestingly, studies done by Van der Donk et al²⁶ and Van Passchier et al²⁷ negate the view of psychological impairment accompanying AGA, although QOL does cause psychosocial problems.

CONCLUSION

This study yielded that all six chronic dermatoses showed impact on the patient's QOL. The intensity of the impact

of a dermatosis on different individuals differs from person to person. Some are excessively worried and devastated by few blemishes, while others even with a visible and chronic skin problems are not bothered due to their busy daily routine. There is highly significant association of QOL with type of chronic dermatoses. Patients with CU and AGA have low QOL in comparison to others.

The psychological impact of chronic skin disease can be dealt with an understanding and supporting doctor-patient relationship and education of the patient and community about the nature of skin disease. This raises the need to have an access to psychologists and counselors within dermatology services in treating the chronic dermatoses.

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